

**ABORIGINAL ARCHERY AND EUROPEAN FIREARMS ON THE NORTHERN
GREAT PLAINS AND IN THE CENTRAL SUBARCTIC:
SURVIVAL AND ADAPTATION, 1670-1870**

By

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A Dissertation

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in Partial Fulfillment of the Requirements
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DOCTOR OF PHILOSOPHY

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Roland Bohr

A Thesis/Practicum submitted to the Faculty of Graduate Studies of The University of

Manitoba in partial fulfillment of the requirement of the degree

Of

Doctor of Philosophy

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To my parents Ellen Ruth and Karl-Heinz Bohr and my aunt Sr. Johanna Franziska, b.

Hildegard Sibbe

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Aboriginal Archery and European Firearms on the Northern Great Plains and in the Central Subarctic: Survival and Adaptation, 1670 – 1870

Abstract

The introduction of firearms and metal arrowheads has been connected to momentous changes in North American Aboriginal subsistence activities and military relations, based on an alleged superiority of European technology over indigenous distance weapons, such as the bow and arrow.

This dissertation compares Aboriginal cultures on the Northwestern Great Plains (Blackfoot) and in the Central Subarctic (Swampy Cree) and their reasons for retaining indigenous technology, adopting European technology or combining the two, and the impact of these actions on their cultures and history from the early fur trade to the treaty and reservation period.

In spite of their many shortcomings, muzzle-loading smoothbore firearms were of importance in altering military relations between Aboriginal peoples in both regions. However, this effect was not based simply on superiority of these weapons, but rather on the ways Aboriginal people adapted them to their own needs and employed them in combat.

Due to limitations in available materials for the manufacture of bows and arrows, climate constraints and an increasing emphasis on trapping, the Swampy Cree and other Subarctic peoples were more predisposed to adopt firearms. In contrast, on the Plains the increasing importance of mounted bison hunting favoured the retention of archery. Plains peoples used firearms mainly in combat, in combination with indigenous weapons. In the Subarctic firearms gradually replaced archery for big game hunting and combat, but the bow and arrow survived well into the twentieth century as a weapon to hunt small game and birds. On the Plains, in contrast, after the destruction of the bison herds both hunting and archery lost their former importance by the late 1800s.

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Preface

This study examines Aboriginal people's use of Indigenous and European distance weapons in big game hunting and combat from the beginning of the European fur trade in the late seventeenth century to the treaty and reserve period that began in the 1870s. It compares the northern Great Plains and the Central Subarctic, two adjacent but environmentally very different regions of North America and their respective indigenous cultures, focusing specifically on the Blackfoot of the northwestern Great Plains and the Swampy Cree of the Hudson and James Bay Lowlands as examples.

Technological change and the impacts of European contact were not uniform throughout North America. Aboriginal people in both regions became much involved in the fur trade and from the early 1700s on had to deal with European newcomers, but they did so in divergent ways. Their reasons for retaining indigenous technology or adopting European technology and the impact of these actions on their cultures are at the centre of this study. Since Aboriginal people in both regions were affected by and participated in the fur trade, a comparative examination of continuity and change in their hunting methods and hunting equipment and patterns of violent conflict can shed more light on their history and the history of Aboriginal/European relations.

My interest in North American Aboriginal people's history began with a fascination with their material culture. Intrigued by the controversies surrounding the effectiveness of Aboriginal technologies in comparison to European tools and weapons, I found that much of the sparse information on Aboriginal weapons was either overlooked or misinterpreted by historians of the fur trade. To gain a more realistic understanding of their capabilities, I began to manufacture working replicas of Aboriginal artifacts such as

moccasins, containers, tools and bows and arrows. Through a Fulbright Grant at the University of North Dakota in Grand Forks in 1995/96, I had the chance to study the history, archaeology and material culture of the Mandan, Hidatsa, Arikara and Lakota. There I began to seek information from Aboriginal people themselves to compare and integrate into my practical studies on Aboriginal material culture.

Soon after I began my doctoral studies at the University of Manitoba in Winnipeg, in 1999 I met Mr. Louis Bird, a Swampy Cree Elder from Peawanuck, Ontario who has been active in collecting his people's traditions, legends and histories for over thirty years. My conversations and cooperation with Louis Bird had a formative influence on my work. So far my interests had been mainly directed towards Plains Aboriginal peoples, but he brought me to study subarctic people as well. Through these conversations I realized that a significant amount of information on traditional subarctic Aboriginal archery has survived in Swampy Cree oral traditions and through people's continued use of bows and arrows in hunting. However, because of a widespread assumption that traditional weaponry had quickly disappeared after the opening of direct trade between the coastal Cree and the Hudson's Bay Company in 1668/69, no one had asked Louis Bird about these topics before.

Another realization that came from work with Louis Bird was that although appearing similar on the surface, Subarctic people's responses to European tools and weapons and their ways of integrating these new items into their own technology were very different from those of Aboriginal groups on the Northern Plains. Comparing these different Aboriginal cultures in regard to their usage of indigenous and European

technology has led me to a more thorough understanding of these adaptive processes and Aboriginal people's responses to them.

A brief survey of the Subarctic and Northern Plains environments and the subsistence strategies of the Swampy Cree and Plains peoples near the time of contact (chapter two) provides the context for a detailed examination of Aboriginal distance weapons in chapters three and four. Chapter four also examines social and cultural aspects of the manufacture of arrows. Chapter five introduces the major types of firearms that became available to Aboriginal people through the fur trade. Its main focus is on muzzle-loading smooth bore flintlock guns because these comprised the majority of firearms sold in the fur trade and because these weapons, rather than later models of repeating firearms, were said to have had an important impact on military relations among different Aboriginal groups on the Plains and in the Subarctic. Chapter six compares injuries from arrows and bullets while chapter seven explores some of the social and spiritual connotations of bows, arrows, quivers and firearms.

Besides the capabilities of European weapons, Aboriginal people's ways of adapting and using them contributed greatly to the impact these weapons had on Aboriginal cultures. While chapter eight examines Aboriginal people's use of archery and firearms in hunting, chapters nine and ten compare and contrast important aspects of their use in combat in the Central Subarctic and on the Northern Plains. Following the conclusion (chapter eleven) is a glossary of archery terms to explain the technical archery terms and concepts appearing in this study.

I could not have completed this study without the generous assistance and support of numerous individuals and institutions. My wife Youngok Kang-Bohr and my parents

have patiently supported me spiritually and emotionally and provided consistent encouragement during the years of my post-graduate studies. Archivists and curators at the Hudson's Bay Company Archives and the Manitoba Museum in Winnipeg, the Provincial Museum of Alberta in Edmonton, the Glenbow Archives and Museum in Calgary, the Pitt Rivers Museum in Oxford, England, the Museum of Ethnology in Berlin and the Lindenmuseum in Stuttgart, Germany devoted considerable time and effort in support of my research. I am very grateful for their cooperation and their helpful suggestions and ideas.

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For guidance, encouragement, help and friendship I want to thank Roger Armitte, Louis and Thelma Bird, Barry Ferguson, Michael Fluegge, George Fulford, Don Grey Day and family, Birgit Hans, Wolfgang Helbich, Kathy Mallett, Adele Perry, Mary Jane and Fred Schneider, Donna Sutherland, and Ron Taillon.

Last, but certainly not least I gratefully acknowledge the advice, encouragement and patience of my thesis supervisor Dr. Jennifer S. H. Brown and her husband Dr. Wilson Brown.

Chapter I

Introduction

The introduction of metal weapons, such as axes, daggers, arrowheads and firearms by Europeans to Aboriginal people has often been considered as a cause of momentous changes in political, economic and military relations among different Aboriginal groups and also between Aboriginal people and Europeans. During the first half of the twentieth century E. E. Rich and J. M. S. Careless suggested that initial contact between the indigenous cultures of North America and European cultures, represented by European explorers and fur traders, led to a rapid collapse of Aboriginal economies and social organization and subsequently to the dependency of these Aboriginal cultures.¹

The availability of metal weapons and firearms through trade with Europeans was also said to have instantly revolutionized hunting and fighting methods because of their alleged superiority over indigenous North American tools and weaponry.² As John Clapham put it in the 1940s: "The Cree Indians were living about the southern end of the Bay. Armed by British and French traders, they ultimately became one of the great conquering tribes and fought their way, in bloody Indian fashion, right across the continent. They knew why they wanted 'metal wares.'"³ In a 1953 study based on written documents from non-Aboriginal and mostly military and fur trade sources, Frank Raymond Secoy argued that the unequal introduction of horses and firearms created a military imbalance that profoundly affected the history, culture and social organization of indigenous peoples

¹ E. E. Rich. *The History of the Hudson's Bay Company, 1670 – 1870* (London: Hudson's Bay Record Society, 1959); James M. S. Careless. *Canada: A Story of Challenge* (Cambridge University Press: Cambridge, 1953).

² For a discussion of these views, see: Toby Morantz, "Old Texts, Old Questions: Another Look at the Issue of Continuity and the Early Fur Trade Period," *Canadian Historical Review*, LXXIII, 2, (1992), 166-68.

³ John Clapham, Vice Provost of King's College, Cambridge, quoted from E. E. Rich ed. *Minutes of the Hudson's Bay Company, 1671-1674* (Toronto: Champlain Society, 1942), Introduction, page XXXI.

on the Plains. Secoy largely dismissed Aboriginal weaponry as inefficient in comparison to firearms and edged metal weapons.⁴ Such views still prevail in more recent scholarly works on the contact between indigenous cultures around the world and Europeans.⁵

Critics of such views, however, have pointed out the many disadvantages of early firearms when compared to Aboriginal North American weapons systems such as the bow and arrow.⁶ These controversies revolved around the question whether differences in technology alone are sufficient to account for unequal socio-political relations between indigenous peoples and European newcomers. They relate to two central topics, the role of European technology disseminated through the fur trade in shaping Aboriginal history and the nature of violent conflict in pre-state societies.

Recent scholarly works have portrayed conflict among indigenous people mostly as a highly ritualized and largely “ceremonial” activity with low casualty numbers and little impact on the societies involved. Such views have been especially prevalent for the region of the Great Plains, as expressed by Anthony McGinnis in his work *Counting Coup and Cutting Horses*.⁷ McGinnis argued that the main motive that led Plains Indians to go to war was to gain personal prestige through military exploits in order to advance in the hierarchies of their respective tribal societies, as well as increasing their wealth through taking horses and other plunder, which they could use to advance their position in the hierarchy by giving them away. According to McGinnis, even after the general

⁴ Frank Raymond Secoy. *Changing Military Patterns on the Great Plains (17th Century through Early 19th Century)* (Seattle: University of Washington Press, 1953).

⁵ Jared M. Diamond. *Guns, Germs and Steel: The Fates of Human Societies* (New York: W. W. Norton & Co., 1997), 76, 241; Arthur Ray. *Indians in the Fur Trade: Their Role as Hunters, Trappers, and Middlemen in the Lands Southwest of Hudson Bay, 1660-1870* (Toronto: University of Toronto Press, 1974), 146, 147.

⁶ Joan B. Townsend, “Firearms Against Native Arms: A Study in Comparative Efficiencies with an Alaskan Example,” *Arctic Anthropology*, vol. 20 (2), 1-32.

⁷ Anthony McGinnis. *Counting Coup and Cutting Horses: Intertribal Warfare on the Northern Plains, 1738-1889* (Evergreen, Colorado: Cordillera Press, 1990).

introduction of horses and firearms, casualty rates remained low and did not exceed what could be sustained by the Plains people through natural increase. Even though war parties often consisted of several hundred warriors, casualties in actual engagements were said to have remained few, largely because Aboriginal weaponry was supposedly not very effective and because Aboriginal people did not use European weapons efficiently.

Such views contradict observations made by explorers and fur traders during the early stages of contact with Aboriginal peoples, especially on the Great Plains. Their reports contain information about clashes between different Aboriginal groups with relatively high numbers of casualties. Accounts from Aboriginal peoples themselves and archaeological evidence dating to pre-contact times also attest to the occurrence of violent conflict, sometimes on a large scale, among indigenous peoples on the Plains.⁸

However, instead of viewing indigenous warfare in its own context, non-Aboriginal scholars often measured its effectiveness by how much indigenous people's military practices resembled those of Europeans. Since for the most part they found little resemblance, they assessed indigenous peoples' capacity for effective warfare to be very low. For example, Harry Turney-High developed the concept of a "military horizon." This was a line that distinguished warfare according to European concepts involving standing armies, military specialization, separate logistics and hierarchical command structures from conflict in pre-state societies, which were said to have remained below this military horizon because their capacity to wage war according to European concepts was limited. These notions contributed to the emergence of the concept of "primitive war" which dominated scholarly and popular works on violent conflict among indigenous

⁸ Patrick S. Willey, *Prehistoric Warfare on the Great Plains: Skeletal Analysis of the Crow Creek Massacre Victims*. New York: Garland Publishing, 1991.

peoples until the 1960s. Indigenous conflicts were described as small-scale endeavours of a highly ritualized “prestige sport” with very low casualties and a low impact on the societies involved. Harry Turney-High and Quincy Wright were the main advocates of such interpretations.⁹ In their treatment of indigenous violent conflict they largely overlooked the actual effects of warfare in non-state societies. They did not consider how casualty rates related to total population numbers or how the loss of even a few people affected small band societies in their subsistence activities and social structures.

From the end of the Second World War until the 1980s a general neglect of military topics predominated as authors critiqued contemporary technology-driven urban societies while romanticizing so-called ‘primitive’ people’s ways of life.¹⁰ Such romanticized views led to the emergence of what Lawrence Keeley referred to as the “pacified past” Based on concepts of the inherent “peacefulness“ of indigenous people and non-state societies, evidence for violent conflict in the past was not mentioned any more and the topic tended to disappear from scholarly discourse in archaeology and anthropology.¹¹

In 1984, instead of using European criteria for warfare, archaeologist Brian Ferguson suggested defining war in pre-state societies as “organized, purposeful group action, directed against another group that may or may not be organized for similar action, involving the actual or potential application of lethal force.”¹² Recent interpretations, based on this definition and on archaeological and forensic evidence,

⁹ Harry Holbert Turney-High. *Primitive War, Its Practice and Concepts* (Columbia: University of South Carolina Press, 1949); Quincy Wright. *A Study of War* (Chicago: University of Chicago Press, 1942).

¹⁰ Elizabeth Marshall Thomas. *The Harmless People* (New York : Alfred A. Knopf, 1959); Penelope Eckert and Russel Newmark, “Central Eskimo Song Duels: A Contextual Analysis of Ritual Ambiguity,” *Ethnology* 19 (1980), 193, 194.

¹¹ Lawrence H. Keeley. *War Before Civilization: The Myth of the Peaceful Savage*. New York: Oxford University Press, 1996.

¹² R. Brian Ferguson ed. *Warfare, Culture and Environment*. (Orlando, FL: Academic Press, 1984), 5.

attest that widespread, large-scale violent conflict was part of indigenous people's lives since ancient times in North America and elsewhere, long before they had lasting contacts with Europeans. This evidence shows that in relation to their relatively small populations the casualty rates among ancient North Americans were rather high and could not easily be sustained by communities who relied on all of their adult members as hunters, gatherers, protectors, craftspeople and leaders. What is even more compelling is that such conflicts affected not only the adult male combatants of a given Aboriginal population, but most other members of these societies as well. One of the most well-known examples comes from the excavation of a fourteenth century earth lodge village near Crow Creek, South Dakota. The mutilated remains of over 400 children, women and men were found in a mass burial in one of the fortification ditches of this village. Apparently these victims, who were likely ancestors of the modern Arikara, had been killed during a large-scale attack on the village and subsequently mutilated by the victors. Possibly survivors of the attack later buried the victims in a mass grave.¹³

Lawrence Keeley has argued that violent conflict among pre-state and Aboriginal people around the world was serious, deadly and even more frequent than among so-called "civilized" people. The effects of violence among tribal societies appear even more serious than those of violence among modern nation states when the figures of their losses are put into proportion to their overall population.¹⁴ Keeley stated that what Turney-High referred to as "primitive warfare" was war reduced to its essentials, namely killing people to solve conflicts and to achieve certain ends, such as personal prestige and

¹³ P. Willey. *Prehistoric Warfare on the Great Plains: Skeletal Analysis of the Crow Creek Massacre Victims* (New York: Garland Pub., 1991).

¹⁴ Lawrence H. Keeley. *War Before Civilization: The Myth of the Peaceful Savage* (New York: Oxford University Press, 1996).

material gain, for instance, access to resources and hunting territories or the capture of plunder and food.

Keeley cited indirect archaeological evidence, such as the remnants of fortified places from the pre-contact Southwest and the Lower and Upper Missouri and Mississippi regions. These fortifications showed an accumulation of projectile points and a high level of destruction by fire. He also presented direct archaeological evidence for violent conflict, for instance, human remains showing traces of the use and effects of ancient weapons, such as projectile points imbedded in bones, or fractures caused by shock weapons at close range.

While some scholars, such as Steven LeBlanc support Keeley's views, others have critiqued Keeley's methodology and his interpretations of archaeological evidence.¹⁵ These debates revolve around opposing views on definitions of warfare and conflicting interpretations of archaeological evidence in regard to the emergence of large-scale armed conflict.¹⁶

Scholarly explanations for the motivations behind such conflicts differ widely. For example, Robert Lowie claimed that largely individualistic motives such as the quest for personal prestige and influence or the enhancement of spiritual powers were the

¹⁵ Steven A. LeBlanc. *Prehistoric Warfare in the American Southwest* (Salt Lake City: University of Utah Press, 1999); Steven A. LeBlanc. *Constant Battles: The Myth of the Peaceful Noble Savage* (New York: St. Martin's Press, 2003); LeBlanc supports Keeley's views of a general and early prevalence of violent conflict with archaeological evidence from the American Southwest.

¹⁶ Raymond Kelly. *Warless Societies and the Origins of War* (Ann Arbor, MI: University of Michigan Press, 2000); James De Meo. *Sahasasia: The 4000 BCE Origins of Child-Abuse, Sex Repression, Warfare and Social Violence, in the Desert of the Old World* (Orgone Biophysical Research Lab, 1998); James De Meo, "Update on *Sahasasia*: Defending the Conclusions of James DeMeo's *Sahasasia* Against Lawrence Keeley's *War Before Civilization*," <http://www.orgonelab.org/update.htm>, January 2000; De Meo argues that large-scale organized warfare emerged only after 4000 BCE in Central Asia and or the Middle East and spread from there to Western Europe, the British Isles and other parts of the world. He states that Keeley postulated unreasonably early dates for evidence of warfare. According to De Meo, in interpreting archaeological evidence, such as projectile points embedded in bones, Keeley did not differentiate between the earliest dates for human habitation of an archaeological site and the actual age of human remains showing evidence of violence, often dating from a much later period.

driving forces behind the decisions of warriors to fight others. Other scholars, such as Oscar Lewis, Frank Raymond Secoy and Richard White saw the struggle over the use of resources such as hunting grounds and land for agriculture, or access to trade as primary motivations behind indigenous violent conflict.¹⁷

Most of the older ethnographic works on Plains peoples drew on accounts from Aboriginal elders who had lived through the last stages of the bison hunting culture and inter-Aboriginal and Aboriginal-European armed conflict. However, when researchers began to take a deeper interest in Aboriginal peoples in the Central Subarctic their research parameters and interests had shifted and inter-Aboriginal conflict, for example, between the Swampy Cree and Inuit had long since faded. Therefore studies on Central Subarctic peoples rarely mention warfare between Aboriginal groups in the region.

In northern North America Aboriginal people did fight for territorial gain, though not necessarily in a European sense. They did not measure their success in warfare by how much enemy territory they came to occupy after a conflict. Such notions were alien to their perceptions of warfare. Nevertheless, as a result of such conflicts one group often displaced another and took over its territory. Scholars often explained these displacements as caused by the sometimes radical and rapid technological change in Aboriginal cultures. Older historical studies often emphasized concepts of technological superiority and inferiority, explaining social change among indigenous societies after contact as a process of rapid cultural deterioration caused by the influence of European technologies, weapons and materials. These views emphasized alleged weaknesses of

¹⁷ Oscar Lewis. *The Effects of White Contact Upon Blackfoot Culture* (Seattle, 1966); Richard White, "The Winning of the West: The Expansion of the Western Sioux in the Eighteenth and Nineteenth Centuries," *Journal of American History* 65(1978), 1, 2; Robert H. Lowie. *Indians of the Plains* (New York: The Natural History Press, 1963 [1954]).

indigenous technology, while the superiority of European weapons, tools and materials was seen as the key element to later European domination of North American Aboriginal peoples.¹⁸ Based on such information, proponents of the “primitive war” concept argued that low casualties and inefficiency of warfare among non-state peoples was to a large extent rooted in the alleged incapability of indigenous weaponry to inflict serious casualties on a large scale.

For example, Wright and Turney-High alleged that pre-state North American societies produced few weapons that were specialized for warfare and built few fortifications.

On the other hand ethnographic studies were more concerned with documenting a supposedly “authentic” and “traditional” Aboriginal material culture without examining how and why it changed over time and how these changes affected the history, culture, social organization and world views of the people who carried it. This perspective, which emphasized the recent past rather than taking a deeper historical perspective with attention to process over time, dominated anthropological studies for most of the twentieth century.¹⁹

Many observers, European and indigenous, during the late eighteenth and early nineteenth centuries considered firearms to have had a major impact on military relations between different Aboriginal groups. On the other hand, numerous writers have indicated the many technical flaws and logistical problems connected to muzzle loading, single shot

¹⁸ Careless. *Canada: A Story of Challenge*; Lowie. *Indians of the Plains*; Rich. *The History of the Hudson's Bay Company, 1670 to 1870*; Secoy. *Changing Military Patterns on the Great Plains*.

¹⁹ Edward Sapir. *Time Perspective in Aboriginal Culture. A Study in Method*. Memoir 90, Geological Survey of Canada, no. 13, Anthropological Series Ottawa, 1916; Alfred L. Kroeber, “History and Science in Anthropology,” *American Anthropologist*. n.s., Vol. 37, 1935, 539-569; Franz Boas, “History and Science in Anthropology: A Reply,” *American Anthropologist*. n.s., Vol. 38, 1936, 137-141; C. James. *Cultural Change in Mistassini: Implications for Self-determination and Cultural Survival*. Montreal: Agree McGill University, 1997; R. Niezen. *Defending the Land: Sovereignty and Forest Life in James Bay Cree Society*. Boston: Allyn and Bacon, 1998.

firearms. These apparent contradictions seem especially stark for the region of the Northern Great Plains, where the introduction of firearms has been connected to momentous changes in the military relations between different indigenous groups, but where bows and arrows remained in use as combat and hunting weapons until the destruction of the bison herds in the late nineteenth century.²⁰

Similarly, the introduction of firearms and edged metal weapons was said to have revolutionized Swampy Cree material culture, hunting methods and subsistence patterns. Living on the western and southern shores of Hudson Bay and on the west coast of James Bay, the Swampy Cree were at the source of the Hudson's Bay Company fur trade from its very beginning in 1668/69. Of all the Aboriginal groups in Northern and Western Canada, they probably had the longest exposure to Europeans and their technology. They supplied guides for missions of exploration and trade, directed into the hinterland of Hudson Bay and later they came to form the so-called "homeguard bands" of mostly Cree people who lived in close proximity to the trading posts and worked in close cooperation with the fur traders. To earlier researchers this long exposure of the Swampy Cree to European traders and their goods, culture and diseases was proof enough of their early and growing dependency on the Europeans. Yet, European traders were also dependent on the central Cree as guides and mediators with other Aboriginal groups to the west of them, using the river systems coming from the Rocky Mountains to access the western Plains and its fur resources. Without them, much of the western fur trade would not have been possible.

Victor Lytwyn has showed that the Aboriginal people of the Hudson and James Bay Lowlands maintained much of their traditional technology and economy for over a

²⁰ Secoy. *Changing Military Patterns on the Great Plains*; Ewers. *The Horse in Blackfoot Indian Culture*.

century after trading with the Hudson's Bay Company began in 1670. Only after the smallpox epidemic of 1782/83 and the rapid inland expansion of the Hudson's Bay Company's trading networks did the Lowland Cree become more heavily involved in the fur trade, relying increasingly on European technology for hunting purposes.²¹

Older as well as more recent studies of the history of the fur trade and central Canadian Aboriginal groups claimed that the central Cree and other Aboriginal groups, in their quest for new fur resources, forcefully displaced indigenous people to the west of them, setting in motion a general westward movement of various Aboriginal groups. The main reason for their success was in turn alleged to be the firearms they received from European traders, which gave them a military advantage over those Aboriginal people who did not have continuous access to firearms.²² However, Swampy Cree oral traditions do not confirm concepts of large-scale migrations to the West or organized large-scale warfare against western Aboriginal peoples, although they point to continuous struggles with Inuit peoples.

In an attempt to resolve these contradictions, this work closely examines the big game hunting and combat methods and technology utilized by Aboriginal people in these two regions, focusing on the eighteenth and early nineteenth centuries, but also providing a brief overview of pre-contact times. The research presented here is based on the comparison and evaluation of a variety of sources. Written historical documents left by mostly non-Aboriginal observers, such as explorers, travelers, traders and soldiers,

²¹ Victor Petro Lytwyn, "The Hudson Bay Lowland Cree in the Fur Trade to 1821: A Study in Historical Geography," Ph. D. Thesis, University of Manitoba, 1993, pp. ii, 453.

²² John S. Milloy. *The Plains Cree: Trade, Diplomacy, and War, 1790 to 1870* (Winnipeg: University of Manitoba Press, 1988); Secoy. *Changing Military Patterns on the Great Plains*.

mainly from the Hudson's Bay Company Archives in Winnipeg, are among the principal sources utilized.

Because Aboriginal points of view are essential for a more accurate understanding of the events and changes of this period, this study draws on the traditions of Aboriginal peoples themselves through a close cooperation with Aboriginal elders. For example, Louis Bird has been active in recording Swampy Cree oral histories and traditions from his elders, as well as his own life experiences as a hunter, hunting guide and trapper in the Central Subarctic for over thirty years. The result of this extensive research and collecting activity is a collection of several hundred hours of audio material, now housed at the Centre for Rupert's Land Studies at the University of Winnipeg, Manitoba, and partially accessible through the world wide web at www.ourvoices.ca. Furthermore, Peigan and Siksika people and a large number of typescripts of interviews with Blackfoot and other Aboriginal people from the Plateau and Northern Plains regions, available at the Glenbow Archives, were important sources of information. Comparing this information to fur trade documents and original artifacts makes it possible to gain information on cultural and technological change among the Blackfoot and Swampy Cree from Aboriginal perspectives.

Early scholars of fur trade history saw the fur trade primarily as a function of European exploration, colonization and domination and therefore assumed that most Aboriginal people, when confronted with European weapons and tools became almost immediately dependent on them for their subsistence as well as for military purposes. In the early 1950s Frank Raymond Secoy pointed out that the almost simultaneous introduction of horses and firearms to different ethnic groups in different regions on the

Great Plains was the main reason for a dramatic shift in military power and created a strong and previously nonexistent incentive for intertribal warfare that lasted until the end of the nineteenth century.²³

However, many of these early studies suffered from a lack of attention to detail. Often they did not differentiate between different types of firearms, such as smooth-bore weapons and rifles, or muzzle-loading single shot firearms and repeating firearms. Their authors tended to assume a general superiority of every type of firearm over Aboriginal weaponry and drew almost exclusively on source documents that supported their views. They rather uncritically left out the many disadvantages that early firearms suffered from, and they also ignored the advantages that Aboriginal weapons such as bows and arrows, lances or stone cutting tools, could have under certain circumstances and in certain environments.

Some later scholars, attempting to present a more nuanced picture, went to the other extreme. For instance, the anthropologist Joan B. Townsend claimed a general inferiority of early firearms over Aboriginal Alaskan weaponry. She dismissed early firearms as completely unreliable and claimed that until the mid to late nineteenth century access to firearms in no way guaranteed the military superiority of one Aboriginal group or Europeans over other Aboriginal groups who did not have access to firearms and who fought with their traditional weapons.²⁴

The archaeologist Robert L. Hall is one of the few scholars who have written on the changing social and spiritual connotations of material culture in Aboriginal societies and the importance of material items such as weapons, tools and dwellings in shaping the

²³ Ibid.

²⁴ Townsend, "Firearms Against Native Arms."

worldviews of Aboriginal people.²⁵ However, most scholars generally have not considered the cultural, social and religious connotations that parts of Aboriginal material culture held for their users. They did not investigate how and why newly introduced weapons, tools and materials could attain spiritual and social importance among Aboriginal peoples and what this meant in regard to their motives for such activities as trading, hunting and warfare. In Aboriginal societies traditional materials, tools and weapons often held meaning beyond their mere functionality. For example, to Aboriginal people on the Northern Great Plains certain archery items held religious meaning and social prestige. Just as these traditional implements were endowed with spiritual and social significance, so were newly introduced European materials, weapons and tools incorporated into Aboriginal belief systems and were endowed with powers beyond their mere physical functionality. Thus, beyond the physical properties and efficiency of indigenous and European materials and implements, cultural and spiritual contexts need to be considered when attempting to gain an understanding of the reasons for technological continuity or change among North American indigenous societies.

Purely materialistic explanatory models for technological change in Aboriginal North America often overlook the fact that technologies were exchanged in both directions. European newcomers often adopted Aboriginal technologies and implements because these were better suited to their specific tasks than European items were. Well known cases in point are the adoption of Aboriginal footwear, snowshoes, and birch bark canoes by European explorers, traders and settlers; but Plains Indian archery gear and

²⁵ Robert L. Hall. *An Archaeology of the Soul: North American Indian Belief and Ritual*. (Chicago: University of Illinois Press, 1997).

tipis were also adopted by non-Aboriginal sojourners.²⁶ Thus, a closer examination of Aboriginal weapons and equipment, and also the non-materialistic connotations and meanings around it, can contribute to a more precise understanding of the nature of conflict among indigenous societies on the Northwestern Great Plains and the Central Subarctic.

A major portion of the research was devoted to a close examination of archery artifacts collected from Central Subarctic and Northwestern Plains peoples, now housed at the Manitoba Museum in Winnipeg, the Provincial Museum of Alberta in Edmonton, the Glenbow Museum in Calgary, the Pitt Rivers Museum in Oxford, England, the Lindenmuseum in Stuttgart, Germany and the Museum of Ethnology in Berlin, Germany. With Louis Bird, I examined Aboriginal weapons and tools from the ethnological and Hudson's Bay Company collections at the Manitoba Museum, and with the Siksika Elder Clifford Crane Bear I studied collections at the Glenbow Museum. The collections of Duke Paul von Wuerttemberg and Prince Maximilian zu Wied, who traveled the Western Great Plains in the 1820s and 1830s, and of Edward Hopkins, secretary to Sir George Simpson, Governor of the Hudson's Bay Company were especially important. Research with these collections provided crucial information on the material culture of Aboriginal people over a period when they underwent substantial change. Based on the examination of these artifacts and information from Aboriginal people I manufactured and tested

²⁶ HBC fur trader and explorer Anthony Henday used Aboriginal archery gear to hunt; Lawrence J. Burpee, ed., *The Journal of Anthony Hendry*, 37, Dec. 15, 1754; 43, April 17, 1755; 43, April 24, 1755. The Crow Plenty Coups stated that non-Aboriginal trappers and traders often preferred short plains bows over muzzle-loading firearms for mounted bison hunting; Linderman, *Plenty Coups, Chief of the Crows*, Lincoln: University of Nebraska Press, 1962 (1930), 17, 18; Reginald and Gladys Laubin. *The Indian Tipi: Its History, Construction and Use*. Norman: University of Oklahoma Press, 1977, 15, 16.

working replicas of Aboriginal bows and arrows to develop a realistic understanding of the capabilities of Aboriginal artifacts and technology from a practical perspective.

While the larger issues of dependency versus agency are beyond its scope, this thesis closely examines and compares Aboriginal people's use of firearms and their most widespread distance weapon, the bow and arrow in regard to technical aspects, efficiency in combat and modes of use. Most available sources and references are anecdotal and difficult to evaluate statistically, making this work a qualitative rather than a quantitative study. However, the comparison and combination of documentary sources, Aboriginal oral traditions, actual artifacts, and the practical experience of replicating and testing Aboriginal archery gear afford new insights into the workings and efficiency of traditional North American hunting technology and its significance for Aboriginal history.

Chapter II

The Hudson Bay Lowlands and Northwestern Plains: environments and Indigenous subsistence patterns

In order to analyze continuity and change in Aboriginal people's use of big game hunting and military technology, their subsistence patterns, modes of conflict and social organization at the time of contact need to be understood. Various sources contribute information on these topics. The first accounts of European outsiders on Hudson Bay and in the Subarctic provide information on Aboriginal life styles and technology that, within reasonable limits, can be applied to conditions just before contact. For the Plains this is more difficult, because some European goods, such as textiles, metal tools, metal weapons and firearms reached Aboriginal people on the Plains through indigenous trading networks before the first Europeans arrived, already contributing to technological change before it could be observed by Europeans.

For the Northern Plains and the Subarctic there are also various indigenous sources of information, which have been transmitted orally. Some of these reach back into the times before contact. Others explicitly deal with the changes brought on by the adoption of European technology.

Archaeological information also contributes towards putting together the puzzle of Aboriginal people's lives around the time of contact. The remains of Aboriginal settlement sites and camps allow us to draw conclusions about dwellings and on social organization. Artifacts and refuse provide information on Aboriginal subsistence patterns, diet, hunting methods and technology. The forensic analysis of human remains can

provide insight into Aboriginal people's physique, the state of their health and their life ways.

In order to understand Aboriginal people's subsistence strategies a closer examination of the geography, climate, flora and fauna of the Hudson Bay Lowlands and the Northwestern Great Plains is necessary.

Hudson Bay Lowlands

The Hudson Bay Lowlands form a crescent along the southwest coast of Hudson Bay and along the west coast and southern tip of James Bay, from the mouth of the Churchill River in the north to the mouth of the Nottaway River in the south. This area extends inland for well over 200 km, reaching a maximum extension of about 400 km between Cape Henrietta Maria and Martin's Fall, about halfway up the Albany River.

The marshy area of the lowlands is bounded by the bedrock of the adjacent upland boreal-forest environment. Part of the Pre-Cambrian shield, this rock formation dates from an earlier geological age than the softer sedimentary rock of the lowlands. This division is marked by a line of waterfalls and rapids extending across the rivers draining into Hudson and James Bay.¹

¹ Victor P. Lytwyn. *Muskegowuck Athinuwick: Original People of the Great Swampy Land* (Winnipeg: University of Manitoba Press, 2002), 3.

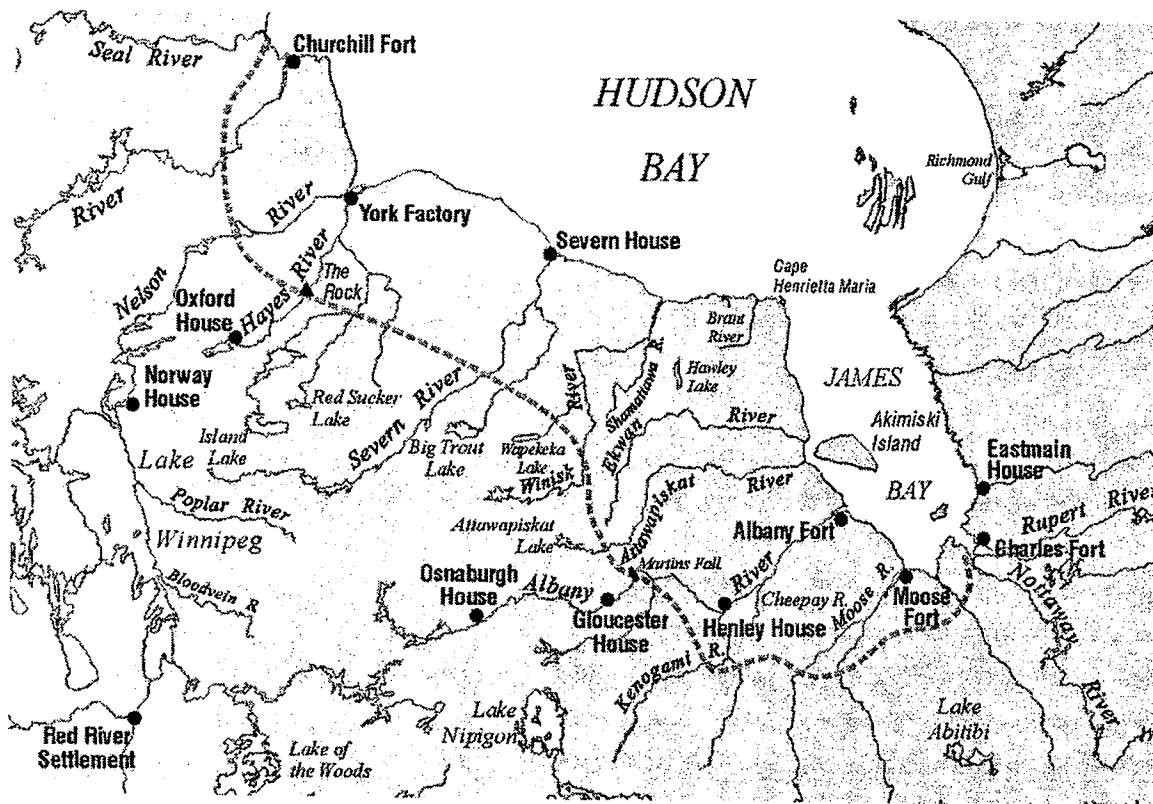


Fig. 1. Map showing the Hudson and James Bay Lowlands and surrounding area. Adapted from Victor P. Lytwyn. *Muskekowuck Athinuwick: Original People of the Great Swampy Land* (Winnipeg: University of Manitoba Press, 2002), 2.

The Jesuit missionary Father Gabriel Marest traveled the region near the mouth of Nelson River in 1694 and probably wintered there. His description of the area contains information that is crucial to understanding the challenges Aboriginal people faced in their subsistence efforts:

As I have said before, the fort is near latitude 57 degrees and situated at the mouth of two beautiful rivers. But the soil is very barren. The country is marshy with many wet meadows. There is little wood and what there is, is very stunted. Within thirty or forty leagues of the fort there is no heavy timber. That is caused, no doubt, by the violent sea winds which are usually blowing, the great cold, and the almost continual snows. The cold begins in the month of September and is then severe enough to fill the rivers with ice and sometimes to freeze them quite over. The ice lasts till about the month of June, but the cold does not cease even then. It is true that during that time there are very hot days but not for long (for there is little intermediate between great heat and great cold). The north winds, which are frequent, soon dispel this early heat and often, after perspiring in

the morning, you are frozen in the evening. The snow lies on the ground eight or nine months but it is not very deep. The greatest depth this winter has been two or three feet.

The long winter, although it is always cold, is not, however, equally so at all times. There are often, in truth, excessively cold days on which one does not venture out of doors without paying for it. There are few of us who have not borne the marks of this extreme weather; and, among others, a sailor lost both his ears, but there are also fine days. What especially pleases me is the absence of rain and that, after a snowstorm or blizzard (or *poudrerie*, as a fine snow which penetrates everywhere is called), the air is pure and clear. If I had to chose between winter and summer in this country I do not know which I should prefer, for, in summer, besides the scorching heat, the frequent changes from extreme heat to extreme cold, and the rarity of three fine days on end, there are so many mosquitoes or black flies as to make it impossible to go out of doors without being covered and stung on all sides. The flies are more numerous here and stronger than in Canada. Add that the woods are full of water and that there is no going far into them without going up to the waist.²

Marest's descriptions closely resemble those of the French military officer Bacqueville de la Potherie, who participated in a French naval expedition to capture and destroy the English bayside posts in 1697.³ Both descriptions emphasized the long winters, the extreme cold and the abundance of biting insects in the short hot summers. These were crucial in shaping the migratory patterns of animals, notably caribou, which formed the basis for the subsistence patterns of Aboriginal people. In the summer the swampy and marshy ground limited people's ability to travel. The scarcity of wood and its stunted growth placed severe restrictions on Aboriginal people's options for the manufacture of wooden tools and weapons.

The lowlands appear like a vast and level expanse of bogs and muskeg, a desolate landscape seemingly devoid of life. This impression is misleading, however. Marshy wetlands dominate the landscape, but are interspersed with fertile pockets, such as the

² J. B. Tyrrell, ed. *Documents Relating to the Early History of Hudson Bay* (Toronto: Champlain Society 1968 [1931]); Letter from Father Marest, 1694, 126, 127.

³ Letters of La Potherie, in: J. B. Tyrrell, ed. *Documents Relating to the Early History of Hudson Bay*, 219, 220, 261, 262.

Hawley Lake area.⁴ Right on the coastline a thin strip of tundra vegetation extends from about the mouth of the Churchill River to the northern shore of Akimiski Island in James Bay. This tundra area provides a favoured habitat for caribou and other lowland animals.

Much of the Subarctic is characterized by a "continental" climate, with short summers and low temperatures in winter. Fewer than four months have a mean temperature higher than 10°C. In the central Hudson Bay Lowlands, mean daily temperatures reach up to 15°C in July, dropping to minus 25°C or lower in January. The maximum frost-free period is 100-120 days per year in the regions west of Lake Superior and along the boundary between the boreal forest and the plains/parklands environment stretching across the continent. For the Central Subarctic a frost-free period of 40 to 60 days is more typical.⁵

Coniferous trees characterize the vegetation in most of the Subarctic. Moisture conditions, temperature and wind determine the species present in any given location, but the level of species diversity is relatively low. Coniferous trees dominate the vegetation of the upland forests. White spruce (*Picea glauca*) is the most common tree in the boreal forest and is found in well-drained sites and on south-facing slopes. Black spruce (*Picea mariana*) and tamarack (*Larix laricina*) inhabit relatively wet sites. Balsam fir (*Abies balsamea*) and jackpine (*Pinus banksiana*) occur as well.⁶

The few species of deciduous trees, such as birch (*Betula papyrifera*), poplar (*Populus balsamifera*) and aspen (*Populus tremuloides*) grow in limited numbers

⁴ William C. Noble and John W. Pollock, "Archaeology of the Hawley Lake Area, Hudson Bay Lowlands, Ontario," *Canadian Archaeological Association - Collected Papers, March 1975*, Archaeological Research Report No. 6, Toronto: Ontario Ministry of Culture and Recreation, Historical Sites Branch, 1975, 79.

⁵ James S. Gardener, "General Environment," in *Handbook of North American Indians*, Vol. 6: *Subarctic*, ed. June Helm. (Washington: Smithsonian Institution, 1981), 9-10.

⁶ *Ibid.*, 12.

throughout the Subarctic.⁷ The paper birch is absent from the lowland region. The most common trees there are spruce, tamarack and willow.⁸ Several shrubs and dwarf shrubs such as dwarf birch (*Betula glandulosa*), crowberry (*Empetrum nigrum*), alder (*Alnus crispa*), and labrador tea (*Ledum groenlandicum*), are found in the tundra and transitional areas.⁹

Massive herds of barren-ground caribou (*Rangifer tarandus groenlandicus*) used to migrate along the coastal strip of tundra vegetation of the Hudson Bay Lowlands in summer to feed and to calve there. Besides the migratory barren-ground caribou there were also indigenous woodland caribou (*Rangifer tarandus caribou*) in some of the more forested areas and in the boreal forest of the uplands.

Moose (*Alces alces*) were rare in the Hudson Bay Lowlands. Moose populations in the uplands adjacent to the coastal lowlands declined during the fur trade period, disappearing entirely by the early nineteenth century. However, moose populations have increased over the past 150 years. These animals now frequent the lowlands all the way to the coast.¹⁰

The population of snowshoe hares (*Lepus americanus*) in the area provided an important source of food and raw materials to local indigenous people, but was subject to extreme fluctuations. After reaching a peak every nine or ten years, the population would suddenly crash.¹¹ Besides hares, Aboriginal people hunted other rodents for food and furs

⁷ Kevin Brownlee and E. Leigh Syms. *Kayasochi Kikawenow: Our Mother from Long Ago, An Early Cree Woman and Her Personal Belongings from Nagami Bay, Southern Indian Lake* (Winnipeg: Manitoba Museum, 1999), 3, 4.

⁸ John J. Honigmann, "West Main Cree," in *Handbook of North American Indians*, Vol. 6: *Subarctic*, ed. June Helm, 1981, 217.

⁹ Gardener, "General Environment," 13.

¹⁰ Lytwyn, *Muskekowuck Athinuwick*, 4, 5, 106.

¹¹ *Ibid.*, 110; Louis Bird, personal communication, October 2001; Stuart Houston, Tim Ball, and Mary Houston. *Eighteenth-Century Naturalists of Hudson Bay* (McGill-Queen's University Press, Montreal,

such as the beaver (*Castor canadensis*), the muskrat (*Ondatra zibethicus*) and the hoary marmot (*Marmota caligata*, also known as groundhog), porcupines (*Erithizon dorsatum*) and arctic ground squirrels (*Spermophilus undulates*).¹²

Marshes along the coast provided seasonal gathering and feeding places for large numbers of waterfowl, such as Canada geese (*Branta canadensis*), Richardson's geese (*Branta Canadensis hutchinsii*), lesser snow geese (*Anser caerulescens caerulescens*) and blue geese (*Chen caerulescens*), and also for various kinds of ducks and swans.

Of the numerous species in the lowlands' rivers and lakes, the lake sturgeon (*Acipenser fulvescens*), northern pike (*Esox lucius*), also called jackfish and various kinds of sucker were important food sources.¹³ Black bears (*Ursus americanus*) and polar bears (*Ursus maritimus*) were occasionally hunted for their hides and also to some extent as a food source.¹⁴ White or beluga whales (*Delphinapterus leucas*) and harbor seals (*Phoca vitulina*) were of some importance as a source of food to the Hudson Bay Lowlands Cree, but more so as sources of raw materials, such as sinew and hides for cordage.¹⁵

Subsistence activities of the Omushkego Cree around the time of contact

Oral traditions of the Omushkego Cree in the Winisk region maintain that their ancestors had lived along the Winisk River and its tributaries long before the arrival of

2003), 97, 177-187; HBCA B.51/e/1; Peter Fidler was the first European to record this cycle of abundance and decline of hare and lynx.

¹² Beryl C. Gillespie, "Major Fauna in the Traditional Economy," in *Handbook of North American Indians*, Vol. 6: *Subarctic*, ed. June Helm. Washington: Smithsonian Institution, 1981, 15-18.

¹³ *Ibid.*, 18; Lytwyn, *Muskegowuck Athinuwick*, 4, 5, 91-95.

¹⁴ *Ibid.*, 110.

¹⁵ Beryl C. Gillespie, "Major Fauna in the Traditional Economy," in HNAI, Vol. 6, 15; Louis Bird, 0014 – *Our Voices*, "Guns and Bows," rec. April 2001, transcr. by Roland Bohr; Louis Bird personal communication, Sept./Oct. 1999.

Europeans there.¹⁶ Archaeological evidence supports these traditions.¹⁷ A fishing site on the Shamattawa River, which flows into the Winisk River, has yielded the earliest recorded date for year-round human habitation in the Hudson Bay Lowlands, with a radiocarbon date of 3920 +/- 180 years BP.¹⁸

Despite the seasonal abundance of game animals, the Hudson Bay Lowlands are a harsh environment with a limited capacity to sustain large groups of people for extended periods at any specific location. Therefore the population was small and had to disperse over vast areas for a substantial part of each year. The Hudson's Bay Company officer Andrew Graham stated in the 1770s, "I am certain that the total of Indians along the whole coast of Hudson's Bay [within the lowlands] would not exceed two thousand."¹⁹ The smallpox epidemic of 1782-83 took a devastating toll among the Lowland Cree, reducing them to about half their former numbers, but by the 1820s the total population had returned to approximately the pre-smallpox level.²⁰

Fish, waterfowl and caribou were the only game animals accessible in large numbers to Subarctic hunters. Otherwise game was scarce in the northern boreal forests and the Hudson Bay Lowlands, forcing peoples to live in relatively small groups during most of the year. Usually two extended families, often those of two brothers would spend the long winter and most of the spring and fall together hunting and gathering.²¹ In the summer larger groups would congregate at pre-appointed places in fishing camps. Such

¹⁶ Louis Bird, 0051 – *Our Voices*, "Fish Trapping and Caribou Hunting," rec. January 1989, transcr. by Justin Dyck, 1.

¹⁷ Lytwyn. *Muskegowuck Athinuwick*, 38, 39.

¹⁸ Kenneth R. Lister, "Provisioned at Fishing Stations: Fish and the Native Occupation of the Hudson Bay Lowland," in *Boreal Forest and Sub-Arctic Archaeology*, ed. C. S. Reid, Occasional Publications of the London Chapter of the Ontario Archaeological Society, No. 6, (1988), 72-99.

¹⁹ Andrew Graham. *Andrew Graham's Observations on Hudson Bay, 1767-1791*, ed. Glyndwyr Williams, (London: Hudson's Bay Record Society, 1969), 330.

²⁰ Lytwyn, *Muskegowuck Athinuwick*, 24, 25.

²¹ Honigmann, "West Main Cree," 217.

gatherings could include over 200 people, while the number of persons in each hunting camp rarely exceeded thirty people.²² Referring to pre-contact times and to the early times of contact, Swampy Cree elder Louis Bird stated that according to his people's oral traditions the Winisk River system and its tributaries within the lowland region could sustain about 20 families.²³

Leaders emerged on the basis of their experience and expertise. Bands of two to ten families recognized leaders, who with the aid of spiritual powers, advised the people where and when to hunt, fish and gather and who gave counsel and advice in inter-band and intra-band relations. However, the people did not recognize a "right" of their leaders to wield absolute authority or to issue orders that had to be obeyed.²⁴ Essentially the heads of individual families were autonomous when it came to making decisions affecting their family groups.

The climate of the Subarctic makes agriculture practically impossible, while edible roots and berries are far from abundant for most of the year. Therefore hunting and fishing were the main means of securing food. Even then, large game was limited, smaller animals such as fish and rabbits played an important part in the diet of Central Subarctic peoples.²⁵ By the nineteenth century the increasing scarcity of large game favored individual hunting over communal hunting.²⁶ Rabbits and other small game were often trapped rather than actively pursued, since trapping conserved human energy. This

²² Alanson B. Skinner. *Notes on the Eastern Cree and Northern Saulteaux* (New York: American Museum of Natural History, 1911), 56, 57; For a discussion of group size and the utilization and size of hunting territory among the Cumberland House Cree of Saskatchewan, see: Keith Goulet, "The Cumberland Cree Nehinuw Concept of Land," paper presented at Indigenous Knowledge Systems: International Symposium, University of Saskatchewan, Saskatoon, May 10-13, 2004, 9, 17-20.

²³ Louis Bird, 0051 – *Our Voices*, "Fish Trapping and Caribou Hunting," 2.

²⁴ Honigmann, "West Main Cree," 222.

²⁵ Skinner. *Notes on the Eastern Cree and Northern Saulteaux*, 24-26.

²⁶ Arthur E. Spiess. *Reindeer and Caribou Hunters: An Archaeological Study* (New York: Academic Press, 1979), 120.

emphasis on trapping was later enhanced through the fur trade, which in the Subarctic was concentrated on procuring beaver pelts, but also those of small predatory animals such as river otters, martens and fishers.

The seasonal round

In the late seventeenth and early eighteenth century Omushkego people followed a relatively consistent pattern of seasonal migrations and activities throughout their territory in order to access a various resources where and when they became available. The annual cycle began with the month of March.²⁷ From their inland wintering sites they migrated to the coast of Hudson Bay in spring to hunt ducks and geese on the coast and to escape mosquitoes, flies and other parasitic insects, which were more numerous in the interior than on the coast. They knew that large mammals, such as moose and caribou also moved to the coast in spring and early summer to avoid these insects.²⁸

By the end of March and the beginning of April large herds of caribou from the upland forest began to arrive in the coastal lowlands. These animals migrated along the coastline and then dispersed to their breeding grounds as far south as Cape Henrietta Maria and Akimiski Island in James Bay. In late summer they congregated again and took up the return journey. Once they reached the upland forests again, they dispersed into smaller herds over the winter. During these great migrations the caribou herds numbered in the tens of thousands as several HBC employees observed throughout the eighteenth century. In anticipation of the spring migrations of caribou, Cree people set up

²⁷ Lytwyn, *Muskegowuck Athinuwick*, 82, *Andrew Graham's Observations*, 166, 171, 184.

²⁸ Louis Bird, 0051 – *Our Voices*, "Fish Trapping and Caribou Hunting," 1.

hunting camps in late winter, close to the migration routes at places where the caribou could be hunted with relative ease.²⁹

There were several ways to hunt caribou herds. According to Louis Bird, caribou were often driven into enclosures or narrow passageways between two converging lines of rock or snow piles. Hunters then waited at the narrow spot or at the enclosure, to kill the animals with spears, bows and arrows or later with firearms.³⁰ Just like Inuit and Alaskan Aboriginal people, or the Beothuk of Newfoundland, the Swampy Cree, the Northern Ojibwa and Montagnais also hunted these animals in large “caribou drives.” Aboriginal people in the eastern and central Subarctic practiced this hunting method well into the first quarter of the nineteenth century.³¹

During the spring caribou migration, when the rivers were still frozen, fences or hedges were built with openings that contained snares to catch the animals’ heads. European fur traders copied this Aboriginal invention and in some instances built such hedges not far from a fur trading post.³² James Isham described a caribou hedge made by Lowland Cree people:

Their snares are made of Deer, or other skins Cutt in strips, platting several things together, - they also make snares of the Sinnew’s of beast after the same manner, they then make a hedge for one or two mile in Length. Leaving Vacant places, - they then fall trees and Sprig them as big as they can gett, setting one up an End at the side of the Vacant place, fastening the snare to one of these trees, then setting the snare round they

²⁹ Lytwyn, *Muskegowuck Athinuwick*, 83, 84.

³⁰ Louis Bird, 0014 – *Our Voices*, “Guns & Bows;” Skinner, *Notes on the Eastern Cree and Northern Saulteaux*, 25, 26; Alanson Skinner described a similar method for hunting caribou, practised by the Eastern Cree.

³¹ Spiess. *Reindeer and Caribou Hunters*, 120, 121, Lytwyn, *Muskegowuck Athinuwick*, 430; Hans Läng. *Kulturgeschichte der Indianer Nordamerikas* (Göttingen: Lamuv Verlag GmbH, 1989), 87.

³² Lytwyn, *Muskegowuck Athinuwick*, 86, 147; Caribou cows shed their antlers shortly before giving birth, usually in May or June. Bulls shed theirs in October or November, generally after the rut, while immature bulls do not shed their antlers until spring. Therefore, by the time of year that caribou hedges were in use, there were some caribou with and some without antlers. Although it seems easier to catch caribou without antlers, the width of the caribou antlers apparently did not impede the functionality of the snares.

Slightly study the snare on Each side, the bottom of the snare being about 2 ½ foot from the ground, Driving stakes under'ne that they may not creep under, they then Leave them with the Deer being pursued by the Natives other way's they strive to go thro these Vacant places, by which they are Entangld. And Striving to gett away the trees fall Downe, sometimes upon them and Kills them if not they frequently hawl these trees for some miles till a growing tree or stump brings them up, - when the Indians going to the snares the next Day, trak's them and Knock's them on the head.³³

Caribou hedges required many people to build and maintain them, as did the processing of the meat and hides after the hunt. Evidently many Cree people congregated at caribou hunting camps close to York Factory.³⁴

When the rivers were open, hunters speared the caribou from boats while the animals were crossing the river.³⁵ This method was also employed in the fall, when the animals crossed the rivers again in great herds on their way to their wintering grounds.

Andrew Graham observed such a hunt:

When the deer are pretty far advanced into the river, the canoes are all manned, and paddle after them, one party surrounding them and preventing their landing on the opposite shore; whilst the women, children and dogs by making a noise and throwing stones, hinder them from returning. The men in the other canoes immediately approach the unhappy victims, and stab them with spears, bayonets, knives, arrows, or even a stick sharpened at the point and hardened in the fire.³⁶

The Lowland Cree purchased metal spear-tips specifically made for hunting caribou. These were made by HBC blacksmiths at York Factory by re-working other metal goods. However, these hunting methods did not absolutely require metal weapons, or any other European technology and had probably been in use for a considerable time

³³ James Isham. *James Isham's Observations on Hudson's Bay, 1743 and Notes and Observations on a Book Entitled a Voyage to Hudson's Bay in the Dobbs Galley, 1749*, ed. E. E. Rich (London: Hudson's Bay Record Society, 1949), 152, 153, Lytwyn, *Muskegowuck Athinuwick*, 86.

³⁴ *Ibid.*, 86; see also *James Isham's Observations on Hudson's Bay, 1743* (HBCA, PAM, E.2/2, fo.43) for a drawing of such a "deer snare."

³⁵ Lytwyn, *Muskegowuck Athinuwick*, 84, 85.

³⁶ *Andrew Graham's Observations*, 15.

before contact. A pre-contact site on the Ile de l'Ourson, 20 km above Severn House has yielded antler and bone fragments that indicate a heavy reliance on caribou as a resource for food and raw materials.³⁷

In spring caribou were less desirable as a food source, as a commercial resource and a source of hides, because the animals were still lean from the strains of winter and their hides were infested with the larvae of the warble fly, which ate holes in the hides, making them extremely difficult to process and almost useless for most purposes.³⁸ Nevertheless, the Swampy Cree killed many caribou in spring and fall, because just a these few short weeks offered the opportunity to gain an abundance of meat and raw materials. Even though the quality of the meat and hides was low, Cree hunters killed many caribou in the spring because throughout the rest of the year caribou numbers were scarce and it was much harder for individual Cree to hunt these animals. Swampy Cree Elder Louis Bird stated about the caribou hunt:

In those times there were plenty of caribous. They were coming in and they [the Omushkego-Cree] know that they're not gonna kill them all off. So that's the time they do that. These are migrating caribous. They migrate from some place and they travel here, they will travel only in a certain month. So that's when you kill as much as you can, but don't kill them all off, because they're plenty anyway. Sometimes you see maybe 25, maybe 15, you can do that. But when they're declining, the caribous come and go, every 25 years or so, so there are plenty and then after that, not because you killed them off, because they move to other place. It was done in such a way because people knew this is the only month that they can do that, March and April, May it's a bit too late to do that. Only March and April that they can do that very easily. And you know that in May they're not gonna be able to hunt big game animals because of slush. So they have to have extra, something that they can cache at their camp, during that time. That's the only reason they do that. They have a reason when to kill many animals. Other than that you just don't shoot them for anything. There's no sport hunting. There's no such thing.³⁹

³⁷ Lytwyn, *Muskegowuck Athinuwick*, 85,103.

³⁸ *Ibid.*, 87.

³⁹ Louis Bird, 0116 – *OurVoices*, “Guns and Bows II,” rec. April 2001, transcr. by Roland Bohr, 20-22.

The most southerly location of caribou in the summer during the fur trade period was Akimiski Island. Cree hunters would move south in the summer to kill caribou there.⁴⁰

Not all of the Winisk River Cree went downriver in the summer. Some stayed either at the headwaters, or about halfway downriver, wherever hunting was good. After the Hudson's Bay Company established Fort Severn in 1685 near the mouth of the Severn River, Omushkego people went downriver to trade for European goods, such as firearms, ammunition, metal tools and weapons.⁴¹

Shortly after the spring migration of caribou large numbers of geese, ducks, swans and other migratory birds arrived in the Hudson Bay Lowlands in time for the spring break-up of rivers, lakes, coastal ponds and sloughs. Migratory birds used these ponds and sloughs as a main feeding area. Several species of fish were also abundant in the Hudson Bay Lowlands during their spawning periods.⁴²

In March the people left their winter camps to go goose hunting or "spring trapping." This was finished in June. By the end of June they moved to the mouths of the rivers, or to a site along the river above the mouth to get together in larger groups. At these gatherings they arranged and conducted marriages, and held ceremonies and competitive sports events with singing, dancing and drumming.⁴³

While Canada geese and Brant geese remained in the coastal lowlands to breed, the onset of warmer weather in early summer drove most other geese to their breeding grounds, north of the Hudson Bay Lowlands. Most of the Lowland Cree spent most of the

⁴⁰ Lytwyn, *Muskegowuck Athinuwick*, 84.

⁴¹ Louis Bird, 0051 – *Our Voices*, "Fish Trapping and Caribou Hunting," 2.

⁴² Lytwyn, *Muskegowuck Athinuwick*, 87, 93.

⁴³ Louis Bird, 0051 – *Our Voices*, "Fish Trapping and Caribou Hunting," 3.

summer in the coastal lowlands, hunting geese, and also individual caribou. Mostly women processed caribou meat and hides. The meat was often dried and beaten into powder. In this form it would keep for years. Later it could be mixed with fat and ground berries, making it into pemmican.⁴⁴

Fishing also continued in the summer, but was generally not so productive in this season. Beluga whales were hunted in the estuaries of the larger rivers in the summer, where the animals were mostly speared with harpoons from canoes. To prevent upsets, several canoes would be lashed together tightly. Another method of whale hunting was to drive the animals into shallow water until they were beached on the tidal flats. Usually the Lowland Cree did not eat the flesh or the fat of white whales, but rather fed it to their dogs or sold it to European traders.⁴⁵ The whale skin was a source for large amounts of rawhide while the long sinews situated along both sides of the whales' backbone yielded fibers for threads. Both materials could be used to make cordage.

Summer was also a season to gather various kinds of berries, such as gooseberries, cranberries, strawberries, raspberries, crowberries, or mawsberries and plants for food and for medicinal purposes. Aboriginal traders from other areas brought maple sugar north to the Hudson bay Lowlands. Andrew Graham noted that such traders also brought "Indian corn," which was probably wild rice rather than maize.⁴⁶

By fall people and large mammals began to move inland again, because by then the insects had sufficiently diminished. Once the insects were gone, people moved upriver again to find a wintering site on one of the tributaries of the Winisk and other rivers, somewhere between 100 and 200 miles inland.

⁴⁴ Lytwyn, *Muskegowuck Athinuwick*, 96, 97.

⁴⁵ *Ibid.*, 96-98, 100, 101.

⁴⁶ *Ibid.*, 101, 102, *Andrew Graham's Observations*, 133.

This was done to insure good fishing. People knew that the fish would come downriver before January. Thus they set up fish traps, not only to catch fish for immediate use, but also to dry them and later in the winter to freeze them in a cache. Fish weirs were mostly used in the fall. They served to catch most species, except larger fish, such as sturgeon that were speared. Fish were also shot with arrows.⁴⁷

Fish was the Swampy Crees' main staple food throughout the winter, especially when larger game animals were scarce. Fish trapping therefore was one of the most important economic activities for the Lowland Cree. Aboriginal people in the Subarctic fell back on fishing whenever other resources failed. For instance, Andrew Graham observed that Ojibwa people resorted to fishing "when their gun and ammunition fails, or other food fails."⁴⁸

As far as meat was concerned, caribou were in prime physical condition in early fall after having fed throughout the summer on coastal grasses and other vegetation. The meat of mature male caribou was considered especially good eating before these animals exhausted themselves in the rutting season in late fall. However, hides were not in prime condition yet. This would only be the case in late fall and winter when all the injuries to the skin caused by parasitic insects had healed.⁴⁹

The major caribou river crossings in the fall occurred some weeks before the fall goose hunt. Duck hunting preceded the goose hunt, because these birds arrived earlier than the geese from further north. Therefore the Lowland Cree would set up camps in anticipation of the event near the regular crossing places. These lay from 30 to 100 miles

⁴⁷ Lytwyn, *Muskegowuck Athinuwick*, 95, 105; Louis Bird, 0051 – *Our Voices*, "Fish Trapping and Caribou Hunting," 1, 2; Louis Bird, personal communication, October 2001.

⁴⁸ Louis Bird, 0051 – *Our Voices*, "Fish Trapping and Caribou Hunting," 2; *Andrew Graham's Observations*, 118, 119; Lytwyn, *Muskegowuck Athinuwick*, 96.

⁴⁹ Lytwyn, *Muskegowuck Athinuwick*, 103.

inland from the coast on the Severn and Hayes Rivers. Polar bears were also hunted in the fall for their fur and for their meat.⁵⁰

In winter the Lowland Cree moved inland, away from the coast and into the forests to hunt caribou, because these were scarce near the coast at that time. During the cold season woodland caribou were hunted mainly in the forested river valleys. The hides of these animals were in prime condition during the winter. Occasionally hunters also found caribou on Akimiski Island in winter.⁵¹

Winter was the prime season to harvest fur-bearing animals when their pelts were at their best, but these were trapped and hunted for food throughout the year as well. Women hunted, trapped and claimed the pelts of immature beaver, muskrats and other small mammals. They traded these at the posts for "beads, vermilion, bracelets and other trinkets."⁵²

Not only the male hunters of several families, but also the women, children and elderly of these families participated in beaver hunting. While the meat obtained in these hunts was distributed among family members, the skins of the mature beavers belonged to the person who had first discovered the beaver house.⁵³

Snowshoe hares were also an important food resource throughout the winter, while the skins were used to manufacture winter garments, such as rabbit-skin blankets. Fishing was also important in winter, especially for provisioning people employed at and near the coastal posts.⁵⁴

⁵⁰ Ibid., 104, 110.

⁵¹ Ibid., 105, 106.

⁵² Ibid., 106, 107, *Andrew Graham's Observations*, 11.

⁵³ Lytwyn, *Muskegowuck Athinuwick*, 107, *Andrew Graham's Observations*, 11.

⁵⁴ Lytwyn, *Muskegowuck Athinuwick*, 110, 111.

Several bird species were hunted for subsistence and later also for commercial purposes. For example, during the eighteenth century and even more so during the nineteenth century the HBC sought to obtain swan skins and swan and goose quills to send to Europe for the manufacture of clothing and writing utensils.⁵⁵

The willow ptarmigan (*Lagopus lagopus*), often referred to as “partridge” by HBC men, was an important food source. Several species of grouse, commonly referred to as “pheasants” by HBC personnel, were important as winter resources. Aboriginal people hunted waterfowl in large numbers even before the introduction of firearms, especially fowling pieces. They used nets as well as bows and special bird arrows for this purpose. Willow ptarmigan were mostly caught in nets, but boys also shot them with bows and arrows. For instance, in 1769 Lowland-Cree boys shot over 100 ptarmigan with their arrows near Severn House. About a century earlier fur trader and explorer Pierre Radisson claimed to have seen Aboriginal people kill three ducks with one arrow.⁵⁶

These seasonal patterns and subsistence activities of the Swampy Cree were based on using a wide variety of often scarce resources. The introduction of European tools and weapons, the growing involvement of the Cree in the fur trade and the provisioning business, and the gradually declining big game populations all reinforced the increasing importance of trapping and individual hunting and a gradual decline in group hunting that involved the participation and coordination of large groups of people who would afterwards share the resources they had harvested.

⁵⁵ Houston and Ball. *Eighteenth Century Naturalists of Hudson Bay*, 188-199.

⁵⁶ Lytwyn, *Muskegowuck Athinuwick*, 92, 93, 110, 111.

Northwestern Great Plains

On the Northwestern Great Plains the adoption of horse technology in pre-contact times and just after contact brought about gradual but significant changes in Aboriginal hunting methods and subsistence strategies. The Northwestern Plains are a vast geographical area in the heartland of the North American continent, bounded to the west by the Rocky Mountains, to the north by the North Saskatchewan River and to the south by the Yellowstone River. This area includes the southern parts of the modern Canadian provinces of Alberta and Saskatchewan, the western half of the state of North Dakota and northeastern Montana.⁵⁷

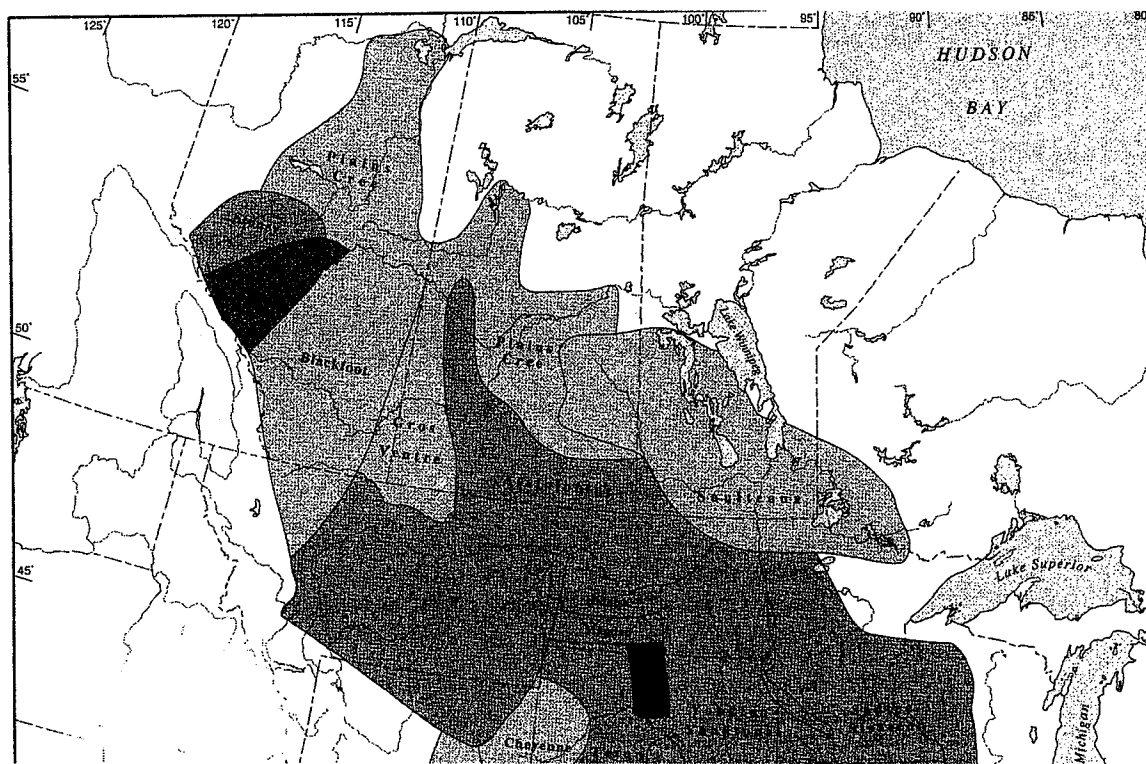


Fig. 2. Map showing approximate distribution of Aboriginal groups on the Northern Plains and surrounding area in the first half of the nineteenth century. Adapted from Ives Goddard, "The Languages of the Plains," *Handbook of North American Indians*, vol. 13,

⁵⁷ Horst Hartmann. *Die Plains- und Praeieindianer Nordamerikas* (Berlin: Museum fuer Voelkerkunde, 1973), 24.

part 1, *Plains*, ed. Raymond J. DeMallie, Washington DC: Smithsonian Institution, 2001, 62.

Most of the region's rivers have their sources in the Rocky Mountains. The North and South Saskatchewan Rivers comprise the northernmost major river system of the Northwestern Great Plains, draining into Lake Winnipeg and eventually into Hudson Bay. This waterway was one of the most important travel routes between the Northwestern Plains and the central and eastern boreal forest.

South of the Saskatchewan River system, running in an east-west direction roughly parallel with the present-day U.S.-Canadian border, a height of land causes river systems to its north to empty into Hudson Bay and those to the south into the Missouri/Mississippi River system and eventually into the Gulf of Mexico. Most of the rivers of the Great Plains are rather shallow and many dry up during the hottest summer months.

The Plains are interrupted by a number of low to medium mountain ranges and hills. From north to south the most prominent of these are the Beaver Hills, south of the North Saskatchewan River, the Hand Hills, just north of the South Saskatchewan River, the Cypress Hills, just north of the Milk River; and the Bear Paw Mountains and the Little Rocky Mountains between the Milk River and the Missouri River.⁵⁸

The continental climate of the Northwestern Great Plains is characterized by sparse precipitation and extreme summer and winter temperatures. Due to the rain shadow effect of the Rocky Mountains, the average annual precipitation on the Plains from southern Alberta as far east, as southern Manitoba can be as low as 250 mm.

⁵⁸ Theodore Binnema. *The Common and Contested Ground: A Human and Environmental History of the Northwestern Plains* (Norman: University of Oklahoma Press, 2001), 20, 21.

In large areas of the Plains the amount of available moisture, either for crop growing on the Upper Missouri, or for grazing in the more western portions, is often marginal.⁵⁹

The strong and almost ceaseless winds are another crucial factor in shaping the climate of the Northern Great Plains. They subject the region to some of the most sudden weather changes. The chinook winds, for instance, can bring midwinter temperatures to well above freezing within only a few hours, while blizzards coming down from the north or northeast can quickly push temperatures well below freezing.⁶⁰

From the last ice age to the last quarter of the nineteenth century the Great Plains were populated by vast herds of bison, antelope, deer and elk, feeding on a wide variety of different Prairie grasses. The hunting of the bison herds to near extinction during the late nineteenth century, combined with attempts at turning the arid and semi-arid Plains into farmland, which led to the demise of native grasses, have changed this environment beyond recognition.

Due to their height the mountain ranges east of the Rockies receive more precipitation than the surrounding plains. These higher elevations are characterized by cooler summer temperatures, which translate into less evaporation. They therefore sustain a more robust and rich plant growth than the surrounding mostly treeless plains. It was in these elevated regions that most of the Northwestern Plains' forests were located. These mountains and hills supported among others, lodge pole pine (*Pinus contorta*), jack pine (*Pinus divaricata*), white spruce (*Picea glauca*) and douglas fir (*Pseudotsuga menziesii*), while deciduous trees, such as cottonwood (*Populus balsamifera* spp. *trichocarpa*). Further east elm (*Ulmus procera*), white and green ash (*Fraxinus Americana*, *Fraxinus*

⁵⁹ Waldo R. Wedel and George C. Frison, "Environment and Subsistence," *Handbook of North American Indians*, vol. 13, part 1, *Plains*, ed. Raymond J. DeMallie, 46.

⁶⁰ Binnema. *The Common and Contested Ground*, 18, 29.

pennsylvanica), but also conifers such as juniper (*Juniperus spp.*) grew in the sheltered river valleys.⁶¹

The plains around these mountains supported a wide variety of grasses which were the mainstay of the region's population of large ungulates. The different grass species occurred in three different types of habitat. Fescue grasses grew in the sheltered riverine environments and in the foothills of the mountains. The lower areas contained a mesic (moist) mixed Prairie environment, while the uplands consisted of a xeric (dry) Mixed Prairie environment. A greater availability of forage in the foothills and river valleys meant that plant-eating animals were more abundant and more consistently found in these regions than on the open plains.

Aboriginal people of the region gathered a wide variety of plants for food or medicinal purposes. They included prairie turnips (*Psoralea esculenta*), which grew on well drained hillsides and produced one starchy, nutritious tuber per plant. They were usually collected in May or June, and peeled and eaten fresh or boiled along with other vegetables. After peeling they could also be braided together into a long string and thus dry-stored for later consumption or sale.⁶²

Two kinds of twining vines also produced edible tubers or "beans." These were the groundnut (*Apios americana*) and the hog peanut (*Amphicarpaea bracteata*). Both grew in streamside bottomlands of rivers and creeks. The fruits of these plants were gathered by rodents, such as the prairie vole (*Microtus ochrogaster*) and stored in

⁶¹ Ibid., 28-33; Peter Fidler reported ash and poplar trees along the Bad River [Bow River?] in what is now southern Alberta, HBCA, 4M 103, E 3/2, 24, Jan. 18, 1793.

⁶² Waldo R. Wedel and George C. Frison, "Environment and Subsistence" ed. Raymond J. DeMallie. *Handbook of North American Indians*, vol. 13, part 1, *Plains*. Washington DC: Smithsonian Institution, 2001, 52.

underground caches, where they were sometimes uncovered by Aboriginal people in their search for food.⁶³

Other food plants included sunflowers (*Helianthus annuus*), the Jerusalem artichoke (*H. tuberosus*) and the purple poppy mallow (*Callirhoe involucrate*). Several types of berries were also collected and consumed fresh or dried. These included wild plums (*Prunus spp.*), chokecherries (*P. virginia*), silver buffalo berries (*Shepherdia argentea*) and hackberries (*Celtis occidentalis*).⁶⁴

Due to its sparse precipitation, extreme temperatures, short growing seasons and high winds, most of the Northwestern Plains was unsuitable for indigenous agriculture.⁶⁵ Thus the inhabitants relied on gathering and on hunting big game animals. The major species of large mammals in the region were the American bison (*Bison bison*) and the pronghorn antelope (*Antilocapra americana*). Mountain sheep (*Ovis canadensis*) were found in the foothills of the mountains and in other rough areas, such as the badlands of modern North and South Dakota and Alberta. Brush areas and the wooded river valleys provided a habitat for woodland and forest-edge species, such as mule deer (*Odocoileus hemonius*), elk (*Cervus elaphus*) and occasionally moose (*Alces alces*). All of these were hunted for food, hides and other raw materials, such as sinew, antlers or bones. However, only the bison and pronghorn antelope occurred in large herds and were hunted in large "drives." Mountain sheep were occasionally hunted in smaller drives as well. Elk, deer

⁶³ Ibid., 52, 53.

⁶⁴ Ibid., 53.

⁶⁵ Most hunter/gatherer cultures obtained the main portion of their food through gathering. However, bison hunting cultures of the Northwestern Plains and hunters of the Subarctic were an exception because the high plains, and especially the Subarctic environments contained only few edible plants. For a discussion of the varying importance of hunting versus gathering in different cultures and its consequences for the roles of women in these societies, see: Frances Dahlberg, ed. *Woman the Gatherer* (New Haven: Yale University Press, 1981), Introduction, 2; Henry S. Sharp, "The Null Case: The Chipewyan," ed. Frances Dahlberg. *Woman the Gatherer*, 221-244; Liz Bryan. *The Buffalo People: Prehistoric Archaeology on the Canadian Plains* (Edmonton: University of Alberta Press, 1991).

and moose occurred in smaller groups or even only as individual animals. They were mostly pursued by individuals or by very small groups of hunters.

Smaller mammals included the beaver (*Castor canadensis*), the raccoon (*Procyon lotor*), the muskrat (*Ondatra zibethicus*), the desert cottontail (*Sylvilagus audubonii*) and the jack rabbit (*Lepus spp.*).⁶⁶

Predatory mammals of the Northwestern Plains included the grizzly bear (*Ursus horribilis*), black bear (*Ursus americanus*), mountain lion (*Felis concolor*), wolf (*Canis lupus*), lynx (*Lynx canadensis*), bobcat (*Lynx rufus*), wolverine, river otter (*Lutra canadensis*), martin, fisher and mink (*Mustela vison*) and several species of fox.⁶⁷

Bird species from eastern and western parts of North America shared habitats on the Northern Plains. For instance the wild turkey (*Meleagris gallopavo*), a major source for some of the best quality feathers for arrow fletching, ranged as far west as there were trees to roost in and grasshoppers to feed on. Other birds hunted for food and feathers included the sharp-tailed grouse (*Tympanuchus phasianellus*), greater prairie chicken (*T. cupido*) and the sage grouse (*Centrocercus urophasianus*).⁶⁸

Resident waterfowl and large numbers of migrating ducks, geese and swans congregated at water holes and upland ponds. A wide variety of smaller birds were present and there were also various species of eagles, hawks, buzzards, owls and other raptors.⁶⁹ These supplied materials for decorative, ceremonial and ritual items, but also for weapons accessories, such as arrow fletchings.

⁶⁶ Wedel and Frison, "Environment and Subsistence," 50, 51.

⁶⁷ Ibid., 50.

⁶⁸ Ibid., 51.

⁶⁹ Ibid., 51.

Indigenous peoples, subsistence patterns and hunting strategies

Documents created by outside observers in early contact times provide information on subsistence patterns, social organization and material culture, and offer some insights into Aboriginal people's life ways in pre-contact times. Documentary evidence on the locations of specific indigenous peoples is largely absent until the later eighteenth century. However, archaeological information provides clues about which Aboriginal groups inhabited which parts of the Northwestern Plains during the times immediately before contact. Scholars of the Great Plains region have long tried to link Aboriginal groups known from historical documents to archaeological evidence stretching back far beyond the times of first contact between Aboriginal peoples and Europeans. Such efforts have produced hotly contested debates, because it is difficult to link archaeological remains with more recent cultural communities.

However, there is consensus that two archaeological cultures, Old Women's and One Gun, dominated the Northwestern Plains at the time that European horses reached the area. The distribution of archaeological materials from the Old Women's phase at the end of the pedestrian era matches the distribution of the Blackfoot bands when Europeans first encountered them. This suggests that their ancestors probably left most of the artifacts now classified as Old Women's ware.⁷⁰

Furthermore, linguistic evidence suggests that the Blackfoot people were separated from other Algonkian speakers for many centuries. While central and eastern Algonkian languages like Micmac, Cree, and Ojibwa are very similar, the Plains Algonkian languages Blackfoot, Cheyenne and Arapaho/Gros Ventre are very different

⁷⁰ Binnema. *The Common and Contested Ground*, 79.

from each other and from the central Algonkian languages. This evidence, combined with oral history, strongly suggests the Blackfoot bands have ancient roots in the Northwestern Plains. Other Algonkian speakers, such as the Gros Ventre, Arapaho, Cheyenne and Cree, migrated to the region more recently. In contrast to the Blackfoot bands, some of their bands had strong ties to other communities far outside the Northwestern Plains.⁷¹

Documentary and archaeological evidence links the carriers of the archaeological culture known as “One Gun” to the Hidatsa, proto-Crow and Crow peoples of the Northern Plains between 1675 and 1750. These groups, as well as the Mandan, had strong ties to and probably emerged from the Middle Missouri archaeological tradition.⁷²

Subsistence patterns

The indigenous peoples of the Northwestern Plains largely depended on the bison as the major game animal of the region. In order to understand their subsistence patterns and yearly cycle of activities, the yearly movements and subsistence patterns of the bison need to be understood. Scholarly opinion on bison behavior during historic times is divided. While some scholars see bison migrating behavior as totally erratic and unpredictable, others, such as Theodore Binnema, argue that bison migrated within narrowly defined regional boundaries, following an established routine, utilizing different plant foods in different locations at different times of the year.⁷³

According to these views bison moved from fescue-parkland and riverine habitats in late March or early April to mesic, or moist mixed prairie environments. In June and early July they moved on to the xeric, or dry mixed prairie. By August and September

⁷¹ Ibid., 79.

⁷² Ibid., 77.

⁷³ Ibid., 80-85.

they moved back to the moist mixed prairie again and for the winter they moved towards the parklands, the sheltered river valleys and the foothills of the mountains to begin this cycle anew in spring.⁷⁴

When the first cool-season grasses began to grow in late March and early April, bison herds were still small and widely dispersed. Hunters found it difficult to depend on these animals then and therefore gathered bitterroot, prairie turnips and camas in spring and early summer. War expeditions were rare in spring, because food could be scarce and Aboriginal bands were busy preparing for the endeavours and activities of summer.

By July, the warmest month on the Plains, the cool season grasses had flowered and their growth had nearly stopped. But from May to July the warm-season grasses dominant in the dry-mixed prairie, grew vigorously, providing food for the slowly congregating bison herds.

The bison rut approached in early July and peaked in early August. Then mature bulls, which formed separate herds for most of the year, came together with the cow herds, establishing few, but very large herds.

By late summer, especially in dry years, many water sources in the Northern Plains had disappeared. When the weather cooled in August, the growth of the warm-season grasses on the dry mixed prairie slowed. Then the bison gravitated again to the moist mixed prairie and riverine habitats, where water and forage were more plentiful and because the open plains were relatively inhospitable to them during the winter.⁷⁵

During the equestrian era, the largest annual gatherings of the year took place in June or early July. At this time families and individuals strengthened their social and

⁷⁴ Ibid., 41-46.

⁷⁵ Ibid., 40-42.

political bonds and renewed their relationships during the annual Sun Dance held at this time of the year. Most war and raiding expeditions took also place in summer. Large encampments were easier to maintain during summer, because of the abundance of provisions that could be obtained from the gathering bison herds and the prolific saskatoon berries. Women gathered berries to be eaten fresh or dried and stored in bags for later use. Men could travel considerable distances on horseback to find bison herds and transport meat.⁷⁶

Fur traders counted Plains Indian populations in lodges or tents, assuming seven to ten people per tent. When Anthony Henday traveled across the Canadian Plains as an emissary of the Hudson's Bay Company to the Blackfoot, in early October 1754 he and his Cree and Assiniboine guides met "7 tents of Archithinue [probably Blackfoot] Indians." On the journey back to York Factory, 127 tents of "Archithinue" joined Henday's party to trade wolf pelts, beaver and fox furs with Henday's Cree and Assiniboine companions.⁷⁷ When Peter Fidler traveled on a similar mission for the HBC in November 1792 his party met "17 Tents of Indians - 14 of which are Muddy River Indians [Piegan] & the other 3 Tents are Southern Indians [Cree]." Fidler wintered with a group of Piegan consisting of at least 150 tents.⁷⁸

Estimates for the total population of all three Blackfoot groups, the Piegan, Blackfoot and Blood vary. In 1809 Alexander Henry estimated their total population at 650 lodges, with a total of approximately 5,200 persons.⁷⁹ In 1854 James Doty, assistant

⁷⁶ John C. Ewers. *The Blackfeet: Raiders of the Northwestern Plains* (Norman: University of Oklahoma Press, 1958), 86.

⁷⁷ Lawrence J. Burpee, ed. *The Journal of Anthony Hendry, 1754-55, York Factory to the Blackfeet Country* (Toronto: Canadiana House, 1973), 29, October 1, 1754; 44, 45, May 15th, 1755.

⁷⁸ Peter Fidler, "Journal of a Journey over Land from Buckingham House to the Rocky Mountains in 1792 - a 3 by Peter Fidler," HBCA, 4M 103, E 3/2, Nov. 16, 1792, 5; Dec. 14, 1792, 4M 103, E 3/2, 12.

⁷⁹ Ewers, *Blackfeet*, 37.

to the newly appointed governor of Washington territory, Isaac Stevens, estimated there were 850 lodges with a total of 7,630 persons.⁸⁰ However, the devastating smallpox epidemics of the late eighteenth and the nineteenth century had caused significant variations in total population numbers of Aboriginal peoples on the Plains.

Fall is usually dry on the plains, but with the right forage and moisture conditions bison could stay on the plains far into the season. Eventually bison herds would disperse into separate bull herds and cow herds again and move towards the sheltered environments of the foothills of the mountains or the river valleys for the winter. Aboriginal hunters tried to arrive at these locations before the bison in order to construct or repair bison pounds and jumps and other structures needed for communal bison hunting. This was also a time to gather saskatoon berries and chokecherries and to cut lodge poles from tall and straight evergreen trees in the region.⁸¹

In early winter most of the bison had moved back towards sheltered river valleys or the foothills of the mountains to avoid the brutal winter winds and food shortages on the open plains. Not only bison, but also other large mammals, such as elk, tended to congregate in the river valleys during winter, because they provided shelter, water and food. People took advantage of this migration pattern to be closer to the animals they hunted and also to find fuel and shelter in the forested river bottom lands. In early winter the bison were still in good condition and had already developed a dense winter coat, which was desired to make robes and other items of winter clothing. Therefore this was the time to hunt bison communally.

⁸⁰ Ibid., 60, 212.

⁸¹ Binnema. *The Common and Contested Ground*, 44, 45.

Early communal bison hunting methods

Before the adoption of the horse, the preferred communal bison hunting method consisted of driving a herd of bison over a cliff or into an enclosure where the animals were either fatally injured from the fall, or could be killed with spears or bows and arrows at close range. To guide the bison towards the kill, usually two lines of obstacles, over a mile in length, were placed in a V-shape, converging at the entrance to the pound or at the lip of a cliff. Prominent bison jumping sites were used by various Aboriginal groups for thousands of years. One of the most well known is the Head-Smashed-In buffalo jump in southwestern Alberta. Beginning about 5500 years ago, various indigenous peoples killed bison at this site. Evidence of material culture from the Old Women's cultural complex, believed to represent the ancestors of the Blackfoot, spans the time from ca. A. D. 850 to the later nineteenth century at the site.⁸² During the nineteenth century the North Piegan-Blackfoot lived in the area of the Head-Smashed-In buffalo jump and they utilized such sites as late as 1872.⁸³

⁸² Brian O. K. Reeves. *Head-Smashed-In: 5500 Years of Bison Jumping in the Alberta Plains* (Lincoln, Nebraska: J and L Reprint Company, 1990), 173.

⁸³ John C. Ewers. *The Horse in Blackfoot Indian Culture* (Washington D. C.: Smithsonian Institution Press, 1985 [1955]), 165.

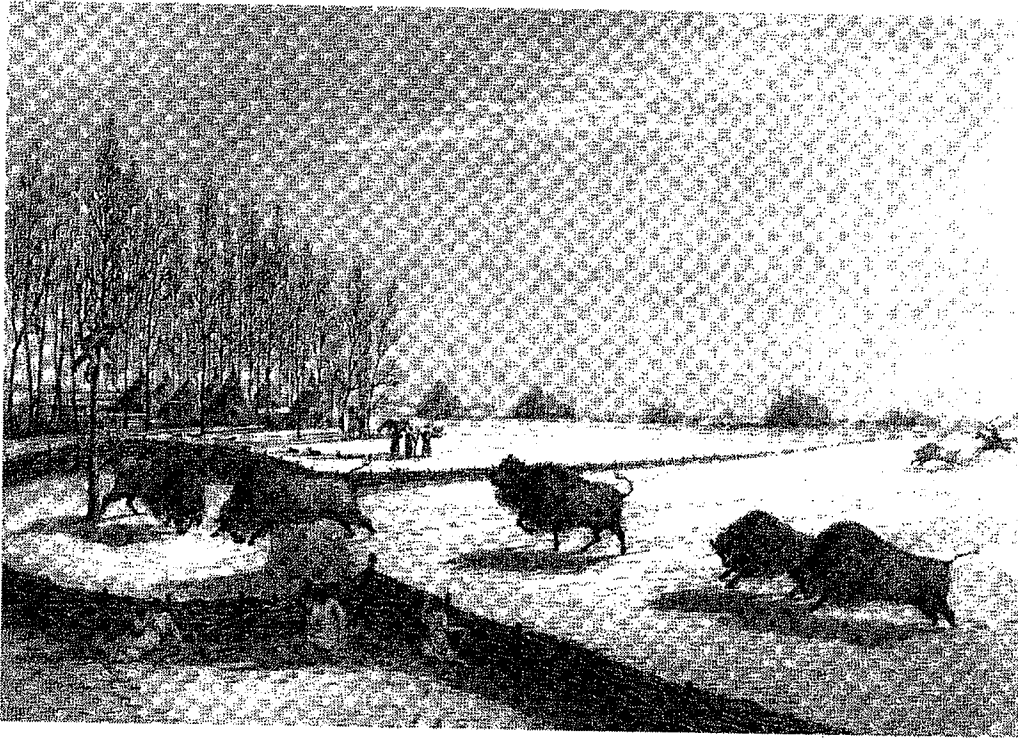


Fig. 3. Assiniboine bison pound. Cree people in the Hudson Bay Lowlands used similar methods to hunt caribou. Engraving after an unknown original by George Back, on the John Franklin expedition, 1819-1822. Adapted from Raymond J. DeMallie, "Introduction," *Handbook of North American Indians*, vol. 13, part 1, *Plains*, ed. Raymond J. DeMallie, Washington DC: Smithsonian Institution, 2001, p. 7.



Fig. 4. Plains Cree bison pound showing converging lines of hunters and obstacles, guiding the animals into the pound. Colored wood engraving after an unknown original made on the Henry Hind expedition of 1857-58. Adapted from Raymond J. DeMallie, "Introduction," *Handbook of North American Indians*, vol. 13, part 1, *Plains*, ed. Raymond J. DeMallie, Washington DC: Smithsonian Institution, 2001, p. 7.

The use of bison pounds reached back far into Blackfoot people's past and was deeply rooted in their mythology. Robert Nathaniel Wilson, who served with the Northwest Mounted Police in Alberta in the early 1880s and who later became Indian Agent among the Peigan and Blood recorded the following from Blackfoot people about the origins of this hunting method:

People were at first the progeny of Buffalos which were in the habit of eating people and caught them in a pound. Napi [the Blackfoot culture hero, creator and trickster] came across the people in the mountains where they were hiding from the Buffalo and told them that state of affairs was not right. "Buffalo," said he, "are intended for people to eat and I will fix these things as they should be." He showed them how to make the bow and flint-headed arrow.⁸⁴

In the winter of 1792/93, Peter Fidler, a trader and surveyor, and John Ward, both working for the Hudson's Bay Company, accompanied a large band of Piegan-Blackfoot under the leadership of Sakatow on their journey from the HBC's Buckingham House on the North Saskatchewan River to their wintering grounds near the Rocky Mountains in the Bow River area.⁸⁵ During this trip Peter Fidler recorded some of the Piegans' hunting methods. He visited several buffalo jump sites and pounds and described how they were used. For example, Piegan hunters drove 29 buffalo over a cliff. Three of these survived with broken legs and were killed with arrows.⁸⁶ When the hunt failed because the bison

⁸⁴ Glenbow Archives, M4421, M4422, R. N. Wilson Papers, edited and annotated by Philip H. Godsell, vol. 1, Glenbow Foundation: Calgary, 1958, 21, 22; Robert Nathaniel Wilson (1863 – 1944) served with the Northwest Mounted Police at Ft. MacLeod, Alberta, Ft. Pitt and Battleford, Saskatchewan from 1881 to 1884. Then he ran a trading post on the Belly River, near Stand Off, Alberta. Subsequently he served as Indian Agent at the Peigan Agency (1898-1903) and on the Blood Reserve (1904-1911). He recorded ethnographic information about the Blood, Siksika and Peigan and from 1893 to 1903 he collected Aboriginal artifacts for the Field Museum in Chicago and other museums in the US. He wrote several articles for the Royal Society of Canada and returned to his trading post near Stand Off in 1911. This story indicates the great importance Blackfoot people accorded to archery.

⁸⁵ Peter Fidler, "Journal of a Journey over Land from Buckingham House to the Rocky Mountains in 1792 – a 3 by Peter Fidler." HBCA, 4M 103; E 3/2, 1-36.

⁸⁶ Peter Fidler, HBCA, 4M 103, E 3/2, 13; Fidler noted later that many of the bison the Piegan killed they did not use. According to his observations killing such large animals and then using little to none of the meat and hide apparently was of no great concern to the Piegan.

broke through the funnel barriers leading to the cliff, the men killed several by galloping after them on horseback and shooting them with arrows.⁸⁷

Pronghorn antelopes and mountain sheep were also hunted using surrounds or cliff drives. During the nineteenth century the Cheyenne were most noted for their large antelope surrounds and this hunting method remained in use into the 1870s.⁸⁸ Peter Fidler also noted that the Piegan constructed pounds to hunt mountain sheep in greater numbers as well.⁸⁹

The Aboriginal people of the Plains utilized bison not only as a major food supply, but also as a source of raw materials. After the hunt the bison had to be skinned and butchered, the meat to be dried, the internal organs to be cleaned and made into containers and the meat had to be cut up and dried to preserve it for future use.

Peter Fidler observed that the Piegan preferred deer skins for making brain-tanned leather to manufacture "Jackets – Stockings, shoes etc., which is much more durable & neat than the buffalo leather."⁹⁰ The heavier bison hides were made into robes and other winter garments. Without the hair they were made into tent covers and liners. Aboriginal people used soft-tanned bison hides or bison rawhide to make a wide variety of containers, such as saddlebags, hunting pouches, quivers, bow cases and parfleches. Bison hides were also made into ropes. Hide scrapings left from the cleaning and tanning process were boiled into hide glue. Fleshers, arrow-making tools and weapons were made from bison bones. The tendons and back sinew yielded fibers necessary to make thread for sewing and embroidery, for wrapping arrow points onto arrow shaft or for fixing the

⁸⁷ Peter Fidler, HBCA, 4M 103, E 3/2, 13.

⁸⁸ George Bird Grinnell, *The Cheyenne Indians: Their History and Ways of Life* (Lincoln, University of Nebraska Press, 1972 [1923]), 2. vols., vol. I, 290.

⁸⁹ Peter Fidler, HBCA, 4M 103, E 3/2, 34, March 2, 1793.

⁹⁰ *Ibid.*, 23, Jan. 13, 1793.

fletchings to arrow shafts. Sinew was also used to make bow backings, bow strings and cordage in general, such as nooses for snares.

Although bison were still driven into pounds or over cliffs during the summer, from the mid to late eighteenth century they were also increasingly taken by pursuing them on horseback with bows and arrows.⁹¹ The tendency of bison to herd together as they stampeded facilitated the hunt. Because bison had greater endurance than even the fleetest horses, the chase lasted only as long as the horses could keep up.⁹²

The abundance of bison on the Northwestern Plains as a food source enabled Aboriginal people to sustain themselves in relatively large groups in most locations for longer periods of time. During summer gatherings most Plains groups would congregate in even larger numbers to hold annual ceremonies and hunt bison communally. In contrast, in the Subarctic, especially in the Hudson Bay Lowlands, such large gatherings could be maintained only for very brief periods because food supplies in any particular location would soon be exhausted by so many people living in one place for an extended period. The decline of the caribou and moose populations in the Hudson Bay Lowlands during the second half of the eighteenth and the early nineteenth century reinforced this development. Large gatherings of Subarctic people took place mostly during the fishing season, because fish provided a more reliable food source.

These environmental constraints led to different types of social organization among the Aboriginal people of the Northern Plains and the Subarctic. People adapted

⁹¹ Barry Gough, ed. *The Journal of Alexander Henry the Younger: 1799-1814* (Toronto: Champlain Society, 1992), 372; Eleanor Verbicky-Todd, *Communal Buffalo Hunting among the Plains Indians: An Ethnographic and Historical Review* (Edmonton: Archaeological Survey of Alberta, 1984), Occasional Paper No. 24, 5; George C. Frison, "The Role of Buffalo Procurement in Post-Altithermal Populations on the Northwestern Plains," *University of Michigan Museum of Anthropology Anthropological Papers*, 46 (1972), 11-20; Burpee, ed. *The Journal of Anthony Hendry, 1754-55*, 34; Peter Fidler, HBCA, 4M 103, E 3/2, 14, Dec. 25, 1792.

⁹² Binnema, *The Common and Contested Ground*, 41.

best to the Subarctic environment by living in small family groups throughout most of the year. Such restrictions were not as necessary on the Northern Plains where the large herds of herbivores provided a more consistent food source. This made it possible for larger groups of people to stay together longer. During the equestrian era the trend towards larger bands and villages persisted.

Chapter III

Indigenous distance weapons

This chapter examines Aboriginal distance weapons used in big game hunting and combat. It begins with an overview of lances, spears and the spear thrower and dart. These were the most important indigenous distance weapons preceding the bow and arrow, and were to some extent still in use after Aboriginal people adopted archery technology. It then describes the major bow types of the Northern Great Plains and the Central Subarctic. Different types of arrows are discussed in later chapters on Plains and Subarctic uses of Aboriginal and European technology.

The details of Aboriginal archery have presented numerous interpretive problems. Scholars unfamiliar with the technology have sometimes misinterpreted the archery gear they have examined, and modern “inventions of tradition” have obscured past practices. The asymmetrical bow of the Northern Great Plains and the so-called “Penobscot double bow,” as we shall see, have both been subjected to these problems. However, a careful comparison of Aboriginal traditions, accounts by non-Aboriginal outsiders, surviving artifacts and experience and data gained through the manufacture and testing of replica Aboriginal archery gear can provide a more realistic understanding of the capabilities of these weapons and the ingenuity of Aboriginal technology.

Lances and spears

Thrusting lances and hand-thrown spears are among the earliest weapons used by human beings. Neanderthal people in western Europe used single-piece wooden thrusting

lances as early as 125.000 years ago. Single-piece throwing spears seem to be even older, since two examples, about 400.000 years old, were found near Helmstedt, Germany.¹

Determining the earliest use of lances and spears in pre-contact North America is difficult. Because organic materials such as wood, hide, and plant and animal fibers do not preserve as well as stone and ceramics, the study of ancient weapons in North America relies mainly on the comparison of lithic tools and projectile points. Because the original shafts and hafting of such points have usually deteriorated, it is almost impossible to determine whether a specific stone cutting tool was once used as a knife with a short wooden handle, or as a lance head on a longer wooden lance pole, for example.

However, more definite information for eighteenth and nineteenth century Aboriginal use of lances and spears is available. On the Northwestern Plains the lance seems to have retained some importance as a weapon for bison hunting and combat. Fur trader and explorer David Thompson recorded an account from a Cree elder, Saukamapee, who lived with a group of Piegan Blackfoot in present-day Southern Alberta during the last two thirds of the eighteenth century. According to Saukamapee the arsenal of Western Cree warriors during the 1730s included a lance tipped with an iron point, or less commonly, with a stone point. These weapons were used in fighting on foot.²

During the eighteenth and nineteenth centuries Blackfoot hunters and warriors used lances in mounted combat and bison hunting, but their use also predated the

¹ Ulrich Stodiek and Harm Paulsen. *Mit dem Pfeil, dem Bogen...: Technik der steinzeitlichen Jagd* (Oldenburg: Isensee Verlag, 1996), 21.

² David Thompson. *David Thompson's Narrative, 1784-1812*, ed. Richard Glover (Toronto: Champlain Society, 1962), 241.

adoption of the horse by the Blackfoot in the 1730s or 1740s. The lances most commonly used by the Blackfoot after the adoption of horseback riding had wooden shafts between 150 cm and 170 cm in length. Warriors who used longer lance shafts risked being criticized as cowards by their peers. Blackfoot men held the lance overhead with both hands, bringing it down with a two-handed downward stroke that combined thrusting and swinging. In the 1950s some Piegan elders in Montana told John Ewers that the lance was last used in warfare in a battle against the Gros Ventre and Crow in 1866. In bison hunting with the lance, a right-handed hunter approached his prey from the left side. The Blackfoot retained the lance as a weapon, along with the bow and arrow, until the advent of breech loading and repeating firearms during the last decades of the nineteenth century, but for mounted bison hunting, lances were far less popular than bows.³

Subarctic indigenous hunters relied on the lance for big game hunting to a greater extent than did Aboriginal people of the Great Plains. The lance was the Subarctic hunter's weapon of choice to kill bears at close quarters. Subarctic Aboriginal people often wrapped lance shafts at intervals with sinew to strengthen the shaft and to prevent it from shattering upon impact, a technique that they also used to keep bows from breaking.⁴ Hunters in canoes often pursued moose or caribou swimming across a river or a lake, and killed the animals with a stroke of the lance at very close range. In winter they drove moose or caribou into snow banks. Once immobilized in the deep snow, the animals could be killed with a lance from close up.⁵

³ John C. Ewers. *The Horse in Blackfoot Indian Culture* (Washington D. C.: Smithsonian Institution Press, 1985 [1955]), 156, 158, 200, 201.

⁴ James A. Hanson. *Spirits in the Art* (Kansas City: Lowell Press, Inc., 1994), 180, 181; Louis Bird, personal communication, Sept./Oct. 1999; Louis Bird, 0014 – *Our Voices*, "Guns and Bows," 2001.

⁵ Colin Taylor, "The Subarctic," William C. Sturtevant, ed. *The Native Americans* (London: Salamander Books, 1991), 185.

Images of the indigenous cultures of the Great Plains were featured in pageants and Wild West shows that traveled throughout North America and Europe in the late 1800s and early 1900s. Central Subarctic indigenous cultures were also featured in pageants and motion pictures during the 1920s and 1930s. One of these motion pictures “The Silent Enemy,” produced by Douglas Burden, purported to portray pre-contact Ojibwa people in a Northern boreal forest setting in a semi-documentary, semi-fictional way. Most of the movie was filmed during the winter and spring of 1928/29 at Rabbit Chutes in Northern Ontario.

The film features several hunting scenes, such as snaring birds and shooting black bear and caribou with bows and arrows.⁶ Most dramatic is the killing of a moose with a stone tipped lance made from a spruce shaft, by Sylvester Long, alias Chief Buffalo Child Long Lance, who starred in the role of the Ojibwa hunter Baluk, the main character of the movie.⁷ The filming of this scene was saved for last, in case the moose turned out to keep the upper hand in the struggle. Sylvester Long was apparently impressed enough by the prospect of facing a healthy, unrestrained adult bull moose with a pre-contact weapon, to write his will before the scene was filmed. Without any prior experience in this kind of hunting, Long managed to kill the moose with two or three strokes of the lance.⁸

Although staged, this “moose hunt” provided rare first-hand information. It showed that

⁶ *The Silent Enemy: An Epic of the American Indian* (New York: Milestone Film and Video, 1992 [restored version of the 1930 original]).

⁷ Donald B. Smith. *Long Lance: The True Story of an Imposter* (Lincoln: University of Nebraska Press, 1983), 10-20; the reporter, pilot and author Sylvester Long claimed to be of Blackfoot descent. He had become a “Native American” celebrity during the 1920s and 1930s, mostly based on his “autobiography,” a fictitious account of his youth spent on the Alberta and Montana Plains during the last days of the bison culture. Long was actually from North Carolina, of Caucasian, African American and Native American descent.

⁸ *Ibid.*, 172.

even an inexperienced but determined person could use a stone-tipped lance efficiently to kill large animals.

With the increasing availability of firearms from the early eighteenth century onwards, lances gradually went out of use as a major big game hunting weapon in the Subarctic. In the Subarctic, as well as on the Great Plains, lances were primarily used for thrusting, not throwing. According to Omushkego-Cree elder Louis Bird, musket balls delivered the same or even greater killing power, while allowing the hunter to remain at a greater distance from potentially dangerous animals, especially those that were wounded but not killed with the first strike or shot.⁹

The spear thrower or atlatl

The spear thrower or atlatl,¹⁰ used by ancient peoples in Australia, Asia, Europe and America, is a device that considerably enhances range and penetrative force, compared to a hand-thrown spear. Archaeological evidence from present-day France suggests that this weapon was used there as early as 20,000 B.C.¹¹ It is part of a combined weapons system, consisting of a lightweight spear or dart and the spear thrower itself.¹² The spear thrower is a flattened piece of wood, horn or bone, 30 cm to 60 cm in length. At one end is the handle section, and at the other a hook to receive the hollowed out distal end of the dart. To launch a dart, its distal end is placed upon the hook of the spear thrower and both implements are held in one hand together. While the last three

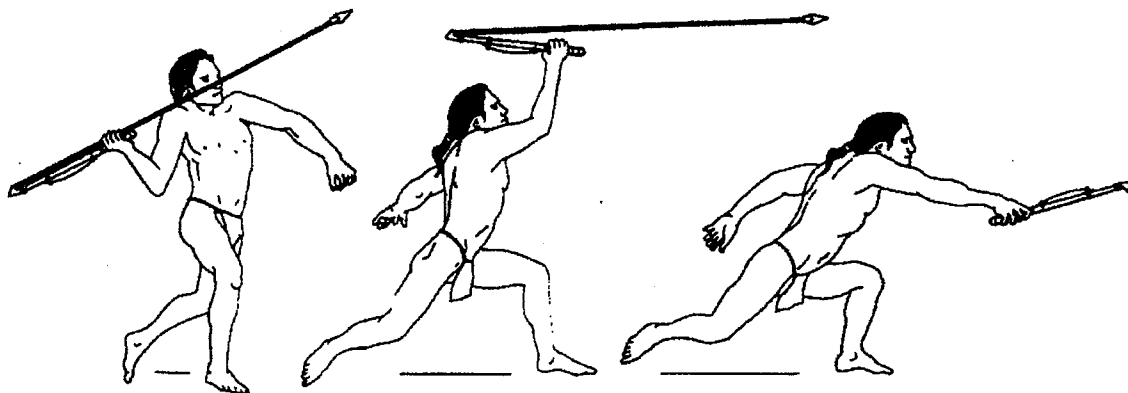
⁹ Louis Bird, personal communication, Sept./Oct. 1999.

¹⁰ "Atlatl" is a Nahuatl language term "atlatl" and was used by the Aztecs and other speakers of Nahuatl.

¹¹ Stodiek, Paulsen, *Mit dem Pfeil, dem Bogen*, 14, 26-31.

¹² James H. Kellar. *The Atlatl in North America* (Indianapolis: Indiana Historical Society, 1955), 337; This device is sometimes also called a "throwing board" or "atlatl," because it was the Aztecs' main distance weapon. The terms "spear thrower" or "atlatl" are also often used in reference to the entire weapons system and not just to the throwing board.

fingers hold the spear thrower, the index finger and the thumb reach around the spear thrower to hold the dart.¹³ Then the throwing arm is stretched out backwards and the dart is thrown in an arched motion, similar to that of throwing a stone. When the spear reaches the highest point of the arc, the index finger and the thumb release it. The only point of contact between the two devices is now the distal end of the dart, which is still on top of the hook of the spear thrower. Then, during the follow-through motion, the spear thrower adds momentum to the distal end of the dart, launching it with great force and speed. The spears or darts that are used with the spear thrower need to be lighter than those thrown by hand.



Illustr. 5: Launching a dart from a spear thrower, or “atlatl.” Adapted from K. Fladmark, *British Columbia Prehistory*. Archaeological Survey of Canada, National Museum of Man, 1986.

Archaeological evidence suggests that in most parts of the world the use of the spear thrower considerably predates archery. Archaeologists have tended to assume that the bow and arrow usually superseded the atlatl wherever the two came into contact. The

¹³ Finger loops for the index finger and the thumb, attached to the spear thrower prevented it from slipping out of the hand during the release of the dart. E. Leigh Syms, archaeologist at the Manitoba Museum and replicator and user of atlatls considers these finger loops essential for successful use of the device. E. Leigh Syms, personal communication, June 2001.

gradual or sudden shift from the atlatl to archery was seen as a shift from a simpler to a more sophisticated and complex technology.¹⁴ Although such a sequential development apparently did occur in many instances, some exceptions to the pattern are well documented. Several indigenous peoples in greatly different environments around the globe retained the spear thrower while using the bow, or did not switch to archery at all. Australian Aborigines as well as the formidable armies of the Aztecs and Inca used the atlatl as their main distance weapon and did not adopt archery on a large scale, although they were acquainted with its concept. A sixteenth century eyewitness, the Spanish-Inca mestizo Garcilaso De La Vega, wrote about the spear thrower and dart:

The strip of wood [the throwing board] is two-thirds of a yard in length, and is capable of sending a dart with such great force that it has been seen to pass completely through a man armed with a coat of mail. In Peru, the Spaniards feared this weapon more than any others the Indian possessed for the arrows there were not so fierce as those of Florida.¹⁵

Various groups of Inuit also retained the spear thrower and dart along with the bow and arrow in their arsenal until well after the introduction of repeating firearms and cartridge ammunition.¹⁶

A discussion of the different properties of these two weapons systems can shed some new light on this topic. Aboriginal peoples around the world used the devices they manufactured, because they enabled them to achieve certain results efficiently, and not simply because of their degree of technological sophistication. Using a spear thrower and dart, for instance from a kayak, utilized only one hand for the launching process, whereas

¹⁴ Kellar, *The Atlatl in North America*, 333.

¹⁵ Garcilaso De La Vega. *Florida of the Inca*, translated by John Grier Varner and Jeanette Johnson Varner, (Austin: University of Texas Press, 1951), 597.

¹⁶ Kellar, *The Atlatl in North America*, 337-339.

archery required both. This left one hand free for other tasks, such as controlling the vessel.

Moisture is another factor to consider. A bow relies on constant tension in its material, as well as in the bowstring, to launch an arrow. Its capacity to do so is adversely affected by moisture. Therefore it can be risky to use bows and arrows in the rain or in high waves. A spear throwing board does not rely on any mechanical tension to launch its projectile. It is little affected by moisture, which makes it better suited for hunting in damp and wet environments.

Extreme cold was also a problem for Aboriginal archers. Louis Bird mentioned that due to the extremely low temperatures in the Central Subarctic from about December to early March, bows and arrows could not be used because they would freeze stiff, lose their elasticity and break when under tension and compression stress.¹⁷ During this time of the year, especially before the adoption of firearms, the Omushkego-Cree used spears for hunting caribou and other large mammals. When shown a display of replicated spear throwers and darts, together with an illustration showing the manner of their use, Louis Bird mentioned that his people used some kind of throwing device during the coldest months of the year. However, he had never seen such a weapon used by his people and knew it only from descriptions handed down from elders.¹⁸

Tests comparing the velocity of arrows with that of a dart from a spear thrower show that a dart travels much more slowly than an arrow. However, due to their greater

¹⁷ Louis Bird, 0014 – *Our Voices*, “Guns and Bows,” 2001.

¹⁸ Louis Bird, personal communication, Sept./Oct. 1999. The display mentioned was mounted in the main staircase of the University of Winnipeg and contained replicas of darts and spear throwers made by Howard Bowe.

weight, the projectiles of a spear thrower have greater penetrative force than arrows, which can be an important factor in killing larger animals or penetrating armour.¹⁹

Thus, in certain environments and hunting or combat situations, the spear thrower and dart held advantages over the bow and arrow. This led to the concurrent use of both weapons systems by the same people or even to a dominance of the spear thrower over bows and arrows in certain cultures.

One of the major disadvantages of the dart and spear thrower is that it takes a large motion and a relatively open space to throw the dart. This motion could be easily detected by game animals, which would give them time to evade the projectile. Furthermore it is difficult to hurl the dart from concealment, while an arrow can easily be shot from behind a hunting blind or similar structure.

The relatively long darts of the atlatl could be awkward to carry whereas arrows could be transported more easily. Procurement of raw materials may also have been a factor of importance. Long, relatively thick and straight shoots, young trees or canes were needed to manufacture the main shaft for a dart. Suitable pieces of wood for arrow shafts, on the other hand, were much shorter and thinner and thus much more easily obtained and straightened.

¹⁹ C. A. Bergman, E. McEwen, R. Miller, "Experimental archery: projectile velocities and comparison of bow performances." *Antiquity*, vol. 62, no. 237, (December 1988), 662, 666. Bergman, McEwen and Miller used a replica of an atlatl from the Basketmaker cultural complex from the US Southwest. The atlatl was made from ash (*Fraxinus excelsior*) and was used without an added weight. The dart consisted of a foreshaft with a bifacially flaked stone projectile and a fletched main shaft. The overall length of this projectile was 152 cm (60 inches); its weight was 195 g. The projectile velocity was 23 MPS (meters per second).

Archery

The exact time of the introduction or emergence of archery technology in North America is still debated by archaeologists. Interpreting changes in lithic projectile point size and type, Brian O. K. Reeves suggested that archery replaced atlatl technology on the Northern Plains between A.D. 450 and A.D. 750.²⁰ Some of the oldest clearly identifiable archery artifacts of North America come from the Mummy Cave site in Wyoming and date to A.D. 734. These artifacts include shaft fragments identifiable as arrow parts because of their notched rear ends, which would accept a bowstring, but not the hooked protrusion of an atlatl, or spear thrower.²¹

Based on the interpretation of lithic projectile points, A.D. 200 seems to be the earliest documented presence of archery technology in North America in general and on the Northern Great Plains in particular.²² Since the conditions for the preservation of organic materials are not favorable in most of North America, much of this evidence comes from the comparison and interpretation of lithic projectile points, which are often the only remains of early tool kits and arsenals. Based on such interpretations the people of the Avonlea cultural complex in present-day northern Montana and southern Alberta are commonly credited with the introduction of archery technology to the Northern Great Plains. This view is based on major differences between the size of projectile points used by the Avonlea people and those used by the people of the neighboring and largely

²⁰ Brian O. K. Reeves. "Culture Change in the Northern Plains: 1000 B.C. – A.D. 1000." *Archaeological Survey of Alberta, Occasional Paper No. 20*. Edmonton: Alberta Culture Historical Resources Division, 1983, 94, 98.

²¹ Harold McCracken and Waldo Wedel, et al., eds. *The Mummy Cave Project in Northwestern Wyoming*. (Cody, Wyoming: The Buffalo Bill Historical Center, 1978), 56, 57, 96.

²² Brian O. K. Reeves. "Communal Bison Hunters of the Northern Plains," L. B. Davis and Brian O. K. Reeves (eds.) *Hunters of the Recent Past*. London: Unwin Hyman, 1990, 170; Liz Bryan. *The Buffalo People: Prehistoric Archaeology on the Canadian Plains* (Edmonton: University of Alberta Press, 1991), 85, 104-107.

contemporary Besant culture, interpreting the smaller and more delicate Avonlea projectile points as arrowheads, and the heavier and cruder Besant projectile points as spearheads for darts, that were used with an atlatl or spear thrower. Avonlea points first appeared around A.D. 200 and over the course of several centuries gradually replaced Besant projectile points.²³

However, practical experiments suggest some alternative interpretations of these projectile size differences. Shooting experiments using replicas of the heavier Besant projectile points in combination with unfletched arrow shafts and a bow showed that such projectiles have satisfactory flight characteristics. The heavy points provided enough weight at the front end to keep the arrow on a straight flight path, making fletchings unnecessary. Using replicas of the smaller Avonlea points on unfletched arrows did not yield satisfactory results. Arrows equipped with these smaller points needed fletchings in order to fly true. Thus Liz Bryan has argued that the gradual change from Besant to Avonlea points may simply mark the change from unfletched to fletched arrows and not from the atlatl to archery.²⁴

Regardless of the course of its emergence, however, archery technology was well developed by the time European trade goods and horses reached Aboriginal people in North America.

²³ Ibid., 89, 104-107.

²⁴ Ibid., 89, 104-107; Louis A. Brennan. *No Stone Unturned: An Almanac of North American Prehistory*. New York: Random House, 1959, 198, 199; Oren F. Evans, "Probable Use of Stone projectile Points," *American Antiquity*, Vol. 23, No. 1, 1957, 83, 84.

Some bow physics and archery terms

Before discussing specific bow types, some of the technical terms and some of the physics of archery need to be explained. A bow is essentially a two-armed spring with a string connecting its ends. When an arrow is put on the string and the bow is drawn, it stores energy, which is transferred to the arrow upon release of the bowstring. However, while the bow is drawn, tensile stress builds up along the back, or outside curve, while compressive strain develops on the belly, or inside curve. Regardless of design or materials used, every bow has to accommodate these forces in order to successfully propel an arrow and to avoid breaking in the process.

On most bows the string needs to be taken off when the weapon is not in use in order to preserve the bow's elasticity. Only when the bow is about to be used, is it bent and the string put on. This process is referred to as "stringing." A bow that curves toward the target, or its back when it is relaxed has a reflex, which enhances its draw weight²⁵ and cast. A bow that curves toward the belly when relaxed is said to follow the string. Such a permanent curve towards the belly is usually detrimental to the cast of the bow and lowers its draw weight, but also renders it safer to use, because the bow is strained less when it is strung and drawn.

²⁵ The draw weight is the force that needs to be overcome in the drawing of a bow to full draw length. It is mostly measured in pounds (lbs, from the Latin word "libras"). One pound equals about 453.59 grams. In order to be able to compare different bows with each other, it is important to know to which draw length the draw weight of a given bow refers. The draw length is measured from the back of the bow to the lowest point of the bowstring notch in the nock of the arrow at the moment of reaching the full draw weight of the bow, immediately before the arrow is released, mostly measured in inches (one inch is approximately 2.54 cm).

Bow types of the Northwestern Plains

Documentary evidence and surviving artifacts indicate that Aboriginal bows of the Northwestern Plains can be differentiated into three categories by the materials used in their construction. The first category consists of so-called "self bows." Such weapons were made from a single piece of wood, often taken from a sapling or small tree. In order to accommodate the tensile stress along the back of such a bow, Aboriginal bow makers usually cut the bow stave in such a way that the outermost growth ring of the tree became the back of the bow. The growth rings of a tree consist of layers of long wood fibers, running parallel to its vertical axis. If these fibers remain uncut within one entire growth ring, they stand a much better chance of sustaining the tensile stress. If a tree's sapwood is not strong enough to bear the tension stress, the bow maker has to expose the heart wood down to a growth ring that is thick enough to form the back of the bow.²⁶ Then all wood above the chosen growth ring is removed, while taking care not to violate the underlying growth ring in any way. The backs of such bows show a smooth surface without any grain pattern.

If a growth ring has been cut on the back of a bow, a grain pattern of chevrons or ovals is visible on the back. If such a bow is drawn, the layers of growth rings tend to peel apart under the tension strain, causing the bow to fracture. For this reason Aboriginal bow makers usually took great care to establish one intact growth ring as the back of their bows. This was also one of the most important precepts of European bow making, at least

²⁶ Sapwood is the youngest part of the stem of a tree. It consists of a relatively thin layer of recent growth. This layer conducts water and other dissolved materials. It is softer and of a lighter colour than the heartwood which comprises the core of the tree. Heartwood usually does not conduct water and dissolved minerals anymore. It is usually denser and of a darker colour than sapwood. As the tree grows, the layers of sapwood closest to the heartwood gradually become heartwood. The diameter of the heartwood gradually increases with the growth of the tree while the thickness of the sapwood remains the same.

from medieval times onward. When European researchers of the twentieth century examined Aboriginal bows in museum collections, however, they found that on the majority of bows from the plains, made after the destruction of the bison herds and during the early twentieth century the outer growth rings were cut through. Because they assumed that Aboriginal bows in the pre-reserve past had been made in the same way, they saw this as proof of a generally inferior craftsmanship of Aboriginal bow makers.²⁷ Bows made by Aboriginal people in the twentieth century often do show cut growth rings on their backs and signs of fracturing at the intersections of growth rings, but the rare surviving nineteenth century self bows from the Great Plains often show smooth backs with intact growth rings.²⁸

While bow-making knowledge did decline among Aboriginal people, some of it is still retained. Swampy Cree (Omushkego) elder Louis Bird emphasized that when making a self bow, the outer growth ring should not be cut through. The bark was to be taken off, but the wood underneath should not to be touched to keep the bow intact.²⁹ The Blackfoot (Siksika) elder Clifford Crane Bear provided the same information.³⁰ Sometimes Aboriginal people made bows from milled lumber, such as boards and wagon

²⁷ Clarence Ellsworth. *Bows and Arrows*. Los Angeles: Southwest Museum, no date.

²⁸ Examples of Aboriginal bows with their backs damaged, collected during the twentieth century: Provincial Museum of Alberta, H68.204.29-30, self bow made from small branch, growth rings cut through on the back, collected from Blood Indians, ca. 1920, H67.8.1, self bow, made from a small tree or branch, growth rings cut through on the back, collected from Blood Indians, 1967; Glenbow Museum, Calgary, self bow collected at Siksika Reserve during the first half of the twentieth century; AP 273, roughly made selfbow, possibly made from chokecherry sapling. Instead of keeping the arched profile of the natural growth of the tree intact, the growth rings were chopped through to flatten the back of the bow. Collected from Cree people in Alberta during the twentieth century.

Examples for self bows with intact growth rings on their backs: Glenbow Museum, Calgary, AD 22 a, self bow, Northern Plains, possibly collected in 1835; Lindenmuseum Stuttgart, Germany, Cat. No. 12570 and 12571, self bows collected from Kansa and Omaha people by Paul von Wuertemberg, made ca. 1820; Ethnologisches Museum Berlin, IV B 2189, selfbow, Omaha, collected by Alice Fletcher and Francis La Fleshe, ca. 1896-1898; IV B 6136, selfbow, Oglala Sioux, collected by Clark Wissler in 1904.

²⁹ Louis Bird, 0014 – *Our Voices*, “Guns and Bows,” 2001.

³⁰ Clifford Crane Bear, personal communication, Aug. 22, 2002, Glenbow Museum, Calgary.

parts.³¹ The cutting angles of such machined pieces of wood made different bow making techniques necessary and such bows were rare.³²

Saukamapee described the bows used by himself, his father, and the other Parkland-Cree warriors as having been made of larch and reaching up to the chin in length. In Canada Larch is also called tamarack (*Larix laricina*). The Omushkego-Cree elder Louis Bird pointed out that tamarack was a common bow wood used by the Cree and other Aboriginal people in the Northern boreal forests.³³ Saukamapee's account does not mention any backing of these bows; therefore these weapons were likely self bows, made from a single piece of wood only. In contrast, he described the bows used by their "Snake Indian" (Shoshoni) adversaries as follows: "their Bows were not so long as ours, but of better wood, and the back covered with the sinews of the Bisons which made them very elastic, and their arrows went a long way and whizzed about us as balls do from guns."³⁴ This is clearly a description of the short sinew-backed bows that were so common on the Plains and in the Plateau region until the last quarter of the nineteenth century.

As Saukamapee's account indicates, compared to Eastern North American bows, those from the Northwestern Plains and the Rocky Mountains were rather short. The main reason for this was likely the scarcity of bow wood of suitable length, straightness

³¹ William Philo Clark. *The Indian Sign Language* (Lincoln: University of Nebraska Press, 1982 [1882]), 76.

³² Clifford Crane Bear described how he made bows from the wooden handles of hockey sticks when he was a child in the 1950s. Because of the way the wood had been cut, they did not hold up very well under the tension strain and broke soon. Clifford Crane Bear, personal communication, Aug. 22, 2002, Glenbow Museum, Calgary.

³³ R. C. Hosie. *Native Trees of Canada* (Markham, Ontario: Queen's Printer, 1990), 56, 57; Louis Bird, personal conversation with the author, Winnipeg, Oct. 1999. Mr. Bird pointed out that the Omushkego (Swampy) Cree on the western shores of Hudson Bay chose larch/tamarack (*Larix laricina*) for its qualities of springiness and compression strength, and also due to the limited availability of other woods suitable for bow making in the region.

³⁴ Glover, ed., *David Thompson's Narrative*, 242.

and freedom of knots. On the windswept Northwestern Plains the few straight and tall hardwood trees, such as ash, occur almost exclusively in the sheltered river valleys.

Serviceable bow wood was and is hard to find on the Northern Plains.³⁵ In regard to the scarcity of wood on the Northern Great Plains, Peter Fidler noted in 1792:

very little wood here of any kind _ & to the South extensive plains, which continues several Hundreds of Miles nearly in that direction without a single Tree, to be seen _ This I have partly proved to be true in my Journey to the Rocky Mountains in the following winter, & from the united testimonies of every Indian I have spoke to on the subject.³⁶

Because better bow wood was rare, bowyers had to make do with shorter, more knotty pieces of wood, taken from shrubs, such as juneberry, chokecherry (*Prunus virginia*) or sarvisberry (serviceberry). However, bows made from such pieces of wood would distribute tensile stress much less evenly than longer bows made from straighter wood.

To overcome this problem, Aboriginal bow makers glued one or more layers of animal sinew to the back of their bows, using hide glue or fish glue. When the combined matrix of glue and sinew dried, it absorbed the tension strain and thus protected the bow from breaking. This allowed bow makers to use much shorter and more flawed pieces of wood than would be needed for longer self-bows. These sinew-backed bows form the second category of Plains Indian bows.

³⁵ During the eighteenth and nineteenth centuries wood for bow making mostly came from the forested floodplains of the larger rivers. At present, after the construction of large reservoirs along the Missouri and other major rivers of the Plains, this source of bow wood no longer exists. For the bows I manufactured as part of an anthropological study at the University of North Dakota in 1995/96 I used ash wood taken from the shelter belt of a field. The search for this wood was conducted not only on foot, but also driving cross-country in a motorized vehicle and it took many hours to find a young ash tree of sufficient quality and straightness in one of the densely planted shelter belts; Roland Bohr, "Plains Indian Archery Gear of the Historic Period," unpublished seminar paper, University of North Dakota, Department of Anthropology, 1996, 4.

³⁶ Peter Fidler, "Journal of Exploration and Survey, 1789-1806," E.3/1, HBCA, 4M 103, No. 3, July 25th 1792 to July 4th 1793; September 29, 1792, F93.

There is little evidence that Aboriginal people on the Northern Plains tried to obtain wood for bow making in trade from regions outside the Northern Plains. The Crow, Two Leggings, recalled that when he was a young man in the 1860s, he obtained several hickory staves from the Gros Ventre (Gros Ventre) to make bows.³⁷ When he traveled the Missouri River region in Montana in 1833/34 Prince Maximilian believed that the country of the Blackfeet did not produce any wood suitable for bow making. Therefore the Blackfeet traded “bow wood,” or “yellow wood” (*Maclura aurantiaca*) from the river Arkansas.³⁸ The yellow colour description suggests that it may have been osage orange (*Maclura pomifera*), a wood that Southern Plains people such as the Kiowa, Comanche and Osage regarded highly for bow making. Indeed, the bowyer Jim Hamm mentioned two surviving bows made of osage orange, collected from the Blackfoot.³⁹ If such a trade occurred on a regular basis, it is more likely that instead of rough and fairly large pieces of wood, nearly finished bows or even completed weapons were traded. It is also possible that Aboriginal people obtained finished bows from outside their homelands as gifts or as war trophies. Especially among the Blackfoot, the capture of an enemy’s bow or gun in battle counted as a high war honour and was viewed as a very prestigious accomplishment.⁴⁰ However, most Plains Indian bows were likely made from locally available materials.

³⁷ Peter Nabokov. *Two Leggings: The Making of a Crow Warrior* (New York: Thomas Y. Crowell Company, 1967), 35.

³⁸ Otis Tufton Mason. *North American Bows, Arrows, and Quivers* (Mattituck, New York: Amereon House, 1995 [Reprint Smithsonian Report 1893]), 42; Mason cited Prince Maximilian, *Travels*, 1843, 258.

³⁹ Jim Hamm, “Plains Indian Bows,” ed. Jim Hamm, *The Traditional Bowyer’s Bible*. vol. 3, (New York: Lyons and Burford, 1994), 120.

⁴⁰ The Blackfoot Spumiapi told Jane Richardson Hanks that the Blackfoot leader Running Rabbit took a bow and arrows as a trophy in war. Glenbow Archives, L. M. and J. R. Hanks Fonds, M8458, file 4, Spumiapi via Mary White Elk on Runnunig Rabbit (Atsistaumaxkan), September 3, 1938, 122.

Aboriginal bow makers, especially in the Plateau region, but also on the Northern Plains, created a third group of bows. These were also sinew backed, but mountain sheep horn or elk antlers replaced the wood for the belly of the bow, because these materials can endure far greater compression strain than any wood. Combining a sinew backing with a horn or antler belly made a desirable bow, but horn or antler were difficult to obtain in the proper quality and manufacturing them into a bow was an extremely time consuming and laborious task.⁴¹ Their small dimensions made these bows appear like toys, but contemporary bowyers have been able to manufacture very powerful weapons of dimensions similar to the original artifacts, using the same materials and manufacturing methods as the original bow makers.⁴²

The inverted plains bow and other European misconceptions

By the time anthropology emerged as a scholarly discipline in North America, military archery had been out of use in Europe for over two centuries. However, during the late nineteenth century archery experienced a renaissance as a sport, in Europe as well as in North America. This new enthusiasm was spurred on by the writings of two Americans, Maurice and Will Thompson. As veterans of the Confederate forces the Thompson brothers were prohibited from owning firearms after the US Civil War.

⁴¹ Reginald and Gladys Laubin. *American Indian Archery* (Norman: University of Oklahoma Press, 1980), 74. Horn and antler bows were rare and highly prized as prestige weapons among the Aboriginal people of the Northwestern Plains. Besides being a status symbol, especially the sheep horn bows were also formidable weapons.

⁴² Bill Holm, "On Making Horn Bows," T. M. Hamilton. *Native American Bows*. (Columbia, Missouri: Missouri Archaeological Society, 1982), 118-120; Artist and museum curator Bill Holm manufactured a mountain sheep horn bow with a draw weight of 55 lbs at a draw length of 22 inches. It shoots consistently distances exceeding 200 yards and his longest shot with this bow was 235 yards. Reginald Laubin suggested that Aboriginal people developed horn bows only after the adoption of horseback riding and after they had access to metal tools. (Laubin. *American Indian Archery*, 84, 85.) However, elk antler bows appear in old Blackfoot legends, such as the legend of Big Arrow; Glenbow Archives, M4421, M4422, R. N. Wilson Papers, edited and annotated by Philip H. Godsell, vol. 1, Glenbow Foundation: Calgary, 1958, 36-38.

Therefore they made their own bows and arrows to hunt in the Florida everglades.

Maurice Thompson eventually began to write and publish about their hunting exploits with great success.⁴³ At a time when National Parks were created in the US and in Canada and when the middle classes discovered the outdoors, the Thompsons' stories of adventure, woodcraft and hunting became an inspiration to many. Although their writings were full of allusions to North America's indigenous people, their archery was rooted in Anglo-Saxon traditions.

Following the trends of the time, popular opinion in Europe and North America regarded European technology and weaponry including archery as far superior to anything Native American. Such ethnocentric views had deep roots in the past. For instance, when Sir Francis Drake encountered Aboriginal people on the California coast in 1579, he was rather unimpressed with their archery:

Their bowes and arrowes (their only weapons, and almost all their wealth) they use very skillfully, but yet not to do any great harm with them, being by reason of their weakness more fit for children than for men, sending the arrowes neither farre off nor with any great force.⁴⁴

Military archery was still in use on English warships of the late sixteenth century and Drake had some archers on his ship, the *Golden Hind*. Judging by replicas made of English bows from the warship *Mary Rose*, which sank in 1545, such bows likely had very high draw weights between 80 and 100 lbs which enabled them to propel armour piercing arrows for 200 meters or more. Drake and other explorers were interested almost exclusively in the potential harm indigenous weapons could cause in battle. While Drake admitted that Californian bows and arrows were expertly and beautifully crafted, he was

⁴³ Jay Massey, "Traditional Roots," ed. Jim Hamm. *The Traditional Bowyer's Bible*. vol. III (New York: Lyons and Burford, 1994), 13, 14.

⁴⁴ N. M. Penzer, ed. *The World Encompassed and Analogous Contemporary Documents Concerning Sir Francis Drake's Circumnavigation of the World* (London: Argonaut Press, 1926), 61, 62.

not impressed with their performance, overlooking the fact that they were primarily made to take deer and smaller animals, often at very close range. Drake did not recognize that coastal Californian people had no access to long and straight yew staves necessary to make a so-called proper English bow. They had to content themselves with juniper and yew scrubs and other bushes and small trees. This forced them to make short and wide sinew backed bows, which were an ingenious and efficient adaptation to the local environment.

However, during the nineteenth and early twentieth centuries, researchers seeking “scientific” proof of European superiority over indigenous people, favoured Drake’s account over those of his contemporaries who had encountered the formidable archery of Aboriginal peoples on the east coast of North America. They read such accounts with little attention to cultural context and environmental constraints that led Aboriginal people to develop their own unique forms of archery. Ideas of cultural relativism lay still ahead in the future.

More than three centuries after Drake, another enthusiast of the English longbow commented on his first-hand experiences with Californian Aboriginal archery. Dr. Saxton Pope acted as physician to a Yana or Yahi man, who called himself “Ishi.” He had appeared out of California’s scrubland near Oroville in 1911, likely the last survivor of his community. Ishi came under the tutelage of Dr. Alfred Kroeber who employed him at the University Museum of Anthropology in San Francisco as a janitor. Kroeber and Pope, an avid archer and hunter, took Ishi on hunting trips into his old homeland in the Mount

Lassen area. Ishi also made bows and arrows at the museum. Pope and Kroeber documented this in great detail.⁴⁵

After Ishi's death in March 1916 Pope began to manufacture his own archery equipment. He built European longbows, which he compared to Ishi's bows and a wide range of other Aboriginal bows from the museum's collection in San Francisco. This study was groundbreaking because of its practical approach.⁴⁶ However, Pope's tests were badly flawed. His sole criterion for evaluating a bow was the distance it cast an arrow. The greater its cast, the higher Pope ranked it. Since not every bow was originally intended for distance shooting, these tests took indigenous archery systems out of their cultural context, especially because Pope used the same arrow for all his tests, instead of using those arrows that actually belonged to each of the bows he tested.⁴⁷ Furthermore, Pope compared his newly made longbow to old Aboriginal bows that had not been strung and shot in decades and often had suffered mishandling while in storage or on display. Several of the bows broke during testing. Under the circumstances it is amazing that many of the Aboriginal bows performed as well as they did. However, if the weapons could not reach the range of his prized longbow, even though they were not designed for it, Pope dismissed them as inferior. A quotation from the introduction to Pope's study sheds some light on the social Darwinist views that informed his work:

A contest of strength between peoples will always interest human beings; rivalry in the arms and implements of war is one of the fascinations of national competition. It is therefore a matter of interest both to the anthropologist and the practical archer to know what is the actual casting quality and strength of the best bows of different aboriginal tribes and nations of the world.⁴⁸

⁴⁵ Robert F. Heizer and Theodora Kroeber. *Ishi the Last Yahi: A Documentary History* (Berkeley: University of California Press, 1979), 120-121, 229.

⁴⁶ Saxton T. Pope. *Bows and Arrows* (Berkeley: University of California Press, 1974 [1923]).

⁴⁷ *Ibid.*, 73; Pope used a flight arrow made by Ishi in all his tests.

⁴⁸ *Ibid.*, 1.

Researchers have continued to highly credit Pope's study because of its practical aspects, failing to recognize its flaws and cultural bias. Pope's writings influenced scholarly and popular opinion on Aboriginal archery for decades, reinforcing a tendency to portray it in rather negative ways and to dismiss Aboriginal archery gear as largely inefficient and much inferior to European bows and arrows and especially firearms.

Gilbert L. Wilson was another of the few early twentieth century ethnographers with a practical understanding of archery. Wilson documented Mandan and Hidatsa culture in North Dakota from 1906 to 1918. He obtained information on northern plains archery from the Hidatsa elder Henry Wolf Chief, who had not only hunted and fought using archery equipment, but who was also an accomplished maker of bows, arrows and strings.

Wilson was an accomplished archer, using European equipment, but he had little experience in actual bow making. Nevertheless, he was one of the few outside observers who could appreciate and evaluate the information he obtained from a practical perspective. In his observations he was more open-minded than Pope. He did not dismiss features of Hidatsa archery he did not understand, but described them carefully.

One such feature was the marked asymmetry of many Hidatsa bows. Wolf Chief told Wilson that among the Hidatsa the upper limb of a bow was usually made longer and thinner, with a greater bend than the lower limb. Wolf Chief stated:

Shaping the bow thus made the upper arm springier than the lower, which was relatively more stiff, and heavy. Our object in making a bow thus, was to secure steadier and straighter flight for the arrow. We felt very sure that this shape of the bow was a distinct help. That bow of yours [G. L. Wilson's], which you say is an English bow, has

both arms of equal strength. We Indians would have considered such a bow useless. I could not use such a shaped bow at all.⁴⁹



Fig. 6. Asymmetrical ash bow made by Wolf Chief, collected by Frederick Wilson before 1918. Length: 125 cm. The upper arm of the bow with the permanent tie of the bowstring is on the right. Minnesota Historical Society, MHS 9598.22. Adapted from Carolyn Gilman and Mary Jane Schneider. *The Way to Independence: Memories of a Hidatsa Indian Family, 1840-1920*. St. Paul: Minnesota Historical Society Press, 1987, p. 76.

Wilson remarked that he didn't understand this design feature, but wrote that a Sioux man had given him the same explanation for it as Wolf Chief.⁵⁰

The asymmetry of these bows allowed for a stringing method that differed from European stringing methods. Most asymmetrical plains bows carried the permanent tie of the bowstring at the top of the bow, not at the bottom as in English bows. Wilson described this clearly in his field notes:

It will be noted by any archer trained in the English school, that the "eye" [the slip noose of the bowstring] runs on the lower arm instead of the upper, as with us. It will also be noted that that the permanent tie is at the end of the upper arm, instead of on the lower horn, as in English archery.⁵¹

⁴⁹ Gilbert L. Wilson, "Hidatsa-Mandan report, 1911," vol. 10, Minnesota Historical Society, St. Paul, M460 2/1, 4, 5.

⁵⁰ *Ibid.*, 8; Wilson noted that the extremely long traditional bows of Japan were very similar in this regard, displaying a distinct asymmetry between the lower and upper limb.

⁵¹ *Ibid.*, 72.

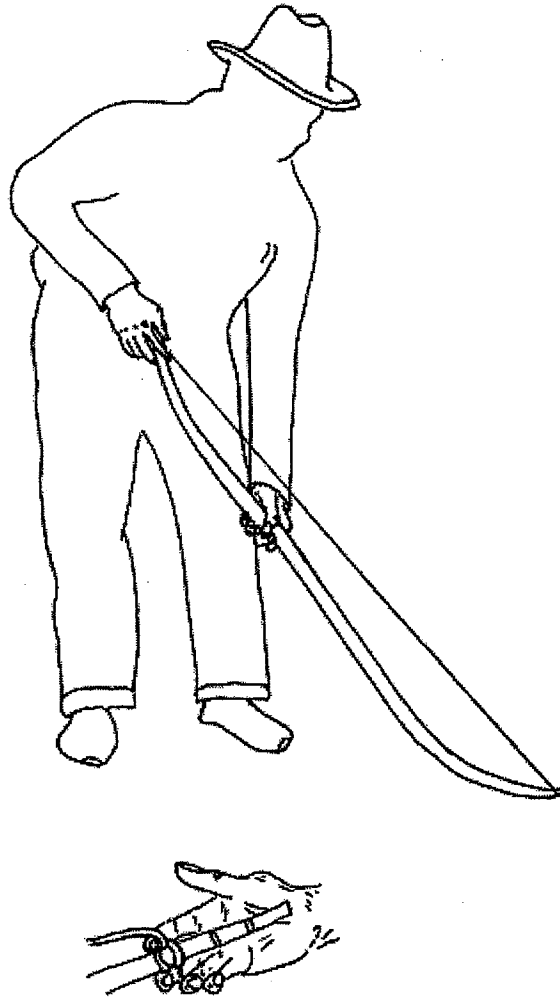


Fig. 7. Stringing method for asymmetrical Plains bows used by the Hidatsa, Omaha and other Aboriginal groups on the Northern and Central Plains. The small drawing shows the position of the archer's right hand when pulling the bow string into its notch on the lower end of the bow. Adapted from a photograph of Wolf Chief (Minnesota Historical Society) taken in 1911. Drawing by Roland Bohr.

This positioning of the bowstring made it possible to string the bow very rapidly, which allowed the archer to quickly prepare the bow for shooting when sighting game or enemies. The archer held the bow in the left hand, gripping it at the handle with the back of the bow pointing forward. Then he merely bent down at the waist, setting the upper end of the bow on the ground, while pressing down at the handle with the left hand and

pulling the slip noose of the bowstring into place on the lower limb of the bow with the right hand. A practiced archer could string a bow and have an arrow on the string, ready to shoot within a few seconds.⁵² Unfortunately Wilson's field report remained unpublished until 1979.⁵³

Long before Wilson's work with the Hidatsa, other ethnographers had already made the assumption that in regard to the tying of the bowstring all North American Aboriginal bows were similar to European bows. They concluded that the arm of the bow with the permanent tie of the bowstring was the lower arm. This led to a misunderstanding and misrepresentation of asymmetrical plains bows. The anthropologist Otis Tufton Mason, for instance, published illustrations of two asymmetrical bows from the Hidatsa in his 1893 report on Aboriginal archery for the Smithsonian Institution. Both bows were depicted strung and upside down. Mason wrote about one of these sinew-backed bows "Bow – made of hickory, with a double curve – the lower curve larger than the other."⁵⁴

⁵² Ibid., 71. The Omaha, an agricultural, earth lodge dwelling people living along the Missouri like the Hidatsa also used this stringing method; see Alice Fletcher and Francis LaFleshe. *The Omaha Tribe*, Annual Report of the Bureau of American Ethnology (Washington D. C.: Smithsonian Institution, 1905/06), vol. 27, 449, 452; William Vonderhey. *Secrets of the Omaha Bow* (Grantville, Pennsylvania: William Vonderhey, 1992), title page (photograph "Omaha Man with Bow," National Anthropological Archives, Smithsonian Institution, Washington D. C.).

⁵³ Bella Weitzner, ed. *Notes on the Hidatsa Indians Based on Data Recorded by the Late Gilbert L. Wilson*. Vol. 56: part 2, Anthropological Papers of the American Museum of Natural History, New York, 1979, 229-246.

⁵⁴ Mason. *North American Bows, Arrows, and Quivers*, plate LXII, Fig. 2; both bows, one of them a horn bow, were collected by Dr. Washington Matthews, who worked among the Hidatsa as a US Army surgeon and ethnologist from 1865 to 1872.

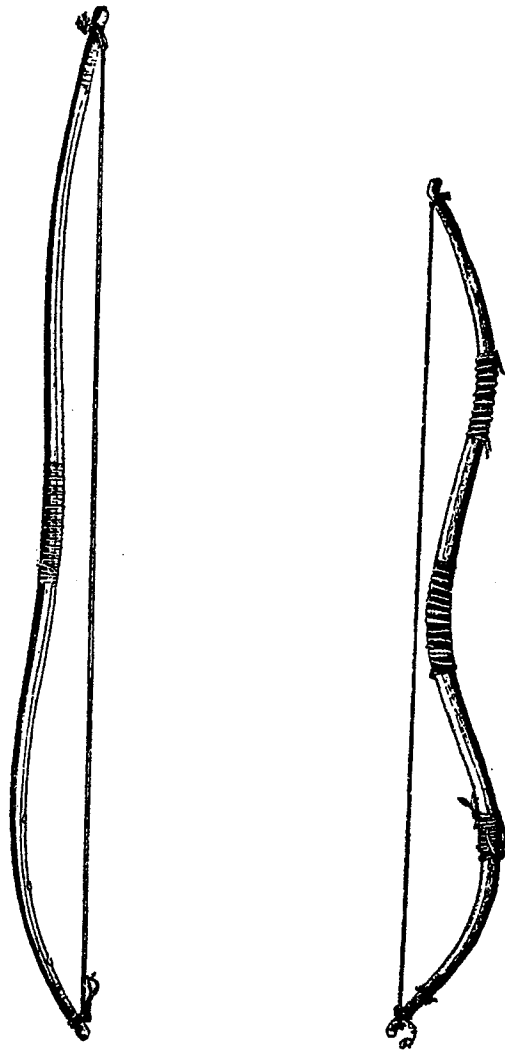


Fig. 8. Asymmetrical sinew-backed Hidatsa bows depicted upside down. The left bow (Cat. No. 8418, U. S. N. M.) is made of hickory. Length, 3 feet 5 inches. The other bow is of horn and is 36 inches long. The original drawings were detailed enough to show the slip nooses of the bowstrings on the shorter, less bending bow limbs which are usually the lower and not the upper limbs. Adapted from Otis Tufton Mason. *North American Bows, Arrows, and Quivers*. Mattituck, NY: Amereon House, 1995 (1893), plate LXII, Fig. 2.

Saxton Pope tested an asymmetrical ash bow collected from the Blackfoot.⁵⁵

Because this self bow did not have a string, Pope supplied his own when he tested this weapon. When bracing the bow he correctly put the permanent tie of the string on the

⁵⁵ Pope. *Bows and Arrows*, 68, pl. 3, fig. 12.

limb with the greater curve. However, the illustration in his book shows the bow upside down, the limb with the greater curve pointing downwards, just like the asymmetrical Hidatsa bows in Mason's Smithsonian report.



Fig. 9. Asymmetrical Blackfoot self bow, shown upside down. Note the slip noose of the bowstring on the limb with the lesser curvature. Adapted from Saxton T. Pope. *Bows and Arrows* (Berkeley: University of California Press, 1974 [1923]), pl. 3, fig. 12.

Since Pope shot and illustrated the bows he tested with the permanent tie of the bowstring at the bottom, it is likely that he tested this Blackfoot self bow upside down. The bow still cast Pope's test arrow an astonishing 145 yards without breaking. However, Pope was not impressed and wrote about this specimen: "If this is the type of a Plains Indian hunting bow, that bow was a poor one."⁵⁶ Based on such observations Pope concluded: "The aboriginal bows are not highly efficient, nor well made weapons."⁵⁷

⁵⁶ Ibid., 16.

⁵⁷ Ibid., 62; This bow had a draw weight of 45 lbs at a draw length of 25 inches, while the bow was only 47.5 inches long. Stringing such a self bow to a brace height of 4 inches and then still drawing it 25 inches overstresses the weapon very much.

The error in regard to the orientation of the asymmetrical plains bow has persisted until the present. Even in recent publications on North American Aboriginal archery such bows are still depicted upside down.⁵⁸ Only a few researchers with access to Wilson's field notes recognized the asymmetrical plains bow as a distinct type.⁵⁹ For instance, the North Dakota bowyer and artist Ron Taillon manufactured working replicas of asymmetrical plains bows, based on Wilson's and Wolf Chief's field notes from 1994 to 1996. His experiments precisely verified Wolf Chief's statements about the asymmetry of the bow causing a flatter trajectory of the arrow. A flat trajectory makes aiming much easier and enables an archer to shoot directly at targets up to 40 m distance without having to compensate for an arched trajectory of the arrow as would be necessary with more symmetrical bows. Taillon's work was published in a traditional archery magazine and also in a German magazine for North American history, but remained largely inaccessible to scholars of Aboriginal history and anthropology. The view that asymmetrical plains bows were badly constructed and hardly functional, due to the "lower" limbs being warped remained firmly in place.

Although they were far from being the only bow type among Aboriginal people of the Northern Great Plains, asymmetrical bows were quite common and were used by various Aboriginal groups such as the Sioux, Cheyenne, Mandan, Hidatsa, Blackfoot and Ute. However, researchers consistently emphasized asymmetrical bows as examples of

⁵⁸ Steve Allely and Jim Hamm. *Encyclopedia of Native American Bows, Arrows and Quivers*. Vol. 2 (Azle, Texas: Bois d'Arc Press, 2002), 148, 149, sinew backed horn bow, collected from the Mandan or Crow by Duke Paul von Wuertemberg before 1850; 155, hickory self bow, belonging to Chief Crow Eagle of the Two Kettle division of the Lakota.

⁵⁹ Carolyn Gilman and Mary Jane Schneider. *The Way to Independence, Memories of a Hidatsa Indian Family, 1840 – 1920* (St. Paul, Minnesota: Minnesota Historical Society Press, 1987), 76, 103; Ron Taillon, "Hidatsa Archery," *Primitive Archer*. vol. 3, issue 4, (1995), 26-32, 55.

faulty design and craftsmanship and then applied these negative views to Northern Plains Indian archery in general.

This is just one example of the many misunderstandings and biases that contributed to negative representations of Native American archery, not the least because Mason's and Pope's works have been so influential in shaping views on Aboriginal archery. Often researchers unfamiliar with the practical aspects of archery and bow making uncritically adopted their views. Even if Aboriginal people manufactured bows and arrows under their observation, they did not understand and thus did not accurately record what they saw. Frequently information provided by elders, who were still familiar with the topic at hand, was translated by Aboriginal people of a younger generation, who had much less familiarity with their people's archery. Then non-Aboriginal observers with little knowledge of the topic recorded this information. In this way, outside observers produced accounts of Aboriginal archery that were sometimes garbled beyond recognition.⁶⁰

Bow types of the Central Subarctic

Although the dramatic image of the mounted Plains Indian hunter using a short bow in the pursuit of buffalo has been deeply ingrained in popular perceptions of Native Americans for at least a century, the indigenous people of the Subarctic have not been particularly noted for their archery. This perception may be based to some extent on three factors. First, since firearms were more readily available to Aboriginal people of the Subarctic through the fur trade at a much earlier stage than they were to people on the

⁶⁰ For such an account see Frances Densmore. *Chippewa Customs* (Washington D. C.: Smithsonian Institution, 1929), 146-148.

Plains, historians and ethnographers tended to assume that Aboriginal people of the Subarctic had discarded most of their traditional weaponry in favor of European firearms and metal weapons soon after these became available.⁶¹

Second, the Subarctic environment does not favor archery. Prime raw materials for bow making, such as Eastern hardwoods like ash (*fraxinus Americana*), black locust (*robinia pseudoacacia*), hickory (*caraya cordiformis*) and osage orange (*maclura pomifera*) are not available in the region. Louis Bird mentioned that his people mainly relied on birch (*betula*) and tamarack (*larix laricina*) for bow making.⁶² Although they do have certain favorable qualities, neither of these woods is ideal for bow making, due to their lack of tensile strength.⁶³ Thus the boreal forest was a marginal environment, as far as raw materials for bows were concerned.

Finally sources on indigenous archery in the Subarctic are also rare. Ethnological reports rarely mention archery in any great detail and most material culture collections from the Subarctic contain few archery items.

Although all the Subarctic bows examined for this study were self bows, the anthropologist Alanson Skinner mentioned in his 1911 report that the Swampy Cree had used short, sinew-backed bows in the distant past.⁶⁴ Cree elder Louis Bird also mentioned a kind of bow backing used by his people. When questioned about the material, Louis

⁶¹ Arthur J. Ray. *Indians in the Fur Trade: Their Role as Trappers, Hunters, and Middlemen in the Lands Southwest of Hudson Bay, 1660-1870* (Toronto: University of Toronto Press, 1998 [1974]), 73.

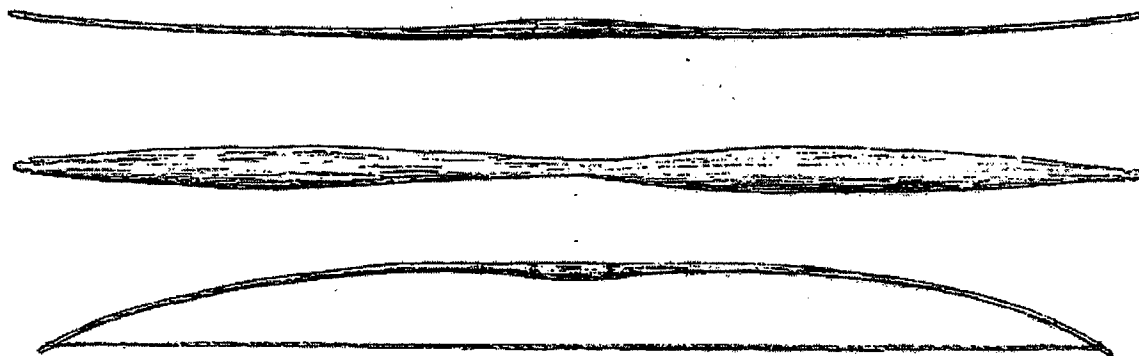
⁶² Louis Bird, 0014 – *Our Voices*, “Guns and Bows,” 2001; James Isham. *Isham’s Observations on Hudson’s Bay, 1743*, ed. E. E. Rich (Toronto: Champlain Society, 1949), 118; the Hudson’s Bay Company factor James Isham provided an illustration of a simple “D” bow, made of “berch” [sic] by the Natives near York Factory.

⁶³ Samuel J. Record. *The Mechanical Properties of Wood Including a Discussion of the Factors Affecting the Mechanical Properties, and Methods of Timber Testing*. May 8, 2004 [EBook #12299], <http://library.beau.org/gutenberg/1/2/2/9/12299/12299.txt>, tables II and VI.

⁶⁴ Skinner, *Notes on the Eastern Cree and Northern Saulteaux* (New York: American Museum of Natural History, 1911), 24, 25.

Bird said that it was “sturgeon spine“ or “sturgeon sinew.“ He did not seem to be familiar with the concept of sinew backing, either by gluing shredded sinew to the back of the bow with hide glue, as was practiced on the Plains and Plateau, or by applying a cable of braided sinew fibers to the back of the bow, as was done by several Inuit groups and some Aboriginal groups in the Southwest of the U. S. However, when shown a drawing of a southern Alaskan Inuit bow, he said that this was how such bows looked, in regard to the manner in which the backing was applied and in regard to the front view profile of the bow. The illustration showed a more or less straight, but wide and flat wooden bow with a simple single sinew cable backing.⁶⁵

According to Mr. Bird, the Omushkego-Cree made relatively long, flat self bows, preferably from tamarack. In front view profile these bows were narrow in the handle, gradually widening until they reached their greatest width at the middle of the bow limb, where the greatest tension and compression stress occurred. From there they tapered towards the tips.



⁶⁵ Mason. *North American Bows, Arrows and Quivers*, plate LXXI.

Fig. 10. Omushkego Cree self bow as described by Louis Bird. Such bows were typically from 140 to 160 cm long. Top: bow is unstrung. Bottom: bow is strung and ready for use. Center: back or outside of the bow. Drawing by Roland Bohr.

If a backing was to be applied, a shallow groove with a semi-circular cross section was cut into the center of the back, parallel to the longitudinal axis of the bow and running from one tip to the other. The backing was then placed into this groove, wrapped around the tips and secured to the bow by means of wrapping with rawhide. The fact that the groove was semi-circular in cross section suggests that it must have been made in order to accept something with a rounded cross section, such as a cordage cable.⁶⁶

However, Mr. Bird expressed his unfamiliarity with cable backed bows of any type and said that he had not observed bows with a "sturgeon spine" backing in action; he knew about them mainly through his father who had apparently owned such a bow in his youth. Mr. Bird stated that even the bows with a "sturgeon spine" backing could not be used in extremely cold weather, because they would lose their elasticity and break. Therefore, during caribou drives in the winter, hunters would warm their bows over a low fire behind a hunting blind constructed from rocks and snow, while waiting for the caribou to be driven into the enclosure by other hunters.⁶⁷

⁶⁶ Verne Dusenberry wrote about bows among the Assiniboine in Montana: "Sometimes the sinew-backed bow was made with the bow stave tapered at both ends with a groove cut along the back of the bow ... [and] one long bowstring drawn through this groove;" Verne Dusenberry, "Notes on the Material Culture of the Assiniboine Indians," in *Ethnos*, 1960: 1-2, The Ethnographical Museum of Sweden, 53; The Haffenreffer Museum of Anthropology in Bristol, Rhode Island has a bow, labeled "Dakota Tribes," with a twisted sinew cord running along the length of its back from one tip to the other. Barbara Hail. *Hau Kola! The Plains Indian Collection of the Haffenreffer Museum of Anthropology* (Bristol, Rhode Island: Brown University Press, 1993) , 170, 171, Haffenreffer Museum Cat. No. 75-60. The Forrest Fenn collection contains a bow from the Southwest (Athabaskan?) with a single sinew cable on the back. James A. Hanson, *Spirits in the Art* (Kansas City: Lowell Press, Inc., 1994), 180, 181.

⁶⁷ Louis Bird, 0014 – *Our Voices*, "Guns and Bows," 2001; Louis Bird, personal communication, Sept./Oct. 1999; The problem of sinew backed bows not functioning in the cold is puzzling to me, since Inuit hunters, who made the foundations for their sinew cable backed bows from driftwood, spruce, bone or horn, must have used them in cold temperatures and Plains sinew backed bows were hardly ever reported to have broken in cold weather. From shooting experiments conducted with my own Plains-style asymmetrical sinew backed ash bow I know that in temperatures around minus 30 degrees Celsius, the bow becomes

Anthropologist Edward S. Rogers, writing on the material culture of the Mistassini Cree, also mentioned the use of wide-limbed, flat bows that were about 97 cm to 127 cm (38 1/8 to 50 inches) long. The drawings he presented of such bows were similar to Mr. Bird's drawing but Rogers stated that these bows, made of tamarack, birch or black spruce were self bows and did not have any backing.⁶⁸

The collection history of indigenous archery artifacts from the Northwestern Plains and the Central Subarctic needs attention to provide context for items found in collections. When ethnographers and anthropologists began their work with Central Subarctic Aboriginal peoples during the first third of the twentieth century, the bow and arrow had already gone out of use as a weapon for big game hunting and combat and it was mainly used to hunt small fur bearing animals and birds.⁶⁹ Therefore bird blunts became the prominent type of arrow collected from Central Subarctic people during the first three decades of the twentieth century. Central Subarctic Aboriginal people also deliberately made archery artifacts for anthropologists, in order to demonstrate what the local archery had been like in the past. When the anthropologist John M. Cooper briefly visited Ojibwa communities at Lake of the Woods and Rainy Lake in Western Ontario in September 1928, two of his Aboriginal co-workers made archery outfits for him and

much stronger, because the sinew backing contracts in the cold. After carrying the bow outside for two hours in temperatures in the mid twenties below freezing, tucked under a woolen coat, it could be strung and drawn without any problems. However nineteenth century Plains Indians seem to have been concerned about their bows not getting too cold, since they devised a special winter carrying method for short bows. They carried their bows on their backs underneath their clothing, next to the bare skin. Multiple layers of winter clothing, such as shirts, coats and bison robes would keep the bow pressed against the archer's back. This method was mostly used when riding on horseback; Weitzner, ed. *Notes on the Hidatsa Indians*, 65.

⁶⁸ Edward S. Rogers. *The Material Culture of the Mistassini* (Ottawa: National Museum of Canada, 1967), 67.

⁶⁹ Skinner, *Notes on the Eastern Cree and Northern Saulteaux*, 24.

pointed out that weapons like the ones they had made had been in use among their people until recently.⁷⁰

Invented traditions: the “Penobscot war bow”

In a similar way, archery outfits were probably made to supply the actors in the previously mentioned motion picture “The Silent Enemy.” An eyewitness account of the making of this movie survived in the autobiography of Madeline Katt Theriault, an Ojibwa woman from Bear Island, Lake Temagami, Ontario, who participated in the film as one of the many Aboriginal people hired as “extras.”⁷¹ Besides acting, Theriault also made many of the costumes used in the film. After the filming of “The Silent Enemy,” Theriault participated in an ethnographic pageant, portraying traditional Northern Ojibwa culture, put on for visiting tourists and held at Bear Island in 1938. A Mr. A. Goddard, then the owner of the Temagami Hotel filmed this pageant. Theriault stated that several local Aboriginal men and boys made archery gear for the pageant and demonstrated its use to the tourists.⁷²

Although performed by actors largely unfamiliar with life in the bush, the snaring methods shown in the movie closely correspond to the snaring methods used by actual Subarctic hunters and recorded by the anthropologist John M. Cooper in the 1930s.⁷³ However, the bows used in the movie reveal some interesting diversity. Most of the male

⁷⁰ John M. Cooper. *Notes on the Ethnology of the Otchipwe of Lake of the Woods and Rainy Lake* (Washington D. C.: Catholic University of America, 1936), 16-18.

⁷¹ Madeline Katt Theriault. *Moose to Moccasins: The Story of Ka Kita Wa Pa No Kwe* (Toronto: Natural Heritage/Natural History Inc., 1995).

⁷² *Ibid.*, 89-93; Louis Bird, 0014 – *Our Voices*, “Guns and Bows,” 2001; Katt Theriault, as well as Louis Bird stated that one of the main tools for making bows and arrows, used in the Subarctic, in post-contact times was the so-called “crooked knife.”

⁷³ John M. Cooper, *Snares, Deadfalls and Other Traps of the Northern Algonquians and Athapaskans* (Washington D. C.: Catholic University of America, 1938).

supporting actors were equipped with bows corresponding to the Subarctic self bows discussed previously. In contrast, the actors playing the two main characters carried bows made along the lines of a rather rare bow design, supposedly coming from the Penobscot Indians of present-day Maine.⁷⁴ This design consists of a shorter and a longer wooden bow lashed together at their handles. The tips of the smaller bow are connected to the tips of the longer bow by strings. When the large bow is drawn, the smaller one on its back absorbs most of the tension strain of the larger bow. Some modern bow makers believe that this bow design considerably relieves tension stresses.⁷⁵ If that is the case, these bows may have been chosen because most of the movie was filmed in winter when bows were liable to crack in the cold under tension and compression strain.

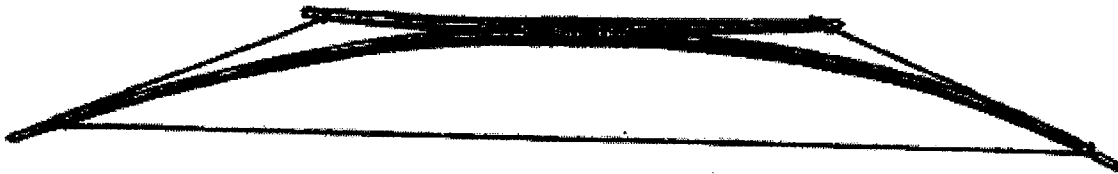


Fig. 11. So-called “Penobscot” double-bow. This bow was a gift of Dr. Samuel Fernberger to the University of Pennsylvania Museum in Philadelphia in 1933 (Accession no. 33-3211 UPA). It was made by Gabe Paul. Adapted from Steve Allely and Jim Hamm, *Encyclopedia of Native American Bows, Arrows and Quivers, Volume one: Northeast, Southeast and Midwest* (New York: Lyons Press, 1999), 36-39.

Deer, caribou and black bear were taken with arrows during the making of the movie, but at least the bear-hunting scene was staged. The actor did not shoot the arrow

⁷⁴ Allely and Hamm, *Encyclopedia of Native American Bows, Arrows and Quivers, Volume one: Northeast, Southeast and Midwest* (New York: Lyons Press, 1999), 36-39.

⁷⁵ Rudderbows Archery. <http://www.rudderbows.com/Bowmakindianstaves.html> : 2, 3; The Krackow Company. http://www.krackow.com/html/default_bows.html, “Penobscot” : 11; Woodland Archery. <http://www.woodlandarchery.com/prod12.htm> : 1-3.

that killed the bear. The killing shot was actually delivered by William Chanler, the film's legal counsel and a passionate archer and hunter.

Except for the two "Penobscot" bows, only one Subarctic self bow was shown in action. Although the actress Molly Nelson, who played the main female role in the movie, was actually Penobscot, the "Penobscot" bows may have been misplaced artifacts like many others: the movie is filled with paraphernalia belonging to other cultures, such as Plains Indian war bonnets and porcupine quill-embroidered shirts from the Northern Great Plains.⁷⁶

The American Museum of Natural History and the University of Pennsylvania Museum for Archaeology and Anthropology hold most of the few bows of this type in existence today. Their records indicate that at least three of these bows were collected from an Aboriginal elder by the name of Gabriel Paul in Maine during the 1920s and 1930s who may have manufactured most, if not all of these bows. The rarity of this bow design outside of present-day Maine, and the fact that most of these bows were likely made by the same person, suggest that this design does not reflect a widely adopted approach to bow making used by an entire Aboriginal group, but rather an individual's favorite bow design.⁷⁷ Nonetheless various publications on Aboriginal people of

⁷⁶ Smith, *Long Lance*, p. Molly Nelson, or Molly Spotted Elk, was Penobscot, from Old Town, Maine.

⁷⁷ The online anthropological collections for North America at the American Museum of Natural History show two of these Penobscot-style, or "double bows" (Accession nos. 1911-61, 50.1/6047 and 1916-9, 50.1/9830). Both bows are labeled "Abenaki-Penobscot." The museum records indicate that both bows were acquired from Gabriel A. Paul, Maine, along with other wooden items, including at least two regular self bows. The University of Pennsylvania Museum of Archaeology and Anthropology in Philadelphia holds another example of this "double bow." Its accession no. is 33-32-11 and it is labeled "war bow." This bow was a gift to the museum by Dr. Samuel Fernberger in 1933. It was made by Gabe Paul, Maine, in 1933, allegedly after a traditional type. According to the anthropologist Frank G. Speck this tradition was revived or invented by Frank Loring, alias Chief Big Thunder some years previous. William Wierzbowski, Assistant Keeper, American Section, University of Pennsylvania Museum, e-mail, Aug. 16, 2001. Frank Loring (1827-1906), of Penobscot descent, acquired a reputation as an "Indian show man" in nineteenth century New England. He later styled himself "Big Thunder" and opened a small "museum" on Olamon Island, near Old Town, Maine. Among the exhibits was his "war bow which he represented as

Northeastern North America treat it as representing a genuine aspect of Penobscot culture that was in widespread use at some point in the past.⁷⁸ Contemporary manufacturers of traditional archery gear even advertise their “Penobscot” bows as having “evolved over 1,000 years as a Moose bow, and a weapon to ward off invading ships entering the harbor.”⁷⁹

These examples demonstrate how a combination of lack of information, misunderstanding and ethnocentrism has contributed to the emergence of uncritical and often negative views on Aboriginal technology and weaponry. Non-Aboriginal scholars throughout the late nineteenth and early twentieth century frequently applied “knowledge” gained through studies such as Saxton Pope’s in comparisons of European metal and firearms technology. When evaluating Aboriginal military and hunting technology on such a basis, writers often then portrayed it as being inferior to European technology, rather than recognizing its sophistication and the ways in which it was adapted to local conditions and needs.

The next chapter will more closely examine different types of arrows. It will highlight Aboriginal adaptations of European introduced materials, such as metal arrowheads, and their complementary use in combination with Aboriginal technology.

handed down to him by tradition of his foreparents.” (Harald E. L. Prins, “Chief Big Thunder (1827-1906) The Life History of a Penobscot Trickster,” *Maine History*, vol. 37, no. 2, 1998, 149.)

Gordon Day concluded that the “war bow” originated as a circus bow. (Gordon Day, “The Penobscot War Bow.” *Contributions to Canadian Ethnology*, 1-15, ed. David B. Carlisle [Ottawa: National Museum of Man, 1975] Mercury Series. Paper No. 31, 8.) Frank Speck stated that “apparently at least a dozen reproductions of it had been made.” (Frank G. Speck. *Penobscot Man* [Philadelphia: University of Pennsylvania Press, 1940], 113-114.)

⁷⁸ Allely and Hamm, *Encyclopedia*, vol. I, 36-39.

⁷⁹ Krackow Company, http://www.krackow.com/html/default_bows.html, “Penobscot,” page 11.

Chapter IV

Arrows and arrow makers

This chapter examines types of Plains and Subarctic arrows. Aboriginal adaptations of European-introduced materials such as metal for arrowheads exemplify the complex ways Aboriginal people combined European materials with Aboriginal technology. A look at the social aspects of arrow making and arrow use contributes to our understanding of these developments.

The bow and arrow form a combined weapon system. While the bow propels the arrow, it is the arrowhead which accomplishes the desired effect on the target. Aboriginal archers knew that in an emergency they could fashion a crude bow from almost any strong sapling, small tree or branch, but making well-balanced, true flying, dependable arrows was another matter. The bowyer Reginald Laubin, who popularized and promoted Native ways, quoted an old Native American man as saying: "Any stick make-um bow, Arrow him heap much work."¹

Despite the seemingly simple appearance of an arrow, arrow making was a highly complex process that demanded great skill and knowledge. To assure consistent shooting, the elasticity of every arrow shaft had to precisely match the draw weight and the draw length of the bow and the finished arrows had to be as uniform in size and weight as possible. Therefore, when shaping the arrow shaft, the maker had to keep in mind the weight of the arrowhead, the fletching, the sinew wrapping and glue before the different parts of the arrow were assembled, in order to arrive at the correct weight in the finished

¹ Reginald and Gladys Laubin. *American Indian Archery* (Norman: University of Oklahoma Press, 1980, 118.

arrow. Because the weight of each component influences the flight characteristics of the completed projectile, all components had to be in correct proportion to each other. If, for instance, the arrowhead or the fletching were too light or too heavy, the arrow would not fly straight. All of this precision work had to be accomplished without modern weighing technology. Just as clothing is often tailored to fit, a bow and its arrows had to be made compatible to the body dimensions, strength and shooting technique of the archer. This was especially difficult to achieve if the maker and user of the archery gear were not the same person, as was often the case.

Surviving Aboriginal arrows in museum collections still reveal much of the ingenuity of their makers. A close examination of changes in the manufacturing features and quality of these weapons sheds light on the changing importance of traditional weaponry in Aboriginal societies, reflecting changes in their subsistence strategies and combat methods.

Arrows of the Northern Great Plains

Arrows display a wide range of construction details. Because the short Plains Indian bows did not permit long draw lengths, Northern Plains arrows had shaft lengths between 56 cm and 61 cm (22 inches to 24 inches), much shorter than arrows commonly used in the Central Subarctic.²

² Jim Hamm. *Bows and Arrows of the Native Americans* (New York: Lyons and Burford, 1991), 92; Laubin, *American Indian Archery*, 112.

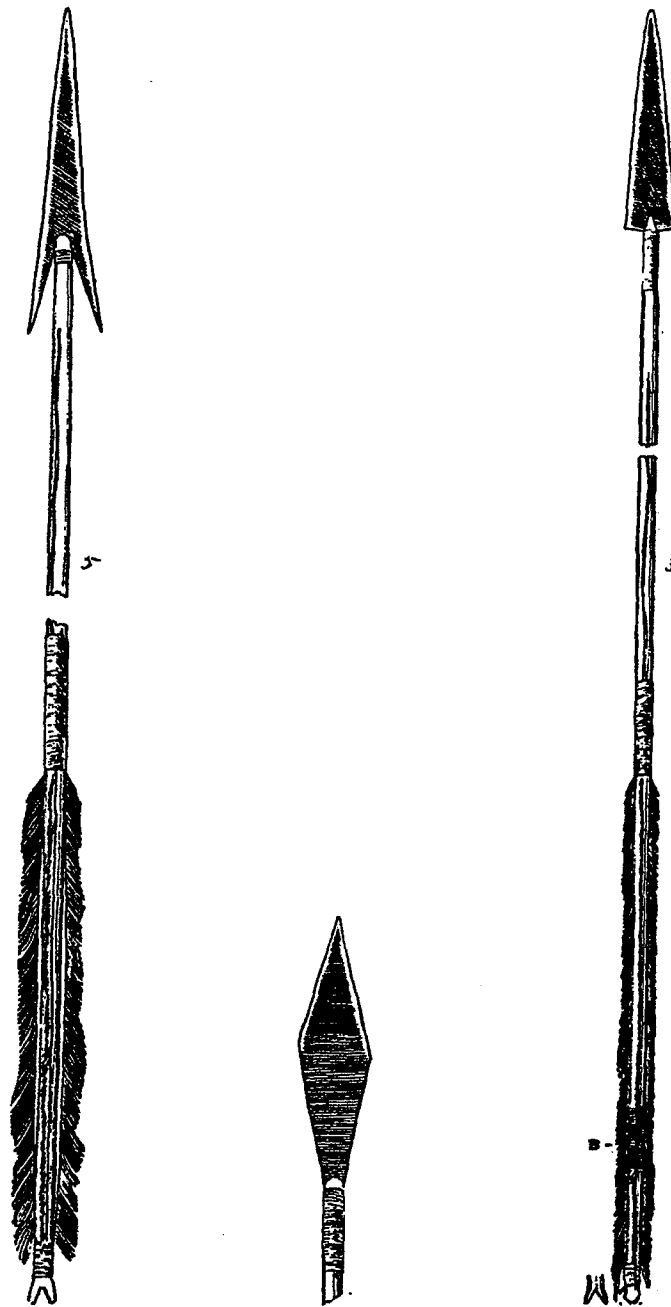


Fig. 12. Northern Plains arrows with metal arrowheads, second half of the nineteenth century. Left: A barbed arrowhead for combat. The sparse sinew wrapping of the arrowhead facilitated detachment of the arrowhead from the shaft in the wound. (Sioux, collected by M. M. Hazen, Cat. No. 154016, U. S. N. M.) Center: A diamond-shaped arrowhead for hunting. (Collected by Mrs. A. C. Jackson, Cat. No. 131356, U. S. N. M.) Right: An "all-purpose" arrowhead, suited for hunting and combat. (Hidatsa, collected by Dr. Washington Matthews, US Army, Cat. No. 8418, U. S. N. M.) These arrows have flaring or "raised" arrow nocks which aided the archer when using a pinch grip arrow release. Adapted from Otis Tufton Mason. *North American Bows, Arrows, and Quivers*. Mattituck, NY: Amereon House, 1995 (1893), plate XLVII, figs. 2, 3, 5.

There were two ways to make arrow shafts. The first method was to cut down large trees, mostly ash. The tree trunks were then split down the middle and each half was then further split into flat planks or boards, beginning at the center of the tree, which already had a flat surface from the first split. Each plank was then split into long squared dowels which were planed to a round diameter. This method was used by the Mandan and Hidatsa especially for war arrows, because split ash made tough and durable shafts that seldom broke.³ This method of making arrow shafts was not very common on the Great Plains, but it was the standard in areas with predominantly coniferous woods, such as the Central Subarctic and the West Coast, where arrow shafts were mainly made from black spruce, cedar or pine.

The second method, which was most common on the Plains, was to use natural shoots, saplings or branches for arrow shafts. According to the bowyer Henry Wolf Chief, the Hidatsa used three species of wood to make arrow shafts. These were juneberry (*Amelanchier alnifolia*, also called "serviceberry"), "snakewood" and ash.⁴ Other species commonly used on the Northern Great Plains were red osier dogwood (*Cornus stolonifera*), common wild rose (*Rosa woodsii*) and chokecherry (*Prunus virginiana*).⁵ While Plains Indians used every wood known to yield serviceable arrow shafts, the selection of a certain species largely depended upon its regional availability.

The shaft diameters ranged from 7.5 mm to 11 mm at the center of the shaft. Many arrow shafts were slightly barreled, meaning that they were thickest near the center and tapered towards their ends. Such a "cigar-shaped" design accomplished at least two

³ Gilbert L. Wilson, "Hidatsa-Mandan report, 1911," vol. 10, Minnesota Historical Society, St. Paul, M460 2/1, 41.

⁴ *Ibid.*, 41.

⁵ Hamm. *Bows and Arrows of the Native Americans*, 93, 94; Laubin. *American Indian Archery*, 112.

objectives. First it helped to reduce the weight of the shaft and thus made the arrow fly faster. More importantly, it kept the arrow shaft stiffer as it bent around the grip area of the bow when the arrow was released in shooting. A shaft that is stiffer at its center bends less and stabilizes earlier in flight than a more elastic one, because it undergoes less of a wavy sideways motion when leaving the bow.

In order to illustrate this, one needs to understand the phenomenon known as "archer's paradox," an important part of archery physics. Right-handed Aboriginal archers placed their arrows to the left of the center of the bow handle. Therefore the arrow had to wind around the handle in a somewhat wavy motion in discharge and would only straighten out at some distance from the bow. This caused an arrow with a too elastic shaft to pass to the right of the target and an arrow that was too stiff to pass the target on the left. Therefore the arrow shaft's elasticity had to be such that the arrow leveled out into straight flight as soon as possible. This meant that the elasticity of each arrow shaft had to be matched to the bow the arrow was to be shot from. With the shorter Plains Indian arrow shafts this was less of a problem compared to longer arrows used in the Subarctic.

Another feature designed to stabilize the arrow's flight as early as possible and enhance accuracy was the long and low-cut fletching of Plains Indian arrows. Non-Aboriginal observers especially denigrated this design feature, because it slows the arrow down and thus reduces the distance it can fly. However, to Plains Indians stabilizing the arrow early in flight was more important than a slight gain in shooting distance. In mounted bison hunting, for instance, the shooting distance was often less than two meters. Therefore, in order to be aimed accurately, Plains Indian arrows had to level out

almost immediately after leaving the bow. This would have been very difficult if Aboriginal archers had used the long shafts and short fletchings common in European archery.

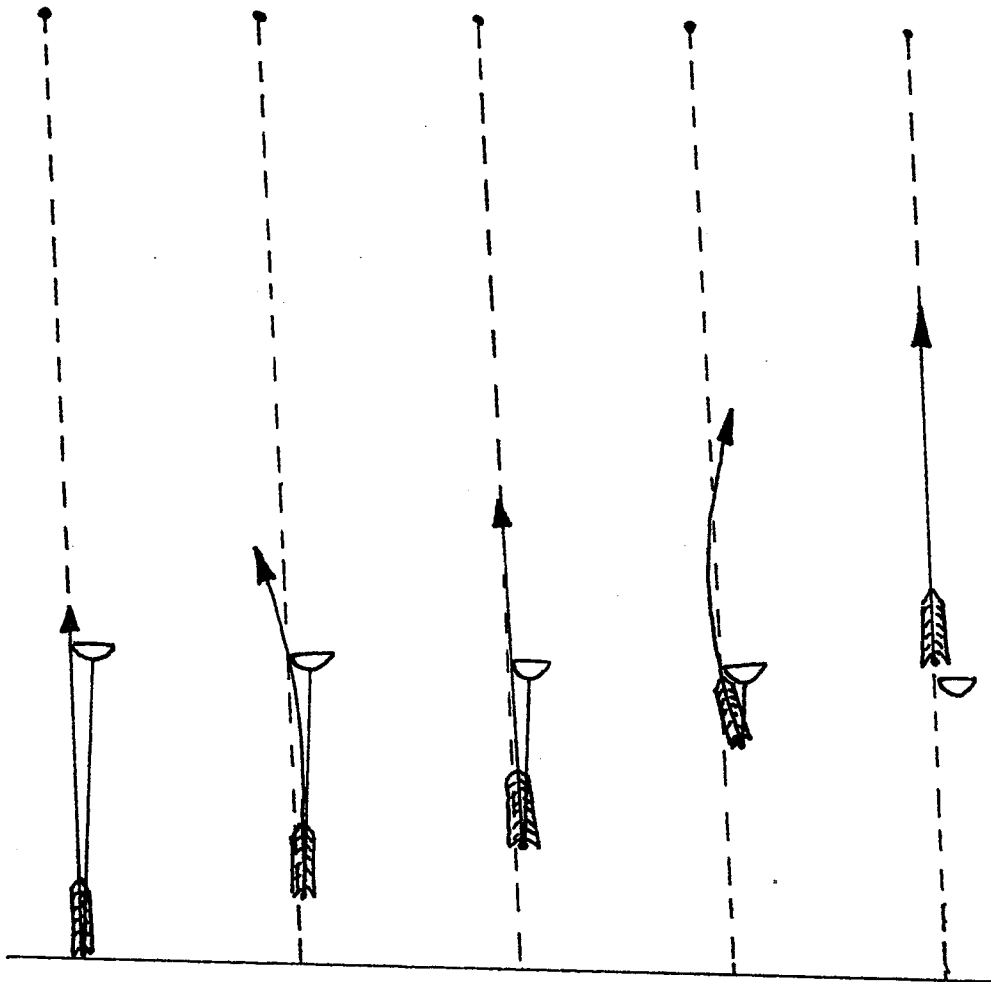


Fig. 13. "Archer's paradox," or the motion an arrow undergoes in discharge while passing the handle of the bow. Drawing by Roland Bohr.

Most Plains arrows had a so-called "raised nock," meaning that the end of the arrow shaft with the notch for the bowstring was left thicker than the shaft itself for better handling with a pinch-grip arrow release, which was common on the Plains.⁶ With this type of arrow release, which is ideal for shorter draw lengths, the nock of the arrow is

⁶ Laubin, *American Indian Archery*, 48, 49, 131, 137.

held between the thumb and the side of the index finger. From one to three of the remaining fingers are placed on the bowstring to support the thumb and index finger in pulling back the bowstring.

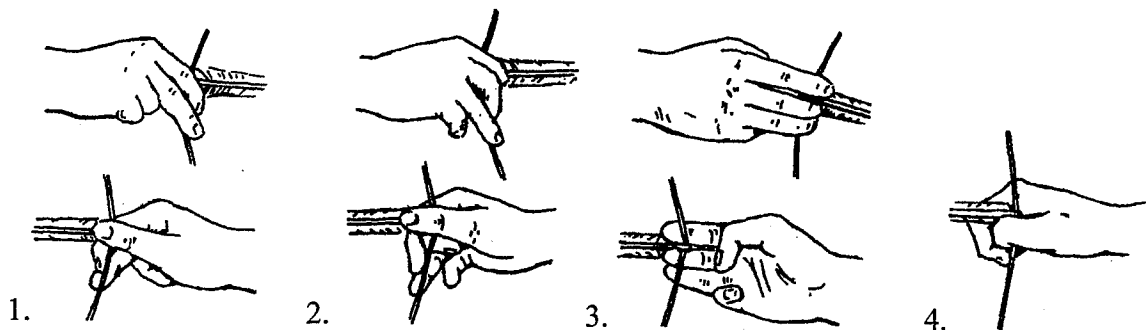


Fig. 14 Arrow releases used by Aboriginal people. 1. and 2.: Variations of the pinch grip release, common on the Plains. 3.: Mediterranean release which was common in the Subarctic and the Eastern Woodlands. 4.: Mongolian release, common on the Northwest Coast and in California. Drawings from Edward S. Morse, "Ancient and Modern Methods of Arrow Release," *Essex Institute Bulletin* 17 (October-December 1885). Adapted from Laubin, *American Indian Archery*, p. 137.

The Plains peoples employed a wide variety of arrow points for different hunting or combat situations. Arrows with triangular points were used for big game hunting and combat. Most well-known are those of lithic materials, such as flint or obsidian, a volcanic glass. However, Aboriginal people also made triangular arrowheads from broken glass vessels, wood, rawhide and sinew. Native copper was used to some extent to make arrowheads in eastern coastal North America and in the eastern part of the Great Lakes area. There Aboriginal people made pressure-flaking tools from native copper for the manufacture of stone arrowheads.⁷

⁷ Scott Silsby, "Stone Points," ed. Jim Hamm. *The Traditional Bowyer's Bible*. Vol. III, (New York: Lyons and Burford, 1994), 281, 282.

The Cree/Piegan elder Saukamappee did not describe the arrows used by his people, or by their "Snake Indian" (Shoshoni) adversaries in great detail, except for the materials from which arrowheads were manufactured. He described the arrows of the allied tribes as having mostly been equipped with stone points. Furthermore roughly a fifth of the Cree arrows in his first battle had metal arrowheads. By the time he fought in his second major battle against the Shoshoni, the number of metal arrowheads used by the Cree had increased. Saukamappee did not give any description of the shape of the arrowheads. Concerning the Shoshoni arrows, Saukamappee related that "they were all headed with a sharp, smooth, black stone which broke when it struck anything."⁸

Richard Glover suggested in his edition of Thompson's narrative that the stone the Snake Indians made their arrowheads from was flint.⁹ Nevertheless the qualities and the black colour of this stone that Saukamappee pointed out, very likely because of its contrast to the variety of stone used by the Cree, Assiniboine, and Piegan, make it more likely that it was obsidian, a volcanic glass common in the Rocky Mountains of what is now Wyoming and Idaho. The Eastern Shoshone used such stone points into the late 1850s.¹⁰

George Bird Grinnell stated about the Cheyenne that the range and penetrative force of their arrows were greatly enhanced by the use of metal arrowheads, to a degree that could not have been achieved with arrowheads made from bone or from lithic

⁸ David Thompson. *David Thompson's Narrative, 1784-1812*, ed. Richard Glover (Toronto: Champlain Society, 1962), 242.

⁹ *Ibid.*, 242.

¹⁰ Elijah Nicholas Wilson. *Among the Shoshones* (Medford, Oregon: Pine Cone Publishers, 1971 [Originally published 1910 as: *The White Indian Boy*]), 159; Jim Hamm. *Bows and Arrows of the Native Americans*; Osborne Russel. *Journal of a Trapper* (Lincoln: University of Nebraska Press, 1965), 133; HBCA MG1 D3 F17, Peter Fidler, Notebook, 1794 - 1813: "Contents of a Gun Chest of Curiosities, Directed to James Fidler July 4th 1813." Among other artifacts Peter Fidler's list indicates "9 Quivers full of arrows, 9 Bows two of which is Horn, 6 arrows shod with stone. Snake Ind."

materials.¹¹ When iron and brass became available through European traders, native materials were augmented and on the plains eventually replaced by flat, oblong-triangular metal arrowheads. The cutting edges of well-made stone points, especially those made from obsidian, were much sharper than those of metal arrowheads, but they did not keep their edge as long, were more difficult to re-sharpen and were so brittle that they often shattered upon impact on a hard target.¹² Saukamappee related to David Thompson in 1787 that metal arrowheads used by the Piegan and Cree stuck in their opponents' rawhide shields, but could not pierce them.¹³ However, stone arrowheads remained in use, at least among some Plains groups, well into the nineteenth century. Henry Wolf Chief, born in 1849, told G. L. Wilson in 1911 that the Hidatsa still used stone points when his father was young.¹⁴

Those groups who could obtain metal arrowheads through direct trade with Europeans, or through Aboriginal middlemen soon mainly employed metal ones for fighting and big game hunting. Aboriginal arrow makers manufactured the earliest examples from pans, kettles, wagon fittings or barrel hoops. When European fur traders recognized the demand for these weapons, they began to sell metal arrowheads manufactured at their trading posts. As early as 1670 the Hudson's Bay Company's trade goods included arrowheads and later they were even mass-produced in Europe or the

¹¹ George Bird Grinnell. *The Cheyenne Indians: Their History and Ways of Life*, vol. I (Lincoln: University of Nebraska Press, 1972 [1923]), 171.

¹² Monika Thaler, ed. *Die Welt der Indianer: Geschichte, Kunst, Kultur von den Anfängen bis zur Gegenwart* (München: Verlag Lothar Borowsky, 1994), 84; Saxton T. Pope. *Bows and Arrows*. (Berkeley: University of California Press, 1962 [1923]), 56; "The most striking phenomenon is the great superiority of the obsidian point in cutting animal tissue. ... The steel heads, even when sharpened to a keen cutting edge, do not approach the penetration of the obsidian by 25 per cent. Doubtless the better cutting qualities of glass, combined with the concoidal edge of the obsidian point, give this superiority. The same principle is used in modern bread knives; here a rough wavy edge cuts better than does a straight sharp edge."

¹³ Glover, ed., *David Thompson's Narrative*, 242.

¹⁴ Wolf Chief was born in 1849; therefore he probably referred to the 1820s. Wilson, "Hidatsa-Mandan report, 1911," 42, 49, 50.

U.S., specifically for the “Indian trade.”¹⁵ The trade list of the HBC’s Buckingham House indicates that from 288 to 720 “arrow barbs” were sent inland each year from 1791 to 1795.¹⁶

It is difficult to determine which surviving metal arrowheads were made by Europeans and which were made by Aboriginal people. Some commercially made arrowheads were marked by the manufacturer. However, many arrowheads were manufactured by the blacksmiths of different trading posts. They were likely not very uniform, because each post’s blacksmith had his own style. Furthermore, although there is at present no evidence for this, it is possible that Aboriginal customers brought their own rawhide cut-outs of the arrowhead patterns they wanted, thus individualizing the product even more. Some arrowheads with wide holes drilled through them may represent trade points. These holes made it possible to string the arrowheads on a cord in dozens, for instance, for easier shipping and trading.¹⁷ Aboriginal people, at least on the Great Plains, likely did not have the kinds of drills necessary to drill holes into metal arrowheads.

John Baldwin presented a photograph of nine metal arrowheads from a private collection with the following caption:

¹⁵ Elizabeth Mancke. *A Company of Businessmen: Hudson’s Bay Company and Long Distance Trade, 1670–1730* (Winnipeg: Rupert’s Land Research Centre, University of Winnipeg, 1988), 43; Mancke cited E. E. Rich, intro., *Minutes of the Hudson’s Bay Company, 1671-1674* (London: Hudson’s Bay Record Society, 1942), vol. 5, XXXI; John S. Milloy. *The Plains Cree: Trade, Diplomacy, and War, 1790 to 1870* (Winnipeg: University of Manitoba Press, 1988), 17, 18; Frank Bird Linderman. *Plenty Coups, Chief of the Crows* (Lincoln: University of Nebraska Press, 1962 [1930]), 18, James A. Hanson, *Spirits in the Art*. (Kansas City: Lowell Press Inc., 1994), 47.

¹⁶ HBCA, B.239/d/87-121, Buckingham House Account Books; Heinz Pyszcyk, “The Use of Fur Trade Goods by the Plains Indians, Central and Southern Alberta, Canada,” *Journal Canadien d’Archéologie* 21, 1997, 58.

¹⁷ Steve Allely and Jim Hamm. *Encyclopedia of Native American Bows, Arrows and Quivers*, Vol. 2 (Azle, Texas: Bois d’Arc Press, 2002), 162, 163.

Nine arrow points of iron. The seven smaller points were recently packed together in an original Hudson's Bay Trading Company's wax paper wrapped packet of 50 points. Their non-studied owner, unknowingly unwrapped them and discarded the paper. These points represent typical Indian trade points.¹⁸

These seven arrowheads display a very distinct shape, consistent with some rare metal arrowhead shapes in use by Northern Plains peoples. They are triangular with a tang for attachment to the arrow shaft protruding from the base of the triangular blade. The base of the blade is straight and rather wide. The tips of the blades are pointed, not rounded and the cutting edges of the blades are rather narrow. In four of these seven arrow heads the ratio of base width to blade length is 1: 2.5.

In contrast, most Plains Indian metal arrowheads I have examined have slightly rounded tips and fairly wide cutting edges on their blades.¹⁹ Their ratios between base width and blade length are at least 1: 4, often reaching even 1: 6. While the alleged Hudson's Bay Company trade points presented by Baldwin were short and wide, the majority of Plains Indian metal arrowheads were narrow and long.

Arrows with metal arrowheads similar to the alleged HBC trade points were collected from the Blood in south central Alberta, from the Stoney in southwestern Alberta and from the Hidatsa in central North Dakota.²⁰ These peoples either traded

¹⁸ John Baldwin. *Bows, Arrows & Quivers of the American Frontier* (West Olive, Michigan: Early American Artistry, 1999), 30.

¹⁹ Many Aboriginal archers rounded the tips of their metal points to make them glance off an animal's bone, rather than penetrating it and becoming stuck. Hamm. *Bows and Arrows of the Native Americans*, 134.

²⁰ Provincial Museum of Alberta, Edmonton, catalogue nos. H68.204.33, Blood, collected ca. 1920; H62.12.4 and H62.12.6, Northern Plains, no provenance information, no collection date, acquired by museum in 1946; Glenbow Museum, Calgary, catalogue no. AF 2638, two arrows, probably collected in the early twentieth century. Siksika elder Clifford Crane Bear expressed his opinion that these arrows were not really meant for hunting or warfare, because the shafts were too crooked and the arrowheads far too wide at the base to penetrate well. They may have been made for sale to non-Aboriginal people. Both arrows have bright orange and dark violet fluff feathers attached to the front ends of their relatively short fletchings. The fluffs look almost new and were likely commercially dyed. Except for the points these arrows have a rather "modern" appearance. However, the lack of raised nocks is consistent with Stoney

directly at Hudson's Bay Company posts, or were within reach of Aboriginal middlemen who traded with the HBC. However, arrowheads like the ones illustrated by Baldwin are rarely encountered on arrows in museum or private collections.

Metal arrowheads with a diamond shape were primarily used for hunting. This shape made it easier to withdraw the arrow from an animal, so it could be used again in another hunt. In contrast, arrowheads meant for war often had barbs to make withdrawal of the arrowhead difficult or impossible.²¹ Such arrowheads were only lightly wrapped to their arrow shafts with a few turns of back strap sinew. When they entered an opponent's body the blood softened the sinew and the arrowhead would detach and remain in the wound when the shaft was withdrawn.²² (See illustration 12.)

A common misconception about North American Aboriginal arrows states that arrowheads meant for hunting were attached parallel to the notch for the bowstring on a level plane, so that they would pass between the ribs of a standing animal. By the same reasoning, arrowheads meant for fighting were supposedly attached at right angles to the string notch, horizontal to the ground, so they would pass between the ribs of a standing human.²³ This is nonsense! Regardless of the type of arrowhead or fletching used, an

preferences for a Mediterranean type of arrow release over the pinch-grip releases that most other Plains archers used.

Minnesota Historical Society, St. Paul, catalogue no. MHS 7059.75b, arrow probably made by Henry Wolf Chief, collected by Gilbert Wilson before 1918. An image of this arrow is published in Carolyn Gilman and Mary Jane Schneider. *The Way to Independence, Memories of a Hidatsa Indian Family, 1840 – 1920* (St. Paul, Minnesota: Minnesota Historical Society Press, 1987), 199.

²¹ Wilson, "Hidatsa-Mandan report, 1911," 58, 59; George Bird Grinnell. *The Cheyenne Indians*, vol. I, 183, 184; Mason. *North American Bows, Arrows, and Quivers*, pl. XLVII; Gilman and Schneider. *The Way to Independence*, 74; The Mandan elder Black Chest, a personal friend of Wolf Chief, corroborated Wolf Chief's statements in regard to the two different shapes of metal arrowheads and their uses for the Mandan as well. G. B. Grinnell made similar statements in regard to the shapes of metal arrowheads used by the Cheyenne.

²² Thomas Wilson, "Arrow Wounds," *American Anthropologist*, 1901, 530, 531; David G. Mandelbaum, *The Plains Cree* (New York: AMS Press, 1979 [1940]), 94, 95.

²³ Richard I. Dodge. *Our Wild Indians* (Hartford, Conn.: Archer House, 1960 [1882]), 418-419; Mason. *North American Bows, Arrows, and Quivers*, 31.

arrow will spin in flight. This is advantageous and necessary to stabilize the arrow. It also makes it impossible to predict at which angle the arrowhead will strike its target.²⁴ It is very unlikely that Aboriginal arrow makers believed that they had to place metal arrowheads meant for war differently from those meant for big game hunting, because they were aware of the unpredictability of the arrowhead's impact angle through extensive practice.

The Plains arrows examined for this study showed little consistency in the placement of metal arrowheads. They were inserted into the shafts at almost any angle, but usually varying from the angle of the string notch. The direction of the grain of an arrow shaft often seems to have been the determining factor; if the arrowhead was placed at a different angle from the string notch, the shaft was less likely to split upon impact.

Most of the Plains arrowheads I examined neither have a diamond shape, nor did they have pronounced barbs. They were of an "all-purpose" type, flat with an oblong and triangular shape, and a straight or slightly forward slanted base of the blade. Such arrowheads were equally suited for hunting and combat. This type seems to have become common during the nineteenth century. Most of these metal arrowheads from the Northern Great Plains were from six to ten centimeters long and from one to two millimeters thick.²⁵ Southern Plains metal arrowheads were mostly shorter, narrower and lighter, of a more delicate shape, to reduce weight. This was necessary because the longer

²⁴ Doug Wallentine. *Making Arrows the Old Way* (Liberty, Utah: Eagle's View Publishing, 1987), 22. Through several shooting experiments Wallentine disproved the validity of the notion of different alignments of the arrowhead for hunting and combat. His results concerning the unpredictability of the striking angle of the arrowhead are consistent with my own experience in shooting arrows with bladed arrowheads.

²⁵ Jim Hamm, "Plains Indian Bows," ed. Jim Hamm. *The Traditional Bowyer's Bible*, Vol. III (New York: Lyons and Burford, 1994), 121 - 133, 136.

bows of the Southern Plains required longer arrow shafts than those used on the Northern Plains.

Northern Plains people also employed several types of club-shaped, bulbous arrowheads for killing small game and birds. Such arrows were mostly made from a fairly large and thick branch or shoot of the same diameter as the desired pear-shaped or bulbous arrowhead. The rest of the shaft was then reduced to its final diameter.²⁶

Arrows with their shafts whittled to a point were used in target practice, to kill rabbits or fish and sometimes also in combat.

Wolf Chief stated that he never heard about or saw arrowheads of bone in use among the Hidatsa. However, his co-worker Gilbert Wilson noted that bone and horn arrowheads had been found in refuse heaps at old Mandan and Hidatsa village sites, near Mandan, North Dakota. Wolf Chief and his sister Buffalo Bird Woman stated that sometimes the Hidatsa made arrowheads from bison horn.²⁷

From his father, Small Ankle, Wolf Chief learned that in the past the Hidatsa made arrowheads from the front teeth of beavers. The teeth were boiled in water for a long time until they were somewhat flexible. Then they were pressed flat with a heavy stone until dry. This procedure was repeated several times to completely flatten and straighten the beaver teeth. Because they were already extremely sharp, they did not need an extra edge. According to Wolf Chief, such arrowheads had great penetrative force. Because the cutting edge of a beaver tooth is straight and the tooth is more rectangular than triangular, I assume that such arrowheads were mounted with their cutting edge at a

²⁶ Barbara Hail, *Hau Kola! The Plains Indian Collection of the Haffenreffer Museum of Anthropology* (Bristol, Rhode Island: Brown University, 1993), 172; Gilman and Schneider. *The Way to Independence*, 74.

²⁷ Wilson, "Hidatsa-Mandan report, 1911," 52.

right angle to the shaft, similar to the chisel-shaped stone arrowheads used by Neolithic peoples in Western Europe. Recent shooting experiments with the latter showed that they had great penetrative force.²⁸ However, so far no actual examples have been found in North America. Such beaver-tooth arrowheads may have been in use in other areas where beaver were abundant as well. However, no evidence for their existence in the Central Subarctic has been found so far.

Before the great smallpox epidemic of 1837 the Mandan and Hidatsa also made entire arrows from bison sinew. Such arrows were made from the flat neck tendon of mature bison bulls. The tendon was removed and cut into five strips which were pegged to the ground by driving a peg through each end, to straighten, stretch and dry the strips. Once the strips had dried, they became hard, but were still somewhat elastic. An arrowhead of the usual flat triangular shape was carved into the front end of the strip, while the rest was rounded and reduced to the final diameter of the arrow shaft. Finally a notch for the bowstring was cut and feather fletchings were applied at the rear end. Such arrows were said to have been very durable. Their shafts would bend, but not break when an injured bison rolled over it on the ground.²⁹

Radial fletchings, made from three large bird feathers with their quills split and flattened and attached equidistant to each other on the arrow shaft, were most common on the Plains. The front and rear ends of the feathers were bound to the shaft with sinew. On

²⁸ Ulrich Stodiek and Harm Paulsen. *Mit dem Pfeil, dem Bogen...; Technik der steinzeitlichen Jagd* (Oldenburg: Isensee Verlag, 1996), 34, 35, 43, 52.

²⁹ Wilson, "Hidatsa-Mandan report, 1911," 56; this information was volunteered by Black Chest, a Mandan. He was about the same age as Wolf Chief and a good friend of his. Black Chest related that about 41 years before the interview with Wilson (ca. 1870), he had a conversation about arrows with a Mandan by the name of Red Stone. Red Stone related that when he was thirty years old, approximately at the time of the smallpox epidemic of 1837, the Mandan still made these "Itsuta" arrows from the big yellow neck tendon of bison bulls.

most of the examined Plains arrows the feathers were also glued to the shaft with hide glue. A few arrows had their feathers only wrapped to the shaft, but not glued.

The fletchings were very long, between 15 cm and 22 cm, and the vanes of the feathers were cut rather low, between 5 and 8 mm. When feathers were in short supply, sometimes only two instead of three split feathers were used. However, practical testing showed that such arrows stabilize less well and are more difficult to aim accurately than those with three split feathers.

Another type of fletching consisted of a single very long split feather, with its quill attached to the shaft in a long spiral. Such fletchings were mostly employed in arrows used for shooting upwards, for instance at birds taking flight or at squirrels in trees. The spiral fletching would allow a powerful but rather short flight, and then abruptly stop the arrow, preventing it from going too far. The bird-hunting variety of these arrows often had three or more large thorns attached equidistant from each other about 10 to 15 cm from the tip of the arrow. An arrow with such protrusions could bring down two or three small birds with one shot when shot into a flock of birds.³⁰ Equipped with triangular metal points, such spirally fletched arrows were also used in combat, at least by the Hidatsa, for whom their use in combat held spiritual connotations.³¹

³⁰ Ibid., 54, 55.

³¹ In regard to spiral-fletched arrows Wolf Chief stated: "An arrow with a spiral feather was called Isudumite, or wing-twisted around. We did not say "arrow feather" but "arrow wing." ... Spiral feathered arrows, such as I just described above, were the first kind of feathered arrows a boy shot with. We would say to the boy, "This is Adapozis, Burnt Arrow [a Hidatsa culture hero] and should fly straight. Adapozis was a Thunderbird. You should keep this arrow sacred, and pray to it. We said this because of the story of Burnt Arrow, which I have already told you.

There were a few men in the tribe who always carried two of these spiral-feathered arrows in their quivers. These arrows they would not ordinarily use; but when they came close to the enemy, a man having these spiral arrows would take them out and pray to them, "Kill this enemy!" And he would shoot at the enemy with one of these arrows. In my time I never saw this custom used; but I have heard of it as being in our tribe in former days." Wilson, "Hidatsa-Mandan report, 1911," 52, 53.

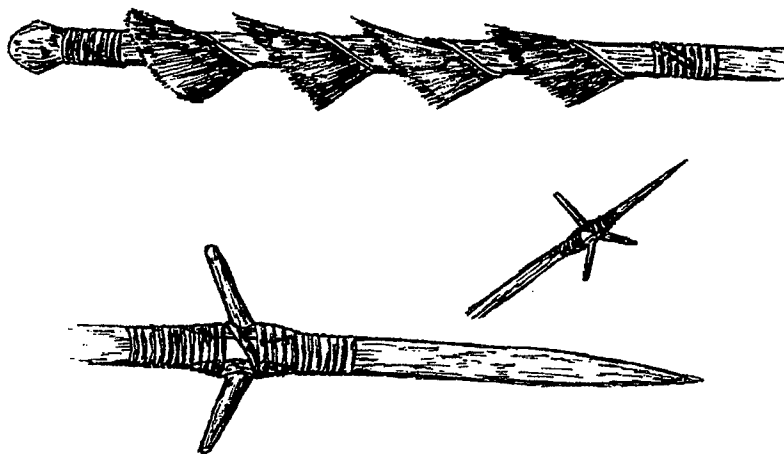


Fig. 15. Hidatsa bird hunting arrow according to Wolf Chief, showing thorns or cross-pieces lashed to the front end of the main shaft. Variants of this kind of arrowhead were widely used by Aboriginal peoples, from the Navajo to the Inuit. This arrow has a spiral fletching to insure straight flight and to prevent the arrow from going too far when shooting upwards at birds in flight. Drawing by Roland Bohr.

With the increasing availability of metal arrowheads, the rich diversity of Aboriginal arrowheads on the Northern Plains began to diminish. Making arrowheads from native materials such as stone, bone or wood was time-consuming and labour intensive, while metal arrowheads could often be obtained ready-made at the trading posts. Metal arrowheads were of sufficient quality to accomplish most of the tasks traditional arrowheads had been previously used for, and they were more convenient and often more durable than traditional arrowheads of stone or bone. However, while arrowhead technology changed, on the Great Plains the bow and arrow remained in use in big-game hunting and combat throughout the fur trade era.

Arrows of the Central Subarctic

According to Louis Bird, the Swampy Cree made arrow shafts either from willow shoots or from split coniferous wood, such as black spruce. None of the Subarctic archery

collections examined held any arrows made from natural shoots. All Subarctic arrows examined were made from split wood.

Most surviving Subarctic arrows are so-called "bird-blunts." They have very large pear-shaped arrow heads, used to kill small mammals or to disable larger birds such as geese. These arrows look massive, but are actually quite light in weight. In order to build up enough critical mass to cause sufficient damage at the target, they need to be quite big, because the wood they are made of becomes very light once it dries.

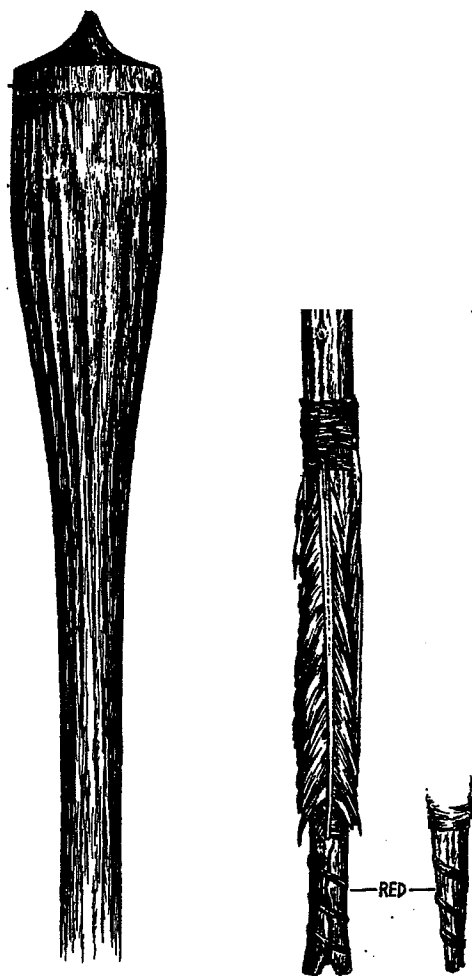


Fig. 16. Blunt-headed arrows collected from the Barren-Ground Band of Naskapi by Frank G. Speck before 1930. The flat arrow nock is well adapted to the use of a shooting glove and the Mediterranean arrow release which was common in the Subarctic (University of Pennsylvania Museum, Philadelphia, accession nos. 30-3-122). Adapted from Steve Allely and Jim Hamm. *Encyclopedia of Native American Bows, Arrows and Quivers*, Vol. 2. New York: Lyons Press, 1999, 43.

Louis Bird also mentioned that wide arrow points of sharpened bone were used to hunt big game, such as moose and caribou. A set of four such arrows, made from split coniferous wood and collected from the Granite Lake Cree in central Saskatchewan, was equipped with such points.³² The shafts of these arrows varied in length from 62 cm to 66.5 cm. All four arrows are equipped with large points of a triangular or diamond shape, made from large, thick flat bones. These massive points are up to 8.5 cm long, 4.2 cm wide and are around 7 mm thick.³³ Only one of these arrows has fletchings, made from three split feathers, wrapped to the shaft in a radial arrangement with a fine white commercial thread.³⁴ The quills are not glued to the shaft. The other three arrows do not have any fletchings at all.

The nock ends of these arrows have been flattened and the notches for the strings are wide and deep, a feature also found on arrows from the Northwest Coast, Inuit arrows, and arrows from other Aboriginal people from Northern boreal forest environments, such as the Naskapi and Montagnais.³⁵ The flattening of the nocks facilitates the use of a Mediterranean type of arrow release, especially when a shooting glove of some sort is used. Louis Bird mentioned the use of a shooting glove and in

³² Manitoba Museum, Winnipeg, ethnology collection, coll. nos. H 4. 12-302 c-f, belonging to bow H 4. 12-302, all collected from the Granite Lake Cree.

³³ Louis Bird, 0014 – *Our Voices*, “Guns and Bows,” April 2001. These large bone arrowheads are somewhat puzzling to me. When sharpened, bone doesn’t hold its edge for very long. It would take a very powerful bow to make such a large point penetrate the tough hide of a moose, for instance. A smaller metal arrowhead, such as was in use on the Plains for bison hunting, would seem much more suited to the task, but large bone arrow heads such as these are consistently found on Central Subarctic arrows, collected during the late nineteenth and early twentieth centuries. Louis Bird also mentioned the use of sharpened bone as a material for arrowheads.

³⁴ Manitoba Museum, ethnology collection, H 4. 12-302 c.

³⁵ Mason, *North American Bows, Arrows, and Quivers*, plate LV; Steve Allely and Jim Hamm. *Encyclopedia of Native American Bows, Arrows and Quivers, Volume one: Northeast, Southeast and Midwest* (New York: Lyons Press, 1999), 43, 45; the authors show arrows that were part of an archery outfit collected by the anthropologist Frank G. Speck from the Barren Ground Band of Naskapi before 1930 and is now stored in the University of Pennsylvania Museum, Philadelphia, PA.

demonstrating the kind of arrow release most common among the Oumshkego-Cree, he indicated that the bow string was pulled back with the index and middle fingers only. The index finger was placed above and the middle finger below the arrow nock. This kind of arrow release is a variation of the Mediterranean type of arrow release.³⁶

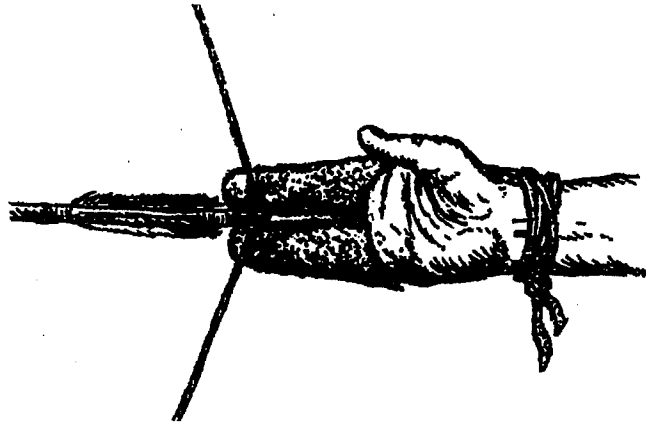


Fig. 17. Naskapi shooting glove of caribou leather (University of Pennsylvania Museum, Philadelphia). Adapted from Steve Allely and Jim Hamm. *Encyclopedia of Native American Bows, Arrows and Quivers*, Vol. 1. New York: Lyons Press, 1999, 44.

A set of blunt-headed, club-shaped arrows for hunting small mammals and birds from the Nelson House Cree is representative of this type of arrow which is frequently found in the Subarctic. This set consists of four arrows and was collected with two self bows.³⁷ The overall length of the arrows ranges from 41 cm to 52 cm. The short draw length suggests that they were not made for an adult archer. They were made from split coniferous wood. The arrowheads are all round in cross section. Their diameter is about 2.7 cm at the front end of the club which then gradually blends into the arrow shaft itself.

³⁶ Louis Bird, 0014 – *Our Voices*, “Guns and Bows,” 2001; Allely and Hamm, *Encyclopedia*, vol. I, 44; the previously mentioned Naskapi archery set includes also a shooting glove.

³⁷ Manitoba Museum of Man and Nature, ethnology collection, H 4-12-13 to 16, collected with bows nos. H 4. 12-11 (shorter bow) and H 4. 12-12 (longer bow) from the Nelson House Cree. These bows and arrows were acquired by the Manitoba Museum from Charles Clay.

The massive shafts range in diameter from 1 cm to 1.15 cm at their center. The nock ends are of the same diameter as the shaft, neither raised nor flattened.

Such “bird blunts“ can fly straight, even without any fletchings at the rear end. The heavy arrowhead already provides enough weight at the front end and thus enough steerage to make the arrow fly straight. The same might apply to the previously discussed Subarctic arrows with massive bone arrowheads. Even though James Isham recorded the use of bladed metal arrowheads among the Lowland Cree in the mid-eighteenth century, none of the examined arrows with a Subarctic provenance was equipped with a metal arrowhead of any kind.³⁸

Bowyers and arrow makers

Because arrow making required extensive skill and took years to learn, one might wonder if all Aboriginal archers made their own equipment or if there were specialists for this task. Ethnographic evidence and historic documents offer contradictory information on the existence of specialized makers in Plains societies. While some sources indicate that Aboriginal archers usually made their own equipment, others state that archery gear was primarily crafted by specialists. The latter finding has been most prevalent with reference to peoples with age-graded societies, such as the sedentary and agricultural Mandan and Hidatsa of the Upper Missouri River and the mobile, bison hunting Blackfoot of the Northern Plains.

Upon closer examination these contradictions can be resolved. When anthropology emerged as a scholarly discipline during the late nineteenth century,

³⁸ James Isham. *Isham's Observations on Hudson's Bay, 1743*, ed. E. E. Rich (Toronto: Champlain Society, 1949), 118.

researchers assumed that in so-called “primitive” cultures the user of an object also always was its maker. Specialization was seen as a trait of proto-industrial and industrial societies and therefore was assumed to be lacking in “simple” societies of hunters and gatherers. This view favoured the notion that every Aboriginal man made his own archery equipment.³⁹

It is true that at least the basics of bow and arrow manufacture were indeed general knowledge among many Aboriginal groups. For instance, in the 1860s the Crow Two Leggings made a snake skin-covered bow from hickory wood he had traded from a group of Atsina. He also made a matching set of arrows from chokecherry saplings for this bow. However, Two Leggings did not consider himself a specialist in the manufacture of archery gear. He was orphaned early in his life and was raised by his older brother. Lacking influential relatives, they lived on the margins of Crow-society. Making an archery outfit was part of Two Legging’s quest for military honours and prestige in order to rise among his people. He stated that for him, making this archery outfit was mainly a meaningful pursuit to fill the long and empty winter months, assembling weapons which could be helpful in increasing his warrior status in the future.⁴⁰

A hunter or warrior had to be able to manufacture basic archery equipment, to quickly replace a bow or arrows lost on a hunt or while traveling. Such emergency scenarios and how to deal with them were part of Aboriginal people’s stories and legends. Resourcefulness, self sufficiency and independence were considered important attributes of an Aboriginal man, who had to fulfill the roles of provider and protector of

³⁹ Mason, *North American Bows, Arrows, and Quivers*, 16.

⁴⁰ Peter Nabokov. *Two Leggings: The Making of a Crow Warrior* (New York: Thomas Y. Crowell Company, 1967), 35.

his family. For instance, the Crow legend of "Bear White Child" mentions an orphaned boy who, not unlike Two Leggings, made his own archery set while traveling on a long journey. The deer the boy killed with these weapons provided him with food during his entire journey.⁴¹

The US Army officer William Philo Clark also commented on the resourcefulness of Aboriginal men on the Northern Plains. During the closing decades of the nineteenth century Clark was part of an experimental scout unit, working mostly with Northern Cheyenne men. While traveling, they found it necessary to have a bow. Using only their heavy hunting knives Clark's Aboriginal companions made a perfectly serviceable self bow from a broken ash wagon bow within a few hours.⁴²

Among some Aboriginal groups women also held knowledge pertaining to the manufacture of archery gear. According to Cheyenne traditions, the use of sinew bowstrings was initiated by a woman. Before the Cheyenne moved onto the Great Plains they used bow strings made from plant fiber. However, these were not sturdy and did not last long.⁴³ While butchering after one of the first bison hunts on the Plains a woman noted the long and wide sinews running parallel to the animal's spine from head to hip. She mentioned to her husband that these sinews might make better bowstrings and from then on the Cheyenne used sinew bow strings.⁴⁴

⁴¹ Ibid., 8.

⁴² William Philo Clark, *The Indian Sign Language* (Lincoln: University of Nebraska Press, 1982 [1885]), 76; Lieutenant W. P. Clark, US Army, observed Aboriginal people on the Northern Plains making a bow from an old broken ash wagon bow during the closing decades of the nineteenth century. Wagon bows were bent struts on covered wagons, such as the Conestoga wagon, the so-called "prairie schooner," that supported the canvas cover and gave it its characteristic arched shape.

⁴³ In my own use of Plains Indian archery gear I also found that flax bow strings do not last very long.

⁴⁴ Grinnell, *The Cheyenne Indians*, vol. I, 176.

Among the Swampy Cree women were generally not supposed to use or even touch a war bow and its arrows.⁴⁵ However, many Swampy Cree men preferred their wives or daughters to attach the fletchings to their arrows, because women were considered more skillful at such delicate work than men. As Louis Bird related,

The women were good at that [applying the fletching], because they can make string with the sinew from the animals, sometimes just the beavers and the otters sometimes make a fine, fine sinew. And that's what they used to wrap around these feathers and so they won't hurt on the hand, the finger of the man, in here [Louis Bird indicated the right side of the left index finger between the knuckle and the middle joint where the arrow would slide across in discharge. Smoothing the wrapping of the arrow shaft was important because any protrusion or rough spot could cause severe cuts to the hand.] They were good at that. So the women usually used to make that. But the men would put the head, if there is a big game animal. And if it's a goose they had just a little sharp thing, very easy to go through. And sometimes they got the big head, just to knock it down.⁴⁶

Swampy Cree men also liked to have their wives or daughters touch their hunting bow and arrows before they set out to hunt, because they believed this would bring them luck.⁴⁷ Subarctic Aboriginal women themselves likely used bows and arrows to hunt small game or birds. In 1925 Sam Waller took a photograph of Subarctic Ojibwa/Cree women with bows and bird arrows in northern Manitoba.⁴⁸

The Blackfoot Joe Little Chief stated that among his people "they [the women] also learn how to shoot with bow and arrows some are very good at it."⁴⁹ Hugh Munroe,

⁴⁵ Louis Bird, personal communication, October 2001.

⁴⁶ Louis Bird, 0014 – *Our Voices*, "Guns and Bows," 2001.

⁴⁷ *Ibid.*

⁴⁸ Manitoba Museum, PHNG 6515.

⁴⁹ Glenbow Archives, Joe Little Chief Fonds, M 4394, f. 5, "History of the Blackfeet," 8. Joe Little Chief did not state if women used bows and arrows in hunting or in combat or both. There are several references to Plains Indian women warriors, for example the Blackfoot Running Eagle (James Willard Schultz, *Blackfeet and Buffalo* (Norman: University of Oklahoma Press, 1962, 229, 348-350). In regard to Cree attacks on Blackfoot camps, the Blackfoot Crooked Meat Strings related in 1938: "Sometimes a whole lot of Crees came to attack, women and men. Blackfoot women never went on attacks back against the Crees. Attacks by Cree and their wives always occurred in winter, never in summer. In summer Cree men came

a former employee of the HBC who had married a Piegan woman and lived with the Piegan since 1823, stated in 1886 that he knew a Crow woman, the wife of the American trapper Jim Beckwourth, who had used lance, tomahawk and bows and arrows in combat. She was said to have gone on war parties and killed many enemies.⁵⁰

Henry Wolf Chief's sister Buffalo Bird Woman made a toy archery set for her young son Goodbird. She mentioned that Hidatsa mothers commonly made such toy archery sets for boys.⁵¹ Goodbird said that he hunted mice and other small rodents within his family's earth lodge with this equipment when he was about four years old, but never killed any animals because they were too fast for him.⁵²

Among the Hidatsa, women were not allowed to make and use adult archery gear. However, the fact that they manufactured fully functional toy bows and arrows shows that they had at least a working knowledge of the basic principles of bow and arrow manufacture. Buffalo Bird woman also gave detailed information on various aspects of the manufacture of bows and arrows intended for big game hunting and combat. If such knowledge was prevalent among the women, the average Hidatsa man must have had even greater general knowledge of the manufacture of archery equipment, because men were involved in archery-related matters almost on a daily basis. In February 1793 Peter Fidler observed among the Peigan, "the men all also busily employed making arrows – of

alone to attack. ... Cree winter attacks came about once a winter; 80 – 100 (not more) people of which not more than 10 were women and no children. Those were young women awfully brave. 'Blackfoot women were not brave – always scared, and don't like to die, and always ran away to hide. None were ever brave.' Two Piegan women, however, did go out to war with their husbands. But never a Blackfoot woman." Glenbow Archives, L. M. and J. R. Hanks Fonds, M 8458, file 6, 164, 165, Crooked Meat Strings via Mary White Elk, Sept. 12, 1938.

⁵⁰ Glenbow Archives, M 607/6, "Notebook of Dr. A. Jukes, Chief Surgeon for N.W.M.P., containing notes from interviews with Hugh Monro, 1886." Glenbow Foundation Archives, 11.

⁵¹ Wilson, "Hidatsa-Mandan report, 1911," 91, 92.

⁵² *Ibid.*, 91, 92; information volunteered by Buffalo Bird Woman and her son Goodbird; Gilman and Schneider. *The Way to Independence*, 69.

the Sascuttem wood, which is very hard & solid when dry – there is great plenty of it here along the river.”⁵³ The anthropologist Alfred W. Bowers confirmed this, stating that among the Mandan it was common for every adult male to manufacture arrows.⁵⁴

On the other hand, some sources report the existence of highly specialized bow and arrow makers among Aboriginal peoples on the Plains and in the Subarctic. Ojibwa traditions indicate that among the Northern Ojibwa, and possibly among other Algonkians there was a particular class of men, before the introduction of firearms, called “makers of arrow-heads.”⁵⁵ Several Cheyenne mentioned to George Bird Grinnell that the father of a man named Shell was a highly qualified arrow maker.⁵⁶ Shell’s family was wealthy and well-respected, partly because Shell’s father made high-quality arrows for other warriors who paid him for his work. As a boy Wolf Chief owned very good arrows which his father, Small Ankle, had made for him. As the son of an arrow maker he was always supplied with first rate arrows.⁵⁷ Wolf Chief later became an accomplished arrow maker himself, probably after formally entering into an apprenticeship with his father.

Mandan and Hidatsa society was hierarchical and based on the formal recognition of seniority and experience. The transfer of knowledge was highly restricted and followed a precise protocol, established deep in the past. Knowledge and skills were divided into ordinary and ancient or sacred. Quillwork embroidery, the manufacture of ceramics and the catching of eagles were all considered “ancient” knowledge. No one was allowed to acquire these skills simply by imitating more experienced people. A

⁵³ HBCA, 4M 103, E 3/2, 32, Feb. 21, 1793, “Journal of a Journey over Land from Buckingham House to the Rocky Mountains in 1792 – a 3 by Peter Fidler.”

⁵⁴ Alfred W. Bowers. *Mandan Social and Ceremonial Organization* (Moscow, Idaho: University of Idaho Press, 1991 [1950]), 92.

⁵⁵ Mason, *North American Bows, Arrows and Quivers*, 24, citing Schoolcraft, S. Rp., vol. III, 81.

⁵⁶ Grinnell, *The Cheyenne Indians*, vol. I, 120.

⁵⁷ Gilbert L. Wilson. *The Horse and the Dog in Hidatsa Culture* Anthropological Papers of the American Museum of Natural History (New York: American Museum Press, 1978 [1924]), 162.

potential candidate had to formally approach a master craftsman or craftswoman and enter into a formal apprenticeship, in order to acquire the right to learn and practice a certain craft. Throughout their training apprentices were expected to make valuable gifts to the mentor as payment for knowledge gained. In exchange apprentices could eventually take over the positions of their mentor when the training was complete.⁵⁸

Among the Mandan and Hidatsa, the knowledge and skills to make sinew-backed sheep horn or elk antler bows were likely restricted and had to be acquired in a formal apprenticeship; the making of the simpler self bows, however, was not thus restricted. Several Mandan claimed that the right to make arrows was also restricted and was connected to the acquisition and possession of certain sacred bundles. Only the owners of these bundles and those who had purchased some of the rights and privileges that went with them were allowed to make arrows, so that only a few expert arrow makers among the Mandan supplied all other warriors with their products at a price. Supposedly, unauthorized persons were not even allowed to watch the arrow makers at work.⁵⁹

The Snow Owl bundle of the Mandan, for instance, indeed contained arrow making tools, such as a multi-purpose tool for straightening and grooving arrows, made from a bison rib. There were also wooden blocks with a half-round groove to hold a piece of leather with sand glued to one side, used to reduce the arrow shafts to their proper diameter (Aboriginal "sand paper"). The snow owl myth tells of the mythological character Black Wolf, who receives the arrow making tools as payment for services rendered to an arrow maker. With these the arrow maker taught him how to make arrows

⁵⁸ Gilman and Schneider, *The Way to Independence*, 116.

⁵⁹ Bowers, *Mandan Social and Ceremonial Organization*, 282-286.

and gave him the right to do it. Other special objects mentioned in this myth were an old bow with a string with many knots, a quiver full of holes and a lance.⁶⁰

The Eagle-Trapping, Big Bird and Woman-Above bundles also incorporated arrow making rights, all associated with birds of prey. The Big Bird bundle was associated with spiritual beings, referred to as “Thunderbirds.”⁶¹ The presence of arrow making tools and the association between arrow making and sacred bundles gives credibility to the idea that arrow making was restricted among the Mandan.

At least some Blackfoot groups may have exhibited similar patterns. The Blackfoot had an age-graded society system like the Mandan and Hidatsa and their spiritual activities centered around sacred bundles and the rights to specific knowledge that came with their purchase. According to the Peigan elder Jerry Potts, the Blackfoot had acquired many aspects of their spirituality from the Mandan and Hidatsa and each group had influenced the other.⁶² However, the Blackfoot Joe Little Chief recorded the following about the manufacture of bows and arrows and about learning to use them:

They [the Blackfoot boys] learn how to make bow and arrows there is a man that teaches the flint heads for the arrows how to make them when they know how to make them what kind of green sticks to use then they learn how to shoot with Bow and arrows they go with a man that teaches them how to shoot with the Bow and Arrows they then have to make the Bow and Arrows and keep them at their tepees and they can hunt.⁶³

Furthermore, Joe Little Chief related that his great grandfather’s name had been A-no-wa, “making arrows,” because he used to go through the camp of his band to tell the people to keep making arrows every day.⁶⁴ This implies that there were few if any restrictions on

⁶⁰ Ibid., 286, 294 - 295.

⁶¹ Ibid., 260, 283.

⁶² Jerry Potts, personal communication, Provincial Museum of Alberta, Edmonton, August 2002.

⁶³ Glenbow Archives, Joe Little Chief Fonds, M 4394, f. 5, “History of the Blackfeet,” 19A.

⁶⁴ Glenbow Archives, Joe Little Chief Fonds, M 4394, f. 2, “Late White Eagle (PE TA KE KIS KIS NA MA),” 3.

the manufacture of bows and arrows and that most Blackfoot men learned how to make their own archery gear when they were still boys. However, they were taught by specialists.

Similarly, Wolf Chief and other Mandan and Hidatsa working with Gilbert Wilson did not mention limitations in arrow making. Wolf Chief clearly indicated that although there were arrow making specialists among the Mandan and Hidatsa, no man was forbidden to make arrows. This contradiction may be resolved examining the age of Wilson's and Bower's Aboriginal co-workers. Bowers interviewed people on the Fort Berthold Reservation in North Dakota during the 1950s, several decades after Wilson did his work. These men and women belonged to the last generation who had spent their childhood in Like-A-Fishhook, the last pre-reservation village of the Mandan, Hidatsa and Arikara, which was given up soon after the establishment of the reservation and the enforcement of US land-allotment policies after 1887.

The devastating smallpox epidemic of 1837 forced the few survivors of the Mandan and Hidatsa to leave their separate villages and move into a single village in 1845. They also faced a steady stream of non-Aboriginal settlers into the area and attacks from the more numerous Dakota, Lakota, Assiniboine and Cheyenne who waged war on the sedentary and agricultural people of the Upper Missouri.

Many bundle-owners, spiritual leaders and crafts specialists died in the epidemics before they could pass on their knowledge to their designated successors. Thus much knowledge was lost and many traditions were not continued. During the time at Like-A-Fishhook, people from different Aboriginal groups had to organize and re-group into a single community and political entity. This was further complicated when the surviving

Arikara joined the village in 1862. The coexistence of three ethnic groups with mutually unintelligible languages, diverging religious concepts, and different political systems contributed to loosen old concepts and changed traditional views.

In the late 1880s the US government enforced the abandonment of Like-A-Fishhook and settled families on separate farm plots or homesteads, while the “surplus” land was opened to non-Aboriginal settlement. This dispersal of Aboriginal families aimed at the destruction of the traditional community and reduced the influence of the bundle-owners as spiritual leaders. The heavy-handed enforcement of assimilation policies eventually caused a backlash among the people of Fort Berthold who began a more or less covert re-orientation toward the remnants of their traditional culture. It was from this perspective that Bowers’ informants supplied their information. Many of their accounts pertained to the first three decades of the nineteenth century, the time before the final smallpox epidemics. Few of them had lived through those times, but passed on information obtained from their elders. Under the pressure of enforced assimilation and the loss of their traditional ways of life and their land, which was inundated under the waters of Lake Sakakawea and the Garrison Dam at the time Bowers made his interviews, Bower’s Aboriginal consultants probably romanticized and idealized the “golden age” of Mandan and Hidatsa culture from about 1800 to 1837.

In contrast, most of Gilbert Wilson’s consultants belonged to an older generation. Buffalo Bird Woman was born about 1839 and her brother Wolf Chief in 1849; and Black Chest, a Mandan, was approximately the same age as Wolf Chief. In their youth they had experienced the devastation, insecurity and instability during the aftermath of the smallpox epidemic of 1837 and the early years of Like-A-Fishhook. They all seem to

have been pragmatists with little need to idealize their culture and its past. In a sudden, cruel and inexplicable way the smallpox had transformed their world into a chaotic and dangerous place. In order to survive, it was of outmost importance to always be resourceful, alert and ready for defense against the Lakota and other Plains peoples.

This was one of the reasons for Mandan, Hidatsa and Arikara men to join U.S. military campaigns against the Lakota, Cheyenne and Arapaho in the 1860s and 1870s. At this time bows and arrows were still used in combat and for hunting while on campaign. Therefore military necessity would have caused the old restrictions on the manufacture of archery gear to become a liability. It is likely that at this time many warriors made their own arrows. A few select specialists may have maintained their activities, even though by then firearms had exceeded archery in importance as a combat weapon. Many of the bows and arrows manufactured by Mandan, Hidatsa and Arikara men, while still fully functional, may no longer have been of the same high quality, compared to the time before the epidemic of 1837.

Similar pattern variations have been reported from the Pawnee. According to the anthropologist Gene Weltfish, every Pawnee man made his own arrows, bow and bowstring, while among the more traditional Skidi-Pawnee there were only five specialists who made arrows for every man.⁶⁵ This they allegedly did free of charge to insure the availability of a high number of first-rate arrows, which was an important contribution to the defense of their village against the seemingly all-powerful Lakota. It

⁶⁵ Gene Weltfish. *The Lost Universe: Pawnee Life and Culture* (Lincoln: University of Nebraska Press, 1965), 389 - 392.

also contributed to success in bison hunting and thus to the livelihood and security of the arrow makers and their families.⁶⁶

The Omaha had specialists not only for making bows and arrows, but also for the manufacture of bowstrings.⁶⁷ Some specialists even focused only on certain steps of arrow manufacture, such as the cutting of grooves into arrow shafts. The Omaha had few if any restrictions on arrow making. Most men made their own arrows. But specialists provided a superior product that surpassed average workmanship. The Hidatsa Buffalo Bird Woman related: "I remember that there were two men in our village that were very expert in making sinew backed bows. A tanned buffalo skin was the price of one. Such bows were popular."⁶⁸

These examples suggest that while most Plains Indian archers had a fair knowledge and ability of bow and arrow manufacture, the making of horn and antler bows or very high-quality arrows was probably the realm of specialists. However, younger men who sought to establish their reputation as hunters, warriors and eventually war leaders had little time to spend learning the fine points of arrow making which could only be mastered after years of training. Therefore mostly older men devoted their time to the manufacture of arrows, because they were no longer very active as war leaders and hunters and had few military obligations left.

Aboriginal people's relationship to old age and to elders was ambiguous. On the one hand older members of society were respected as carriers of knowledge and tradition

⁶⁶ Ibid., 138, 139.

⁶⁷ William Vonderhey. *Secrets of the Omaha Bow* (Grantville, Pennsylvania: William Vonderhey, 1992), 55 - 63.

⁶⁸ Wilson, "Hidatsa-Mandan report, 1911," 97; this also attests to the high regard for women's work among the Hidatsa, because the hard and time-consuming work of tanning just one of these massive hides was considered equal in value to the laborious and equally time-consuming manufacture of a sinew-backed bow.

who were of crucial importance for the continuation of their people's culture. On the other hand, in times of famine, the elderly were the first to go hungry to save valuable food for the hunters and the women of child-bearing age. This was especially the case in mobile hunter/gather cultures. In the context of the extreme warrior ethos prevalent among most Plains Indian peoples throughout the nineteenth century, it was often considered more desirable for a man to die in battle at the height of his power, than to become old and feeble and thus a burden to his family.⁶⁹

Men who had acquired prestige and recognition in their warrior years may have considered the making of arrows a worthwhile pursuit for their old age. To Aboriginal people arrows were more than simply ammunition. A well made arrow could make the difference between a successful hunt and starvation, or between survival and death in battle. Such arrows were highly valued. Archers did not simply discard a lost arrow, but spent a lot of time searching for it so that they could place it safely back in its quiver.⁷⁰

Whoever has watched a well-made arrow fly and strike its target, will realize upon close inspection that such a projectile is a work of art. Among the Hidatsa, for instance, ten well-made matching arrows were worth as much as a horse.⁷¹ The Arapaho considered bows, arrows and quivers valuable wedding presents, often regarded even more highly than horses.⁷² Among the Cheyenne, connecting two families through marriage involved reciprocal gift giving. In order to represent the new connection between the families the groom would present his bride's younger brother with an

⁶⁹ Royal B. Hassrick. *The Sioux: Life and Customs of a Warrior Society* (Norman: University of Oklahoma Press, 1964), 47.

⁷⁰ Wilson, "Hidatsa-Mandan report, 1911," 104.

⁷¹ *Ibid.*, 21.

⁷² Loretta Fowler, *The Arapaho* (New York: Chelsea House Publ., 1989), 30.

archery set. In Cheyenne traditions, arrows often appeared as wedding gifts to young men from the bride's family.⁷³

Expert craftsmanship and their high price made arrows a symbol of prestige and high status.⁷⁴ Thus, a young warrior from a leading family, striving for success, might enhance his prestige by obtaining his arrows from a renowned craftsman, rather than making his own. Being chosen by one of the leading families to manufacture such an essential product as arrows enhanced the status of the arrow maker as well. Such contract work could therefore lead to a reciprocal gain in prestige for the customer and the craftsman.

A man who had lost the ability to hunt big game or to lead war parties, either through old age or injury, could still substantially contribute to his family's and his band's sustenance, defence or even wealth by making arrows. Bowers, for instance, mentioned two Mandan men who had lost the use of their legs through injury. These men became expert arrow makers and sustained their families solely through the sale of their products.

Ownership marks on arrows

Many arrows on the Plains were painted with one or more colours at the rear, underneath the fletching. Among most Plains peoples each archer had his own way of painting his arrows, and these marks clearly indicated to whom an arrow belonged. After a hunt the marks helped determine which hunter had killed which animal. If an animal

⁷³ Grinnell, *The Cheyenne Indians*, vol. I, 138,142, 178.

⁷⁴ *Ibid.*, vol. I, 178.

was hit by several arrows belonging to different hunters, the ownership marks showed whose arrow had delivered the killing wound.⁷⁵

Because practically every able Plains Indian male was an archer who owned at least one quiver full of arrows, Plains encampments or villages all had a multitude of arrows. However, their specialized construction characteristics meant that arrows were not necessarily interchangeable. Most archers could not easily use someone else's arrows. Therefore clear individual ownership markings helped prevent arrows from getting mixed up.

An archery set in the Manitoba Museum has different markings for different types of arrows. The markings were all done in the same colour-sequences, indicating the same owner, but big game or combat arrows were marked in a pattern different from that applied to small game arrows or bird blunts. This made it easy for the archer to recognize each kind of arrow quickly by glancing into the opening of his quiver, without having to pull out the entire arrow and examine the arrowhead to determine its function.⁷⁶

Most men were probably familiar with the arrow markings of every archer in their community. Some may even have recognized the markings of relatives and friends in other bands and villages. In the same way warriors were probably able to recognize the arrow markings of individual enemies they had fought and whose arrows they had seen up close.

⁷⁵ Hassrick, *The Sioux*, 198; Weltfish, *The Lost Universe*, 137, 138. According to Gene Weltfish, however, among the Skidi Pawnee such marks did not indicate the owner of an arrow, but its maker. Therefore they may have been similar to modern brand names or product logos.

⁷⁶ Manitoba Museum, H 4.0 – 541 A, wide and thick self bow of birch with burnt and incised designs on back, 139 cm long, H 4.0 – 541 B-J. The bow and the arrows came to the museum from Jack Watt of Winnipeg. According to Jennifer Brown there were Watt brothers from Orkney in the HBC service in the late nineteenth century.

Taking into account the highly individualistic nature of Plains Indian warfare, at least during the mid and late nineteenth century, this helps to explain another Plains Indian custom, often considered a senseless act of wanton brutality and extreme violence by non-Aboriginal people. The Cree/Piegan elder Saukamappee related to David Thompson in 1787 that to the Cree, Assiniboine and Piegan-Blackfoot it was important for spiritual reasons to clearly determine which warrior had killed which enemy. Since bullets did not have ownership marks, this became difficult when his people first used firearms in battle.⁷⁷ The slayer of an enemy killed by an arrow, on the other hand, could be identified by the ownership marks on the arrow. In this regard Peter Fidler, then in charge of the HBC post of Brandon House, wrote in September 1817:

A few Crees went in search of the Indian lately missing. They found him shot thro the Body. two arrows sticking in the same part and scalped – but no otherwise mutilated – and all his clothes left on him, but his arms & ammunition missing _ They found 4 balls on the Ground near where he lay & some powder spilt, & they imagine he took this in his last attempt to defend himself.⁷⁸

Apparently the missing Aboriginal man had been shot with a firearm and with two arrows. Similar events occurred on the Great Plains of the US during the Indian Wars where US soldiers were found with several arrows in their bodies.⁷⁹ The Crow Two Leggings mentioned the same practice among his people. Each member of Two Leggings' war party shot an arrow into the body of a Piegan warrior after Two Leggings had killed this opponent in single combat.⁸⁰ To Plains Indian warriors shooting arrows

⁷⁷ Warkentin, Glover, *David Thompson's Narrative*, 237.

⁷⁸ HBCA B.22/a/20, Brandon House – Post Journal, 1817-1818, Journal at Brandon House 1817.18 with some account of the Transactions at Fort Douglas &c &c &c &c by Peter Fidler, 1817, Sept 21st, 1817, F16d.

⁷⁹ Wilbur Sturtevant Nye. *Plains Indian Raiders* (Norman: University of Oklahoma Press, 1968), 258, 259.

⁸⁰ Nabokov, *Two Leggings*, 35, 36.

into the body of an enemy who had already been killed was not an act of random violence. Their individual arrow markings were likely known even to their enemies, and by shooting an arrow into the body they left their personal signature to claim responsibility and to issue a personal challenge to the kinsmen of the slain person. Photographs from the late 1860s of U.S. soldiers killed by Plains Indians show bodies full of arrows, most of them shot into the bodies after death.⁸¹ This shows that the custom prevailed into the late nineteenth century, long after repeating firearms had entered the arsenal of the Plains Indians.

Among the Comanche, arrows that had already taken a human life were not to be used again.⁸² Wolf Chief related that Hidatsa warriors did not pick up spent enemy arrows during a battle because they believed that someone who would do so was likely to be hit by an enemy arrow as well.⁸³

Writers have often made claims about the possibility of determining the ethnic origin of an arrow on the basis of certain construction details, such as the shape of the nock or the fletching. There are numerous movie scenes where trappers, scouts, soldiers or settlers pull enemy arrows from log cabins, covered wagons, or the dead bodies of their comrades and after a cursory examination pronounce the ethnic affiliation of the archer who sent the missile, such as "Comanche," "Cheyenne," or "Apache."

⁸¹ Nye, *Plains Indian Raiders*, 258, 259.

⁸² Ernest Wallace and E. Adamson Hoebel. *The Comanches: Lords of the South Plains* (Norman: University of Oklahoma Press, 1976), 101; Wallace and Hoebel quoted Herman Lehmann, a German settler who had lived among Comanche and Apache people during the late nineteenth century when he was a boy. Herman Lehmann. *Nine Years Among the Indians* (1870 – 1879). Austin, Texas: Van Boeckmann-Jones Co., 1927), 46.

⁸³ Wilson, "Hidatsa-Mandan report, 1911," 49.

Publications on Aboriginal archery also often link certain shapes of arrow nocks with specific ethnic groups.⁸⁴ It is possible that specific nock shapes were used among specific groups, but that does not mean that each only used one type. The manufacture of arrows is a highly individual pursuit and it is possible that each arrow maker used his favourite nock shape as a kind of trade mark. His acquaintances were thus able to identify his product and also his identity. However, not all Siksika arrow makers, for instance, used the same shape for their arrow nocks.

There is little evidence for any “tribal” markings. When traveling across the plains of southern Saskatchewan and Alberta, Anthony Henday’s Cree guides were apparently to some extent able to identify arrows from other Aboriginal groups: “Found a dead Buffalo; it had been wounded by the Archithinue Indians; several of their arrows were sticking in it.”⁸⁵ However, “Archithinue” is a derivative of a Cree word that meant simply “stranger” or “enemy” and could have been applied to a number of Aboriginal groups other than Cree.⁸⁶ Joe Little Chief recorded a Blackfoot story about confrontations with Crow people. In this story manufacturing characteristics that differentiated Crow from Blackfoot arrows were important, but markings also pointed to the owner of a certain set of Blackfoot arrows.⁸⁷

By examining the ownership marks of an arrow, someone who knew most archers in a region could have been able to identify the owner, and therefore also that person’s ethnic affiliation. Arrows with unfamiliar markings therefore likely belonged to outsiders.

⁸⁴ Laubin, *American Indian Archery*, 123.

⁸⁵ Lawrence J. Burpee, ed., *The Journal of Anthony Hendry, 1754-55, York Factory to the Blackfoot Country* (Toronto: Canadiana House, 1973), 26, September 7, 1754; this may have been only a matter of differentiating between the long Subarctic arrows used by the Swampy Cree and short Plains arrows used by the Blackfoot and their allies.

⁸⁶ David Smyth, “Missed Opportunity: John Milloy’s *The Plains Cree*,” *Prairie Forum*, Fall 1992, no. 2, 341.

⁸⁷ Glenbow Archives, Joe Little Chief Fonds, M 4394, f. 8, 1-6.

The Crow woman Pretty Shield related that after a bison hunt some Crow hunters found an unfamiliar arrow in the body of one of the animals they had killed. Some thought that it might have been from the Cheyenne, but Pretty Shield did not say how they arrived at this conclusion.⁸⁸

To Aboriginal people who were familiar with their hunting territory and its adjacent regions, the materials used in an arrow could reveal something about the area of its origin and thus possibly about the identity of its owner. For instance certain wood species for arrow shafts were peculiar to specific areas. The material used to make a stone arrowhead also might reveal something about the origin of the arrow's owner, but then again, obsidian and Knife River flint were traded to places far away from their sources. Therefore not every arrow tipped with Knife River flint was necessarily Mandan, Hidatsa or Arikara.

This makes it especially difficult to identify arrows in museum collections. It is possible to determine the broad region an arrow came from, such as "Northern Plains," or "West Coast," based on construction materials and on the construction characteristics, such as the type of fletching or the shape and length of the shaft. However, "tribal" labels should not be applied on such a basis alone.

Arrows and arrow making held great importance among Aboriginal people. Being more than simply ammunition, well-made arrows were objects of prestige and affected the status of their makers and their owners. Through their ownership marks they also served as a means of personal identification in hunting and in war. Aboriginal peoples in

⁸⁸ Frank Bird Linderman. *Pretty Shield, Medicine Woman of the Crows* (Lincoln: University of Nebraska Press, 1972 [1932]), 121; Clark. *The Indian Sign Language*, 98. In the Plains Indian sign language the Cheyenne were referred to by a gesture that indicated either the slashing of wrist and arm, or the "striping of arrows," possibly a reference to their use of wild turkey wing feathers with their alternating light and dark stripes for arrow fletchings.

the Central Subarctic and on the Great Plains had spent generations in developing and perfecting their archery equipment. At the time of contact, their traditional weapons systems were well adapted to their specific needs and environment.

When firearms arrived, Aboriginal people adapted them as well to their specific needs and purposes. The major types of firearms that Aboriginal people acquired through the fur trade will be examined in the following chapter, which will also highlight some Aboriginal adaptations of firearms and their use.

Chapter V

Firearms

Aboriginal peoples and firearms

The introduction of firearms by Europeans to Aboriginal people has often been considered as a major cause of momentous changes in political, economic and military relations between different Aboriginal groups and also between Aboriginal people and Europeans. Scholars have also often explained European ascendancy over Indigenous peoples in the Americas largely in terms of technology. For example, Jared Diamond stated about the Spanish conquest of the Inca empire:

Pizarro's military advantages lay in the Spaniards' steel swords and other weapons, steel armor, guns, and horses. To those weapons, Atahualpa's troops, without animals on which to ride into battle, could oppose only stone, bronze or wooden clubs, maces and hand axes, plus slingshots and quilted armour. Such imbalances of equipment were decisive in innumerable other confrontations of Europeans with Native Americans and other peoples.¹

Critics of such views, however, have pointed out the many disadvantages of early firearms when compared to indigenous North American weapons systems, such as the bow and arrow.² These controversies have revolved around the question whether differences in technology alone are sufficient to account for unequal socio-political relations between indigenous peoples and European newcomers.

¹ Jared Diamond. *Guns, Germs and Steel: The Fates of Human Societies* (New York: W. W. Norton & Company, 1997), 74.

² Arthur Ray. *Indians in the Fur Trade: Their Role as Hunters, Trappers, and Middlemen in the Lands Southwest of Hudson Bay, 1660-1870* (Toronto: University of Toronto Press, 1974), 146, 147; Joan B. Townsend, "Firearms Against Native Arms: A Study in Comparative Efficiencies with an Alaskan Example," *Arctic Anthropology*, vol. 20 (2), 1-32.

Many European and Aboriginal observers during the late eighteenth and early nineteenth centuries considered firearms to have had a major impact on Aboriginal inter-tribal military relations. On the other hand, many writers have indicated the technical flaws and logistical problems connected to muzzle loading, single shot firearms. These apparently contradictory assessments seem especially stark for the Northern Great Plains, where the introduction of firearms has been connected to momentous changes in the military relations among different indigenous groups³, but where bows and arrows remained in use as combat and hunting weapons until the destruction of the bison herds in the late nineteenth century.

To shed more light on these questions it is necessary to closely examine the major types of firearms available to Aboriginal people through the fur trade and to describe the manner of their use. It is beyond the scope of this study to cover every type of firearm available to Aboriginal people from 1670 to 1870. Rather, muzzle-loading, smooth-bore firearms will be emphasized, because these were the first guns introduced to Aboriginal peoples of the Plains and Subarctic and they comprised the majority of firearms available to them until the mid to late nineteenth century. It is the introduction of these guns that is generally credited with having altered Aboriginal culture, hunting methods and military relations. By the time breech loading or repeating firearms became available, specific patterns of firearms use had already developed on the Plains and in the Subarctic, based on Aboriginal experience with smoothbore, muzzle-loading firearms.

³ Frank Raymond Secoy. *Changing Military Patterns on the Great Plains (17th Century through Early 19th Century)* (Seattle: University of Washington Press, 1953).

Types of firearms sold in the fur trade

English gun making was not very well developed in the seventeenth century and many guns sold by English companies were of Dutch or German manufacture. However, by the late seventeenth century English gun making had improved and expanded.⁴

From approximately 1650, muzzle-loading smoothbore firearms were the standard weapon in Europe and among Europeans in North America. Muzzle-loading rifles, guns with spiral grooves (rifling) inside the barrel to increase range and accuracy by increasing the spin of the bullet, were primarily used by sportsmen and hunters, while smoothbore guns remained the main weapon for military purposes until the 1850s when ammunition in metal cartridges and breech-loading guns gained prominence.

These firearms differed mostly in their lock types. Most muzzle-loading weapons needed two kinds of powder. They had to be loaded with coarse powder for the main charge, often followed by a patch or wad and a lead ball or shot. The main charge was then ignited by fine priming powder in the pan. The pan was connected to the inner end of the barrel by a small bore, so the flame from the priming powder could reach the main charge. Major improvements in muzzle-loading firearms consisted mainly of different ways to ignite the priming powder.⁵

Throughout the seventeenth century muzzle-loading matchlock weapons were common. With these weapons a burning match cord was pressed into the pan to ignite the priming powder. Matchlocks had several disadvantages and Swampy Cree traditions tell of frequent accidents with them.⁶ Because these weapons required a constantly burning match when in use, accidents with unintentionally ignited powder were common. The

⁴ Charles E. Hanson. *The Northwest Gun* (Lincoln: Nebraska State Historical Society, 1955), 6.

⁵ Townsend, "Firearms Against Native Arms," 3.

⁶ Louis Bird, 0014 – *Our Voices*, "Guns and Bows," rec. April 2001, 5, 6.

smoke from the burning match made concealment of the user difficult and the smell may also have alerted animals to the hunter's presence. Furthermore, they were very heavy and had to be supported on a forked rest when firing. This made it very awkward to fire the weapon from a crouching position, as was commonly necessary when hunting.

By the early eighteenth century the more reliable and less complicated flintlock finally superseded the matchlock. Its main advantage was that the constantly burning match was now replaced by a piece of flint, held in the hammer of the flintlock. When the trigger was pulled, a spring pushed the hammer down. This made the flint strike the frizzen and cause a spark. The spark then fell into the pan and ignited the priming powder, which ignited the main charge.⁷

Although the flintlock was much safer and more convenient than the matchlock, it still had several disadvantages. The powder in the pan caused a highly visible flash and created much smoke. The flashes of pan and muzzle and the cloud of smoke hanging in the air after the shot revealed the gun's position. Keeping the powder dry was another major problem. Furthermore, reloading the weapon in the regular manner was slow. This factor has often been pointed out as the major disadvantage of flintlock firearms in comparison to bows and arrows.

⁷ Townsend, "Firearms Against Native Arms," 3.

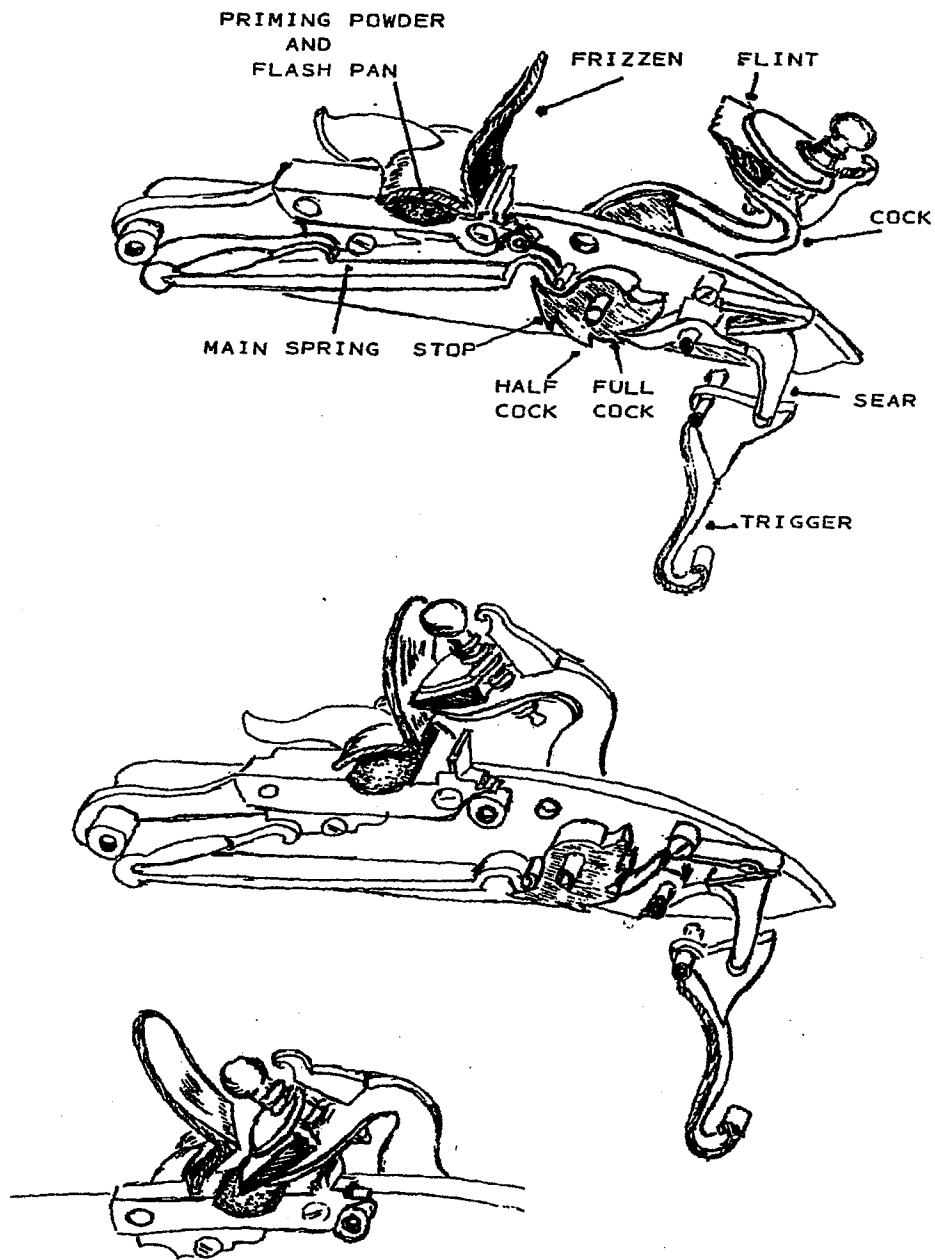


Fig. 18. Flintlock mechanism. Adapted from Joan B. Townsend, "Firearms Against Native Arms: A Study in Comparative Efficiencies with an Alaskan Example," *Arctic Anthropology*, vol. 20 (2), 4.

Rate of fire of firearms and bows

Loading and firing a muzzle-loading flintlock gun in the regular manner involved several steps and considerable effort. The hammer had to be placed at the "half cock" position and a priming powder charge had to be poured into the open pan, which was then

closed by pulling back the steel (frizzen). Then the butt of the gun was placed on the ground, powder was poured down the muzzle and the ball and wadding were inserted. The ramrod was drawn from its position underneath the barrel, turned and inserted into the muzzle to push wadding and ball down the muzzle and firmly seat them against the powder charge. This step was important, since a gap between the powder charge and the ball could result in the breech of the gun exploding into the user's face and hands. Next the ramrod was withdrawn from the muzzle and placed back into its fittings underneath the barrel. Then the piece could be cocked and fired.⁸

The loading speed further depended on whether the weapon was a smooth bore, or had a rifled barrel. With smooth bores, balls of a considerably smaller diameter than the inner diameter of the barrel could be used, which made them glide down the barrel much more easily, thus reducing loading time at the expense of accuracy and range. With a rifled barrel the ball had to fit tightly for the rifling to impose a spin on the bullet in order to increase accuracy, but forcing it down the barrel took more time than inserting a loose fitting one.⁹ There are several estimates of the rate of fire that could be achieved with smooth bore military firearms of the late eighteenth century, such as the British "Brown Bess," which was the standard military weapon of British troops during the late eighteenth and early nineteenth centuries. The average estimate was that a well trained soldier could fire three shots per minute, if no careful aiming was required.¹⁰

While ethnographers and anthropologists recorded several accounts about the training of Aboriginal boys in archery by older relatives or tutors, there is little

⁸ Ibid., 5, 6.

⁹ Ibid., 6.

¹⁰ Ibid., 6; Marcus Junkelmann. *Die Reiter Roms, Teil III: Zubehör, Reitweise, Bewaffnung* (Mainz: Philipp von Zabern, 1992), 172.

information on how and from whom Aboriginal people acquired knowledge in the use and maintenance of firearms.¹¹ HBC officer Andrew Graham recorded: "When I commanded Churchill Factory Anno Domini 1773, 4 and 5 I trained up four young Esquimaux to use fire-arms, and left them fully a match for our best Indians, either at an object sitting or on the wing."¹²

The Blood Indian Three Bears related a story detailing how the Blood received their first firearms as gifts of peace from the Cree in exchange for horses. The Cree were said to have set up targets and taught the Blood leaders how to use these weapons.¹³

Another account recorded in the 1950s by Joe Little Chief, a Blackfoot from Cluny, Alberta, described how European traders came to the Blackfoot country by boat, sold the first firearms to the people and taught them how to load and fire these weapons.¹⁴

However, it is likely that for the most part, after some initial instruction by the fur traders or Aboriginal middlemen who sold the weapons, or by some more experienced fellow tribesmen, Aboriginal people gained their mastery of firearms largely by trial and error.¹⁵

¹¹ Hassrick. *The Sioux*, 306.

¹² Andrew Graham. *Andrew Graham's Observations on Hudson Bay, 1767-1791*, ed. Glyndwyr Williams (London: Hudson's Bay Record Society, 1969), 236.

¹³ Glenbow Archives, M4376, David C. Duval Papers, 1904 – 1911, vol. III, 621-626, "How Bloods first got guns," March 3, 1911.

¹⁴ Glenbow Archives, Joe Little Chief Fonds, M 4394, f. 14, "The Late Crooked Back Bone (O MO K KE KE NE)," 1, 2; Joe Little Chief stated that Crooked Back Bone, a Blackfoot war leader, was born in 1832. When he was thirteen years old, European traders were said to have arrived by boat among the Blackfoot for the first time. They were said to have sold four rifles to the Blackfoot. These were likely muzzle loaders and were said to have been the first firearms the Blackfoot encountered. However, the perception that Blackfoot people were introduced to firearms only in 1845 does not correspond to fur trade records which indicate that they had used such weapons at least since the mid-eighteenth century. For another account of this encounter, see: Glenbow Archives, Joe Little Chief Fonds, M 4394, f. 22, "From 1830 to the Year Crow Foot was born," 3.

¹⁵ According to a passage from the York Factory post journal by James Knight at least some HBC employees were trained in marksmanship at their posts: "I gave to Men some Powder & Ball, etc. to practise shotts at a mark to make them perfect to bring themselves fitt for hunting." York Factory Post Journal by James Knight, Oct. 14, 1717: HBCA, 1M 154, B. 239/a/1, fo. 22.

While this manner of learning could be dangerous and accident-prone, it left the learners free to take an approach to handling firearms different from European military regulations. Aboriginal people had no military practice manuals or drill sergeants to worry about, yet they were very keen to achieve the results they wanted with the equipment available to them. Free of military drill and regulations, an experienced user could overcome the slow loading speed by using several risky shortcuts in loading and priming a muzzle-loading weapon, especially if it was a flintlock. Keeping a powder charge in the gun long before the shot, and then only adding the bullet when needed, was one way to cut back loading time. Aboriginal people often kept a second powder charge ready in one hand and several musket balls in their mouths, ready to spit them into the muzzle in order to save time when reloading.¹⁶ This was especially important when using a muzzle-loading gun on horseback at high speeds. However, while it was possible for experts to re-load their muzzle-loading firearms on horseback at a gallop, most gun users had to dismount to reload their weapons.¹⁷

As Maurice Doll demonstrated, for smooth-bore weapons the use of a ramrod and wadding could be avoided by simply banging the gunstock on the ground sharply, to make a more loosely fitting bullet slide down the barrel and to make it rest directly against the previously inserted powder charge. Instead of using fine powder from a special dispenser for priming the pan, the weapon could be tilted on its side, so that the canal between priming pan and main chamber pointed slightly downwards. A sharp rap against the side of the breech would then cause some powder from the main chamber to spill onto the pan.

¹⁶ Richard Glover, ed. *David Thompson's Narrative*, 242.

¹⁷ Frank Bird Linderman, *Plenty Coups, Chief of the Crows* (Lincoln: University of Nebraska Press, 1962 [1930]), 17, 18.

Thus, the weapon could be primed in an instant. Using such quick but risky loading methods, users could fire a flint lock smooth-bore musket up to six times a minute.¹⁸

Some Blackfoot stories dealing with supposedly magical ways to fire guns without powder and lead, but with deadly effect nonetheless, may also point to such quick-loading methods. The Piegan elder White Calf told linguist Richard Lancaster in the late 1950s that certain men among the late nineteenth century Piegan had obtained magical control over firearms in dreams or visions. However, Lancaster believed that what White Calf described was actually a quick reloading and shooting method for muzzle-loading guns used by frontiersmen and Aboriginal people alike. This method was similar to that demonstrated by Maurice Doll and made it appear as if there were no powder and bullets involved in the process, because the time consuming steps of using priming powder and a ramrod to push the ball down the barrel were omitted.¹⁹

But even if such shortcuts were used, archers could still far surpass users of muzzle-loading single-shot weapons in their shooting speed. In the time it took to even quick-load a muzzle loader, a well practised archer could shoot three arrows or more. Archery games and contests were very popular on the Great Plains. One of these involved an impressive rapid shooting technique, since the objective of the game was to keep as many arrows in the air, before the first arrow that was launched as high as possible, returned to the ground. According to the American artist and ethnographer George Catlin, who observed this game

¹⁸ Maurice Doll, curator of firearms at the Provincial Museum of Alberta in Edmonton, personal communication and demonstration, August 2002; The Blackfoot elder James White Calf described a very similar loading method. Richard Lancaster. *Piegan: A Look from Within at the Life, Times and Legacy of an American Indian Tribe* (Garden City, NY: Doubleday, 1966), 201, 207-210.

¹⁹ *Ibid.*, 201, 207-10; Robert Brightman recorded a story from the Rock Cree of northern Manitoba about magical ways to operate firearms. Johnny Bighetty's grandfather Okimaw Acahpy was said to have killed a caribou by loading his muzzle-loader with snow during a harsh winter when bullets and powder were hard to come by. Robert Brightman. *Acaohkiwina and Acimowina: Traditional Narratives of the Rock Cree Indians* (Hull, Quebec: Canadian Museum of Civilization, 1989), "Okimaw Acahpy kills a caribou with snow," 150.

being played at a Mandan village in present-day central North Dakota in 1832, experts could shoot eight arrows, before their first one hit the ground.²⁰ Some contemporaries considered Plains Indian archery at least as effective as early revolvers:

At the most effective range - say from forty to seventy yards - an Indian could handle a bow and arrows more rapidly and more effectively than the average man could use a revolving pistol of that time. ... Stories are told of an occasion when the Cheyennes armed with [sinew-backed] bows kept off an attacking party of Crows who had some guns.²¹

Because of this high shooting speed and because of the often very short distances of combat, the victims of Aboriginal archery often received multiple arrow wounds, possibly resulting in a higher number of serious injuries, which could disable an opponent more quickly.²² Thus, under equal conditions, an experienced archer could exceed the shooting speed of even an experienced firearm user of a single shot muzzle-loading weapon. This superiority of bows and arrows began to fade only with the advent of revolvers in the late 1830s and the introduction of breech-loading and repeating firearms using cartridge ammunition in the 1860s.

Emergence of the “Northwest Gun”

When the “Brown Bess” was adopted as the standard English military firearm in 1705, it probably freed large numbers of older and lighter English military guns for sale.²³ At this time the common English light sporting or general purpose musket was referred to

²⁰ George Catlin. *Die Indianer Nordamerikas* (Wels, Austria: Verlag Lothar Borowsky), 130-31; Being an archer with no special expertise in rapid shooting, I am able to shoot three arrows in this type of game. When shooting at targets at chest-height, I am able to shoot about a dozen arrows per minute at short range.

²¹ George Bird Grinnell. *The Cheyenne Indians: Their History and Ways of Life*, vol. I (Lincoln: University of Nebraska Press, 1972 [1923]), 177.

²² Thomas Wilson, “Arrow Wounds,” *American Anthropologist*, vol. 3 (1901), 523.

²³ Charles E. Hanson. *The Northwest Gun* (Lincoln: Nebraska State Historical Society, 1955), 12.

as a “fusil.” These weapons were similar to a military musket, but of a lighter caliber. They comprised the majority of firearms traded to Aboriginal people at the time.²⁴

A list of standard HBC trade goods from 1748 includes: “Guns, 4 foot... 3 ½ foot... 3 foot...”²⁵ This probably refers to guns of barrel lengths of 48 inches (4 feet), 42 inches (3.5 feet) and 36 inches (3 feet), implying a certain degree of standardization in firearms manufacture. These weapons were the precursors of a smooth-bore flintlock weapon that became most popular among Aboriginal peoples in North America after the fall of New France in 1760. It was known as the “Northwest Gun.” This term referred to the area where these weapons were to be sold and not to the North West Company of Montreal, which was founded later. Another name for this firearm was “London fusil,” because most of them were manufactured there.²⁶

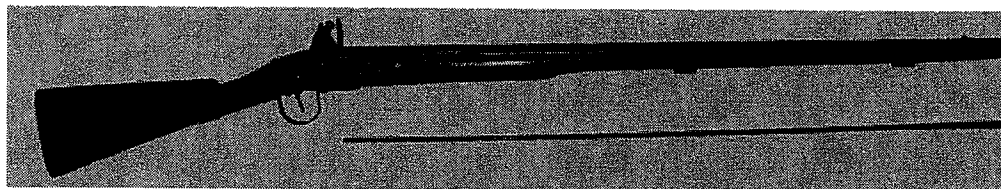


Fig. 19. A “Northwest” trade gun manufactured by Barnett in England, in the mid- to late nineteenth century. The Hudson’s Bay Company, the North West Company, the American Fur Company, the Mackinaw Company and the US Indian Trade Office all sold or distributed Barnett Guns to Aboriginal people during the nineteenth century. Adapted from O. N. Eddins, “The Northwest Smoothbore Indian Trade Gun,” http://www.thefurtrapper.com/trade_guns.htm, May, 2004, p. 3.

²⁴ Ibid., 6-7.

²⁵ Arthur Woodward, “Trade Goods of 1748,” *The Beaver Magazine*, Outfit 279, December 1948, 5; Hanson, *The Northwest Gun*, 12-13.

²⁶ The term “Northwest Gun” referred to the northwest of North America as the region where the weapons were mainly to be sold and antedates the founding of the North West Company of Montreal. The first known reference to Northwest guns appears in the journal of John Long, who traded for an independent Montreal merchant north of Lake Superior from 1777 to 1780. (Reuben Gold Thwaites, ed., “John Long’s Journal,” *Early Western Travels*. Cleveland: Arthur H. Clark Company, 1904, II, 93) The Montana Blackfeet referred to these weapons as “North Guns,” because they were mostly traded from posts north of the border between Canada and the US. Hanson. *The Northwest Gun*, 2, 15.

Montreal merchants recognized the demand for more reasonably priced firearms among the Aboriginal people of the Great Lakes region. They requested English gunsmiths to manufacture a light and cheap, but serviceable firearm that could be used with ball and shot. The resulting product incorporated as many manufacturing short-cuts as possible. The curved butt plate was replaced by a straight one, made of sheet brass, and the ornamental trigger guards were replaced by plain ones of iron, but were made wider to allow the use of mittens and gloves when firing the weapon. Decoration was reduced to a side-plate in the shape of a sea-serpent or dragon, which could be cheaply cast in an iron mold.²⁷

However, trade guns were still not cheap. At York Fort in 1689/90 a “short” gun cost ten marten pelts and a “long” gun twelve, while four marten pelts corresponded to one beaver pelt in value.²⁸

John Oldmixon recorded in 1708:

“The S T A N D A R D how the *Company’s* Goods must be barter’d in the *Southern* Part of the *Bay*.

Guns.	<i>One with the other 10 good Skins; that is, Winter Beaver; 12 skins for the biggest sort, 10 for the mean, and 8 for the smallest.</i>
Powder.	<i>A Beaver for half a Pound.</i>
Shot.	<i>A Beaver for four Pounds.</i>
Powder-Horns.	<i>A Beaver for a large Powder-Horn and two small ones.</i> ²⁹

In 1715 the HBC paid 20 shillings per gun, while the British Board of Ordnance paid 22 shillings for each Brown Bess musket.³⁰ However, these prices fluctuated

²⁷ Ibid., 15.

²⁸ Elizabeth Mancke. *A Company of Businessmen. The Hudson’s Bay Company and Long Distance Trade, 1670–1730* (Winnipeg: Rupert’s Land Research Centre, University of Winnipeg, 1988), 77, 78. Mancke cited the following HBC documents: HBCA, B.239/d/1, fos. 53-53d, York Fort Account Book, July 1689-July 1690.

²⁹ John Oldmixon. “The History of Hudson’s-Bay” (1708), ed. J. B. Tyrrell. *Documents Relating to the Early History of Hudson Bay* (Toronto: Champlain Society 1968 [1931]), 380, 381.

depending on how much the HBC was willing to pay its gunsmiths. For example, in 1713 and 1714 the company paid 21 shillings, in 1715 and 1716 20, and in 1717 23 shillings, resulting probably from varying quality and price agreements with the gunsmiths. In 1716 James Knight complained that the guns he had to sell did not meet the quality of those he had sold in 1714. In this instance poor quality may reflect an attempt of the HBC to reduce costs.³¹ Overall, from 1680 to 1728 the price the HBC paid for guns remained fairly stable around 22 shillings, with a price increase up to 26 shillings in 1698, while 24 shillings were common in the first decade of the eighteenth century.³²

In France each trade gun cost 10 francs and ten sols in 1701. In North America the French Canada Company sold a pound of shot or three gun flints for one beaver skin in 1742. A pound of powder cost four skins, a pistol cost ten, and a gun 20 skins.³³ The HBC also charged 20 beaver skins for a trade gun at that time and still maintained this price a century later.³⁴ During the late eighteenth and early nineteenth century the North West Company and American fur trade firms also sold trade guns of the Northwest type in great quantities. In 1833 Prince Maximilian observed that most of the Assiniboine people who visited Fort Union on the Upper Missouri in Western North Dakota had guns, i. e. "the common Mackinaw guns, which the Fur Company obtain from England at the rate of eight dollars a-piece, and which are sold to the Indians for the value of thirty

³⁰ T. M. Hamilton. *Colonial Frontier Guns* (Chadron, Nebraska: The Fur Press, 1980), 20.

³¹ Mancke. *A Company of Businessmen*, 52; Mancke cited HBCA, A. 6/4, fo. 11d, London Office to James Knight, 31 May 1717; HBCA, A.24/2, fos. 32d-33, 37d-38, 60-60d, 67-67d, 81, Invoice Book.

³² Mancke. *A Company of Businessmen*, 56, 57.

³³ Hanson, *Northwest Gun*, 7, 20, 21; citing Fred W. Lucas. *Appendiculae Historicae* (London: Henry Stevens & Son, 1891), 37.

³⁴ Sir Charles Piers, BT., "Firearms of the Hudson's Bay Company," *The Beaver Magazine*, Outfit 264, No. 4, 62; Hanson, *Northwest Gun*, 7.

dollars.”³⁵ In the United States these weapons were not only sold by fur traders, but after American independence in 1783, distributed by the US government as part of treaty payments. The Northwest gun eventually became the principal firearm, not only for Aboriginal people, but also for trappers and Metis.³⁶

Northwest guns used the lightest ball that could still be effective on big game. At the same time the bore was large enough to use the weapon as a shotgun. Because it was a smoothbore, even makeshift projectiles could be used when regular ammunition was lacking. Northwest guns were mostly 24 gauge (about .58 caliber) and were bored for using a 30 gauge ball. When double-charged, the smooth-bore barrel gave high initial velocities.³⁷

Trading companies generally stocked guns with barrel lengths from 30 to 48 inches. These barrel lengths were the same as those of other muzzle-loaders used by non-Aboriginal people on the frontier at that time.³⁸

According to Arthur J. Ray, shorter guns about three feet long became popular with the parklands and plains peoples, while Aboriginal people living in the Northern forest seem to have preferred the longer four-foot models. Ray stated that Natives in boreal forest regions often hunted individual animals such as moose at greater distances. This required making an accurate shot at medium to long range, which was facilitated by a longer gun barrel. In dense underbrush, bullets were not deflected by branches as arrows might be, which was an important consideration when shooting at a distance of 20 meters or more in dense bush. Furthermore a bullet could kill an animal instantly, while

³⁵ Reuben Gold Thwaites, ed. *Early Western Travels, 1748-1846. Vol. XXII, Part I of Maximilian, Prince of Wied's, Travels in the Interior of North America, 1832-1834* (New York: AMS Press, Inc., 1966), 389.

³⁶ Hanson. *The Northwest Gun*, 2, 3.

³⁷ *Ibid.*, 2, 3.

³⁸ *Ibid.*, 1.

an arrow wound might not cause instant death, obliging the hunter to track it for some distance. In the parklands and on the Plains, however, long distance shots were not of such crucial importance. Ease of handling of a gun on horseback was a more important consideration on the Plains and may explain the plains peoples' preference for shorter guns.³⁹

Most Aboriginal people preferred a firearm that was powerful enough to kill big game at close range, but light enough to carry it all day with comfort. Judging by recovered weapons fragments from archaeological excavations at Iroquois village sites in upstate New York, dating from the mid-seventeenth to the mid-eighteenth century, Iroquois people used light but sturdy weapons, adequate for hunting and close-range combat.⁴⁰ In 1808 a party of Kainai (Blood) and Gros Ventre (Gros Ventre) attacked American trappers on the Missouri working for Manual Lisa. Subsequently they brought some of the items taken from the Americans to Edmonton House where the post journalist recorded: "Amongst other plunder, they have brought us a rifle Gun which, on account of its weight, they consider as of little Value."⁴¹

By the middle of the eighteenth century double barreled shotguns, at first with flintlocks, became popular among those Aboriginal groups with regular access to trading posts.⁴² The Swampy Cree considered these weapons a great improvement from the earlier single-shot weapons. As Louis Bird related,

One other thing about the gun is that the first one only shot once and then they improved and a new design was a double barrel and that's improved more. And improved

³⁹ Ray. *Indians in the Fur Trade*, 73.

⁴⁰ Hanson. *Northwest Gun*, 1, 6.

⁴¹ HBCA, Edmonton House post journal, B.60/a/8, reel 1M49, 12 and 31 October 1808.

⁴² Hanson. *Northwest Gun*, 54.

their hunting technique and also improved their lifestyle; after that it was the repeating rifle that was very good for the big game animals.⁴³

In the 1820s another ignition mechanism, the percussion lock, was introduced. With this new system flint, frizzen, pan and priming powder were replaced by a percussion cap that already contained a priming charge. This system was much less affected by wind and dampness than the flintlock. Its disadvantage to Aboriginal people was that they had to purchase percussion caps suited to their model of gun at a trading post, while material for gun flints for a flintlock could be picked up wherever flint naturally occurred. However, many flintlock trade guns were converted to the new ignition system and eventually even manufactured with the percussion lock.

Pistols were also popular with Aboriginal people. They were easier to carry than guns, could be concealed under clothing and could be used when fighting inside buildings, such as trading posts.⁴⁴ Pistols were also well-suited to the close-up style of fighting that increasingly came to dominate combat, at least among the Plains Indians. Aboriginal people on the plains often shortened the barrels of their trade guns for easier handling on horseback. Sometimes the barrels were cut extremely short and most of the gun stock was cut off to convert the gun into a heavy pistol.⁴⁵ The cut-off Northwest gun barrels were

⁴³Louis Bird, CRLS 0014, www.ourvoices.ca, 7.

⁴⁴ A Kainai man shot an employee of the American Fur Company inside Ft. McKenzie with a pistol. David Smyth, "The Niitsitapi Trade: Euroamericans and the Blackfoot-Speaking Peoples to the Mid-1830s," Ph. D. thesis, Carleton University, Ottawa, 2001, 483-4; Reuben Gold Thwaites, ed. *Early Western Travels, 1748-1846*. Vol. XXIII, Part II of Maximilian, Prince of Wied's, *Travels in the Interior of North America, 1832-1834*. New York: AMS Press Inc., 1966, 134-5, 12 August 1833. The Kainai claimed that it was an accident, but later John Rowand at Edmonton House noted: "The Bulls Back Fat a Blood Indian chief the vagabond who first visited the Americans at the Yellow Stone and is now their support at Bears [Marias] River paid Mr. Harriott a visit accompanied by his son a villain who boasts of having shot an American lately in the very Fort where a Gentleman of the name of Mitchell has charge." Smyth, "The Niitsitapi Trade," 484; Edmonton House post journal, 2 November 1833, B.60/a/28, reel 1M50, HBCA.

⁴⁵ Hanson. *Northwest Gun*, 64.

sometimes recycled into hide scrapers that resembled earlier types made from bison or elk leg bones.⁴⁶

William Walker at the HBC's South Branch House on the lower South Saskatchewan River wrote to William Tomison on 6 January 1789, requesting more "Guns, Pistols, Bayonets flat, cloth and a few Hatchets." According to Walker, these items were in great demand among the Aboriginal people near his post.⁴⁷

New types of firearms and improvements in firearms technology

The great breakthrough in firearms technology came with the invention of the Colt revolver in 1836. The Texas Rangers first used these weapons in combat on a large scale against Comanche people and other Aboriginal groups on the Southern Plains. Compared to the cumbersome muzzle-loading single shot Kentucky rifles the rangers had used earlier, revolvers provided greater firepower and a higher rate of fire. Furthermore, revolvers were much easier to use from horseback than the long-barreled Kentucky rifles. Earlier the Texas Rangers had to dismount and use their long barreled rifles from hastily constructed fortifications. This meant that the initiative always lay with their Aboriginal opponents, who fought from horseback and thus had greater mobility and speed. However, the new revolvers enabled the rangers to fight while mounted and to successfully pursue raiding parties deep into their homeland. By the early 1840s the Texas Rangers began to use revolvers with increasing success against the Comanche and other Southern Plains peoples.⁴⁸

⁴⁶ Ibid., 33; plate VIII A, 2, 64, illustration of a Sioux hide scraper made from a fusil barrel.

⁴⁷ HBCA, Manchester House Post Journal, 1M 73, B121/a/3, 58, Jan. 6, 1789.

⁴⁸ T. R. Fehrenbach. *The Comanches: Destruction of a People*. New York: Knopf, 1974, 260-263.

In 1851 an improved model, the Navy Colt cap and ball revolver, was introduced.⁴⁹ A similar firearm was the Star Revolver .44, introduced in 1863.⁵⁰ The advantages of the revolver made this weapon desirable to Aboriginal people on the Plains and eventually they acquired increasing numbers of these firearms.

By the mid-nineteenth century, fixed cartridge ammunition and breech loading firearms were developed. These weapons quickly gained prominence, especially among non-Aboriginal civilians on the frontiers of North America. From the mid 1860s onward, breech-loading single-shot carbines and repeating rifles became highly popular among the Plains Indians.

After the American Civil War, Blackfoot groups, such as the Piegan who traded with American traders in north-central Montana, and also Metis people, gained access to large numbers of surplus US military carbines, but also various types of repeating rifles. James Willard Schultz, who lived and traded among the Blackfoot, wrote that he sold dozens of Henry repeating rifles to the Blackfoot, Cree and Assiniboine during the 1870s.⁵¹ Nevertheless, Blackfoot people continued to purchase the standard smoothbore trade guns from the HBC as well. Schultz described trade guns he saw among the Blackfeet in the 1860s and 1870s:

The old Hudson's Bay Company flintlock guns were about the length of the powder and ball muzzle loaders that our army used in the rebellion of the Southern States, and the balls were thirty to the pound. The Indians always profusely ornamented the stock and forearms with brass tacks.⁵²

⁴⁹ Henry R. Anderson, "The Last Indian Battle," (1978), ed. James H. Carpenter. *The Last Great (Inter-Tribal) Indian Battle* (Lethbridge, Alberta: Lethbridge Historical Society, 1997), 39.

⁵⁰ Henry R. Anderson, "The Last Indian Battle," 1978, 37-44, in James H. Carpenter, ed. *The Last Great (Inter-Tribal) Indian Battle* (Lethbridge Historical Society: Lethbridge, Alberta, 1997), 39.

⁵¹ James Willard Schultz. *Friends of My Life As An Indian* (New York: Houghton and Mifflin Company, 1923), 233-234; Hanson, *Northwest Gun*, 51.

⁵² Letter from James Willard Schultz to Charles E. Hanson, February 6, 1939; Hanson, *Northwest Gun*, 1.

Aboriginal people manufactured some of the accoutrements necessary to use a firearm. Two Leggings related that his older brother Wolf Chaser bought a muzzle-loading gun for him and that he subsequently manufactured his own powder horn and buckskin shot pouch, wearing these items attached to the same carrying strap. He also carried a long, forked stick as a support for the barrel of his gun, similar to sixteenth century Spanish firearms.⁵³ Prince Maximilian observed:

Most of the Assiniboines have guns, the stocks of which they ornament with bright yellow nails, and with small pieces of red cloth on the ferrules for the ramrod. Like all the Indians they carry, besides, a separate ramrod in their hand, a large powder horn, which they obtain from the Fur Company, and a leather pouch for the balls, which is made by themselves, and often neatly ornamented or hung with rattling pieces of lead, and trimmed with coloured cloth. All have bows and arrows; many have these only, and no gun.⁵⁴

The Hudson's Bay Company stuck to its established product, the muzzle-loading trade gun, and refused to sell repeating firearms of any kind to Aboriginal people. By the 1860s and 1870s only a few of these Northwest guns were flintlocks while most were percussion models. The HBC's refusal to sell repeating firearms put the Plains Cree and Assiniboine at a serious disadvantage in their hostilities with the Blackfoot.⁵⁵

As violent conflict on the plains intensified and more advanced firearms technology became available to Aboriginal people, muzzle-loading smoothbore firearms faded in importance. When a group of Dakota and Cheyenne surrendered their weapons to the US military in 1877, there were 160 muzzle loaders among them. Two of these were flintlocks and only one was a smooth bore; all the others were percussion locks, nearly all of them

⁵³ Peter Nabokov. *Two Leggings: The Making of a Crow Warrior*. (New York: Thomas Y. Crowell Company, 1967), 20, 67.

⁵⁴ Reuben Gold Thwaites, ed. *Early Western Travels, 1748-1846. Vol. XXII, Part I of Maximilian, Prince of Wied's, Travels in the Interior of North America, 1832-1834* (AMS Press, Inc.: New York, 1966), 389.

⁵⁵ Anderson, "The Last Indian Battle," 38, 39.

rifles.⁵⁶ Although breech loaders became relatively common among the Plains Indians in the US during the 1870s, muzzle loading percussion rifles continued to be of importance. A Cheyenne warrior explained it thus: "The muzzle-loaders usually were preferred, because for these we could mold the bullets and put in whatever powder was desired, or according to the quantity on hand."⁵⁷ Apparently the slower reloading speed of muzzle-loading rifles did not cause Cheyenne warriors to stop using these weapons. They likely found ways to fire and reload their muzzle-loading rifles with adequate speed.

The HBC introduced percussion trade guns in 1861, but the older flintlock models remained in stock for decades thereafter, although their production numbers declined. In its percussion cap version the Northwest gun was still in effective use by Aboriginal people in northern Canada in the 1880s.⁵⁸

Quantities of firearms sold to Aboriginal people in the fur trade

Numbers of gun sales to Aboriginal people are difficult to obtain for the period before 1800. The minutes of HBC board meetings list 170 fowling pieces, together with powder and shot as cargo in an outgoing ship in 1670 and 200 fowling pieces and ammunition in 1671.⁵⁹ In 1683 the HBC sold a total of 363 guns, 13 at Rupert River in the

⁵⁶ Hanson, *Northwest Gun*, 34.

⁵⁷ Thomas B. Marquis. *Wooden Leg: A Warrior Who Fought Custer* (Minneapolis: Midwest Co., 1931), 213; Hanson, *Northwest Gun*, 50.

⁵⁸ Major Ned Roberts. *The Muzzle Loading Cap Lock Rifle* (Manchester, New Hampshire: Granite State Press, 1940), 141; Hanson, *Northwest Gun*, 3, 18, 19.

⁵⁹ HBCA, 1-A 1/1 fos. 6, 14, Minutes of the Hudson's Bay Company, 1670 and 1671. For published excerpts from these documents, see: Grace Lee Nute, "Minutes of the Hudson's Bay Company, 1671-1674," *The Beaver Magazine*, Outfit 274, September 1943, 46.

southeast of Hudson Bay, 26 at Hayes Island on the Moose River (an early site of Moose Fort), and 324 at Albany River (Albany Fort).⁶⁰

There was great variation in the yearly shipments, from a high of 1,273 to as low as 100 for 1688.⁶¹ Most of these firearms probably went to Aboriginal people in the Hudson Bay area. T. M. Hamilton estimated that on average the HBC approximately sold 476 guns per year.⁶²

From 1775 to 1780 a total of 3,947 firearms were sold at Fort Michilimackinac.⁶³ Aboriginal middlemen then traded many of these weapons to Aboriginal groups living farther west. After an initial glut in the 1760s, the numbers of firearms sold to Aboriginal people on the Northern Plains during the last two decades of the eighteenth and through the early nineteenth century seems to have been rather low. If the 18 guns and four pistols in stock at Manchester House in April 1787 were representative, it would point to a rather low number of firearms being sold at HBC posts in the region. Similarly, four years later William Tomison complained about not having enough guns and pistols to trade. He wrote that he even had to borrow three pistols from his own employees to trade them to his customers.⁶⁴

In November 1792 William Tomison, trading with Sarcee people at the HBC's Buckingham House noted: "finished trading with the [Sarcee] Indians and they went away, these have brought 550 parchment Beaver, which is the most I ever saw this Tribe bring, I had 28 Guns when they came but now they are reduced to 18."⁶⁵ A few months later the

⁶⁰ Mancke. *A Company of Businessmen*, 47, 48; Mancke cited the following HBC document: HBCA, London office to chief trader Henry Sergeant, 16 May 1684, Letters Outward, vol. 11, 122-24.

⁶¹ The sales may have been low at that time because of the French takeover of the bayside posts.

⁶² T. M. Hamilton. *Colonial Frontier Guns*. Chadron, Nebraska: The Fur Press, 1980, 20-22.

⁶³ *Ibid.*, 21.

⁶⁴ HBCA, Manchester House Post Journal, 1M 74, B121/a/6, 20-22, 13 February 1791.

⁶⁵ HBCA, Buckingham House Journal, 1792-93, B.24/a/1, 4M 18, Journal of and Transactions in 1792 a 93 by William Tomison. F14d, November 22, 1792.

supply of firearms for sale to Aboriginal people was almost depleted at Buckingham House. James Tate, then in charge of the post wrote to his superior on 1 March 1793:

My Trade at present amounts to 4000 parchment Beaver and 500 Wolves with very little of any other kind, and there has been no Muddy river Indians [Piegan] in since the fall, and very few of Blood Indians and what I am to do with them for want of Guns I know not, as I have but 5 left, it grieves me to loose Indians for want of goods.⁶⁶

In December 1831 a group of Piegan trading with James Kipp of the American Fur Company turned in 6,450 pounds of beaver, receiving 160 guns in exchange. They intended to use them against their Western neighbours.⁶⁷ Looking at sales figures for the HBC posts Brandon, Cumberland and Carlton House from 1811 to 1814, Arthur J. Ray was able to show that the total numbers of firearms sold at these three posts were such that only one in ten families of Aboriginal customers ended up owning a gun.⁶⁸ At first glance such sales figures seem rather low, but without more precise information on the numbers of the Aboriginal groups who came to trade, it is difficult to estimate how many Aboriginal people carried firearms and what percentage of their band numbers they represented.

In order to determine how well armed the Northern Plains Indians were, it would be beneficial to relate firearms sales figures to the population numbers of the Aboriginal customers. However, this is difficult, because often fur traders did not specify the numbers of persons, "lodges" or "tents" of the Aboriginal groups who came to trade at their posts. In a rare instance, William Tomison noted in early December 1793 that four tents of Sarcee traded 18 guns at Buckingham House. This was more than half of the total number of guns

⁶⁶ Ibid., F 43d, March 1, 1793.

⁶⁷ John C. Jackson. *Jemmy Jock Bird, Marginal Man on the Blackfoot Frontier* (Calgary: University of Calgary Press, 2003), 59.

⁶⁸ Ray. *Indians in the Fur Trade*, 151.

Tomison had at his post.⁶⁹ Unfortunately Tomison did not specify how many people lived in one tent, or whether they were middlemen trading with other Aboriginal groups, or if they bought these firearms for their own use only. The Blackfoot White Eagle mentioned a wealthy late nineteenth century Blackfoot named Elk Bull (Po-nok-se-ta-mek) and his wife Only Woman (Ne-je-ta-ke). Elk Bull was so well off that he owned “4 guns, 2 bows and arrows, 1 Medicine Pipe 2 axes and a lot of horses.”⁷⁰

Over the next two and a half decades the numbers of firearms available at least to some Aboriginal groups on the plains rose sharply. In early 1818 Peter Fidler observed at the HBC’s Brandon House that

The Mandan now at the Cree Tents 40 miles off will soon return, some others came with him from the villages but their wives prevailed on them to return our Inds say some of the Mandans have from 6 to 10 Guns and every Man one at least _ keeping them carefully for Defence.⁷¹

Unfortunately it is extremely difficult to correlate the numbers of firearms among the Mandan with their population. Population estimates for the Mandan before the smallpox epidemic of 1837 vary widely and the 1781 smallpox epidemic may have left fewer than 1500 individuals.⁷² When George Catlin visited the Mandan villages in 1832, he estimated the population at 2,000 persons. Prince Maximilian, who visited the Mandan a year later, thought there were between 900 and 1,000. In 1835 and 1836 the annual

⁶⁹ HBCA, 1M 18, B 24/a/2, 26, December 5 and 7, 1793, Buckingham, House Post Journal from 1792 to 1793 by William Tomison.

⁷⁰ Glenbow Archives, Joe Little Chief Fonds, M 4394: File 2: Late White Eagle; White Eagle, Joe Little Chief’s grandfather, was born in 1842.

⁷¹ HBCA B.22/a/20, Brandon House – Post Journal, 1817-1818, March 7th, 1818, F37d, “Journal at Brandon House 1817.18 with some account of the Transactions at Fort Douglas &c &c &c &c by Peter Fidler.”

⁷² W. Raymond Wood and Lee Irwin, “Mandan” in *Handbook of North American Indians*, vol. 13, *Plains*, part 1. ed. Raymond DeMallie. (Washington D. C.: Smithsonian Institution, 2001), 352.

report of the US Commissioner of Indian Affairs listed the Mandan with a population of 15,000. However, the report for 1837, before the epidemic, gave a figure of only 3,200.⁷³

Population estimates for the different Blackfoot groups who were major customers of the HBC exhibit similar confusion for the first half of the nineteenth century. Population numbers were of practical importance to fur traders, because they needed to know the number of potential customers in an Aboriginal group and also the number of warriors, in case of impending hostilities. Fur traders counting Plains Indian populations in terms of lodges generally assumed seven to ten people to live in one lodge, of whom three were considered warriors. The Blackfoot Eagle Ribs stated in 1938 that "a good sized band comprises 20 tipis (each full of people). This is the best number for efficiency's sake."⁷⁴ According to the traders' estimates, this would put the number of persons in the band at 140 to 200.

In 1809 Alexander Henry the Younger estimated the total population of the Piegan, Blackfoot and Blood at 650 lodges with 1,420 warriors. Allowing an average of eight persons per lodge, this would make a total of approximately 5,200 people.⁷⁵ When George Catlin visited with Piegan people at Fort Union on the Upper Missouri (on the present Montana-North Dakota border) in 1832, he obtained very different information from his Piegan hosts. He estimated the total Blackfoot population at 16,500 persons, averaging ten persons per lodge. His estimate, however, is still lower than that of Prince Maximilian, who in 1833 estimated the total Blackfoot population at 18,000 to 20,000

⁷³ Roy W. Meyer. *The Village Indians of the Upper Missouri: The Mandans, Hidatsas, and Arikaras*. (Lincoln: University of Nebraska Press, 1977), 97.

⁷⁴ Glenbow Archives, Lucien M. and Jane Richardson Hanks Fonds, M8458, Box 1, Series 1, Pitoxpikis (Eagle Rib) Sleigh via Mary Royal, 1938, interview.

⁷⁵ John C. Ewers. *The Blackfeet: Raiders of the Northwestern Plains* (Norman: University of Oklahoma Press, 1958), 37.

persons. In 1854 James Doty, assistant to the newly appointed governor of Washington territory, Isaac Stevens, again estimated lower total population numbers for the Blackfoot groups. In his estimate there were 850 lodges with a total of 7,630 persons. Of these, 2,550 were warriors.⁷⁶ The devastating smallpox epidemic of 1837 may account for the lower population numbers.

Judging from the number of surviving trade guns from the period after 1820, but also from 1780 to 1820, Charles Hanson argues that a very large number of these weapons must have been sold to Aboriginal people, applying an estimated "rate of survival" Hanson compared the numbers of firearms purchases of the American Fur Company with the numbers of surviving similar specimens today and arrived at a ratio of about one in a hundred.⁷⁷

However, the fluctuation in the number of firearms sold to Aboriginal people needs to be considered. In some years only a few weapons reached their customers, while in others large numbers of guns and pistols were sold. Furthermore, it can be assumed that those Aboriginal people with direct access to a trading post obtained higher numbers of firearms than those who had to trade through Aboriginal middlemen or those who had no access to European trade goods at all. The Upper Missouri villages for instance, were a major trade centre, linking Aboriginal customers from the Great Plains and the Parklands region with European trade from Hudson Bay, Montreal and St. Louis. Therefore the Mandan were in an ideal position to obtain large numbers of firearms. They carefully chose whom to trade them to, making sure these weapons would not be turned against their former owners. The Blackfeet and other plains groups who traded directly

⁷⁶ Ibid., 60, 212.

⁷⁷ Hanson. *Northwest Gun*, 16.

with the HBC and the Montreal-based traders also obtained a more or less steady supply of firearms and ammunition. On the other hand, Aboriginal groups in the Rocky Mountains, such as the eastern Shoshone and the Kutenai, had comparatively little access to European trade and firearms.

Servicing of firearms

Muzzle-loading flintlock guns came into such universal use that Aboriginal people eventually learned the basics of gun-smithing to service their own weapons. Over time specialists emerged, similar to the expert bow and arrow makers discussed in the previous chapter. A large cache of seventeenth century gun parts was found in the 1950s in a New York Iroquois site. Another cache of flintlock parts came from a Pawnee village in modern Nebraska, dating approximately to 1820-1845.⁷⁸ This archaeological evidence shows that at least some Aboriginal groups in the Eastern Woodlands and on the Great Plains took care of minor repairs or exchanged damaged parts of their firearms.

However, often gun repair required the use of a forge, an anvil and other specialized tools unavailable to Aboriginal people. This and the inferior quality of certain gun parts, such as springs made the refurbishing of firearms before sale almost a standard practice at HBC posts. It often involved considerable work and sometimes included the replacement of not only springs and locks, but also gun-stocks, which were often manufactured at the posts.⁷⁹ Before the introduction of the Northwest gun, firearms were individual, more or less "custom made" weapons. Thus no two guns and their individual parts were exactly alike. From the 1760s on, with the advent of the Northwest gun, a

⁷⁸ Ibid., 2; These weapons parts are now part of the collections of the Nebraska State Historical Society.

⁷⁹ HBCA, Manchester House Post Journal, 1M 74, B121/a/4, 28, Nov. 9-10, 1789.

certain degree of standardization entered large-scale firearms manufacture. Northwest guns were relatively standardized for mass production. Therefore parts were interchangeable to some extent. These guns were considerably less expensive than rifles of the period.⁸⁰

However, industrial mass production of firearms, and thus the interchangeability of parts, did not occur on a larger scale until the first decades of the nineteenth century.⁸¹ The HBC provided liberal technical support for Aboriginal people's firearms purchased from the company, often as an inducement for newcomers to continue trading with the HBC. Post journals frequently referred to the post blacksmith or the armourer repairing Aboriginal people's firearms, often on credit. At Albany in 1784, for example, the armourer was "repairing indians guns several of whom took debt."⁸²

Similarly on the plains, the Buckingham House journal shows the entry "the Smith repairing an Indian Gun" three times for the period from January 5 to February 18, 1793.⁸³ Servicing of a firearm was also provided to an old Blood Indian man, who had come to Manchester House with his family for the first time, as an inducement for him to come back. He had probably obtained his HBC gun from other Aboriginal people, before directly trading with HBC personnel.⁸⁴ Servicing of firearms was also provided for a whole encampment of Gros Ventre (Fall Indians, Gros Ventre des Prairies).⁸⁵ However, when in November 1786 an Aboriginal man brought a so-called "French" gun, which had

⁸⁰ Hanson. *Northwest Gun*, 2-3.

⁸¹ Townsend, "Firearms Against Native Arms," 3.

⁸² HBCA, B.3/a/84, Albany Journal, 1784-1785, 1M8, "A Journal of Transactions and Occurrences at Fort Albany by M^r Edward Jarvis Chief Factor for the Hon^{ble} Hudson Bay Company Commencing the 14th of September 1784 Ending the 16th of September 1785;" October 19, 1784.

⁸³ HBCA, B.24/a/1, 4M 18, Buckingham House, "Journal of Transactions in 1792 & 93 by William Tomison." F17, January 5, 1793; F18, January 18, 1793 and F21, February 18, 1793.

⁸⁴ HBCA, Manchester House Post Journal, 1M 73, B 121/a/2, 24.

⁸⁵ *Ibid.*, Feb. 2, 1788.

probably been obtained from the North West Company, to Manchester House for repairs, servicing was refused, likely because the weapon had come from the HBC's competitors.⁸⁶

While poor quality of firearms could prove a serious obstacle to selling these weapons to Aboriginal people, their appearance also influenced Aboriginal customers' response. Thus, James Bird at Carlton House noted in a letter to his superior George Sutherland at Edmonton House in 1796 "I find our Guns this year very indifferent both in their Locks & Stocks those are in general a dark red and of course not much fancied by the Indians: our Neighbours Guns far surpass them in appearances."⁸⁷

The quality of these early firearms, while still fluctuating, was apparently eventually raised to a level acceptable to Aboriginal customers, because these weapons became increasingly popular on the Western Plains. According to William Walker, in charge of Manchester House in March 1790, the Blackfoot, Blood and Piegan would travel far just to get an "English gun." He also noted that his supply of such firearms was so low, that he couldn't satisfy the customers' demands.⁸⁸

The popularity of the firearms sold by the HBC seems to have become such that the competition eventually took to counterfeiting the HBC's gun labels to increase their own sales. William Tomison noted that in March 1788, an Aboriginal man had brought in a gun 3 ½ feet long, which had been brought from "Canada." It was stamped with the same marks as the guns sold by the HBC. Tomison exchanged it for another gun and planned to send it

⁸⁶ Ibid., Nov. 21, 1786.

⁸⁷ HBCA, Edmonton House Post Journal, 1M 48 B 60/a/2, 13; letter from James Bird at Carlton House to George Sutherland at Edmonton House, Nov. 28, 1796.

⁸⁸ HBCA, Manchester House Post Journal, 1M 74, B121/a/4, 45-47, Mar. 11-13, 1790.

to England as proof of counterfeiting undertaken by the competition.⁸⁹ Usually Northwest guns sold by the North West Company were stamped with a sitting fox-like animal, facing right, enclosed in a circle. Hudson's Bay Company guns, at least after 1821, but probably also earlier, carried a similar fox-mark, but their animal faced left and was often enclosed in a frame in the shape of a tombstone.⁹⁰ Furthermore, the origin of weapons could be identified by their proof marks and side plates. Northwest guns usually had cast brass side plates in the shape of a sea-serpent or dragon. The side plates used on French military and civilian weapons differed considerably from those on the Northwest guns.⁹¹

Manufacturing and material problems of firearms

Early firearms, such as smooth-bore muzzle loading matchlock, wheel lock and flint lock weapons have been much maligned as not only inaccurate and slow to reload, but also as prone to a wide variety of technical failures that could cause severe if not fatal injuries to the user. Lack of quality in manufacturing, as well as of the materials used in gun construction were problems that the traders of the Hudson's Bay Company frequently faced. Many post managers were earnestly concerned about these problems, since they could result in serious harm to their customers and drive them to trade with the competition. Thus, John Kipling at the HBC's Gloucester House north of Lake Superior wrote in the fall of 1782: "Late at Night Lieut Newauckisheckwab Came in with Geese&c.

⁸⁹ HBCA, Manchester House Post Journal, 1M 73, B 121/a/2, 28, Mar. 13, 1788.

⁹⁰ Hanson. *Northwest Gun*, 36, 37, plates XA, XB, XIA, XIB.

⁹¹ Hamilton. *Colonial Frontier Guns*, 94, 95.

I am sorry to observe the badness of our guns becomes a General Complaint among all the Indians.”⁹²

While the early firearms worked well in Europe, even in the damp British winters, their problems in North America may in part have been due to the metal parts not being able to withstand the extreme cold on Hudson Bay or on the Northern Great Plains. Thus, HBC trader William Tomison at Manchester House on the lower North Saskatchewan River wrote in January 1787: “Men employed as yesterday, except Gilbert Laughton who was cleaning and repairing trading guns, some of the springs are so weak that Indians refuse to take them, as they will not give fire in cold Weather.”⁹³ Eventually the springs of almost all the trade guns at Manchester House needed to be replaced before the weapons could be offered for sale.⁹⁴

Problems with metal parts not functioning properly in extremely cold weather extended to other items than firearms as well. On several occasions William Tomison complained about ice chisels and hatchets not working properly.

1793 January, 2nd Wednesday ... smith & 1 man making hinges for Doors out of bad Ice Chizzels which Indians has refused and gone without and would not take them for nothing by sending such bad articles to his part of the Country is a means to diminish the Trade in the [room] of promoting it.⁹⁵

Smith and 1 man making awl blades out of what was sent up for beaver Hooks but unfit for that purpose.⁹⁶

⁹² HBCA, B.78/a/8 Gloucester House Journal 1782-1783, Oct. 10, 1782. “A Journal of the most remarkable Transactions and Occurrences at Gloucester House from 1st August 1782 to 20th June 1783 By Mr. John Kipling,” F 7.

⁹³ HBCA, Manchester House Post Journal Jan. 13, 1787, 1M 73, B 121/a/1, 28.

⁹⁴ Ibid., B 121/a/2, 25.

⁹⁵ HBCA, B.24/a/1, 4M 18, Buckingham House, “Journal of and Transactions in 1792 a 93 by William Tomison,” F17d, January 2, 1793.

⁹⁶ HBCA, B.24/a/1, 4M 18, “Journal of and Transactions in 1792 a 93 by William Tomison,” F17. Monday, January 7th 1793.

Swampy Cree traditions also frequently mention the malfunctioning of firearms' metal parts in the cold.⁹⁷ During the seventeenth and early eighteenth century many Europeans believed that places of similar latitude had a similar climate, and that therefore metal parts manufactured in England should function properly on Hudson Bay. However, from about 1450 to ca. 1850 northern North America and parts of Europe were affected by the "Little Ice Age." During this time the mean summer position of the arctic front was farther south, placing Churchill and York Factory in the arctic climatic region. After 1760 the climate warmed, moving the line of the arctic front north. This placed York Factory, but not Churchill in the boreal forest climatic region, where even from 1930 to 1960 the average year-round temperature was still only -7.3°C .⁹⁸ However, fur traders such as Alexander Mackenzie, who had years of exposure to the northern North American environment and the climate observations of Aboriginal people, clearly recognized the effect the vast open waters of Hudson Bay and the prevailing north winds had on the country's climate, leading to much longer and colder winters in North America than in areas of the same latitude in Europe.⁹⁹

Technical liabilities sometimes extended also to large gun parts that could not be replaced easily, such as the breech. Thus, in November 1795 several Piegan-Blackfoot returned their newly acquired firearms at Edmonton House as useless. William Tomison, then in charge of that post, urgently pointed out to his superiors the flaws of the firearms the HBC was selling.

My reason for sending for the Smiths' tools is by reason of the badness of Guns want of Nails fire steels etc., many of the Guns the Indians has brought back that they had

⁹⁷ Louis Bird, personal communication, Winnipeg, October 2001.

⁹⁸ Stuart Houston, Tim Ball and Mary Houston. *Eighteenth Century Naturalists of Hudson Bay* (Montreal: McGill-Queen's University Press, 2003), 117.

⁹⁹ *Ibid.*, 116.

in Credit some of which has not been more than once fired out of, being split two Inches from the Britchs [breech], several Indians were disabled last season by their hands being shot away this with other circumstances will reduce the Trade very much.¹⁰⁰

While en route from Cumberland House to the east end of Lake Athabasca, Peter Fidler made a similar observation: "The Indian burst 6 Inches from the Muzzle of his gun in firing at Swans."¹⁰¹ It is impossible to tell whether this accident was caused by inferior manufacturing quality of the weapon or by improper use, such as overloading the gun or neglecting to clean the barrel. It is important to take into consideration that Aboriginal people acquired the skills to handle European weapons, as with archery, in a gradual learning curve. However, mistakes in handling firearms could lead to serious injury or death, which was rarely the case with archery equipment.

The residue from burning the powder of the main charge eventually clogged up the gun barrel. This made reloading difficult and hazardous because the weapon might explode when the barrel was too clogged. Black powder firearms had to be cleaned thoroughly after each use. Robert Jefferson, observing mounted Plains Cree bison hunters using firearms in the later nineteenth century, described such accidents:

The guns, as discharged, are loaded again while racing:- a measure of powder poured into the muzzle haphazard, next a bullet rolled down the barrel from a store kept in the mouth, with a cap from a little circular arrangement on which they are stuck – and the hunter is ready for the next shot; no wads or paper or anything to keep each part of the load in its place. Of course the gun barrel must be kept in a semi-upright position till it can be aimed and discharged at the same moment. Many were the hands maimed,

¹⁰⁰ HBCA, Edmonton House Post Journal, Oct. 24, 1795, 1M 48, B 60/a/1, 31; Edmonton House Post Journal, Letter from William Tomison to James Spence, Nov. 12, 1795; 1M 48, B 60/a/1, 3-4.

¹⁰¹ HBCA, Peter Fidler, "Journals of Exploration and Survey, 1790-1809, E.3/3, 4M 103, F14, June 25th, 1807," (Journal of a Journey by water in a Canoe from Cumberland House To the East End of the Athapescow Lake by Deers Lake, & Lake Wollaston and from the Entrance of Deers River down the Missin nip pee or Churchill River down to Churchill Factory, & from thence in a Boat to York Factory along the Coast. By Peter Fidler.)

fingers blown off and other mischances by guns bursting owing to the bullet sticking in a dirty barrel.¹⁰²

Problems with gun parts and metal tools not functioning properly likely reflect European misconceptions about the North American climate and the level of European metal technology at the time, rather than inferior workmanship. In the long run, manufacturing deficiencies and material problems did not deter Aboriginal people from using firearms, but to be of advantage to them, firearms had to perform at least as well as their traditional weapons. Jefferson's account makes this clear, because during the same bison hunt he also observed some Plains Cree hunters using bows and arrows with just as much success as other hunters used their guns.

To conclude, it is important to put views about the impact of firearms on Aboriginal people into cultural and historical context. The presence of firearms and metal weapons alone is not sufficient to explain changes or variations in Aboriginal hunting methods and subsistence patterns, or in their combat methods and military relations. Aboriginal people adapted these European weapons to their own needs, often lacking awareness of or deliberately disregarding the precepts and safety measures that trained European users considered essential. To make their firearms fit their needs, Aboriginal people often subjected them to conditions and modifications these weapons were not built for, but which they endured nonetheless. Aboriginal people also used their firearms differently from Europeans, especially in big game hunting and combat. In order to illuminate these differences in firearms usage, the following chapters will compare the practical applications of weapons use among Aboriginal peoples, beginning with a comparison of gun shot wounds and injuries caused by arrows.

¹⁰² David G. Mandelbaum. *The Plains Cree* (Regina: Canadian Plains Research Center, 1979 [1940]), 56.

Chapter VI

Injuries caused by arrows and firearms

The seemingly “primitive“ bow and arrow could cause remarkably severe injuries. There are numerous reports of Plains Indian arrows passing entirely through an adult bison, or through a person.¹ For example, on a bison hunt in the late nineteenth century the Blackfoot Stimmiksato’si shot an arrow through a buffalo so that it went out the other side.² Among the Mandan and Hidatsa on the Northern Great Plains, but also among the Swampy Cree, bows intended for combat were often made with a significantly higher draw weight than those intended for hunting. Such bows propelled arrows with great speed and force.³

However, many people survived substantial injuries caused by arrows. Testimony by Aboriginal people and also from US military medical personnel in the “Indian Wars,” shows that many arrow wounds were not instantly lethal. Injuries to the spinal cord, the heart or direct hits to the main arteries were often immediately fatal. But even arrow points that pierced a person’s skull and brain did not have immediate stopping power in every case. Rather the infections and internal blood clotting that they caused eventually led to death. Even hits to the lungs, although mostly lethal, would not instantly disable. If the arrowhead was metal and could be removed from the wound, the chances of complete

¹ Reginald and Gladys Laubin. *American Indian Archery* (Norman, Oklahoma: University of Oklahoma Press, 1980), 142.

² Glenbow Archives, M8458, Lucien M. and Jane Richardson Hanks Fonds, Box 1, Series 1, “How a chief builds a following,” 16; “Journal of a Journey over Land from Buckingham House to the Rocky Mountains in 1792 – a 3 by Peter Fidler.” 4M 103, E 3/2, p. 14, Dec. 25, 1792.

³ Carolyn Gilman and Mary Jane Schneider. *The Way to Independence, Memories of a Hidatsa Indian Family, 1840 - 1920* (St. Paul, Minnesota: Minnesota Historical Society Press, 1987), 76, 103; Louis Bird, 0014 – *Our Voices*, “Guns and Bows,” 2001.

healing and recovery were often good.⁴ Stone points were more likely to cause an infection due to minute particles breaking off the arrowhead and remaining in the wound.

The feature of early firearms that most impressed Aboriginal people was the extreme damage that a musket ball could cause, resulting in almost instant death. This applied especially to earlier muzzle-loading firearms, such as seventeenth century muskets with their lower muzzle velocities. The relatively slow but large bullets fired from these weapons transferred enormous shocking power to the target, especially at close range.⁵

While arrow hits on vital organs other than the spinal cord or the heart were likely deadly, they would not instantly disable a human opponent or a large animal. On the other hand, a hit in the torso with a musket ball, especially when the firearm was loaded with the proper amount of a powder charge and fired at short range, would almost certainly have been lethal and would instantly have disabled its victim.⁶

Some numbers will help to illustrate that at close range the effect of these weapons on humans was terrifying. The state armory in Graz, Austria, conducted a shooting trial with a musket of the Montecuccolli-type, a smooth-bore, muzzle-loading weapon of the year 1686. A lead ball of 17.5 mm caliber, weighing 30.93 g, fired from this weapon, reached a muzzle velocity of 494 m/s and an initial kinetic energy of 377.4 Joule. At a distance of 30 m, after piercing a 4 mm thickness of steel sheet, the projectile entered a further 183 mm into dry pine wood.

⁴ Thomas Wilson, "Arrow Wounds," *American Anthropologist*, vol. 3, 1901, 513 - 531.

⁵ Marcus Junkelmann. *Die Reiter Roms, Teil III: Zubehör, Reitweise, Bewaffnung* (Mainz: Philipp von Zabern, 1992), 171, 172.

⁶ Aboriginal people depended on trade with Europeans for their supply of gun powder. In order to save powder, Aboriginal people would load their weapons with slightly less than the required amount of powder. This resulted in lower projectile velocity and lower penetrative force. However, at short range the difference was minimal.

The weapon was also fired at a 30 cm cube of ballistic soap, used to simulate human tissue when measuring the potential tissue damage caused by projectiles. At a distance of 9 m the lead ball created a cavity of 530.2 ccm in the soap. The entry opening had a diameter of 60 mm and the exit hole a diameter of 20 mm.⁷ Modern replicas of Northwest guns, the standard firearm sold to Aboriginal people through the fur trade from the late eighteenth to the late nineteenth century, with barrel lengths from 28 to 32 inches reached similar projectile velocities.⁸

During the struggles between the HBC and the North West Company and Metis at the Red River Settlement in the summer of 1815 Peter Fidler observed the tremendous penetrating power of such firearms. He recorded that “they [the “Canadians & half breeds”] fired above 150 shots at us which penetrated the Logs of the Houses in many places.”⁹

While en route to Manchester House from York Factory, HBC post manager William Tomison observed an Aboriginal man killing a grizzly bear with only two shots from his musket. The first shot contained a load of two musket balls and probably a double charge of powder, while the second contained only the regular single musket ball.¹⁰ The effect of such projectiles on humans could be even more devastating. The Manchester House post journal contains notes about Sarcee and Cree people wounded or killed in

⁷ Junkelmann. *Die Reiter Roms, Teil III*, 171, 172.

⁸ Bills World Buckskinner's Notebook – Black Powder Ballistics, <http://www.televar.com/~willgo/pastgate/notebook/balistics/ball.htm>; June 28, 2004, 4; projectile velocities of replica trade guns reached from 1090 fps to 1240 fps (charge: 80 grs. FFg to 90 grs. FFg, ball size .570); Northwest Guns were mostly 24 gauge, ca. .58 caliber. Charles E. Hanson. *The Northwest Gun* (Lincoln: Nebraska State Historical Society, 1955), 2, 3.

⁹ Provincial Archives of Manitoba (PAM), Selkirk Papers, MG 2, A1, Vol. 69 [pp 18, 429-18, 534], M187, “Journal at Red River Settlement with the account of the Population of the Free Canadians and the three Tribes of Indians in this Quarter with a Meteorological Journal and Astronomical Observations made at different places by Peter Fidler, to which is added the Astronomical Observations of Thomas and Charles Fidler, 1815.” [F51-18479], Sunday, June 11, 1815.

¹⁰ HBCA, Manchester House Post Journal, 1M 73, B 121/a/2, 13, Sept. 12, 1787.

internal conflicts. One Sarcee man had a ball pass entirely through his thigh.¹¹ When several Cree fell out amongst themselves, one young man was stabbed. He called out to his companion, a post hunter for William Walker at Manchester House, to assist him. This man loaded his gun with two bullets and fired, killing one woman and wounding two men severely with this one shot.¹²

The historian Marcus Junkelmann contrasted the shooting trial results of the Montecuccolli musket with data gained through test-shooting the replica of a “Sassanidian” composite bow, as was used by the late Roman military in the fourth century A.D. Following the general design of Asian composite bows, this weapon consisted of layers of horn, wood and sinew, laminated with hide glue. Measured along the back of the bow, the weapon was 155 cm long and had a draw weight of 28 kg (ca. 56 lbs) and a draw length of 87 cm (ca. 34 inches). The arrow used with this bow was 92 cm long and weighed 50 g.

The initial velocity of the arrow was 50 m/s with an initial kinetic energy of 62 Joule. The arrow pierced a thickness of 0.75 mm steel sheet and continued to penetrate into dry pine wood for another 30 mm without any damage to the arrow. The arrow even pierced a 1.5 mm thickness of steel sheet and penetrated for another 12 mm into pine wood. However, this time the metal arrowhead was pressed into the wooden arrow shaft for about 8 mm, but did not break off. If the arrow hit its target at an oblique angle, the point snapped off upon impact. This reduced the arrow’s penetrative force to a minimum. The arrow also completely pierced a shirt of mail, made of unbolted metal rings, and continued to penetrate for another 15 cm into a hay bale which served as a support for the

¹¹ Ibid., 33 Apr. 17, 1788.

¹² Ibid., 1M 74, B121/a/4, 55, May 19, 1790.

shirt of mail. Without the shirt of mail, the arrow pierced the hay bale completely and continued to penetrate for another 2 cm into a board behind the hay bale.

The arrow was also shot at a 30 cm cube of ballistic soap. It completely pierced the soap cube and caused a wound tunnel of 8 mm diameter. This would have destroyed 24 ccm of tissue. If the arrowhead had lodged in the tissue, its removal would have substantially increased the tissue damage.¹³

To compare Junkelmann's results from the composite bow to North American Aboriginal bows, I made a Northern Plains sinew backed bow and arrows in the summer of 2004. The bow was made from ash wood taken from Netley Creek, Manitoba, and backed with sinew from the leg tendons of deer and moose. Later a second layer of sinew and two small rattlesnake skins were applied to protect the sinew backing against moisture. Its overall length was 115.7 cm, the draw weight was 52 lbs (25 kg) at 22 inches (55.6 cm). Test shooting with two light arrows with juneberry shafts and brass field tips yielded the following results.¹⁴ The first arrow weighed 260 grains (16.84 grams) and reached a velocity of 122 fps (ca. 40 m/s). The second arrow weighed 205 grains (13.3 grams) and reached a velocity of 115 fps (ca. 38 m/s).¹⁵ After the second layer of sinew was applied and had sufficiently dried, the arrow speed for the first arrow went up to 133 fps.

¹³ Junkelmann, *Die Reiter Roms, Teil III*, 165-173.

¹⁴ The arrows were shot through a chronograph at Silver Heights Archery, an indoor archery range in Winnipeg.

¹⁵ Although the second arrow was lighter, its lower velocity was probably caused by the rather large fluff feathers at the front end of the fletching.

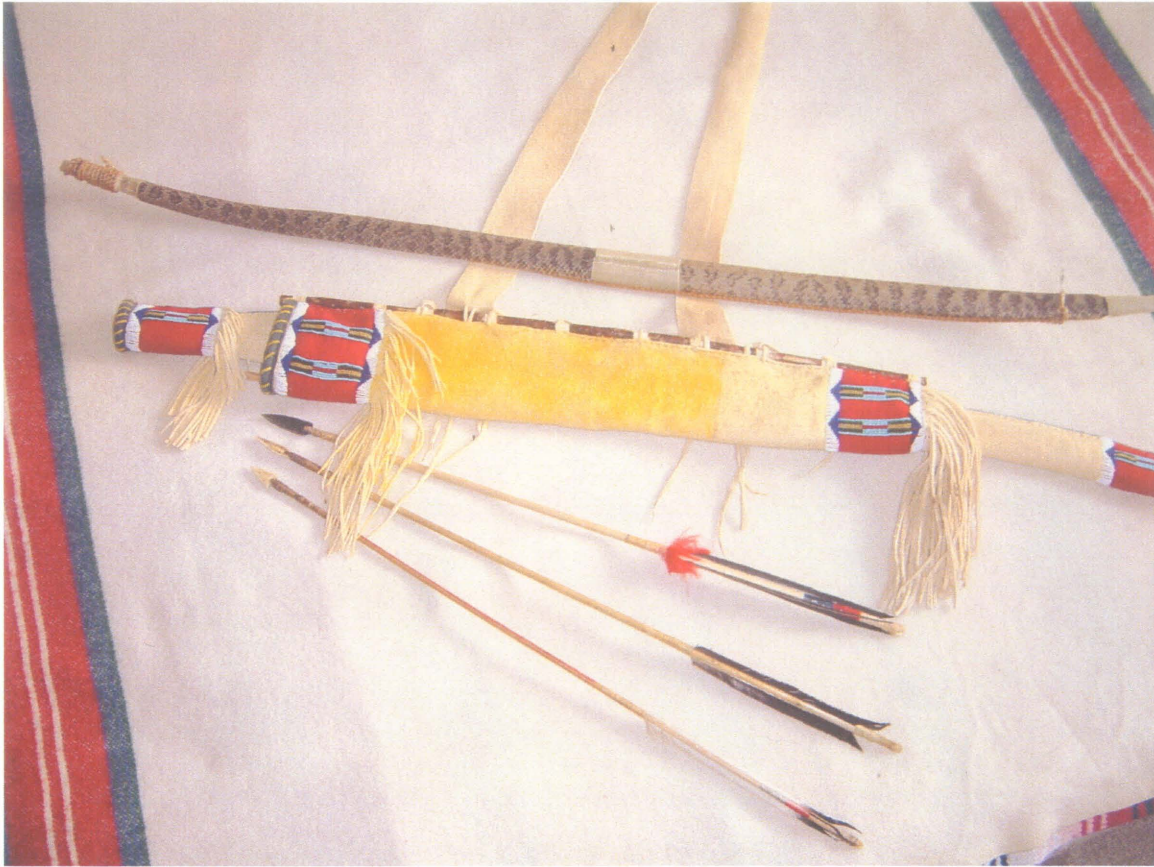


Fig. 20. Northern Plains archery set made by Roland Bohr in 2004. Top to bottom: Sinew-backed, reflexed snake skin covered ash bow, unstrung, length 115.7 cm; quiver and bowcase combination of deer hide, arrows with metal and bone points.

Edward McEwen, a British bowyer who made the bows and arrows for Junkelmann's tests, also conducted shooting trials with replicas of North American Aboriginal archery items. McEwen used a "Sioux" self bow of 111.7 cm length and of a draw weight of 24.9 kg (over 50 lbs) and a matching arrow of dogwood (*cornus stolonifera* or *stricta*) weighing 30 grams (463 grains) with a draw length of 58 cm (23 inches). This projectile reached a velocity of 30 m/s. The replica of a sinew-backed

Apache bow, 119.3 cm long and of 17.2 kg (ca. 38 lbs) of draw weight, with an Apache Phragmites reed arrow with mesquite wood (*Prosopis fuliflora*) foreshaft, weighing 28 grams (432 grains) reached a projectile velocity of 43 m/s.¹⁶

Comparison of bows and projectile velocities

Type of bow	Length	Draw length	Draw weight	Arrow weight	Arrow speed	Kinetic energy
Sassanidian composite bow, M. Junkelmann	155 cm	87 cm (ca. 34 inches)	28 kg (ca. 56 lbs)	50 grams	50 m/s	62 Joule
N. Plains sinew backed ash, R. Bohr	115.7 cm	55.6 cm (ca. 22 inches)	25 kg (ca. 52 lbs)	16.84 grams (260 grains)	ca. 40 m/s (122 fps) (133 fps after application of second sinew layer)	
Sioux self bow, E. McEwen	111.7 cm	58 cm (23 inches)	24.9 kg (over 50 lbs)	30 grams (463 grains)	30 m/s	
Apache, sinew backed, E. McEwen	119.3 cm	No data	17.2 kg (ca. 38 lbs)	28 grams (432 grains)	43 m/s	

Junkelmann's comparison of firearms projectiles and arrows showed that the initial velocity of the musket ball was about ten times greater than that of the arrow, while the musket ball's initial kinetic energy surpassed that of the arrow approximately by a factor of six. This caused the penetrative force of the musket ball to be significantly greater than that of the arrow. The musket ball caused tissue damage about 22 times greater than that caused by the arrow. This means that the man-stopping force of the musket ball was much greater than that of an arrow with a cutting arrowhead. The rounded shape of the musket ball did not pierce as much as the arrow, but distributed its immense shocking power throughout the body being hit, because human and animal

¹⁶ C. A. Bergman, E. McEwen and R. Miller, "Experimental archery: projectile velocities and comparison of bow performances," *Antiquity*, vol. 62, no. 237, December 1988, 11, 12, 658-670.

tissue is largely composed of incompressible fluids. Thus, people hit in the torso would be doubled over and knocked backwards before they hit the ground, while the projectile would create a fist-sized entry wound.¹⁷

Most Plains Indian and Subarctic bows had lower draw weights and shorter draw lengths than the kind of military Asian composite bow Junkelmann used. However, the projectile velocity of the Montecuccoli musket was very similar to that of the Northwest guns sold in the fur trade. Therefore, when comparing Plains Indian and Subarctic archery gear with these firearms, the results would favour the firearms even more. This means that, assuming proper use, even the relatively simple early modern muzzle-loading smooth-bore firearms were far superior in regard to penetrative force and stopping power to any type of archery gear in use up to the late nineteenth century.

These examples demonstrate that once a musket ball hit its target, the damage could be instant and serious, especially at short range. Arrows, on the other hand, needed almost surgical precision by the archer in order to do instantly disabling damage. However, at short range the penetrative force of an arrow was still sufficient to completely pierce the body of a person without armour, or a bison, as long as the arrowhead did not lodge in a bone.¹⁸

¹⁷ Junkelmann. *Die Reiter Roms, Teil III*, 171, 172.

¹⁸ *Ibid.*, 167; Wilson, "Arrow Wounds," 528; Laubin, *American Indian Archery*, 142; The US Army Medical Museum has a bison shoulder blade with a metal arrowhead lodged in its inside. The arrow, shot during a bison hunt, was apparently powerful enough to penetrate most of the animal's body and was only prevented from entirely piercing the animal by the shoulder blade. The Lakota White Bull, a nephew of Sitting Bull, completely pierced the body of a female bison with an arrow.

Arrow wounds

Against the background of modern technology and the frightful effects of firearms it may seem astonishing just how severe an injury an arrow could cause. It is equally surprising that humans often survived severe injuries caused by arrows. Testimony from Aboriginal people, but also from medical doctors of the US military suggests that many arrow hits were not instantly lethal. Even arrowheads that pierced human skulls did not always kill instantly. The injured person often died from an infection of the wound, but not from the direct impact of the projectile. Direct hits to the lungs might still take hours to kill a person, while some even survived such injuries. If the arrowhead was removed soon and a subsequent infection did not occur, the chances of recovery were often good.¹⁹

On the other hand, hits to the heart, the spinal cord or major arteries were usually instantly lethal. Thus, unlike a musket ball, the “stopping power” of an arrow depended more on the precise marksmanship of the archer, than on the kinetic energy of the projectile. For example, during an attack on an earthen fortification in the 1860s or 1870s the Crow leader Plenty Coups shot an arrow into the head of one of his Aboriginal opponents. The arrow pierced the person’s face from the nose into the head. This injury was not instantly lethal and did not immediately stop the man from fighting back. Only a second arrow hit to the heart stopped and killed Plenty Coup’s adversary.²⁰

The use of poisoned arrows was not common in the Northern Great Plains and the Central Subarctic. Recipes for arrow poison have been recorded from several Plains peoples, such as the Arapaho, the Comanche and other Southern Plains groups. Unlike Aboriginal people in South and Central America, however, North American Aboriginal

¹⁹ Wilson, “Arrow Wounds,” 513 - 531.

²⁰ Frank Bird Linderman. *Plenty Coups, Chief of the Crows* (Lincoln: University of Nebraska Press, 1962 [1930]), 210 - 212.

people had no access to fast acting poisons that paralyzed the heart or the respiratory tract. North American arrow poisons were based on processes of decay and infection of the wound, which could eventually lead to blood poisoning and death.²¹

There is very little evidence that Aboriginal people used such poisons in combat. In any case, they would not have immediately disabled an opponent, but acted with considerable delay. Most Aboriginal people probably considered the effect of sharp-edged stone or metal arrowheads sufficient. A study of arrow wounds from the 1860s to the 1880s during the American "Indian Wars," documented that none of the arrows used in these military conflicts had been poisoned.²²

However, Henry Wolf Chief related to Gilbert Wilson in 1911 that in earlier times the Hidatsa had used arrows made of "snake-wood" for combat. They believed this wood to be poisonous.²³ The front ends of snake-wood arrow shafts were whittled to a long slender point, that was supposed to snap off inside the body of an enemy after impact and poison him. Wolf Chief told of an Aboriginal man from Montana who injured himself accidentally through a splinter of snake-wood entering his thigh. This caused the wound to swell and fester and he died in great pain the next day.²⁴

Cheyenne, Pawnee and Blackfoot men assured the ethnographer George Bird Grinnell that wounds caused by stone arrowheads were more likely to cause death than

²¹ Wilson, "Arrow Wounds," 513 - 531; Ernest Wallace and E. Adamson Hoebel. *The Comanches: Lords of the South Plains* (Norman: University of Oklahoma Press, 1976 [1952]), 105.

²² Wilson, "Arrow Wounds," 513 - 531.

²³ Gilbert Wilson did not give any botanical name for "snake-wood." Wolf Chief mentioned that snake-wood grew on the side of clay hills in the vicinity of the Little Missouri River in western North Dakota. It had sharp thorns, somewhat like rose bushes. He stated that it grew in finger-sized sticks and turned yellow when the bark was removed. Wolf Chief mentioned that the wood was usually used exclusively for war arrows, because it was considered poisonous. However, Wolf Chief had used snake-wood arrows to hunt rabbits. Wilson, "Hidatsa-Mandan report, 1911," 10, 41.

²⁴ Wilson, "Hidatsa-Mandan report, 1911," 41, 42.

those caused by metal arrowheads.²⁵ In a corresponding statement, the Plateau-Salish leader Powiaken related that his people considered arrowheads of obsidian or glass to be poisonous.²⁶ This notion was based on the fact that minute particles of a stone arrowhead broke off on impact, even upon a soft target like skin and tissue. These particles would remain in the wound and cause an infection, that was often lethal. If the stone projectile hit bone, it either snapped into several larger pieces, or remained stuck in the bone entirely.²⁷

E. N. Wilson, a nineteenth century Mormon settler in Utah, mentioned a similar instance of a lethal injury caused by a stone projectile point. As a boy Wilson had lived for two years among the Eastern Shoshone with Chief Washakie's family, around 1855. Washakie's mother told him about the death of her husband, Washakie's father, who had died in battle: "Her husband was shot in the knee with a poisoned flint arrow, while fighting with the Crow Indians. He lived a little over a year after the battle, but suffered greatly before he died."²⁸

²⁵ George Bird Grinnell. *The Cheyenne Indians: Their History and Ways of Life* (Lincoln: University of Nebraska Press, 1972 [1923]), vol. I, 183. However, Black Elk expressed a different opinion, which may have been based on his unfamiliarity with the actual combat capabilities of stone arrowheads, suggesting that only after the adoption of metal arrowheads did arrows become effective combat weapons: "I am going back to tell you how they used bows and arrows. ... At that time the bow and arrow was not developed so that it did much harm. When the white man came they used iron for the point, and it came to be very effective." Raymond J. DeMallie, ed. *The Sixth Grandfather, Black Elk's Teachings given to John Neihardt* (Lincoln: University of Nebraska Press, 1985), 316.

²⁶ Mason. *North American Bows, Arrows, and Quivers*, 36.

²⁷ Ulrich Stodiek and Harm Paulsen. *Mit dem Pfeil, dem Bogen...: Technik der steinzeitlichen Jagd* (Oldenburg: Isensee Verlag, 1996), 35, 52; Scott Silsby, "Stone Points," ed. Jim Hamm. *The Traditional Bowyer's Bible*, vol. III (New York: Lyons and Burford, 1994), 310-313.

²⁸ E. N. Wilson was born on Apr. 8, 1843 and came to Utah with his Mormon parents in 1850, where they farmed. A man working on his father's farm taught him the Gosiute language, which is related to Shoshone. When he was about 12 years old, Wilson ran off with a group of Shoshone. After living with Chief Washakie's family among the Eastern Shoshone for approximately two years he was sent back to his family. Wilson eventually had his own farm and later became a pony express rider, stage coach driver and hotel owner. He spent his later years in the town of Wilson, Wyoming, named after him, where he died on Dec. 27, 1915. Elijah Nicholas Wilson. *Among the Shoshones* (Medford, Oregon: Pine Cone Publishers, 1971 [Originally published in 1910 as: *The White Indian Boy.*]), 6, 44.

During a large battle between Shoshone and Crow people, Wilson encountered a Shoshone man who “had been shot three times with arrows – in the arm, in the leg, and in his side. His side was the worst. The medicine man had to take out a part of two ribs, and the hole left was big enough for me to stick my fist in.”²⁹

Considering the medical knowledge of the time, this was actually an advanced way of treating arrow wounds, even by non-Aboriginal standards. During the mid- to late nineteenth century most military surgeons still recommended leaving arrowheads embedded in bone largely untouched until the natural defensive reactions of the body loosened the projectile enough to be easily extracted. However, a few US military surgeons opposed these views. One of them was Joseph H. Bill who had worked as a military surgeon in the Western United States since 1860. Because the conservative treatment of arrow wounds often led to infections, blood poisoning or amputations, Bill recommended extracting the arrowhead as soon as possible. However, this often required a substantial enlargement of the wound in order to reach the arrowhead with extraction tools.³⁰ Aboriginal healers had likely come to the same conclusion much earlier and therefore took a similar approach to arrowhead extraction.

Concerning the death of Washakie’s father, Virginia Cole Trenholm stated that that he was killed by Blackfoot raiders in an attack upon his village, giving the impression that he died outright, not after suffering from his injuries for a year. Virginia Cole Trenholm. *The Shoshonis: Sentinels of the Rockies* (Norman: University of Oklahoma Press, 1964), 98.

E. N. Wilson noted that Washakie’s mother stated her mother was Bannock and her father Shoshone. She was said to be 62 years old when Wilson came to her. She had three sons and a daughter, but by the time Wilson arrived, Washakie was her only living child, Wilson. *Among the Shoshones*, 45.

²⁹ *Ibid.*, 108, 109.

³⁰ Joseph H. Bill, “Notes on Arrow Wounds,” *American Journal of Medical Science*, 1862, vol. 44, 365-387; Joseph H. Bill “Sabre and Bayonet Wounds; Arrow Wounds,” *The International Encyclopedia of Surgery* (Ashhurst: New York, 1882), vol. II, 101-118.

However, arrowheads lodged in the skull posed a different problem. When working for the Pony Express in the early 1860s, E. N. Wilson had a fight with Aboriginal people at the Spring Valley Station:

One of the Indians, who had hidden behind a tree, shot me in the head with a flint spiked arrow. The arrow struck my head about two inches above the left eye. ... They [Wilson's colleagues] tried to pull the arrow out, but the shaft came away and left the flint spike in my head.³¹

Wilson was left in the field for a full day, while his companions got a doctor to help. Finally a surgeon removed the arrowhead from Wilson's wound. He was incapacitated for 18 days, but then recovered. Ever after the injury he occasionally suffered from severe headaches.³²

Even arrows without arrowheads, with only their shafts tapered to a point could be lethal projectiles. US-Army Captain John G. Bourke related an incident during campaigns against Apache people in Arizona: "In July, 1870, a friend of mine, M. T. Kennedy, was mortally wounded by an Apache arrow which pierced his chest. The autopsy disclosed the fact that the arrow had no head."³³ In 1833 Prince Maximilian recorded a similar observation on the northern plains in regard to Assiniboine arrows: "Sometimes the tips of their arrow shafts have merely been hardened in the fire, but still their effect is lethal."³⁴

However, eventually metal arrowheads became popular among the Plains Indians, even though they were not as sharp as the cutting edges of well-made lithic projectiles.

³¹ Wilson. *Among the Shoshones*, 159.

³² *Ibid.*, 160.

³³ Mason. *North American Bows, Arrows, and Quivers*, 18.

³⁴ Axel Schulze-Thulin, ed. *Indianer der Prärien und Plains: Reisen und Sammlungen des Herzogs Paul Wilhelm von Württemberg (1822-24) und des Prinzen Maximilian zu Wied (1833-34) im Linden Museum Stuttgart* (Stuttgart: Linden Museum, 1987), 72,73.

To make the metal arrowheads as lethal as the stone points, a combination of features had to be added. The base of the point was formed into barbs while the tang of the arrowhead was set into a narrow slot at the tip of the wooden arrow shaft. Then the tang was secured in the slot by a few sparse wrappings of animal sinew. When such a projectile entered a body, the fluids would soften up the sinew and the barbs would cause the arrowhead to catch on the flesh and tissue and remain inside the body when the shaft was pulled back in an attempt to withdraw the projectile. The Hudson's Bay Company officer Peter Fidler at Brandon House recorded such an event in the summer of 1817 in regard to Saulteaux stealing horses at Lake Manitoba and heading towards Pembina:

3 Bungees lately stole 3 Horses from the Forks & passed Brandon House slyly & passed Moose head hill – and were shot at by several Indians supposed Mandans fired off their Guns & killed 2 of the 3 Bungees on the spot the other made his escape wounded on horseback 2 arrows in him one near his body & galloped to the House when the French pulled out the arrow but the Iron barb remained behind – the blood had softened the Sinew it was fixed to the [shaft] & remained – he is now in a lingering way. Now these 3 thieves are rightly served – they avoided the House here in passing that the Horses might not be recognized.³⁵

Prince Maximilian made a similar observation in 1833:

They [the Assiniboine] use two kinds of arrowheads, one for war and one for hunting. The first comes to a sharp point, has barbs and remains in the wound. The second has an obtuse point and can easily be removed. The quivers are of native-tanned leather and the bow is carried in a special case.³⁶

Though not from the Northern Plains, another example further illustrates this point. During a battle with Pawnee Indians in 1862 the Kiowa leader Satamore (Set-ema'-i) was hit by an arrow. While he clung to the side of his horse to shield his body, a

³⁵ HBCA B.22/a/20, "Journal at Brandon House 1817.18 with some account of the Transactions at Fort Douglas &c &c &c &c by Peter Fidler," Wednesday, July 13th, 1817, folder 7; note that Fidler wrote that two of the three Bungees were killed "on the spot" by firearms, suggesting an instant and powerful stopping effect of these weapons.

³⁶ Schulze-Thulin, ed. *Indianer der Prärien und Plains*, 72,73; Paul 269.

Pawnee warrior on foot approached Satamore unnoticed from behind. From just a few steps distance the Pawnee shot an arrow which pierced Satamore's buttock and entered his lower torso. The arrow shaft was removed immediately after the battle, but the metal arrowhead stayed inside the body. For some time after the battle Satamore passed bloody urine, but the wound healed soon and after a few weeks he was well able to hunt bison from horseback again. More than six years later Satamore began to suffer again from his wound. Therefore he went to see the US Army surgeon W. H. Forwood at Fort Sill, Oklahoma in August 1869. Forwood diagnosed a bladder stone, which when removed, revealed the iron arrowhead embedded in it.³⁷

In order to make the extraction of such loosely attached arrowheads possible military surgeons admonished soldiers in the Western US to leave the arrow shaft in place if they were hit. In this way the arrow shaft served as a guide to the location of the arrowhead. Furthermore, by slightly moving the shaft surgeons were able to find out if the arrowhead was lodged in a bone, which was an important consideration when determining the mode of extraction of the arrowhead.³⁸

Because of their projectile velocity and penetrative force, even the most primitive early modern firearms were far superior to the most advanced Aboriginal archery equipment.³⁹ In case of a direct hit to the body the stopping power of a musket ball was far greater than that of most types of arrows. The stopping power of smoothbore weapons was amplified when the barrel was double-charged, using more than one lead ball and a greater amount of gunpowder. Smoothbore weapons such as the Northwest gun could

³⁷ Wilson, "Arrow Wounds," 513 - 531, pls. XVII, XVIII und XIX.

³⁸ Bill, "Notes on Arrow Wounds," 365-387; Bill "Sabre and Bajonet Wounds; Arrow Wounds," 101-118.

³⁹ Junkelmann. *Die Reiter Roms, Teil III*, 171, 172; Linderman. *Plenty Coups*, 106.

withstand such treatment, and gave high initial velocities with such double charges.⁴⁰

However, a few persons survived arrow injuries as well as gunshot wounds, all sustained at the same time. In one case in 1870, Aboriginal warriors hit a settler on the Pecos River in Texas with three bullets (probably cartridge ammunition, not round balls from a muzzle loader) and an arrow. The triangular flat metal arrowhead pierced the skull bone just past the right temple and was imbedded there. Seven days after the settler sustained these injuries the gunshot wounds had begun to heal, but the arrow wound eventually caused a lethal infection.⁴¹

Treatment of arrow wounds

Most Aboriginal peoples of the Northern Great Plains had healers who specialized in the treatment of combat injuries such as arrow wounds. For instance, the Crow leader Plenty Coups described how the famed healer The Fringe healed a Crow warrior who had sustained an arrow wound in battle.⁴² According to Plenty Coups, it was not customary for healers simply to offer their services. Usually a relative of the injured person had to request the healer's services. These were paid for with gifts such as arrows and other useful items.⁴³

In this case, however, the healer requested a different gift for payment. A young Crow man had been injured by a Lakota arrow. The projectile had pierced the chest, protruding from each side of the torso. In desperation the young man's father requested The Fringe's help and granted him any choice of payment he was able to make. The

⁴⁰ Hanson. *Northwest Gun*, 3.

⁴¹ Wilson, "Arrow Wounds," 519, 520.

⁴² Linderman, *Plenty Coups*, 304.

⁴³ Grinnell. *The Cheyenne Indians*, vol. II., 142.

Fringe and the young man's sister had secretly been lovers for a while and now The Fringe requested the right to marry her as payment for healing the young man, which he apparently managed to do.⁴⁴

Many arrows used in warfare featured a variety of mechanisms meant to detach the arrowhead from the shaft, so the arrowhead would stay in the wound, even if the shaft was removed. Even if the arrowhead remained attached to the shaft, it would still enlarge the wound considerably while it was pulled back, or the barbs might catch and cut major blood vessels, tendons or muscles, which had slipped past the arrowhead upon impact.

Wolf Chief mentioned that if an arrowhead was only loosely wrapped to the shaft and the sinew wrappings had already softened inside the body, the arrow shaft had to be rotated back and forth between the palms while moving the arrow shaft backward, out of the wound. This considerably enlarged the wound, but according to Wolf Chief, was the only way to remove an arrow from a wound while preventing the barbed arrowhead from detaching from the shaft.⁴⁵

Another method of removing barbed, bladed arrowheads from wounds consisted of splitting a willow shoot, cleaning it of the pith and carefully rounding and tapering the ends. By guiding the willow shoot into the wound along the arrow shaft with the split end first, one could catch a flat bladed and barbed arrowhead with the split end of the shoot. The willow shoot had to be positioned on the arrow shaft in such a way that the split ends covered the barbs. Then the arrow shaft and the willow shoot were tied together and both removed from the wound.⁴⁶

⁴⁴ Linderman, *Plenty Coups*, 304 - 307.

⁴⁵ Wilson, "Hidatsa-Mandan report, 1911," 10, 59.

⁴⁶ Wilson, "Arrow Wounds," 531.

If the arrowhead was not removed from the wound immediately, treatment could become far more difficult. The Cheyenne Shell described such complicated and painful treatment.

In a certain fight a Cheyenne was shot in the shoulder blade with an arrow, the head of which entered the bone, and the shaft broke off. His friends took a pair of bullet molds [to use as pliers] and tried to extract the head, but could not get hold of it. They cut away the flesh on either side of the arrowhead, until the bullet molds could grip the iron, and then, while four or five men held the patient down, another gave two or three strong pulls on the head, but failed to start it. They then took a sharp bladed knife and ran it down into the bone close to the iron on either side of the arrowhead, working the knife from side to side to loosen the arrowhead, and at last succeeded in pulling it out. During the whole operation the young man did not flinch.⁴⁷

Mostly women took care of men recovering from combat injuries, while the immediate surgical procedures to remove the arrowheads were performed by healers and/or other warriors, often right on the site of battle. This also explains some reasons for training Aboriginal boys to endure pain. This was more than just a ritual of "toughness," or "manliness," because it could help to overcome the shock of being injured and seeing one's own blood. This helped to prevent panic which would have worsened the situation of the injured person. Because Aboriginal men had to be prepared for combat injury or to assist wounded comrades, a working knowledge of human anatomy and basic surgery, such as setting fractures with rawhide, or removing arrowheads from wounds was likely part of their general knowledge.

With increasing exposure to arrow wounds during the "Indian Wars," US military surgeons improved their understanding and treatment of such injuries. Shortly before his death in 1885 Joseph H. Bill set down the following "seven commandments" for the treatment of arrow wounds:

⁴⁷ Grinnell, *The Cheyenne Indians*, vol. II, 147.

1. An arrowhead has to be removed as soon as possible.
2. Extensive enlargement of the wound is justified when searching for an arrowhead.
3. An arrow can be pulled from the wound or pushed through the wound.
4. During wound exploration the use of one's finger is preferable to the use of a probe.
5. Great care needs to be taken to prevent detachment of the arrowhead from the arrow shaft.
6. Treatment should focus on primary healing.
7. The surgeon should care for the patient's well-being, ... because arrow wounds often cause great mental distress.⁴⁸

The last point is of special interest because it refers to the treatment of the mental trauma and even physical paralysis that the sight of an arrow shaft protruding from one's body could cause. It is likely that Aboriginal healers had long been aware of the immediate psychological impact of arrow wounds because the warrior-training of boys included the endurance of pain to prevent warriors from panicking when injured in combat.⁴⁹

Injuries caused by firearms

In spite of the tremendous penetrative force of musket balls, combat injuries caused by firearms were not always fatal, as William Tomison observed at Buckingham House in April 1793:

This morning a Young Indian arrived, who informed me of another Indian being murdered and he narrowly escaped having been shott at three times and the bullet hit him twice but did not wound him.⁵⁰

48 Bill "Sabre and Bajonet Wounds; Arrow Wounds," 101-118.

49 Royal B. Hassrick. *The Sioux: Life and Customs of a Warrior Society* (Norman: University of Oklahoma Press, 1964), 85, 307.

⁵⁰ HBCA, 4M 18, Buckingham House Journal, 1792-93, B.24/a/1, "Journal of Transactions in 1792 a 93 by William Tomison," F29d, Tuesday, April 23rd, 1793.

In order to save powder, Aboriginal people sometimes loaded their muzzle-loading firearms with less than the proper amount of powder, especially when shooting at close range. At longer distances this could reduce the projectile velocity and thus the penetrative force enough to turn injuries that would otherwise have been instantly fatal into lighter wounds.

Unlike most cutting or piercing arrowheads, musket balls usually dragged bits of clothing into the wound. These were extremely difficult to remove and likely to cause a fatal infection.⁵¹ Therefore Aboriginal warriors on the plains tended to discard their clothing before a fight.⁵² Frank Raymond Secoy suggested that this was also a major reason for Aboriginal people to give up body armour made of rawhide or quilted leather. While these forms of protection were adequate against arrows, they did not offer much protection against musket balls fired at close range and rather increased the risk of wound infection.⁵³ Furthermore, a warrior without body armour was more nimble and could move more swiftly, which was a distinct advantage in many combat situations.

Accidents involving the unintended discharge of arrows were rare, but accidents with firearms were quite common as several HBC officers noted in their post journals. John Kipling at Gloucester House in September 1782 wrote: "Late in the Evening 2 of Lieut. Newauchishickwabs young Men arrived here for Medicins and advice he having broken his Collar bone with the gun, which renders him unable to hunt, for his family."⁵⁴

⁵¹ Joan B. Townsend, "Firearms Against Native Arms: A Study in Comparative Efficiencies with an Alaskan Example," *Arctic Anthropology*, vol. 20 (2), 1983, 3.

⁵² Ruby E. Wilson. *Frank J. North, Pawnee Scout Commander and Pioneer* (Chicago: Swallow Press, 1984), 160, 161.

⁵³ Frank Raymond Secoy. *Changing Military Patterns on the Great Plains (17th Century through Early 19th Century)* (Seattle: University of Washington Press, 1953), 16-19.

⁵⁴ HBCA, B.78/a/8 Gloucester House Journal 1782-1783, ("A Journal of the most remarkable Transactions and Occurrences at Gloucester House from 1st August 1782 to 20th June 1783 By Mr. John Kipling"), Sept. 28, 1782. The person referred to as "Lieut." was probably an Aboriginal leader, whom the HBC gave

George Sutherland at Albany on Hudson Bay also noted accidents with firearms, temporarily or permanently incapacitating Aboriginal men, women or children: "The Indian with whom I Tent met with an axcedent afiring at Ducks a bit Broke out of the flint of his Gun Cut his Eye greatly so that already he is in danger of loosing his sight stayed at the Tent."⁵⁵ Two days later Sutherland wrote: "Repitched to Day they tell me we are agoing Down a long way to the westward to see his friends Expecting they will Cunger [conjure] his Eye well."⁵⁶

Not only material flaws and manufacturing defects but also improper handling and usage by their owners caused accidents with firearms. According to Charles Hanson, early accidents, such as burst barrels, were not so much due to the low manufacturing quality of trade guns, but were mostly caused by overloading and other forms of mishandling.⁵⁷ Improper handling of the ammunition could also cause serious injuries or death. The Crow Two Leggings related the following about the accidental death of his father:

My mother told me that when I was a few days old our camp moved to where the Elk River flows into the Big River (Yellowstone/Missouri confluence). My father traded for gunpowder from the trader there and when he came home spread it close to the fire to explain its use to my mother. It exploded, giving him such bad burns on his head and chest that he soon died.⁵⁸

this "rank" in recognition of his leadership services and his inducement of his people to trade with the HBC. This person could have been a member of the so-called "homeguard Indians."

⁵⁵ HBCA, B.3/a/73, Albany post journal, George Sutherland, 27 June 1777 to 27th June 1778, F 11, August 23, 1777.

⁵⁶ HBCA, B.3/a/73, George Sutherland, 27 June 1777 to 27th June 1778, August 25, 1777.

⁵⁷ Hanson. *Northwest Gun*, 1.

⁵⁸ Peter Nabokov. *Two Leggings: The Making of a Crow Warrior* (New York: Thomas Y. Crowell Company, 1967), 2.

Although this sounds like gross negligence in handling black powder, it was not uncommon to dry damp black powder by spreading it out in the sunlight.⁵⁹ Possibly this was what Two Leggings' father was trying to do when the accident happened.

Improper cleaning of firearms could also lead to serious injuries. Robert Jefferson, describing Canadian Plains Cree hunting buffalo on horseback with muskets as well as bows and arrows in the later 1800s, noted, "Many were the hands maimed, fingers blown off and other mischances by guns bursting owing to the bullet sticking in a dirty barrel."⁶⁰

During a hunt, or in anticipation of immediate hostilities, firearms were often carried fully loaded and ready to fire. When moving through dense bush or within the confines of a canoe their triggers sometimes caught on branches or pieces of equipment, causing the accidental discharge of the weapon. This could lead to serious injury or the death of the person carrying the weapon or of those nearby. John Kipling at the HBC's Gloucester House observed in May 1785:

In the evening came in Captⁿ Jacob, Lieu^t. Abbitwesicome and half of their Gangs but very poorly Gooded they being starved all the winter & obliged to Eat the furs they had procured to keep them alive... the Captⁿ met with a bad Misfortune by a gun going off by accident in the Canoe, and shot an Orphan Girls arm off by the Elbow joynt, and otherwise tore it in a bad manner.⁶¹

Bows and arrows represented a part of Aboriginal technology and weaponry developed and shaped over the course of centuries, if not millennia. The introduction of European components to Aboriginal archery systems, such as metal arrowheads, necessitated only minor adjustments. The introduction of and adaptation to firearms,

⁵⁹ Townsend, "Firearms Against Native Arms," 5.

⁶⁰ Robert Jefferson. *Fifty Years on the Saskatchewan* (Battleford, Saskatchewan: Canadian North-West Society Publications, vol. 1, no. 5, 1929), 66.

⁶¹ HBCA, B.78/a/12 Gloucester House Journal 1784-1785, John Kipling, F17, May 26, 1785. One can't help but wonder about the dire consequences of this accident for an orphaned girl, possibly left without family members to support her, even if she survived the injury.

however, brought substantial changes. In a gradual learning process Aboriginal people acquired mastery of firearms, adapting these weapons and their use to their specific needs in hunting and combat. This augmentation led to important changes in the ways Aboriginal peoples employed their traditional weaponry. These changes also affected people's spiritual beliefs as they began to integrate European weaponry into their concepts of interaction between humans, the natural world and the spiritual powers permeating it.

Chapter VII

Archery and firearms in Aboriginal beliefs

Bows and arrows as symbols of status and prestige

When the US government bestowed citizenship on all Indians within the territory of the United States in 1924, Native Americans were made citizens of their own country. According to Reginald Laubin, before 1924 Aboriginal people who wanted to become US citizens had to go through procedures similar to those for foreign immigrants. In their case, however, a distinctive ceremony marked this event, acting out their symbolic transition from “savagery” to “civilization.” After the officials from Washington D.C. handed out the citizenship documents, Aboriginal men were to shoot one last arrow across a wide field and afterwards place their hands on a plough. Then they were told to give up the bow and arrow forever and to build their future on the plough.¹

The Bureau of Indian Affairs could hardly have found a more poignant and fitting symbolism than archery gear. While to them the plough was a central symbol of civilization, the men from Washington had hit the mark precisely concerning the central significance of the bow and arrow to the Plains Indians. To the BIA officials the bow and arrow stood for “savagery” and technological inferiority while to Plains Indians it was a symbol of military prowess and economic independence, expressing their role as providers and protectors.² As early as 1754,

¹ Reginald and Gladys Laubin, *American Indian Archery* (Norman, Oklahoma 1980), 10.

² The US military also accorded a high symbolic value to Plains bows and arrows, but in a more positive way. There they stood as an expression of “Indianness” or warrior imagery and bows and arrows appeared in the flags and guidons of several Apache, Cheyenne and Sioux scout units of the US Cavalry in the 1890s.

Tom Martin, “United States Army Indian Scouts and Cavalry Troopers Guidons,” http://www.americanvexillum.com/indian_scouts_guidons/indian_scouts_guidons.htm, July 2005, 1-7.

Blackfoot or Gros Ventre people on the northern plains had rejected the Hudson's Bay Company's offers of trade. Presenting an archery outfit to the HBC's emissary Anthony Henday, they stated that these weapons served them well enough.³

By the late nineteenth century policy makers in Ottawa and Washington considered it necessary to suppress and eradicate most aspects of Aboriginal cultures in an attempt to enable Aboriginal people to survive in the "modern world" by adopting Euro-American ways. Over several decades Aboriginal people were to be stripped of all important aspects of their traditional cultures. It was only logical to close this process by taking from Plains Indian men the most obvious symbol of their independence and self-esteem. Archery was deeply embedded in Plains customs, spirituality, mythology and culture; the bow and arrow held great symbolic importance.

In the Central Subarctic this process was somewhat different because intertribal warfare did not reach the frequency, proportions and importance it held on the plains. The adopted symbols of Subarctic Aboriginal men's independence and prowess, such as knives in elaborately decorated sheaths and later firearms were less obvious to government representatives. By the late 1800s firearms had long since superseded archery in importance for big game hunting and as a combat weapon, and their Aboriginal users had imbued them with meaning and contexts of their own. In any case, stripping Subarctic peoples of their firearms would not have expressed the same symbolism as taking Plains Indian bows and arrows. It would also have been very impractical because due to unfavourable climate conditions, agriculture was not an option for

³ "The Chief further said they never wanted food, as they followed the Buffalo & killed them with the Bows and Arrows; and he was informed the Natives that frequented the Settlements, were oftentimes starved on their journey. Such remarks I thought exceeding true. He made me a present of a handsome Bow & Arrows, & in return I gave him part of each kinds of goods I had, as ordered by Mr. Isham's written instructions." Lawrence J. Burpee, ed., *The Journal of Anthony Hendry, 1754-55, York Factory to the Blackfeet Country* (Toronto: Canadiana House, 1973), Oct. 15, 1754, 32; Inuit from Hall Island in Frobisher Bay in the Central Arctic gave archery outfits in exchange for pins, needles and other small European manufactures to two emissaries from Martin Frobisher's crew during his second voyage to the Arctic, on July 19, 1577. Renée Fossett. *In Order to Live Untroubled: Inuit of the Central Arctic, 1550-1940* (Winnipeg: University of Manitoba Press, 2001), 35, 36.

most Subarctic people. Their economy had to remain based on hunting and trapping and they had come to rely on modern firearms and steel traps for these activities. Accordingly, archery and firearms co-existed in very different and diverging spiritual and social contexts in the Subarctic as compared to the Northern Great Plains.

Proficiency in archery as a status symbol

The use of archery was deeply ingrained into Plains Indian gender roles. The proper use of a powerful bow required great physical strength, and Crow, Hidatsa and Cheyenne people believed, according to early anthropological accounts, that no woman could live without a man who provided for her and defended her, using his bow. Most plains peoples in fact prohibited women from using archery gear.⁴ However, this idea may express more about late nineteenth and early twentieth century Euro-American views on the roles of women, than about actual Aboriginal practices. So-called “women’s work,” such as hauling firewood, butchering bison or tanning hides required just as much physical strength as archery. If Plains people commonly held such views, they may have been employed to help keep a male-dominated order of society in place, leaving some room for exceptions.

To shoot accurately, a bow and its arrows have to correspond to the size and strength of the user. For this reason bows for children were smaller and had lower draw weights than those for adults. Among most plains peoples the ability to use an adult-strength bow with proficiency and ease signified adulthood and manliness. Therefore, as soon as adolescent boys were able to shoot fairly accurately with a bow of higher draw weight, they often considered themselves close to adulthood. The Hidatsa Wolf Chief described such an experience. When he was seventeen years

⁴ Gilbert L. Wilson, “Hidatsa-Mandan report, 1911,” vol. 10, 91; George Bird Grinnell, *The Cheyenne Indians: Their History and Ways of Life*, 2 vols. (Lincoln: University of Nebraska Press, 1972 [1923]), vol. I, 127; Frank Bird Linderman, *Pretty Shield, Medicine Woman of the Crows* (Lincoln: University of Nebraska Press, 1972 [1932]), 55.

old, he and his father came upon a small herd of bison bulls while traveling on horseback. Wolf Chief suggested hunting them. His father agreed, but recommended that Wolf Chief use a gun, because he believed that his son was not yet strong enough to use his bow properly. However, Wolf Chief refused the gun and insisted on using his bow and arrows. He galloped off over a ridge in pursuit of the bison and managed to kill a large adult bull with a single arrow. When his father caught up and saw the slain animal, he exclaimed: "You have done it just like a man!"⁵ This episode shows the importance the Hidatsa placed on proficiency in archery and on the physical capability of using a bow of adult draw weight. Had Wolf Chief killed the bison with his gun, his father would certainly have been pleased, but because he did it with his bow and arrow, his father viewed this as the action of an adult hunter.⁶ Similarly, the Blackfoot Crooked Meat Strings related that when he was fifteen years old, he was not yet strong enough to kill adult buffalo with a bow and arrow. Therefore he used a gun until he was thirty years old, when he managed to kill fully grown bison with bows and arrows.⁷

In contrast to Plateau cultures where salmon fishing and gathering were important along with hunting, evidence from northwestern Plains peoples suggests that they generally disdained eating fish and considered bison meat their most important and proper food. Because the bow and arrow were the principal weapon for mounted bison hunting they considered killing adult buffalo with bow and arrow as a prestigious sign of adulthood and manliness.⁸

⁵ Wilson, "Hidatsa-Mandan report, 1911," 85.

⁶ *Ibid.*, 79-86.

⁷ Glenbow Archives, Lucien M. and Jane Richardson Hanks Fonds, M8458, Box 1, Series 1, M8458, file 9, Crooked Meat Strings via Mary White Elk, Aug. 8-10, 1938, 252.

⁸ The Plains Aboriginal leader whose people (Gros Ventre or Blackfoot) Anthony Henday tried to induce to come to Hudson Bay to trade with the HBC in 1754/55, answered "that it was far off, & they could not live without Buffalo flesh; and that they could not leave their horses &c.: and many other obstacles, though all might be got over if they were acquainted with a Canoe, and could eat Fish, which they never do." Lawrence J. Burpee, ed., *The Journal of Anthony Hendry, 1754-55, York Factory to the Blackfeet Country* (Toronto: Canadiana House, 1973), Oct. 15, 1754, 32; Similarly, European traders often expressed negative views on fishing peoples, while praising mounted bison hunting peoples as daring, active, and manly. For a discussion of these distorted European perceptions of Aboriginal

A Hidatsa girls' song points to the connection the Hidatsa saw between the expert use of archery gear, manliness and adulthood. Young Hidatsa girls sang this song to mock their male age mates when they left the village in the morning to go bird hunting. Its words meant as follows:

Those boys are all alike!
Your bow is like a bent basket splint!
Your arrow is only fit to shoot into the air!
Poor boys, you have to go barefoot!⁹

The girls' comparison of the boys' bows and arrows to thin, elastic willow twigs used in basketry, ridiculed their archery equipment as slack and powerless and the boys as child-like, or even effeminate, since the Hidatsa considered basketry to be women's work.

On the other hand, to be praised for powerful archery was flattering for boys and young men. In a Crow story told by the medicine woman Pretty Shield in the early 1930s, a young boy was lured into a magic world by the mysterious being, Red Woman. Red Woman made the boy do her bidding by praising his archery skills as an expression of his manliness.¹⁰ Adolescents and men could be very susceptible to such flattery. Similar to the bow of Ulysses in Homer's *Odyssey*, a bow of such strength that only its owner could string it was the mark of an exceptionally manly warrior.¹¹

food production systems and the cultural values and gender aspects Aboriginal people on the Plains and the Plateau attached to different foods, see Elizabeth Vibert. *Trader's Tales: Narratives of Cultural Encounters in the Columbia Plateau, 1807-1846*. Norman: University of Oklahoma Press, 1997, chapter 4, "Traders and Fishers: Tales of the State of Nature," 119-162.

⁹ Wilson, "Hidatsa-Mandan report, 1911," 93-104, related by Buffalo Bird Woman and Goodbird, song related by Buffalo Bird Woman, 94.

¹⁰ Linderman, *Pretty Shield*, 55-64.

¹¹ Eve Ball, *Indeh, An Apache Odyssey* (Norman: University of Oklahoma Press, 1988), 211; Grinnell. *The Cheyenne Indians*, vol. I, 176; Even contemporary archers, subconsciously or not, often view a bow with a high draw weight as a mark of manliness. At traditional archery tournaments one can often encounter male archers

Materials and decorations of bows and quivers as status symbols

Among Plains Indians not only the strength of a bow and its proficient use, but also the materials and decorations of the bow, the arrows, the quiver and the bow case held meaning relating to the social status and/or the spiritual powers of their owner. Plains peoples carried their arrows in a quiver, while an oblong tubular container, the bow case, contained the unstrung bow. Both containers were attached to a long carrying strap. Such quiver-bow case combinations and the various ways of carrying them were well adapted to mounted use.¹²

According to George Catlin, Mandan men regarded their personal appearance very highly and on special occasions wore elegant clothing and archery equipment, including elaborately decorated quivers of mountain lion skin or otter fur.¹³ At least on the Northern Plains, most of these quivers were not meant to be used on the hunt or in combat. Wolf Chief explained that Mandan and Hidatsa men used to wear special archery equipment on dress occasions, including public appearances, official visits or courting.¹⁴ When they wanted to impress the women in their village, or when they went to visit their sweethearts, young Mandan and Hidatsa men wore quivers without a bow case. These were made of otter pelts or mountain lion skin, elaborately decorated with fringe and quill- or beadwork.¹⁵

(author not necessarily excluded), bragging of their bows with draw weights of 60, 70 or even 80 pounds. However, at the end of the tournament, more often than not the female competitors, using much lighter bows of draw weights from 28 to 40 pounds, keep hitting the bull's eye, while their male companions shake and shiver from the strain of merely bringing their bows to full draw length, not to speak of accurate aiming.

¹² Laubin, *American Indian Archery*, 127, 128, 130; It is not clear when and where quiver-bow case combinations evolved. Painters such as George Catlin and Karl Bodmer, who traveled the North American West in the early 1830s showed just as many single quivers as quiver-bow case combinations in their paintings of Aboriginal people. It may be that during this time the single quiver gradually gave way to the quiver-bow case combination.

¹³ George Catlin, *North American Indians*, ed. Peter Matthiessen (New York: Penguin Books, 1989), 93, letter 13.

¹⁴ Wilson, "Hidatsa-Mandan report, 1911," 60-62; In contrast, Prince Maximilian observed a Hidatsa man returning from the hunt, who wore a richly decorated quiver of "panther fur." Maximilian Prinz zu Wied, *Travels in the Interior of North America*. Vols. 22 - 24 of *Early Western Travels: 1748 - 1846*, ed. Reuben Gold Thwaites (New York: AMS Press, 1966), part III, 66.

¹⁵ This may have been a reason for the coexistence of single quivers and quiver-bow case combinations, or a reflection of older practices dating back to times when only single quivers had been in use. In the summer of 1833 Prince Maximilian observed Plains Cree men at Fort McKenzie in Montana who "wore the leather cases of their

A man, when courting, wore an elaborately decorated quiver and carried his arrows with the fletchings at the bottom of the quiver, exposing the arrowheads.¹⁶ The arrows carried on such occasions were not blunt-headed, club-shaped arrows for bird hunting, or mere pointed shafts to kill rabbits or fish, but metal arrowheads with razor-sharp blades for big game hunting and combat, heated to a beautiful dark blue shine. Besides the arrows, such a quiver usually contained a short, sinew-backed bow of horn or antler, decorated with quillwork and horsehair and displaying its owner's military honour marks.¹⁷

Mandan and Hidatsa bows often had an asymmetrical profile with a longer upper limb. When carried in a quiver, almost half of the upper limb of the unstrung bow protruded from the opening. Even when the bow was in a bow case, the tip of the upper limb was still visible. Therefore honour marks were displayed on the upper limb of such a bow.

Many of Karl Bodmer's paintings contain images of Northern Plains men wearing a bison robe or a blanket and carrying a bow and a few arrows in one hand. In this mode of carrying, the upper limb of the bow protruded from the robe or the blanket, showing the owner's honour marks.¹⁸ Imitating warriors, small boys displayed "honour marks" on their bows by

bows wound round their heads, like a turban." Thwaites, ed. *Early Western Travels, 1748-1846. Vol. XXIII, Part II of Maximilian, Prince of Wied's, Travels in the Interior of North America, 1832-1834*, 13.

¹⁶ This method of carrying arrows when courting reflected older practices. Wolf Chief related that when his father was young (in the early nineteenth century) the Hidatsa still used flint arrowheads. These arrows were placed in the quiver with the feather towards the bottom and the arrowheads exposed above the rim of the quiver. This was originally done to prevent the arrowheads from breaking when they rattled against each other as the archer moved. For added protection a little wool from the head of a buffalo was twisted around each arrowhead. When the arrow was withdrawn from the quiver, the wool was ripped off. Gilbert Wilson, "Hidatsa-Mandan report, 1911," 50, 51. An Alemmanic burial near Altdorf in Northern Switzerland, dating to the first half of the seventh century yielded a self bow and a wooden quiver containing arrows. The arrows were placed in the quiver with the feathers at the bottom and with their metal arrowheads uppermost. The shape of the quiver and the mode of carrying the arrows suggest influence from Central Asian steppe peoples. People in Tang China also carried their arrows in this way. Holger Riesch, "Alemmanic Archery," *Instinctive Archer*, Fall 1997, 63, 64.

¹⁷ Among the Mandan, Hidatsa and other Northern Plains Indians specific decorations and embroidery, such as striped leggings, stripped quillwork designs on bows and striped beadwork on leggings, quivers and pipe bags visually expressed the military achievements of the wearer.

¹⁸ *Karl Bodmer's America*, ed. Joslyn Art Museum (Lincoln, Nebraska: Joslyn Art Museum, 1984), 160, 161; images of Omaha men, 315, portrait of the Mandan Sih - Sä (Red Feather), 321, 356; Wolf Chief related that elk horn bows carried on such occasions were not intended for big game hunting and combat, but were rather

cutting small notches into the upper limbs of their bows, marking the number of birds they had killed.¹⁹



Fig. 21. The Mandan Sih-Sa (Red Feather), wearing a highly decorated fur quiver and carrying an asymmetrical bow with hair decoration on the upper limb. Adapted from a water color by Karl Bodmer, *Karl Bodmer's America*, ed. Joslyn Art Museum, 306.

Sitting for a portrait, or later for a photograph, was a dress occasion requiring the wearing of finery. Bodmer and Catlin portrayed many Aboriginal men with highly decorated bows and quivers. George Catlin also painted portraits of several sons of leading Plains Indian families,

decorative, only capable of killing rabbits, but not large animals. On the other hand, bows of Rocky Mountain sheep horn were very efficient and powerful weapons, well suited for use in combat and in big game hunting. Wilson, "Hidatsa-Mandan report, 1911," 10, 21, 22, 60.

¹⁹ *Ibid.*, 93.

carrying archery gear.²⁰ A large number of historic photographs, especially from the Southern Plains show Aboriginal people wearing elaborate quiver and bow case combinations of otter or mountain lion fur, indicating that this tradition continued into the late nineteenth century.²¹

Because such images are so frequent and consistent in the work of different painters and photographers, it is likely that the archery items in those portraits were not painters' or photographers' props, but belonged to the portrayed persons. When boys were portrayed carrying elaborate archery gear, likely their families wanted to document their high social standing and future warrior status in this way.

Besides the social status that the display of elaborate archery gear could express, Aboriginal people on the plains accorded spiritual meanings to certain bows, arrows and quivers. The Peigan elder Reg Crowshoe listed bows and arrows among society bundles used by certain men's societies. These bundles were considered sacred and needed a transfer ceremony when they were handed over from the care of one society member to another.²²

James Willard Schultz, who married into the Piegan tribe during the late nineteenth century, related a Blackfoot story of the making, capture and re-capture of a bow case made from

²⁰ William H. Truettner, *The Natural Man Observed: A Study of Catlin's Indian Gallery* (Washington D. C.: Smithsonian Institution Press, 1979); "Deer's Hair, Son of Keokuk," "Grandson of Buffalo Bull's Back Fat." Karl Bodmer's and George Catlin's paintings were certainly influenced by their own bias towards what they perceived as "traditional" Aboriginal culture, as well as by the expectations of their target audience, middle and upper class whites in Europe and in the Eastern US. Unlike their contemporaries Gustav Sohon and Paul Kane, they hardly ever painted Metis people, and they rarely painted Plains Indians wearing European clothing, even though shirts, blankets and textile leggings were in widespread use on the plains by the time of Bodmer's and Catlin's visit. However, it would go too far to ascribe the Aboriginal attire depicted by Catlin and Bodmer to mere artistic license. Especially on the Southern Plains, many photographs from the later nineteenth century confirm earlier traditions of wearing elaborate archery gear for dress occasions.

²¹ Phil Walking Elk. *The Art of Making Indian Bows and Arrows* (Norman, Oklahoma: Phil Walking Elk, 1990), 3, 6; Wilbur Sturtevant Nye. *Plains Indian Raiders* (Norman: University of Oklahoma Press, 1968), 216 (Kicking Bird, Kiowa), 238 (Horseback, Nokoni Comanche), 240 (Horseback's son), 296 (Esa-Havey, Penateka Comanche), 320 (Gui-Tain, Kiowa), 322 (Koi-Khan-hole, Kiowa), 324 ("Kiowa-brave"), 328 (Tape-Day-Ah, Kiowa), 346 (Powder Face and family, Arapaho).

²² Reg Crowshoe and Sybille Manneschmidt. *Akak'stiman: A Blackfoot Framework for Decision-Making and Mediation Processes* (Calgary: University of Calgary Press, 2002), 24-27. Blackfoot scholar Theresa Schenck related that among her ancestors archery sets could become Medicine Bundles in their own right. Theresa Schenck, personal conversation, February 2005, Winnipeg.

albino otter skin.²³ He claimed that this story was based on events that happened in the 1840s and published it under the title: "The Theft of the Sacred Otter Bow Case."²⁴ According to Schultz, Jemmy Jock Bird, son of HBC fur trader James Bird and a Cree woman, and Jemmy Jock's brother-in-law Mad Wolf went on a chase to recover a stolen sacred white otter bow case in the winter of 1846/47, traveling so far south that they reached Pueblo or ancient Anasazi buildings in the Southwestern US. However, the dates seem improbable because the journals of Reverend Robert Rundle state that Jemmy Jock Bird was at Edmonton at the time.²⁵ John C. Jackson pointed out that Schultz came to the Northwestern Plains in 1886, married a Piikani woman and over the next 60 years produced Blackfoot stories that were "an indecipherable mix of recalled truth and suspect fiction."²⁶

Regardless of whether this incident actually happened, the important aspect is the sacred status and spiritual significance attached to a quiver or bowcase among the Blackfoot. Most northern plains peoples held white animal skins sacred, especially buffalo. The Crow and Blackfoot, but also the Swampy Cree held ermine (white weasel) skins in similar regard.²⁷

²³ Warren L. Hanna. *The Life and Times of James Willard Schultz (Apikuni)* (Norman: University of Oklahoma Press, 1986); Schultz grew up in Boonville in upstate New York and had come to Montana during the closing decades of the nineteenth century. He went to Montana motivated by a "romantic" interest in the indigenous people of the Great Plains and by a dislike for the restrictions imposed on him by small town society in rural New York state. Schultz soon became acquainted with Joseph Kipp, son of the fur trader James Kipp and a Mandan woman. Kipp offered Schultz employment in his trading venture, selling alcohol and other trade goods to the Piegan Blackfoot in return for bison robes and other furs. Schultz soon married a Piegan woman and spent considerable amounts of time with the Piegan people.

Schultz did not specify whether this was a quiver-bow case combination or only a bow case, but the former seems more likely.

²⁴ James Willard Schultz, "The Theft of the Sacred Otter Bow Case," in *Boy's Life*, July, Aug., Sept., 1935; later Schultz published a condensed version in *Blackfeet and Buffalo: Memories of Life Among the Indians* (Norman: University of Oklahoma Press, 1962), 179-193.

²⁵ John C. Jackson, *Jemmy Jock Bird, Marginal Man on the Blackfoot Frontier* (Calgary: University of Calgary Press, 2003), 103, 186, footnote 22.

²⁶ *Ibid.*, 186, footnote 21.

²⁷ Swampy Cree people considered ermine skins as "Manitou," having spiritual importance. Letters of La Potherie, J. B. Tyrrell, ed. *Documents Relating to the Early History of Hudson Bay* (Toronto: Champlain Society, 1968 [1931]), 228.

Furthermore, an important Piegan leader bore the name of “white quiver” (Ksiks Unopachis, 1850-1931), which may allude to the white otter skin bowcase mentioned by Schultz.²⁸

The Siksika elder Clifford Crane Bear related that Blackfoot people used to make a certain type of bowcase for “special occasions.” When examining a Blackfoot cow hide quiver/bowcase at the Glenbow Museum, he mentioned that it was similar to Blackfoot otter skin quivers/bowcases.²⁹ The Smithsonian Institution holds such a Blackfoot otter skin quiver/bowcase that closely resembles the cow hide item in Calgary in its beadwork patterns and general layout. Otters played a central role in Blackfoot beliefs and were considered sacred. They were viewed as spiritually connected to water and rain, reflected in the existence of sacred otter tipis, or the presence of otter skins in various religious bundles.

Clifford Crane Bear stated that the “otter skin-style” quiver of cowhide now in the Glenbow Museum was made for a staged “hunt” to entertain British royalty around 1905. Correspondingly Indian agent George H. Gooderham reported that Prince Arthur, son of the Duke of Connaught visited Gleichen, Alberta in 1906, on his way to Japan. On that occasion the Siksika were to stage a steer hunt for the Prince. A massive Blackfoot man and famous hunter by the name of “Dying Young Man” was said to have brought down a large steer with “a bow and arrow fired from his racing cayuse.”³⁰ However, according to Clifford Crane Bear, the animal could not be killed by arrows and had to be shot with a firearm. The quiver and bowcase later

²⁸ Schultz, *Blackfeet and Buffalo*, 210-225.

²⁹ Glenbow Museum, Calgary, AF 4293a, quiver and bowcase, cow hide, Peigan (bow AF 4293b and arrows AF 4293 d, etc).

³⁰ Glenbow Archives, Calgary, George H. Gooderham Fonds, 1901-1976, M4738, Box I, file 2, from “Indians meet Royalty;” North West Mounted Police Report 1907 for 1906 (Government of Canada, *Sessional Papers* No. 28, *Report of the Northwest Mounted Police 1906*, Ottawa, vol. 11, 54); The bow and arrows currently contained in this quiver and bowcase were not fit for big game hunting. The little bow was ingeniously crafted to resemble a sheep horn bow. It is a self bow and was made from a tree branch. The bark was left on to give the appearance of a sinew backing. The bow has the same elegant curves and narrowing recurved tips as a sheep horn bow. The arrows have elaborate oblong wooden points, similar to gaming arrows. While this bow might have been able to launch light arrows to some distance, the equipment would hardly have been capable of taking large game, such as a bison or a steer. The bark, or “imitation sinew backing” has broken under tension stress on one limb of the bow, probably because the bow was overdrawn at some point.

came into the possession of the wealthy and influential Berry family in Alberta. Records from the Glenbow Museum indicate that the Glenbow Archives once held a photograph showing Hugh Berry as a child, wearing the quiver and bowcase which were later donated to the museum.³¹

Quivers and bow cases for ordinary use in hunting and combat were made from plain but durable materials, such as brain tanned or commercially tanned leather or hides of bison, cattle, horses, deer and elk.³² Louis Bird also mentioned that among the Swampy Cree, quivers for everyday use in hunting were often made from rather stiff tanned hides, similar to rawhide with the hair left on. Their stiffness protected the arrow shafts and their fletchings from being crushed by accident. The Swampy Cree considered quivers of soft-tanned leather, decorated with fringes or beadwork, as fancy items for wear on special occasions and such quivers were rather rare.³³ Among the Mistassini Cree quivers were of moose or caribou hide. Sometimes Mistassini Cree hunters thrust their arrows through their belts instead of carrying them in a quiver.³⁴

Archery items as regalia of Northern Plains men's societies

A Plains Indian person would belong to one or more societies throughout the course of his or her life. These societies had specific functions vital to the community. Their members were organized into different ranks, from common members to "officers" and leaders. Each rank was identified by specific paraphernalia. Military societies were concerned with combat, but also had internal policing functions. Among the agricultural peoples of the Upper Missouri and among some of the mobile bison hunters of the plains, such as the Blackfoot, Arapaho and Gros

³¹ No such image could be found at the Glenbow Archives.

³² Wilson, "Hidatsa-Mandan report, 1911," 63.

³³ Louis Bird, 0014 – *Our Voices*, "Guns and Bows," 2001.

³⁴ Edward S. Rogers. *The Material Culture of the Mistassini* (Ottawa: National Museum of Canada Bulletin 218, 1967), 70.

Ventre (Gros Ventre) these societies were age-graded.³⁵ For example, among the Blackfoot, a young boy joined the Bees, then the Mosquitos and would work his way through various other societies until in his middle age he became a member of the Brave Dogs, the Horns or the Old Bulls, the most respected and most influential men's societies.³⁶

The Pigeons or Doves Society was one of the first or lowest ranking societies within the age-graded society system of the Blackfoot that male adolescents had to pass. It was founded in 1855 or 1856 among the South Piegan. Eventually it spread to the North Piegan, Siksika and Kainai. In the early twentieth century Blackfoot people related that this society was founded by a man named Change Camp.³⁷

Pigeons appeared to Change Camp in a dream and taught him the songs, dances and rules of this society. In his dream the birds called on Change Camp to gather all the boys and non-influential, powerless people. If all these persons would unite and follow the advice of the pigeons, they would become a powerful and respected society.

Every Blackfoot boy of approximately fifteen years of age or older could join. Applicants had to purchase society membership from current members when these purchased a membership in the next highest ranking society. Plain bows and arrows and a quiver were part of the society insignia, carried by every new member at the time of the membership transfer. During the transfer society a young and unmarried woman, selected for her outstanding virtue, sang with the six best singers of the society and also carried a bow and arrows.³⁸

After the transfer ceremony the new members stormed out of the gathering-lodge and shot their blunt arrows at the ground or at any unfortunate dog they happened to find.

³⁵ Thomas E. Mails. *Plains Indians: Dog Soldiers, Bear Men and Buffalo Women* (New York: BBS Publishing Corporation, 1973), 78, 190, 215.

³⁶ Crowshoe and Mannes Schmidt, *Akak'stiman*, 16.

³⁷ Mails. *Plains Indians*, 91, 92.

³⁸ *Ibid.*, 91, 92.

During ceremonies four special members designated as “yellow pigeons” painted their bodies yellow and wore only a breech cloth. They carried bows of chokecherry or serviceberry wood, arrows and a quiver made from the yellow hide of a buffalo calf. When they sang, they used their bows and arrows as simple musical instruments beating time on the strings of their strung bows with their arrow shafts, producing a low resounding tone.³⁹

The members of the dove society participated in many kinds of organized mischief, playing tricks on people and bullying the wealthy and influential of the community. These tolerated their pranks, granting them a certain amount of fool’s licence, stating that the members of the pigeon society were still young and immature and that their actions were good training for raids on enemy encampments.⁴⁰

During the Massaum ceremony or “animal dance” of the Cheyenne, dancers also harassed the audience playfully with bows and arrows. In this four-day ceremony, the Cheyenne expressed their respect toward creation, including plants and animals. The ceremony was to insure the renewed fertility of plants and animals to secure the well being of the people. Several dancers enacted pantomimes of hunting scenes during the event. Four of these dancers carried red-painted bows and arrows. Acting as clowns, they teased the audience with their projectiles.⁴¹

Pigeon society archery equipment was mostly used to shoot at animals or people to tease and bother them. To prevent serious injury the bows could not be very powerful and the arrows had to be blunt. The Provincial Museum of Alberta in Edmonton holds five pigeon society archery sets from the Blood and the Siksika. Three of these appear to be of recent manufacture because they exhibit construction characteristics untypical of older plains archery items. The

³⁹ Ibid., 91, 92; Walter McClintock. *The Old North Trail, Life, Legends and Religion of the Blackfeet Indians* (Lincoln: University of Nebraska Press, 1992 [originally published: London: Macmillan, 1910]), 449, 450.

⁴⁰ Mails. *Plains Indians*, 92; McClintock, *The Old North Trail*, 449, 450.

⁴¹ Grinnell, *The Cheyenne Indians*, vol. II, 205 ff, 286, 287, 329 ff, 334.

three bows were made from a thin branch or sapling. Wood was removed on the belly side to reduce the limbs to proper thickness. However, the handle area was left at full diameter, forming a so-called "riser." This design feature is reminiscent of modern Euro-American sporting bows. Older Plains bows normally had no "riser".

The bow strings were very thin and mostly made of commercial thread. Most of the arrows were made from rather crooked shafts with kinks and twists. The fletchings were much shorter than on conventional plains arrows and the vanes were left much longer than usual. Some of these arrows have crude stone points, but most shafts were whittled to an obtuse point. However, two of these five archery sets include bows similar to older plains bows, without a thick handle. The arrows with these bows have fairly straight shafts, but the fletchings are still different from more common plains arrows.⁴²

Three of these five archery sets were collected in 1965 or later. Their more "modern" design features suggest that while the knowledge of Plains Indian bow and arrow manufacture declined, the importance of the pigeon society remained and the cruder and simpler archery outfits used in its post World War II activities were sufficient for the society's purposes.

⁴² Provincial Museum of Alberta, Edmonton: H 89. 220. 415 a-f, self bow with thick handle and five crudely made arrows with very crooked shafts, three have the tips of the shafts whittled to a point, two have crude stone points, all have crude fletchings, much shorter and the vanes much higher than on older plains arrows.

H 89. 220. 414 i-k, Blood self bow and two arrows, self bow is reminiscent of the old plains type, arrow shafts are relatively straight, but with rather simple fletchings. These items are part of the Scriver collection, a private collection that the Provincial Museum of Alberta purchased in 1989. Bob Scriver and his father Thaddeus had a store in Browning, Montana and collected primarily Blackfoot material for close to 100 years but unfortunately did not keep detailed records identifying exactly when and from whom they had acquired particular objects.

The H65 and H66 materials were purchased in the field in 1965 and 1966 by museum staff. H65.264.5a was made recently, according to the catalogue notes, which probably means in the early 1960s. According to curator Dr. Susan Berry the H65.212 and H66.200 materials are older than that, but there is no specific information about their age. (Susan Berry, Provincial Museum of Alberta, Edmonton, e-mail from Aug. 26, 2004.)

H 65. 212 1A + B, thick-handled self bow and arrow from the Blood at Cardston, Alberta (date unknown);

H 65. 264 5 A, recent replica of Pigeon Society self bow (thick handle) from the Blood at Cardston, Alberta;

H 66. 200. 1 A + B, self bow and arrow from the Siksika at Gleichen, Alberta, self bow is of older design, without riser-handle, similar to 19th century plains self bows, the arrow shaft appears to be relatively straight, the bow and arrow are covered in red ochre, the bow has a real sinew string;

H 89. 220. 414 i-k, Blood self bow and two arrows, self bow is reminiscent of the old plains type, arrow shafts are relatively straight, but with rather simple fletchings, different from the long and low-cut fletchings commonly found on Plains Indian big game hunting or combat arrows.

Archery items played a prominent role in other Plains Indian societies as well. For instance, warriors of several societies among the Gros Ventre (Gros Ventre), Blackfoot and Crow publicly expressed their bravery and the trust in their spiritual protection through a rather dangerous archery performance. The men stood together in a wide circle, holding their bows and arrows overhead, ready to shoot. At a signal they all loosed their arrows straight up into the air. To the astonishment of their audience they then bowed their heads, stood still and waited for the hail of arrows to pour down around them.⁴³

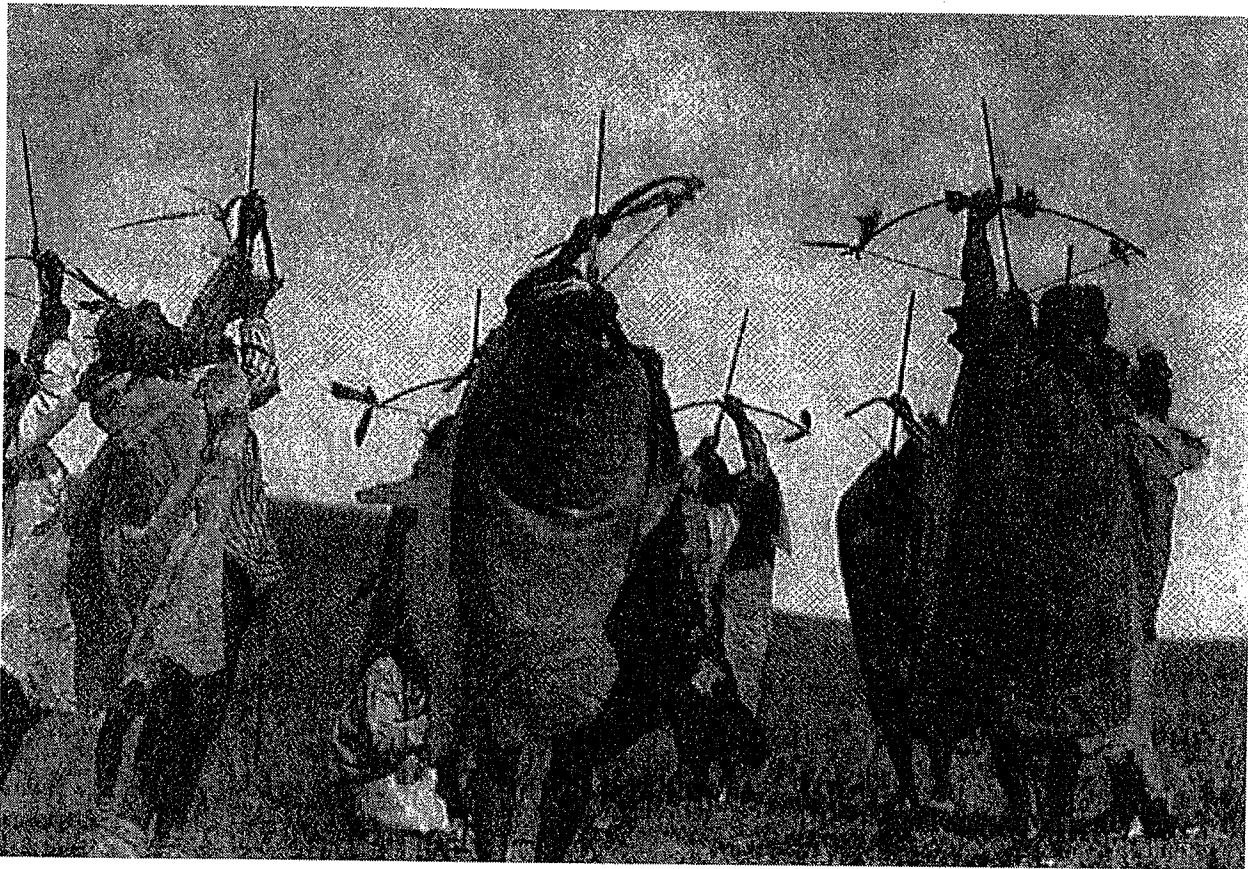


Fig. 22. Gros Ventre arrow dance. Adapted from Edward Sheriff Curtis, *Die Indianer Nordamerikas*. Cologne: Benedikt Taschen Verlag GmbH, 1997 (1907), 230.

⁴³ Mails. *Plains Indians*, 98, 99, 219, 306; It is possible to shoot an arrow up to fifty meters straight up, or higher, using Plains Indian archery equipment. When the arrow reached the highest point of its flight, it turned and, with the tip pointing downward, it fell back to the ground. Due to its weight, it gathered velocity and tremendous penetrative force. Thus, even an arrow with just a sharpened shaft, or a blunt headed "bird arrow" became a lethal projectile.

Stone arrowheads were part of the insignia of warrior societies, for example among the Kit Fox society of the Cheyenne.⁴⁴ However, the making and use of lithic projectile points by nineteenth century Plains Indians have been disputed. Many early ethnographic accounts state that Plains Indians had no recollection of the manufacture and the use of stone arrowheads, and writers have argued that lithic projectile points frequently found on the plains belonged to ancient pre-contact cultures.

When asked about the provenance of these projectile points, the Crows Plenty Coups and Pretty Shield replied that they were made by mythical beings called "little people." Plenty Coups told Frank Bird Linderman in the early 1930s that in pre-contact times, arrowheads had been made from bone.⁴⁵ Pretty Shield related that arrowheads of a reddish stone were the remnants of the burst bones of Red Woman, a monster from Crow mythology. She also stated that stone arrowheads found on the plains always got lost somehow and that it was impossible to keep them for long.⁴⁶ Linderman concluded from this that the Crow and most other Plains Indians he encountered in Montana had no traditions of the manufacture of lithic projectile points and certainly had not made them in post-contact times.

However, according to Arapaho traditions, their culture heroes taught them how to make arrowheads and knives from bones and wooden bows using stone tools.⁴⁷ Blood (Kainai) traditions state that Napi or "Old Man," the trickster, creator and culture hero of the Blackfoot, taught the people how to make bows and arrows with flint points in order to hunt buffalo.⁴⁸

⁴⁴ Grinnell, *The Cheyenne Indians*, vol. II, 57.

⁴⁵ Frank Bird Linderman, *Plenty Coups, Chief of the Crows* (Lincoln: University of Nebraska Press, 1962 [1930]), 40.

⁴⁶ Linderman, *Pretty Shield*, 53.

⁴⁷ Loretta Fowler, *The Arapaho* (New York: Chelsea House Publ., 1989), 14.

⁴⁸ Glenbow Archives, M4421, M4422, R. N. Wilson Papers, edited and annotated by Philip H. Godsell, vol. 1, Glenbow Foundation: Calgary, 1958, 21, 22.

Similar traditions existed among the Plains Cree, whose culture hero "Pointed Arrow" was said to have been the earliest human being. They believed that he had earned his name because he invented the bow and arrow and taught its use.⁴⁹ Cheyenne people told G. B. Grinnell that their culture heroes had taught their ancestors how to make blades and arrowheads from stone. They had also taught them how to haft such blades and arrowheads and how to make and use bows and arrows. The culture hero Heammawihio told the Cheyenne that soon after these instructions they would encounter other peoples who used similar weapons and tools. He had also instructed these people in weapons manufacture.⁵⁰

The Cheyenne made and used stone arrowheads in the nineteenth century and their knowledge of making them dated back to pre-contact times. Grinnell's Aboriginal co-workers stated that if Cheyenne men ever forgot how to make arrows, the thunderbird would instruct them again.⁵¹ They also described the tools necessary to make stone arrowheads. These included stone hammers or smaller hammer stones, used to break large chunks of flint into smaller pieces to make arrowheads.⁵² Some Cheyenne believed that arrowheads found on the plains came from the arrows of the thunderbird. They thought that the thunderbird sometimes shot invisible arrows at animals or people, killing them on occasion. All that was left of such arrows afterwards were the stone arrowheads.⁵³

Among those Aboriginal peoples with age-graded societies, such as the Blackfoot, bows and arrows figured more prominently in the societies for adolescents than in those for adults. By the time anthropologists began to collect information from Plains Indians, the bison herds had long since been destroyed and the warrior ethos had lost much in importance. Archery had also

⁴⁹ Edward Ahenakew. *Voices of the Plains Cree* (Toronto: McClelland and Stewart, 1973), 67.

⁵⁰ Grinnell, *The Cheyenne Indians*, vol. II, 90.

⁵¹ *Ibid.*, vol. II, 95.

⁵² *Ibid.*, vol. I, 211.

⁵³ *Ibid.*, vol. II, 95.

lost much of its prestige as a weapon for adults. However, boys still used bows and arrows as toys or to hunt small game. Among most Plains Indian peoples, individual warriors still strove to increase their prestige and to win military honours. However, killing an opponent from a distance was not generally considered a deed of great valor.⁵⁴ This may explain why firearms were even rarer than bows as insignia of warrior societies. Bows and close combat weapons such as clubs and thrusting spears more explicitly symbolized courage and bravery in battle and were thus more likely to become insignia of warrior societies.

Archery in Plains Indian symbolism

It is beyond the scope of this study to present a wide survey of Plains Indian myth, ritual and symbols connected to archery. A few examples, however, will show how deeply archery was embedded in the people's beliefs and spirituality.

According to the mythology of the Osage and the Pawnee the bow was a gift from the moon to the people while arrows were a gift from the sun, made from its rays.⁵⁵ Other Plains peoples had similar concepts, viewing the bow and the moon as feminine and the arrow and the sun as masculine.⁵⁶ The association of the bow with the moon may have been based on the similarity in shape between a strung bow and a crescent moon. Accordingly, associating arrows with the rays of the sun would make them masculine.

In their three most important ceremonies the Osage used two painted arrows. One was painted black and symbolized the night, while the other was painted red, which was a symbol of the day. These arrows were launched from a bow that was painted red and black. This was meant

⁵⁴ Ibid., vol. II, 30, 36.

⁵⁵ Colin F. Taylor. *Native American Weapons* (Norman: University of Oklahoma Press, 2001), 58.

⁵⁶ William Vonderhey. *Secrets of the Omaha Bow* (Grantville, Pennsylvania: William Vonderhey, 1992), 62, 63; Laubin, *American Indian Archery*, 24.

to express not only the continuous succession of night and day, but also the consistent return of life for the Osage people and all of their descendants.⁵⁷ The four sacred arrows of the Cheyenne expressed a similar colour symbolism. Two of these arrows had their shafts painted black, symbolizing battle. The two other arrows had red shafts, symbolizing hunting. Accordingly, the arrow keeper's tent was painted black at the bottom and red at the top.⁵⁸

The handles of some plains bows were covered with parts of red and black or dark blue cloth. Each piece of cloth overlapped one edge of the bow so that the dividing line between red and black ran along the center of the bow's back and belly.⁵⁹ Dr. Washington Matthews, a US military medical officer, collected an elk horn bow with a handle covered in red and dark blue cloth on the Fort Berthold Reservation in North Dakota around 1865. The upper tip of this bow was decorated with alternating bands of purple and yellow quillwork and a tuft of red horse hair.⁶⁰ Similar to the handles of bows, the triangular bibs on Mandan, Hidatsa, Crow and Lakota men's shirts were often decorated with pieces of red and dark blue or black cloth of equal size.⁶¹

⁵⁷ Ibid., 121; Vonderhey. *Secrets of the Omaha Bow*, 62, 63.

⁵⁸ Grinnell, *The Cheyenne Indians*, vol. I, 233; Laubin, *American Indian Archery*, 121.

⁵⁹ James A. Hanson. *Spirits in the Art*. (Kansas City: Lowell Press, Inc., 1994), 44, 45. The Forrest Fenn collection contains a bow, possibly from the Lakota, with a handle covered in two pieces of red and blue wool cloth of equal size, said to symbolize day and night. The sinew backing and the sinew-wrapped tips of the bow were painted dark blue, with yellow circles or dots painted on the back of the bow in a long row. According to Hanson, these may represent stars. The belly of the bow was painted with a dark blue wavy line, reaching from each tip to the cloth-covered handle. Hanson interpreted this line as a lightning bolt. It is similar to the wavy engraved and painted grooves on plains arrow shafts, said to represent lightning.

⁶⁰ Steve Allely and Jim Hamm. *Encyclopedia of Native American Bows, Arrows and Quivers*, Vol. 2 (Azle, Texas: Bois d'Arc Press, 2002), 147. This bow is at the Smithsonian Institution in Washington D. C. Allely and Hamm labeled it "Arikara," but Washington Matthews also collected from the Hidatsa. At Ft. Berthold the Mandan, Hidatsa and Arikara lived very closely together in a single large village. Therefore it was often difficult to determine the ethnic provenance of a particular artifact, unless the name and affiliation of its previous owner or maker were recorded.

⁶¹ Ulrich Löber, ed. *Prärie und Plainsindianer, Die Reise in das innere Nord-America von Maximilian Prinz zu Wied und Karl Bodmer: Katalog zur Ausstellung des Landesmuseums Koblenz aus Anlass des Rheinland-Pfalz Tages 19993 in Neuwied* (Mainz: Verlag Hermann Schmidt, 1993); Karl Bodmer's portrait of the Mandan leader Mato-Tope, 55; photo of a Crow men's shirt from the Staatliche Museen zu Berlin, Museum für Völkerkunde, Röver Collection, ca. 1845 (Cat. No. IV B 193), 30; Helga Benndorf and Arthur Speyer. *Indianer Nordamerikas 1760-1860* (Offenbach a. M.: Deutsches Ledermuseum Offenbach, 1968), Abb. 92, photo of a Crow men's shirt (Cat. No. 239), probably pre 1840; James A. Hanson. *Little Chief's Gatherings: The Smithsonian Institution's G. K. Warren 1855-56 Plains Indian Collection* (Crawford, Nebraska: The Fur Press, 1996), 73, Lakota shirt (Cat. No.

Such symbolic dualism was widespread among Aboriginal peoples of the Missouri River region and the Northern Great Plains.

Archery items in myths and ceremonies

Archery gear figured prominently in the creation stories of several Plains peoples.

The Awatixa, one of the three Hidatsa subgroups, named their creation myth after one of its central characters, "sacred arrow." Charred Body, the culture hero of the Awatixa, lived in a village in the sky. He had the ability to transform himself into an arrow to travel between heaven and earth. From his home in the sky he brought thirteen young couples to earth. These beings, who also had the ability to transform themselves into arrows, founded the thirteen clans of the Awatixa. The "arrows" in this myth held spiritual and healing powers.⁶²

Buffalo Bird Woman told Gilbert Wilson a story about an arrow that spoke to the Hidatsa, telling them that it would always serve them well as long as they maintained it properly and oiled it regularly.⁶³ When Hidatsa boys received arrows as gifts, adults told them that these arrows represented the culture hero Charred Body. Therefore they were to be well maintained and to be kept sacred.⁶⁴ A magic bow was of importance in the Hidatsa grandmother-myth. One of the sacred objects used in the corn ceremony was a wooden bow painted red. Although the bow used in the ceremony was made of wood, Wolf Chief explained that the bow in the grandmother-myth was an elk horn bow.⁶⁵

1948); Hanson. *Spirits in the Art*, 109, photograph of the Oglala Shot-In-The-Eye, 1907 (photo taken by DeLancey Gill, Museum of New Mexico, No. 59451).

⁶² Alfred W. Bowers. *Hidatsa Social and Ceremonial Organization* (Lincoln: University of Nebraska Press, 1992), 303 - 308.

⁶³ Wilson, "Hidatsa-Mandan report, 1911," 97.

⁶⁴ *Ibid.*, 53.

⁶⁵ *Ibid.*, 23 - 25.

The central event in Cheyenne religious life was the annual ceremony of the medicine lodge, also referred to as the "sundance". It was held to achieve the spiritual renewal of the entire creation. The Cheyenne installed a nest of branches at the top of the center pole of the medicine lodge, representing the nest of the thunderbird. The sacrifice made to the thunderbird on this occasion consisted of a bundle containing a digging stick and arrows.⁶⁶ The digging stick stood for plant foods, such as prairie turnips, gathered mostly by the women. The arrow symbolized meat, gained by men in big game hunting.⁶⁷ These items expressed a prayer for abundant food and represented the cooperation and equally valued contributions of men and women to the nourishment and well being of the people.

The Red Woman story from the Crow expressed similar symbolism. In this story a boy-hero was pursued by a monster. While he used his magic arrows to increase the distance from his pursuer, it was his mother's digging stick that enabled him to cross a river to safety, insuring the boy's escape and rescue.⁶⁸ The symbolism in this Crow story may have had a meaning similar to the sacrifices to the thunderbird among the Cheyenne. While men hunted and fought with bows and arrows, it was a woman's simple digging stick that saved the day, a hint at the importance of women's contributions to the subsistence of the people.

Bows and arrows were of importance in the ceremonial killing of bison. Several Lakota and Crow ceremonies required the fresh hide of a bison killed with a single arrow. If the arrow completely penetrated the animal's body, causing an exit wound, the cadaver and the hide could not be used and a different animal was chosen.⁶⁹ To be chosen as the hunter for such a task

⁶⁶ Grinnell, *The Cheyenne Indians*, vol. II, 237, 238 ff, 244 ff.

⁶⁷ *Ibid.*, vol. I, 210.

⁶⁸ Linderman, *Pretty Shield*, 55 - 64.

⁶⁹ Royal B. Hassrick. *The Sioux: Life and Customs of a Warrior Society* (Norman: University of Oklahoma Press, 1964), 91; Peter Nabokov. *Two Leggings: The Making of a Crow Warrior* (New York: Thomas Y. Crowell Company, 1967), 81-85.

carried great prestige because it was public acknowledgement of exceptional hunting skills. At the same time it was also a tremendous responsibility, because the proper performance of the ceremony and thus the welfare of the entire people depended on the success of this hunt.⁷⁰ Two Leggings related that the Crow Bull Shield was once chosen for this role and performed it successfully. He was so sure of himself that he took only two arrows along when he set out on this hunt.⁷¹

The central Mandan ceremony was the Okipa, a reenactment of the Mandan creation myth. It was held every summer and lasted four days. It was meant to secure the fertility of the bison herds and the general well being of the people. This ceremony included the voluntary self-torture of Mandan men, who hung from the rafters of the ceremonial earth lodge on ropes tied to wooden skewers pushed through their skin and muscles on the chest or on the back. Their shields, quivers, bows, and arrows hung from further skewers pushed through their leg and arm muscles.⁷²

Among the agricultural and matrilineal Mandan, women owned the fields, the earth lodges and most of the household items. A man's weapons, most of all his bow, arrows and shield were the most important of his few possessions. Therefore these items were part of the men's rituals of the Okipa ceremony and were placed on the burial platforms of their deceased owners.⁷³

One of the most significant characters in Cheyenne mythology is the culture hero Sweet Medicine. In a story about a contest among shamans, the bow and bowstring of Sweet Medicine's father played an important part. Sweet Medicine was said to have been very wise,

⁷⁰ Hassrick. *Sioux*, 91.

⁷¹ Nabokov. *Two Leggings*, 81-85.

⁷² Catlin, *North American Indians*, ed. Peter Mathiessen, 153 - 155, letters 21, 22.

⁷³ *Ibid.*, 83, letter 12.

even as a child. As a youth he decided to participate in a dance of spiritually powerful people, to the astonishment of his father. This dance required the performers to provide extreme proof of their special abilities. Sweet Medicine conferred with his father and participated in the dance, carrying his father's red-painted bow with a red-painted bowstring. He carried the bowstring around his neck and severed his head and broke his neck with it during the dance. Afterwards his father brought him back to life, using his own shaman powers, covering his son with a red-painted bison robe. By displaying his shamanic abilities, Sweet Medicine attained high standing among the Cheyenne.⁷⁴

This story may indicate the Subarctic origins of the Cheyenne because such contests between shamans were more common in Subarctic spiritual concepts than on the plains. In the early nineteenth century the fur trader George Nelson collected a similar story from Cree and Ojibwa people near Lake Winnipeg. In this story Wisakejack's son Nayhanimis took off his own head in a shamanic contest against the North Wind, who did the same.⁷⁵ George Nelson also attended a shaking tent ceremony among Cree people near Lac La Ronge. They used this ceremony to divine the whereabouts of missing persons or to communicate with people at a distance, via the medium of spirits that were said to enter the ceremonial lodge. This ritual involved tying the shaman's toes, fingers, legs and arms tightly and wrapping him in blanket or bison robes which were also tightly tied. After that at some point during the ritual the shaman usually appeared unbound, said to have been freed by the aid of the spirits.⁷⁶ Different manifestations of the shaking tent ceremony existed among Plains Indian peoples. In this context

⁷⁴ Grinnell, *The Cheyenne Indians*, vol. II, 346; Lakota and Cheyenne used red blankets or bison robes to cover their dead at burial. The red bison robe used by Sweet Medicine's father may have represented burial and Sweet Medicine's triumph over death.

⁷⁵ Jennifer S. H. Brown and Robert Brightman. *"The Orders of the Dreamed" George Nelson on Cree and Northern Ojibwa Religion and Myth, 1823* (Winnipeg: University of Manitoba Press, 1988), 76.

⁷⁶ *Ibid.*, 39, 83, 103-105.

Cheyenne and Lakota people used bowstrings to bind a shaman's hands and feet. The medicine man was to completely free himself of these bindings during the ritual.⁷⁷

While traveling with a band of Piegan in the winter of 1792/93, Peter Fidler observed such a ritual, performed by a shaman from the Blood whom the Piegan had invited to find out about the fate of a missing delegation to the Shoshoni. Fidler observed: "This man was laid upon his back in the Tent – and all his toes upon both feet was tyed together with strong Sinnew – his arms was then put before him & all his fingers tyed together in the same manner."⁷⁸ These cords may have been sinew bowstrings similar to those used by the Cheyenne and Lakota for the same purpose.

Wolf Chief recorded a similar instance. A Hidatsa shaman whose spiritual power came from the ghosts of the dead held a ceremony to learn about the fate of a missing war party. His hands and fingers were tied behind his back and he was wrapped and tied up in bison robe. After communicating with the ghosts he appeared again unbound.⁷⁹

Physical and spiritual protection from projectiles

Plains warriors commonly believed that they could harness spiritual protective powers through rituals and amulets to render them impervious to arrows and bullets. This belief was most closely connected to the use of shields. Shields were made from rawhide taken from the neck section of a bison bull. The French referred to rawhide made by Native Americans as "parfleche." This term consists of the French terms "parer," "to parry," and "fleche," meaning

⁷⁷ William K. Powers. *Oglala Religion* (Lincoln: University of Nebraska Press, 1975), 144-147; Grinnell, *The Cheyenne Indians*, vol. II, 113, 114.

⁷⁸ HBCA, "Journal of a Journey over Land from Buckingham House to the Rocky Mountains in 1792 – a 3 by Peter Fidler." 4M 103; E 3/2, 1-36, Jan. 28, 1793, 27.

⁷⁹ Bella Weitzner, ed. *Notes on the Hidatsa Indians Based on Data Recorded by the Late Gilbert L. Wilson*. Vol. 56: part 2, *Anthropological Papers of the American Museum of Natural History* (New York: American Museum of Natural History, 1979), 314, 315.

“arrow.” It indicates Plains people’s use of rawhide as a form of armour or shield at the time the first French explorers met them in the late seventeenth century.⁸⁰

In pre-horse times shields were rather large, covering a warrior from chin to feet. Saukamaptee related to David Thompson that in his youth, in the 1730s, Cree, Assiniboine, Blackfoot and Shoshone warriors used large shields, covering them from feet to chin, while fighting in close formations on foot.⁸¹ With the adaptation of mounted combat and firearms, shields decreased in size. While several surviving Northern Plains shields from the first half of the nineteenth century have a diameter of 60 cm or more, those from the later nineteenth century are noticeably smaller.

The importance of the physical protective capabilities of shields declined after the introduction of firearms because at close range rawhide could not stop musket balls. Therefore Aboriginal people increasingly emphasized the spiritual protective powers of their shields. Eventually the importance of a shield’s spiritual protective powers surpassed that of its physical protective capabilities. The Crow Two Leggings illustrated this, stating that he carried a large round rawhide shield on his back on a war party during the 1860s or 1870s. It deflected an enemy arrow in battle and saved his life. In spite of this success, Two Leggings decided to use a smaller shield on his next war party, because he thought the larger one too unwieldy. He stated that the size of a shield did not matter, because its spiritual powers, not its thickness or diameter determined the degree of protection it could offer.⁸²

⁸⁰ Grinnell, *The Cheyenne Indians*, vol. I, 187, 188; Eventually the term “parfleche” was applied to a wide variety of non-military items made from rawhide, such as food containers, rawhide caps and boxes, but mostly for flat folding bags used to store pemmican.

⁸¹ David Thompson, *David Thompson’s Narrative, 1784-1812*, Richard Glover, ed. (Toronto: The Champlain Society, 1962), 241, 242; Oscar Lewis. *The Effects of White Contact Upon Blackfoot Culture* (Seattle and London 1966 [1942]), 47; James D. Keyser, “The Plains Indian War Complex and the Rock Art of Writing-On-Stone, Alberta, Canada,” *Journal of Field Archaeology*. vol. 6, 1979, 43; James D. Keyser, “A Lexicon for Historic Plains Indian Rock Art: Increasing Interpretive Potential,” *Plains Anthropologist*. vol. 32, 1987, 46, 47, 49.

⁸² Nabokov. *Two Leggings*, 32-35.

Amulets were considered another source of spiritual protection from projectiles. Often stone arrowheads were part of such amulets. Cheyenne warriors wore them around their necks or tied to their hair, along with a small leather bag containing their personal medicines of certain plant parts. These bags were usually tied to the hafting tang of the arrowhead. Such amulets were meant to secure a long life for their wearer. To the Cheyenne stone symbolized endurance and constancy. By wearing such amulets they hoped to obtain these characteristics.⁸³

Cheyenne people also believed that the feathers of certain birds could protect humans from projectiles. For instance, a man wearing the feathers of the gray eagle (*H. leucocephalus*), or the Blue or Duck Hawk supposedly could not be hit by arrows or bullets.⁸⁴ By wearing amulets or images of lizards, butterflies or dragonflies, Cheyenne warriors hoped to gain these animals' agility and speed to evade projectiles in battle.⁸⁵ Amulets representing arrows or guns were thought to ward off projectiles.⁸⁶

In the 1930s the Ojibwa leader William Berens of Berens River, Manitoba related a powerful dream to Irving A. Hallowell. In this dream Berens survived a contest of powers with a spiritual being and was rewarded with a gift of protection from bullets if he should ever go to war. Because Berens never did so, even though he was offered a chance during World War I, he concluded that he did not need the blessing, and felt that he could tell about it:

I was walking along and came to a house [not a wigwam]. I went in. There was no furniture in the room I entered. All that I saw was a small boy in a red tuque. He said to me, "Oh, ho, so you're here." "Yes," I replied, "I'm here." This boy had a bow in his hand and two arrows. One was red and the other black. "Now that you've found me, he said, "I'm going to find out how strong you are." I knew that if he ever hit me that would be the end of me. But I went to the middle of the room, as he told me, and stood there. I filled my mind with the thought that he would not be able to kill me. I watched him closely and, as soon as the arrow left the bow, I dodged. I saw the arrow sticking in the floor. He had missed me. Then he fitted the

⁸³ Grinnell. *The Cheyenne Indians*, vol. II, 117, 118, 122.

⁸⁴ *Ibid.*, vol. II, 108, 109.

⁸⁵ *Ibid.*, vol. II, 110.

⁸⁶ *Ibid.*, vol. II, 123.

other arrow to his bow. "I'll hit you this time," he said. But I set my mind just as strongly against it. I watched every move he made and he missed me again.

"It's your turn now," he said and handed me the bow. I picked up the two arrows and he went to the middle of the room. Then I noticed a strange thing. He seemed to be constantly moving yet staying in the same place. He was not standing on the floor either, but was about a foot above it. I knew that it was going to be hard to hit him. I let the black arrow go first and missed him. I made up my mind that I was going to hit him with the red arrow and I did. But it did not kill him. He took the bow from me, tied the arrows to it and laid it aside. "You have beaten me," he said. I was very anxious to know who it was but I did not wish to ask. He knew what I was thinking, because he asked, "Do you know who you have shot? I am a fly ..."
[smaller than bull-dog fly which is to be seen on flowers - but is constantly moving and does not stay still long]. [The boy went on to say that W.B. would never be shot and killed by a bullet unless the marksman could hit a spot as small as a fly.]⁸⁷

This "duel" and the contestant's use of "mind power" is reminiscent of the contests between Subarctic shamans. However, the red and black colour-duality of the arrows used in the duel resembles the sacred arrows of the Cheyenne and the ceremonial arrows of the Osage, which were also red and black. The spiritual protection from bullets as a reward may also point to connections or influences from the plains.

Bows and arrows as grave goods

Among Aboriginal peoples on the Plains, in the Subarctic and in the Arctic archery items became grave goods when they were placed next to their owner's body upon burial. Writing in the late seventeenth century, the French missionary La Potherie noted that Aboriginal people on the shores of Hudson Bay burned the bodies of the deceased, then they collected the bones and buried them in the ground, along with grave goods.

When the father or mother dies the children or nearest relatives burn the body. They wrap up the bones in the bark of trees and bury them in the ground. They build a tomb, surrounded with

⁸⁷ Jennifer S. H. Brown, "Fields of Dreams: Revisiting A.I. Hallowell and the Berens River Ojibwa," *Native American Histories, Cultures, and Representations*, eds. Sergei Kan and Pauline Turner Strong. In press. Lincoln: University of Nebraska Press, 2005.

poles to which they tie tobacco for the spirit to smoke who will look after them in the other world, with bows and arrows to enable him to continue his hunting if he is a hunter.⁸⁸

During the first half of the eighteenth century Joseph Robson recorded in regard to the burial customs of the Swampy Cree:

When an Indian dies they usually bury all he possesses with him, because, they think he will want it in the other country, where, they say, their friends are making merry as often as they see an Aurora-borealis. The corpse being placed upon its hams, the grave is filled up and covered over with brush-wood, in which they put some tobacco; and near the grave is fixed a pole with a deer skin, or some other skin, at the top. This method of placing the corpse is no longer observed by the people who resort to the English factories; but the upland Indians still retain their ancient customs.⁸⁹

Similar practices prevailed among the Inuit of northwestern Hudson Bay. In 1813 Captain Stirling of HMS *Brazen*, while escorting HBC ships into the bay, came upon the burial site of an Inuit man in the hills near the shore. Stirling and his officers discovered

the dead body of an *Esquimaux*: it was closely wrapt in skins, and laid in a sort of gully between two rocks, as if intended to be defended from the cold winds of the ocean: by the side of the corpse lay the bow and arrows, spears and harpoon of the deceased; together with a tin pot, containing a few beads and three or four *English* halfpence.⁹⁰

The funeral of the baptized Mi'kmaq leader Membertou in 1611 combined European and Aboriginal customs and ideas. There was a funeral procession with a large cross and drums and Membertou was buried under a cross, but his bow and arrows were hung from it.⁹¹

Among Plains peoples, such as the Mandan, archery items were often part of men's burials.⁹² The relatives of deceased Lakota warriors of rank, leaders or medicine men, but also of

⁸⁸ "Letters of La Potherie," J. B. Tyrrell, ed., *Documents Relating to the Early History of Hudson Bay* (Toronto: Champlain Society, 1968 [1931]), 231.

⁸⁹ Joseph Robson. *Six Years in Hudson's Bay from 1733 to 1736 and 1744 to 1747* (Toronto: S. R. Publishers Limited, Johnson Reprint Corporation, 1965), 49, 50.

⁹⁰ Edward Chappell. *Narrative of a Voyage to Hudson's Bay in His Majesty's Ship Rosamond containing some Account of the North-Eastern Coast of America and of the Tribes Inhabiting that Remote Region* (London: R. Watts, 1817 [Reprint facsimile edition by Coles Publishing Company: Toronto, 1970]), 113, 114; Chappell quoted Captain Stirling of HMS *Brazen*, who convoyed the *Hudson's-Bay* ships into the Bay in 1813. While walking on the shore Stirling and some of his officers found the burial place of an Inuit man, including his tools, weapons and archery gear.

⁹¹ Elizabeth Jones. *Gentlemen and Jesuits: Quests for Glory and Adventure in the Early Days of New France* (Toronto: University of Toronto Press, 1986), 185.

male children from prominent families often laid the deceased person's archery equipment upon the burial platform, to document their status.⁹³

As a boy the Mormon settler E. N. Wilson, who had lived among the Eastern Shoshoni during the late 1850, witnessed the burial of a chief's son who had been killed in an accident. Wilson related that the mourning family "killed three horses and buried them and his bow and arrows with him."⁹⁴

In the 1950s the mummified body of the Cheyenne leader High-Backed Wolf, who was killed on the North Platte in 1868, was exhibited with all his equipment in the House of Yesterday at Hastings, Nebraska [now the Hastings Museum of Natural History]. His weapons included a bow and a supply of arrows, a stone-headed war club, an Army camp knife, and a Henry repeating rifle.⁹⁵ However, among the Cheyenne the families of deceased warriors often gave especially valuable items, such as quiver and bow case combinations of mountain lion skin to a close friend of the deceased instead of placing them on the burial platform.⁹⁶

Archery items used as grave goods during the early contact phase between Subarctic Aboriginal peoples and Euro-Americans on the east coast and in the Hudson Bay Lowlands, represented an Aboriginal man's role as hunter, provider and warrior. While this remained the case on the plains until the reservation period, it changed in the Subarctic where firearms eventually superseded archery items in representing the role of the big game hunter and fighter.

⁹² Catlin. *North American Indians*, ed. Peter Mathiessen, 83, letter 12.

⁹³ Hassrick. *Sioux*, 325.

⁹⁴ Elijah Nicholas Wilson. *Among the Shoshones* (Medford, Oregon: Pine Cone Publishers, 1971 [Originally published in 1910 as: *The White Indian Boy.*]), 91.

⁹⁵ Charles E. Hanson. *The Northwest Gun* (Lincoln: Nebraska State Historical Society, 1955), 51; See also *Annals of Wyoming*: High-Backed Wolf 27:1:14; 28:2:183, "Cheyenne Indians," http://wyshts.org/index_h.htm.

⁹⁶ Grinnell, *The Cheyenne Indians*, vol. II, 160.

Firearms in Aboriginal beliefs

For Aboriginal people the process of adapting European goods and weapons included placing them within a framework of their own cultural understanding and world views. These adaptive processes were not uniform, but evolved within already existing cultural practices and patterns. For instance, Aboriginal people in the Central Subarctic were much concerned with individual hunting magic. During the early nineteenth century the fur trader George Nelson observed some of these beliefs at work or obtained information on them from his Aboriginal or Metis guides. For example, Nelson told of an Iroquois hunter who believed that he had been bewitched. He couldn't kill any animal with his gun, until his Cree or Ojibwa wife filled and washed his gun and the musket balls with lye overnight. After that the hunter was said to never have missed a shot again.⁹⁷ Another freeman told Nelson of a similar incident:

At last one day prowling in my Canoe I met 2 other *free-men*, who, after mutual enquiries &c, told me the same thing had happened him and that an indian told him to file off a small piece of the *muzzle* of his Gun and wash it well with water in which *sweet-flag* [prob. *Acorus calamus*, an arum] had been boiled, and killed after that as before. I laughed at the idea, but reflecting that it was an innocent experiment and could not offend the almighty, I tried, and the first animals I saw I immediately killed.⁹⁸

Nelson participated in a Cree shaking tent ceremony and described some of the spirits that were said to have entered the lodge on this occasion: "The Sun enters – speaks very bad English at the offset, but by degrees comes to speak it very easily and fluently. *He is Gun Smith and watchmaker, or at least he can repair them* [my emphasis]."⁹⁹ According to Nelson, a Cree man brought his defective gun to this ceremony where the sun-spirit fixed it.¹⁰⁰ During the ceremony Nelson observed that:

⁹⁷ Brown and Brightman. "The Orders of the Dreamed," 73, 74.

⁹⁸ Ibid., 73, 74.

⁹⁹ Ibid., 41.

¹⁰⁰ Ibid., 33.

Some of them [the conjurers] to shew their Power have had small sticks of the hardest wood (such as produces the wild Pear and of which the Indians make their arrows, and ram-rods, &c for Guns) about the size of a man's finger, made as sharp pointed as possible, and dried, when they become in consequence nearly as dangerous as iron or bayonets.¹⁰¹

Similar to fakirs in India, the shamans lay down upon the sharp pointed ends of eighteen to twenty-four of these sticks during the ceremony, but afterwards no marks of injuries would appear.¹⁰² The Cree's choice of the same wood for the manufacture of arrow shafts and ramrods indicates another connection between their own projectile weapons and European firearms.

The Plains Cree elder Stan Cuthand related that among the Plains Cree

It is also said that if you starve or freeze to death in winter you will become a Pakahkos (the diminutive of Pakhak, "skeleton ghost"), a small creature about four feet high with long icy fingers and a little rifle. In the winter you can hear him in the bush shooting. The people say 'there's Pakackos,' when the trees pop in the very cold weather. The possibility of turning into such a being is used to motivate the children to keep the fire going in the winter.¹⁰³

The concept of these "skeleton ghosts" carrying and using firearms in the bush indicates that among Cree people the integration of firearms into their beliefs and folklore was of considerable age. One wonders whether these characters were described as carrying bows and arrows or lances in the times before Cree people adopted firearms. However, George Nelson also noted the Cree belief that firearms were useless against windigos, because their hearts were of ice and ice could not be destroyed by musket balls, but had to be chopped up and melted.¹⁰⁴ This view was contrary to European concepts of magical silver bullets used to kill vampires,

¹⁰¹ Ibid., 44.

¹⁰² Ibid. 44; Anna Leighton suggests this is probably *Amelanchier alnifolia* or Saskatoon berry, see, Anna L. Leighton. *Wild Plant Use by the Woods Cree (nihithawak) of East-Central Saskatchewan* (Ottawa: National Museum of Man, Mercury Series, Canadian Ethnology Service Paper 101, 1985), 28.

¹⁰³ Stan Cuthand, "On Nelson's Text," Brown and Robert Brightman. *"The Orders of the Dreamed,"* 196.

¹⁰⁴ Ibid., 94.

werewolves and other monsters and may indicate that while the integration of firearms into Cree belief systems was old, its roots did not reach as deep as they did in European cultures.

In 1783 George Sutherland at the HBC's Albany post observed the funeral of the Cree leader Questach who had been the "captain" of the post's goose hunters.

James Salter made a Coffin for Captⁿ Questach... Myself with all the Indians on the plantation attended the remains of old Captⁿ Questach to a wooden tomb built in a very permanent manner, he was buried with more solemnity and ceremony than ever I saw upon like occasion; Gave him the colour half mast high; In the evening the Indians made a grand feast upon the occasion and kept *firing guns all night* [my emphasis].¹⁰⁵

Similarly, Andrew Graham recorded that "no sooner is the breath out of the body than one of the men fire off a gun in the tent, in order to deter the spirit, or soul of the deceased from coming again and troubling them."¹⁰⁶

In their mix of European and Aboriginal traditions these funeral ceremonies were remarkably similar to the funeral of the Mikmaq leader Membertou more than one and a half century earlier. Apparently the firing of the guns held a special significance to the Cree that was not well understood by the European fur traders at the post. Almost thirty years later Peter Fidler made a similar observation:

Last night 2 Shots & this Night 5 Shots were fired at the Canadian House at between 9 & 10 o'clock at Night. There is an Indian there in a dying state & this is done by his Friends who attend him to keep away the Messenger of Death – according to their wonted custom. [and on the next day]

The ailing Jepewyan nearly dead, & this morning by his own request they hawled him about 1 mile off to Die.¹⁰⁷

¹⁰⁵ HBCA, B.3/a/82, F38, Albany Post Journal, 1783-1784, 1M7, George Sutherland.

¹⁰⁶ Andrew Graham, *Andrew Graham's Observations on Hudson Bay, 1767-1791*, ed. Glyndwyr Williams (London: The Hudson's Bay Record Society, 1969), 180.

¹⁰⁷ HBCA B.89/a/2, Ile-a-la Crosse Post Journal 1810-1811, 1811, May 4th, Saturday, May 5th, Sunday, F30d, 1M63, 1811, "Isle a la Cross Journal, With Astronomical Observations Made at the same place, By Peter Fidler."

Both events involved Subarctic Aboriginal people. However, it is not clear if the firing of guns on this occasion held the same meaning to the Chipewyans as it did to the Cree in the funeral at Albany in 1783 because the Cree fired their weapons at the funeral, whereas Fidler portrayed the actions of the Chipewyans as an attempt to help keep an ailing person alive. Whatever their reasons may have been, the actions of the Cree and Chipewyan indicate that by the late eighteenth century they had incorporated firearms into their spiritual beliefs. Firearms were even connected to powerful spiritual beings who were central to the beliefs of Aboriginal peoples in the Subarctic and on the plains.

Guns, arrows, thunderbirds and underwater panthers

The religious beliefs of many Aboriginal groups of the Algonquian and Siouan language families contained concepts of the "Thunderbird." This entity was seen as a powerful force, inherent in many aspects of the natural world, manifesting itself in such phenomena as thunderstorms and lightning strikes, sometimes appearing in the shape of a large bird. This force was associated with success in war and in medicine and healing.¹⁰⁸ The explosive discharge of a firearm, the muzzle flash, noise and smoke, but mostly the tremendous destruction upon impact of the projectile were interpreted as manifestations of such "Thunderbird" power. Therefore, whoever operated a firearm partook in an activity that was permeated by religious and spiritual importance, harnessing the power of the "Thunderbird." If those attacked with firearms held similar beliefs, they therefore considered themselves under attack by powerful enemies who could marshal

¹⁰⁸ Brown and Brightman. *"The Orders of the Dreamed,"* 38, 112; Maureen Matthews, "Thunderbirds," *Ideas* (transcript of CBC-Radio Broadcast, May 15 and 16, 1995, ID 9534, Canadian Broadcasting Corporation, CBC Radio Works, P. O. Box Station A, Toronto, Ontario, M5W 1E6), Maureen Matthews, 1, Charlie George Owen, Ojibwa elder, 4, Jacob Owen, Ojibwa elder, 6, Roger Roulette, Ojibwa linguist, 17, 19, Bertha Sinclair, Ojibwa elder, 19.

immense spiritual powers against them. While this instilled fear and panic in those attacked, it also instilled great confidence in the attackers.¹⁰⁹ Louis Bird related in this regard:

There was something that I forgot to mention about the results of the firearm. In the Mushkego country some of our ancestors, when they have seen the gun, it has given them the idea how to use it in their own shaman power. And there is a story, it's about some miteos' personal practice. [Some] shamans were able to use the firearm, or a gun without reloading. They were able, supposedly, to keep aiming and cause it to fire as if it has been reloaded. This they have done during the time when other tribes used to come and attack them unexpectedly. And those who had shaman power, sometimes they would defend their families by using this, just the gun itself, but without any gunpowder and the slugs. And were able to defend their family. So for that reason the gun, the firearm has given a strength to the First Nation and it has given some additional ideas because of the firearm. And there's a story about the greater shaman [who had] an idea how to harness his dream quest, having the thunder being as his helper, and was able to use a similar object as a gun barrel to guide the lightning bolt to kill his enemies. So the gun had brought an extra idea amongst the First Nation in Omushkego land. There is a story about this. The story is very fascinating and it's very powerful. They called it "The Omushkego Who Fought With Thunderbolt." So, there goes. Shows us how powerful an influence this firearm can be. And there were some who have tried [something] similar. Those who pretend to be a shaman, trying to use only the barrel to fire the gun, sometimes it did not actually work, they just tricked [pretended] to use it.¹¹⁰

Besides oral testimony, material evidence also suggests Aboriginal beliefs in a connection between firearms and Thunderbirds. For instance several shot pouches and hunting bags collected from Algonquian-speaking Eastern Woodland and Subarctic peoples during the late eighteenth and early nineteenth century were embroidered with thunderbird motifs.¹¹¹ Such bags or pouches held musket balls or shot, as well as gun flints, gun worms and other items necessary to keep a muzzle-loading firearm in working order.

¹⁰⁹ Louis Bird, personal conversation, March 2001; Centre for Rupert's Land Studies, University of Winnipeg, Omushkego-Cree oral history collection, tapes CRLS 0014, CRLS 0116, Louis Bird on firearms, archery equipment and hunting, 2, 3.

¹¹⁰ Bird, Louis, 0014 – *Our Voices*, "Guns and Bows," 2001; Louis Bird, 0116 – *Our Voices*, "Guns and Bows II," rec. April, 2001, transcribed by Roland Bohr, October 2001, Centre for Rupert's Land Studies, University of Winnipeg, 27, 28. The "magical" control over firearms, using them with deadly force, but without the use of gun powder and bullets, is reminiscent of the information related by the Piegan leader James White Calf.

¹¹¹ Benndorf and Speyer. *Indianer Nordamerikas 1760-1860*, Abb. 71, bag, Menomini, collected prior to 1780 (Cat. No. 180); Abb. 54, 55, 56, Ojibwa bags (Cat. Nos. 147, 148, 149, the first two are pre 1800, the last one is ca. 1780); Benndorf and Speyer state that Ojibwa people believed the thunderbird wielded power over the day; Schulamt der Stadt Zürich, ed. *Indianer Nordamerikas: Katalog zur Sammlung Hotz* (Zürich: Schulamt der Stadt Zürich, ed., 1975), 43, 154, Iroquois or Ojibwa bag with thunderbird design, pre 1800, Hotz Collection, Indianermuseum der Stadt Zürich, Cat. No. 17 – 1, 3.

The connections Aboriginal people saw between Thunderbirds and firearms may have been based on pre-contact traditions of similar connections between thunderbirds and projectile weapons, especially arrows. For example, before shooting an arrow Plains Indians used to point it skyward after the arrow was placed on the bowstring. Then the bow was drawn and brought down in a quick and fluid motion. When the arrow was level with the ground, it was released. Besides practical considerations of clearing the hands of horses' reins, fringes or loose shirt sleeves which could get in the way and interfere with shooting, it may also have expressed a connection of arrows to the sky and thus to the Thunderbird.¹¹²

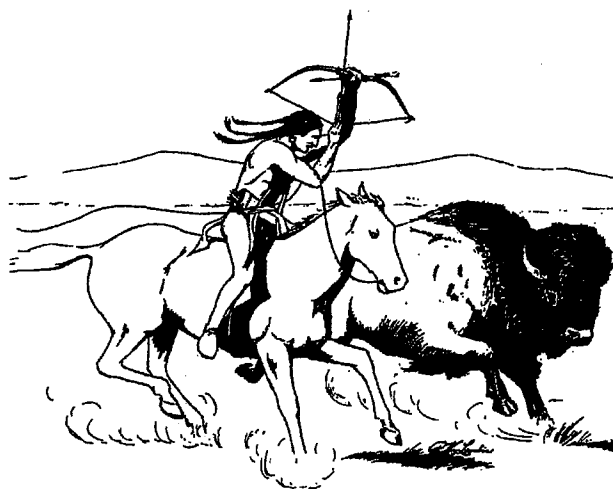


Fig. 23. Mounted bison hunter showing the Plains Indian method of pointing the arrow upward before the bow was fully drawn and the arrow was brought down on the target. Adapted from Reginald and Gladys Laubin. *American Indian Archery*. Norman: University of Oklahoma Press, 1980, p. 144.

Besides the arrows placed as offerings in the nest of the Thunderbird on the center pole of the sundance lodge, Cheyenne people recognized other connections between arrows and the Thunderbird. For example, they believed that if they ever forgot how to make arrows, the

¹¹² Laubin. *American Indian Archery*, 4, 5, 133, 144; Plains Indian archers using short bows and arrows insisted that the bow must be pushed away as the arrow is drawn towards oneself in order to reach the maximum draw length possible with these weapons. Holding the bow and arrow overhead helped to accomplish this.

Thunderbird would instruct them again.¹¹³ Gilbert Wilson noted that the Hidatsa saw a connection between their culture hero Burnt Arrow and a special kind of arrow with just one long split feather wrapped around the rear end of the shaft for fletching:

An arrow with a spiral feather was called Isu-dumite, or wing-twisted around. We did not say "arrow feather" but "arrow wing." ... Spiral feathered arrows, such as I just described above, were the first kind of feathered arrows a boy shot with. We would say to the boy, "This is Adapozis, Burnt Arrow and should fly straight. *Adapozis was a Thunderbird*. [my emphasis] You should keep this arrow sacred, and pray to it." ...

There were a few men in the tribe who always carried two of these spiral-feathered arrows in their quivers. These arrows they would not ordinarily use; but when they came close to the enemy, a man having these spiral arrows would take them out and pray to them, "Kill this enemy!" And he would shoot at the enemy with one of these arrows. In my time I never saw this custom used; but I have heard of it as being in our tribe in former days.¹¹⁴

According to Wolf Chief the three wavy grooves cut into arrow shafts represented the Hidatsa culture hero Burnt Arrow or Charred Body. Burnt Arrow was said to have referred to these grooves as lightning and taught the Hidatsa to groove their arrow shafts.¹¹⁵ Prince Maximilian noted that among the Mandan spiral or wavy grooves on their arrow shafts represented lightning.¹¹⁶ Cutting straight or wavy grooves into arrow shafts and associating them with lightning was widespread among Plains Indians, whereas shaft grooves were much less frequently used in the Eastern Woodlands, in the Subarctic or among Aboriginal peoples of the Plateau. The practice was apparently absent on the Northwest Coast and among the Inuit.¹¹⁷

The Big Bird medicine bundle of the Mandan contained arrow-making ceremonies and rights and was connected to Thunderbird-concepts. The Big Bird myth contains elements of the struggle between snakes, both mythical and real and the Thunderbirds as the leaders of all the

¹¹³ Grinnell, *The Cheyenne Indians*, vol. II, 95.

¹¹⁴ Wilson, "Hidatsa-Mandan report, 1911," 52, 53.

¹¹⁵ Carolyn Gilman and Mary Jane Schneider. *The Way to Independence, Memories of a Hidatsa Indian Family, 1840 - 1920* (St. Paul, Minnesota: Minnesota Historical Society Press, 1987), 199.

¹¹⁶ Mason. *North American Bows, Arrows, and Quivers*, 34.

¹¹⁷ *Ibid.*, 30.

large birds like eagles, hawks, and ravens. According to this myth, both Thunderbirds and the mythical snakes, some of whom were believed to live in the water and have horns, could shoot lightning.¹¹⁸ The two main protagonists of this myth, Black medicine and his younger brother, the sons of the Mandan leader Big Bird, were transformed into thunderbird-eagles through hatching: "On each of the two eggs there was a straight and a zigzagged line representing the lightning, for sometimes the flashes are straight, other times zigzagged."¹¹⁹ Similar lines appear as straight and zigzagged grooves on numerous Plains Indian arrow shafts, pointing out the connection between arrows and the thunderbirds. However, Mandan people believed that not only the thunderbirds but also snakes possessed the supernatural power of producing lightning.¹²⁰

Such beliefs may be reflected in the use of snake skin backings on bows from the Northern Great Plains and the Plateau region. For example, Reginald Laubin examined an asymmetrical sinew-backed Hidatsa bow, possibly of elk horn, its back covered with a snake skin.¹²¹ The Crow Two Leggings also related to have made a hickory bow with a snakeskin on its back.¹²² Most of the snakeskin covered bows I have examined were covered with the skin of rattlesnakes. Some sinew-backed bows, mostly of horn or antler have quillwork decorations in alternating light and dark bands at the upper end. Because these are similar in appearance to the dark and light coloured bands on the tail of a rattlesnake, they may represent a connection between the bow and the animal.

¹¹⁸ Alfred W. Bowers. *Mandan Social and Ceremonial Organization* (Moscow, Idaho: University of Idaho Press, 1991 [1950]), 260-269, 283.

¹¹⁹ *Ibid.*, 267.

¹²⁰ *Ibid.*, 260.

¹²¹ Laubin. *American Indian Archery*, 88.

¹²² Nabokov, *Two Leggings*, 35.

Snakeskin covered bows are rare and most were covered with rattlesnake skin.¹²³

However, at least three bows, possibly all Blackfoot, are covered with the skins of garter snakes (*Thamnophis radix*). These animals have three bright yellow and white stripes on the back and sides against a dark background. This striking contrast is reminiscent of lightning against the background of dark clouds.¹²⁴ Besides the constant struggle between the Thunderbirds and the underworld or underwater beings another connection between snakes and thunder may have been based upon both of them being signs of coming summer, heralded by the first thunder of the year and the emergence of snakes from hibernation.

While the concept of Thunderbirds was widely held in the Eastern Woodlands, the Subarctic and the Great Plains, Algonkian peoples of the Subarctic and the Great Lakes area also believed in the spiritual powers of beings like the underwater-panther or similar feline-serpentine water beings such as the “great water lynx” and the “sea serpent.” For example, West Main Cree legends included powerful “underwater creatures” living in lakes and streams.¹²⁵

The Great Water Lynxes or underwater panthers were often conceived as the antagonists of the thunderbirds. Water Lynxes and Sea Serpents were associated with water or underground

¹²³ Rattlesnake skin covered bows: Lindenmuseum Stuttgart, Cat. No. 94636, sinew-backed wooden bow, collected by Duke Paul of Wuerttemberg, ca. 1824-1850, possibly Assiniboine; Pitt Rivers Museum, Oxford, Cat. No. 1893.67.24, sinew-backed wooden bow, Northern Plains, collected by Edward Martin Hopkins, private secretary to Governor George Simpson in 1842; 1900.80.3, sinew-backed wooden bow, collected by Henry Balfour, ca. 1900, possibly Northern Plains; Manitoba Museum, Winnipeg, Cat. No. H 4-4-80, sinew-backed wooden bow, shaped like a horn bow, gift from H. G. H. Smith, Medicine Hat, Alberta in 1964; U. S. National Museum, Cat. No. 9043, sinew-backed wooden bow, collected by Dr. James T. Ghiselein of the U.S. Army at Fort Colville, Washington Territory in 1868 from the Flathead; See T. M. Hamilton. *Native American Bows*, 104, 105. The Kutenai often covered their sinew-backed bows with snake skin; see: Glenbow Archives, M 1100/8, Claude E. Schaeffer Papers, “Kootenay Economic Activities,” 181, information obtained from Simon Francis, a Kutenai from Bonner’s Ferry in Idaho in the 1950s.

¹²⁴ Garter snakeskin covered bows: Field Museum Chicago, Cat. No. 51662, sinew-backed wooden bow, collected by George Dorsey on the Blood reserve in Alberta in 1897; see also James W. VanStone. *Material Culture of the Blackfoot (Blood) Indians of Southern Alberta* (Chicago: Field Museum of Natural History, 1992), Fig. 4; Manitoba Museum, Hudson’s Bay Company Collection, No. 156 A, self bow, collected on the Blood Reserve by Indian Agent T. J. Fleetham in the early twentieth century; Museum of Ethnology, Berlin, Cat. No. IV B 143, sinew backed wooden bow, obtained from Friedrich Koehler, ca. 1846, possibly Blackfoot.

¹²⁵ J. J. Honigmann, “West Main Cree,” *Handbook of North American Indians*, Vol. 6, *Subarctic* (Washington DC: Smithsonian Institution, 1981), 223; Louis Bird also mentioned Swampy-Cree stories about underwater monsters in lakes near Hudson Bay.

spaces, inimical to humans. They were considered to be eternally at war with the Thunderbirds who were considered protectors of humanity and were associated with the upper air and the sky.¹²⁶

Nonetheless, to Central Subarctic Aboriginal people firearms combined associations of powers attributed to these diametrically opposed groups of beings. Archaeologists William Fox and C. S. Reid claimed a connection between the mythological being known as the “underwater-panther” or “Mishipizhu,” Algonquian hunting magic and the brass dragon sideplates on trade guns.¹²⁷

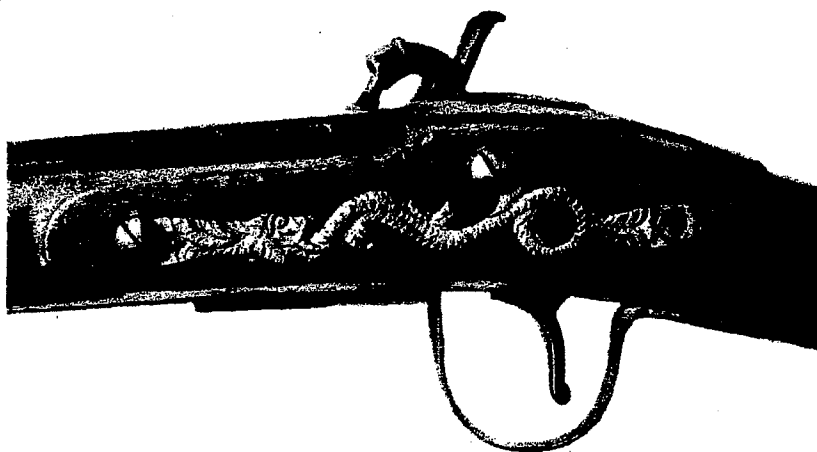


Fig. 24. A dragon sideplate mounted on a trade gun. Adapted from Charles Piers, “Firearms of the Hudson’s Bay Company,” *The Beaver Magazine*, Outfit 264, No. 4, 10.

Cree and Ojibwa people believed that through the practice of hunting magic they were able to influence game animals through the production and manipulation of images.

¹²⁶ Brown and Brightman. “*The Orders of the Dreamed*,” 109, 110, Maureen Matthews, “Thunderbirds,” *Ideas*, Rob Brightman, anthropologist, 9.

¹²⁷ C. S. Reid, “The Dragon Sideplate: Its Origins, Variations and Chronologies on Fur Trade Sites,” *Ontario Archaeology*, No. 30, 1978, 3-15; William A. Fox, “Dragon Sideplates from York Factory: A New Twist to an Old Tail,” Adams Heritage, Parks Canada, http://www.adamsheritage.com/articles/fox/dragon_sideplates.htm, August 2004, 1-11.

Among the Mistassini Cree the decoration of hunting equipment, such as guns, gun cases and ammunition pouches expressed respect to the prey, but was also meant to insure that the 'spirit' of the object would fulfill its task in the hunt.¹²⁸

According to Ojibwa beliefs, underwater panthers had horns like a bison, brassy scales on their bodies, and metal tails.¹²⁹ Other Algonquian peoples, for example the Menomini, also saw a connection between such underwater beings and metallic scales on their bodies and tails.¹³⁰ Therefore it is possible that the sideplates on trade guns reminded Cree and Ojibwa people of these powerful beings because they were cast in the shape of a sea-serpent or dragon and were made from brass.

Several fragments of dragon sideplates found near York Factory show evidence of intentional damage, caused by wrenching them off their guns and removing the dragon's head and/or tail. According to Ojibwa legends, the underwater panther's head and tail were considered the most powerful or dangerous parts. When a trade gun was discarded, possibly after a burst barrel or similar accident, the ritual destruction of the dragon sideplate may have taken place to "kill" the gun's spirit, due to what Aboriginal hunters viewed as a broken contract between a hunter and a spiritual being.¹³¹ The connection between underwater panthers and firearms is

¹²⁸ Ibid., 3.

¹²⁹ Ibid., 3; Brown and Brightman. *"The Orders of the Dreamed,"* 46; Maureen Matthews, "Thunderbirds," *Ideas*, "They have sort of horns on them; it's like a copper [covered] head: their head shines." Margaret Simmons, Ojibwa from Berens River, Manitoba, 8.

¹³⁰ Aboriginal people also attributed metallic and shiny aspects to the appearance of thunderbirds. Plains Cree elder Stan Cuthand from Saskatchewan related in regard to the appearance of thunderbirds: "They always close their eyes, and their feathers kind of shine like the rainbow." (Maureen Matthews, "Thunderbirds," *Ideas*, transcript of CBC-Radio Broadcast, May 15 and 16, 1995, ID 9534, Canadian Broadcasting Corporation, CBC Radio Works, P. O. Box Station A, Toronto, Ontario, M5W 1E6, 1); Brown and Brightman, *"The Orders of the Dreamed,"* "The Thunder also appears to them [the Cree and Ojibwa] in the shape of a most beautiful bird (The Pea-Cock)," 38.

¹³¹ William A. Fox. "Dragon Sideplates from York Factory," 1-11.

further underlined by images of these beings embroidered onto hunting pouches and gunstock clubs.¹³²

According to Cree and Ojibwa views, in the struggle between the underwater beings and the Thunderbirds there was a basic alliance between humans and thunderbirds. Plains Cree elder Stan Cuthand mentioned as part of a Cree creation story that in mythical times ten heroic men married ten Thunderbird women. This made humans relatives of Thunderbirds.¹³³ The underwater panthers, lynxes and sea serpents, on the other hand, were enemies of the thunderbirds and by extension of humankind.¹³⁴ Therefore associating firearms with these beings came naturally to Aboriginal people because firearms, besides being hunting weapons, were used to a large extent in warfare against fellow human beings. In this way the destructive powers of the underwater beings and the thunderbirds could be harnessed through the use of a firearm.

Plains peoples likely held different beliefs in regard to the meaning they ascribed to the dragon sideplates on trade guns. There is at least one historic photograph showing a Blackfoot man wearing a breast plate made of six dragon sideplates.¹³⁵ Subarctic Aboriginal people focused on individual big game hunting magic, and during the nineteenth century they used their guns

¹³² Benndorf and Speyer. *Indianer Nordamerikas 1760-1860*, Tafel VIII, Cat. No. 114, 76-78, bag, Ottawa, pre 1800; Abb. 67 (Cat. No. 182), 101, 102, gunstock-club with a metal blade collected from the Menomini before 1840. The image of this horned underwater panther is connected to that of a running human; Ruth B. Phillips. *Patterns of Power: The Jasper Grant Collection and Great Lakes Indian Art of the Early Nineteenth Century* (Kleinburg, Ontario: The McMichael Canadian Collection, 1984), 49, 78; pouch, Eastern Great lakes, c. 1800, NMM III-M-6, ex Speyer and Sir Walter Scott Collections.

¹³³ Maureen Matthews, "Thunderbirds," *Ideas*, 9, 20.

¹³⁴ *Ibid.*, Rob Brightman, anthropologist, 9, 10.

¹³⁵ Hugh A. Dempsey, "Blackfoot," *Handbook of North American Indians*, Vol. 13, *Plains*, part one (Washington D. C.: Smithsonian Institution, 2001), 611; The Blackfoot man wears a breast plate made from dragon sideplates of trade guns and what appears to be strips of otter or beaver fur. Both animals were central to Blackfoot religious beliefs and were strongly associated with water, rivers and lakes. He holds a Winchester center-fire repeating rifle, model 1873, heavily decorated with brass tacks. His commercial leather belt, knife sheath and riding quirt were also heavily studded with brass tacks. The photograph was taken by William Norman on the Blackfoot Reserve near Gleichen, Alberta in 1889.

However, Blood people apparently believed in powerful underwater beings as well. The Blood Indian Scalp Roller, born approximately in 1808, told R. N. Wilson in 1893: "Rocks, Cut Banks, Big Tree, Sand Bank, Rivers, we gave to them our offerings to the underwater person." Glenbow Archives, M4421, M4422, R. N. Wilson Papers, edited and annotated by Philip H. Godsell, vol. 1, Glenbow Foundation: Calgary, 1958, Appendix II, 343.

mainly for big game hunting and less for warfare. In contrast, on the Plains hunting was to a large extent a communal affair and firearms were mainly used for combat. The dragon sideplates in this Blackfoot breast plate could have come from captured enemy trade guns. The same warrior also held a repeating rifle, showing that trade guns were becoming obsolete by the time the picture was taken. While the Blackfoot had access to modern firearms through trade with Americans, the Plains Cree, who were mainly HBC customers, still used muzzle-loading trade guns (with dragon sideplates), because that was the only kind of firearm the HBC sold, refusing to sell repeating firearms to Aboriginal people. Keeping this in mind, as well as the importance the Blackfoot placed on the capture of enemy weapons especially firearms, it is possible that this breast plate was made from the dragon sideplates of captured enemy guns.

Robert Hall pointed out another example of the deep spiritual connotations that Aboriginal people on the Great Plains and in the southwestern Great Lakes region attached to traditional distance weapons and later to firearms. The sacred associations of tobacco for Aboriginal people are well known. Similar associations existed for varieties of kinnikinnick, a preparation made from dried leaves (*Arctostaphylos*, especially *A. uva-ursi*, i. e. bearberry), bark and wood shavings, sometimes mixed with tobacco.¹³⁶ Among the Menomini, Osage and Hidatsa some of these were made from dogwood bark and wood scrapings that were a by-product of arrow manufacture. Later they used such kinnikinnick as gun wadding to seat a musket ball firmly in the barrel of a muzzle-loading firearm. Among the Osage, Cheyenne and other plains peoples arrows symbolized the renewal of life through abundance of food gained in hunting and safety through protection and defence in war. In this way both arrows and kinnikinnick were

¹³⁶ Reuben Gold Thwaites, ed. *Early Western Travels, 1748-1846. Vol. XXII, Part I of Maximilian, Prince of Wied's, Travels in the Interior of North America, 1832-1834* (New York: AMS Press, Inc., 1966), 391, 392.

connected to concepts of eternity. Through the use of kinnikiinick as gun wadding similar concepts may have been transferred to the projectiles and the use of firearms.¹³⁷

Another spiritual concept among Algonkian-speaking peoples of the boreal forest and the Plains was the idea of increasing one's spiritual strength by killing and absorbing the life-force of others. From Saukamaptee's account David Thompson understood that the Parkland-Cree and the Piegan believed that slain enemies would become the slaves of their slayer's deceased relatives in the afterlife if the scalps of the slain were kept by the slayers or their relatives.¹³⁸ However, for this to work out properly, warriors needed to determine precisely who had killed which opponent. With the use of firearms in combat this became difficult since musket balls, unlike arrows, did not carry personal marks of ownership. Therefore new ways to attribute warriors' claims had to be determined. After the battle Saukamaptee and his fellow warriors were allowed to wear a special face paint to distinguish them from other victorious warriors, as those who had been the first ones to use guns against the Shoshoni and who had thus brought about victory.¹³⁹

Assuming that Thompson and other fur traders understood this correctly, it seems that this concept was eventually given up among Algonkian speaking people on the Great Plains during the nineteenth century, since most anthropological accounts collected in the late nineteenth and early twentieth centuries do not mention it. This may indicate an adjustment or change in Aboriginal spiritual concepts caused by the introduction of firearms and their "impersonal" bullets.

¹³⁷ Robert L. Hall. *An Archaeology of the Soul: North American Indian Belief and Ritual* (Chicago: University of Illinois Press, 1997), 158; Walter James Hoffman. "The Menomini Indians," *Fourteenth Annual Report of the Bureau of American Ethnology*, 1896, pt. 2, 3-328, 167; Gilbert Livingstone Wilson. "Hidatsa Eagle Trapping," *Anthropological Papers of the American Museum of Natural History*. 1928, 30 (4), 229; Gene Weltfish. *The Lost Universe, Pawnee Life and Culture* (Lincoln: University of Nebraska Press, 1977 [1965]), 75.

¹³⁸ David Thompson. *David Thompson's Narrative, 1784-1812*, ed. Richard Glover, 243-244; The concept of killing humans to gain spiritual power for war apparently still existed to some extent among Blackfoot people in the mid-nineteenth century; Glenbow Archives, Joe Little Chief Fonds, M 4394: File 2, "The Story of Medicine Hat."

¹³⁹ David Thompson. *David Thompson's Narrative, 1784-1812*, ed. Richard Glover, 243.

Aboriginal people on the East coast and in the Hudson Bay Lowlands encountered firearms almost a century prior to Aboriginal peoples on the Northern Great Plains. Their longer exposure to guns and the increasing emphasis on individual big game hunting gave Central Subarctic Aboriginal peoples more time and incentive to develop deeper spiritual meanings and associations to firearms while slowly disassociating these meanings from archery equipment and other traditional weaponry.

On the plains, by contrast, firearms were added and incorporated into the Aboriginal arsenal without displacing archery. For the bison hunting peoples archery gear remained necessary until the reservation period and it continued to hold its spiritual significance, while spiritual contexts for firearms began to emerge as well. In both regions Aboriginal people developed dependable distance weapons from locally available materials, in spite of the limitations in available raw materials in their homelands. When European technologies in the form of metal arrowheads and firearms became available they integrated these into their belief systems and their hunting and combat methods. The following chapters will focus on the practical applications of archery and firearms, beginning with an examination of Aboriginal people's use of archery and firearms in hunting.

Chapter VIII

Archery and firearms in hunting

Through practical experience and observation, Aboriginal people of the Central Subarctic and the Northwestern Plains acquired a vast body of knowledge about their environment and the interaction and interdependence of its plants, animals, climate and weather patterns. Based on this knowledge, they fine-tuned their equipment to meet their needs in an environment that placed severe restrictions on their options for making tools and weapons, given the harsh climate and the few available wood species.

Beginning in the early 1700s, the technology and methods of big-game hunting and combat developed and used by Aboriginal people in these regions underwent tremendous changes, influenced by the introduction of European metal tools and weapons, firearms and horses. This chapter discusses Aboriginal and European big game hunting weapons and the changes in hunting methods brought on by the introduction of these new technologies.

Reliability of firearms and bows in wet and in cold weather

Severe cold or wet conditions could negatively affect both Aboriginal and European weapons. Depending on the tree or shrub species they were made from, the wooden bows of Subarctic people were liable to break after prolonged exposure to low temperatures, because they often did not have enough tensile and compressive strength to stand up to hard use during extremely cold weather.¹

On the Plains, Aboriginal people had access to wood of greater tensile and compressive strength; however, the lengths of wood they could choose from were mostly knotty and short, as

¹ Louis Bird, 0014 – *Our Voices*, “Guns and Bows,” 2001.

their growth was shaped by extreme temperature changes and severe winds. In order to be able to make serviceable bows from such flawed materials, they applied a sinew backing to their bows.

Because the woods available to Plains Indians could endure greater compression strain than those available to Aboriginal people of the Subarctic, and because Plains Indians often employed sinew backing, they could use their bows in winter without major problems. In fact, the replica of a short, Plains style sinew backed bow that I made in 1995/96 becomes somewhat snappier and stronger in dry, cold weather. The bow is made of ash wood and sinew from approximately seven deer leg tendons, shredded into finer fibers and glued onto the back of the bow with hide glue. I have drawn and shot this bow in minus thirty degrees Celsius in northeastern North Dakota and southern Manitoba, without the bow sustaining any damage. However, these excursions never lasted more than two hours, while the bow was generally carried under my coat to keep it warm. A short Plains Indian-style bow is also easier to keep warm in this way than a man-sized Subarctic self bow. As the Hidatsa Wolf Chief noted of his people's practice: "Frequently the [mounted] hunter, to keep his bow warm, thrust it down his back, under his blanket or robe, close to his body. He did not want the bow to become cold. A wooden bow exposed to intense cold would lose its spring and might break."²

The brittleness of Subarctic bow woods in very low temperatures meant that firearms were more reliable than bows in the extreme winter cold. The major problems of guns exposed to cold were weak springs and freezing locks.³ On the flintlock weapons sold to Aboriginal people during the late eighteenth and early nineteenth centuries, the springs supplied in Europe

² Bella Weitzner, ed. *Notes on the Hidatsa Indians Based on Data Recorded by the Late Gilbert L. Wilson*. Vol. 56: part 2, Anthropological Papers of the American Museum of Natural History (New York: American Museum of Natural History, 1979), 244; similarly Blackfoot people sometimes carried bows and arrows under their coats. Glenbow Archives, L. M. and J. R. Hanks Fonds, M 8458, Box 1, file 1, Pitoxpikis (Sleigh) Eagle Ribs via Mary Royal (interpreter), Eagle Rib's War deeds, 1938, 48.

³ Louis Bird, personal conversation, November 1999, March 2003; Centre for Rupert's Land Studies, University of Winnipeg, Louis Bird, 0014 – *Our Voices*, "Guns and Bows," 2001; 0116 – *Our Voices*, "Guns & Bows II."

were so weak that the guns would not fire in cold weather. Before use in northern North American winters, they had to be adjusted to local climate conditions. Fur traders learned to exchange the original springs for stronger ones at the posts before the weapons were sold.⁴

While firearms could at least be shot, if not loaded, using special gloves or mittens in the extreme winter cold, most archers on the Plains handled their archery equipment with bare hands at all times. They seem to have shunned the use of shooting gloves or other protection for their hands when using their bows and arrows, regardless of the season. Short bows and arrows demanded short draw lengths to the chest which did not permit the archer to hold the bow and arrow at full draw for long in order to aim. With the quick-shooting techniques that were common throughout the plains, gloves, mitts or pads might have reduced accuracy by dulling the archer's sense of feel in hands and fingertips.

In contrast, Aboriginal peoples in the Subarctic and in the Eastern Woodlands generally used fairly long bows and arrows which allowed them to employ long draw lengths and thus long moments of holding and anchoring the arrow hand against the face when aiming while the bow was at full draw. This permitted the use of mittens for the bow hand and shooting gloves for the arrow hand. However, a person's ability to effectively use bows and arrows bare-handed in severely cold weather is not boundless. In using Plains Indian archery gear in very cold weather, I learned that after just a few shots the pain in the fingertips of the hand pulling back the bow string becomes very distracting, while the sensation of the arrow gliding over the bare bow hand in discharge can also be fairly painful. Even experienced Aboriginal hunters who had built up calluses from when they started practising archery as small children were bothered by this problem. The Lakota elder White Bull related that he killed eight buffalo cows in a single mounted

⁴ For example, see: HBCA, Manchester House Post Journal Jan. 13, 1787, 1M 73, B 121/a/1, 28.

winter hunt with his bow and arrows, when he was 19 years old. He stated that he could have shot more, if his hands had not become too cold to handle his bow and arrows any further.⁵

Damp and wet weather also negatively affected both archery gear and firearms. In order to function properly, gunpowder had to be kept dry at all times and a firearm's barrel and moving parts had to be kept clean of corrosion. Percussion firearms were less susceptible to dampness than flintlock weapons because they did not employ loose powder to ignite the main charge.

Contemporary black powder enthusiasts have developed a variety of methods to keep their firearms operational in damp and even wet weather, using only materials which would have been available during the time of the fur trade.⁶ For example, a cover for the frizzen and a leather cover for the lock, called a "cow's knee" because of its shape, are necessary to keep the lock and the pan dry in wet weather. Furthermore a little ridge of beeswax placed in front of the lock where the gun barrel meets the stock helps keeping water from running down the barrel into the pan.⁷ Aboriginal people probably developed similar methods to insure, within reasonable limits, the functionality of their firearms in damp or wet weather.

Dampness and rain also limited the use of archery gear. Most bowstrings in the Subarctic were made from rawhide, while on the Plains they were made from twisted fibers of animal sinew. Both of these materials soak up moisture, swell and become soft when wet. Under tension, wet sinew bowstrings might even disintegrate into their individual fibers if used for too long. The bows themselves were also affected by moisture. Dampness and high humidity could make a wooden bow lose much of its elasticity and power. In the summer of 2001 I tested a 158 cm long ironwood selfbow I had recently made. The closer I came to the hot and humid floodplains and shore of the

⁵ Reginald and Gladys Laubin. *American Indian Archery* (Norman: University of Oklahoma Press, 1980), 142-43.

⁶ William Odom, *Bill's World Buckskinners' Notebook*, "Black Powder in the Rain," <http://www.televar.com/~willgo/pastgate/notebook/rain/rain.htm>, 6/28/2004, 1-3.

⁷ *Ibid.*, 1.

Assiniboine River in Winnipeg, the flabbier the cast of the bow became and the more draw weight and elasticity it lost, even though the bow had been well oiled to prevent moisture from entering the wood. Once I moved away from the river into higher and less humid territory the bow slowly regained its original spring and draw weight.

Sinew backed bows were also affected by humidity, since the sinew backing would soak up moisture and because the glue that bound the sinew fibers to the wood or the horn of the bow was water soluble. Aboriginal people on the Plateau and on the Northern Great Plains applied snake skins or protective coats of powdered mica or pitch to the sinew backings of their bows to keep out moisture. Plains and Subarctic bows were also liberally greased for the same reason.⁸

Moisture and dampness also affected arrows, dissolving their water soluble glue and causing sinew wrappings to warp or even to disintegrate. Once the fletching feathers soaked up moisture, their flight characteristics were adversely affected, as I know from shooting such arrows in drizzling rain.

In sum, although wet weather and extremely low temperatures in winter could severely impede the use of firearms and archery gear, Aboriginal people constantly strove to counterbalance these effects by making adjustments to their equipment or its use. Due to the low quality of available bow woods it was mostly in the Subarctic that firearms offered clear advantages to Aboriginal hunters, especially in winter.

Subarctic caribou hunting

The only large land mammals available in very large numbers in the Hudson Bay Lowlands were caribou. While mass hunting of caribou, or so-called "caribou drives" are often

⁸ Weitzner. *Notes on the Hidatsa Indians*, 232-33.

more associated with Inuit and Alaskan Aboriginal cultures, Eastern Cree, Northern Ojibwa and Montagnais also hunted caribou in this way into the first quarter of the nineteenth century.⁹

O mushkego caribou drives were similar to bison drives on the plains. Hunters on foot drove the animals into enclosures where they could be killed. Two long lines of obstacles radiated from such an enclosure, forming a large “V” with the two lines almost converging at its entrance. Selected hunters lured and drove a herd of caribou into the opening of this “funnel.” Once the animals began to run in panic, other hunters jumped up from behind the obstacles in the funnel as the animals passed to drive them farther towards the enclosure. When all the animals were inside the enclosure, it was closed and the animals were then killed at close range with lances, spears, or arrows. In this situation traditional weapons were safer to use than firearms, because their projectiles would not carry as far as musket balls and were thus less likely to injure hunters on the opposite side of the enclosure.¹⁰

There were several other ways to hunt caribou herds. When the rivers were still frozen, fences or hedges were built with openings that contained snares to catch the animals’ heads. Several European observers observed such caribou hedges. In some instances they were built not far from a fur trading post.¹¹ Caribou hedges required many people to build and maintain, as did

⁹ Arthur E. Spiess. *Reindeer and Caribou Hunters: An Archaeological Study* (New York: Academic Press, 1979), 120, 121, Victor Petro Lytwyn, “The Hudson Bay Lowland Cree in the Fur Trade to 1821: A Study in Historical Geography,” Ph. D. Thesis (Winnipeg: University of Manitoba, 1993), 430.

¹⁰ Louis Bird, 0014 – *Our Voices*, “Guns and Bows,” 2001; Alanson B. Skinner, *Notes on the Eastern Cree and Northern Sauteaux* (New York: American Museum of Natural History, 1911), 25, 26; Alanson Skinner described a similar method for hunting caribou, practiced by Eastern Cree. The safety consideration mentioned above applied to Plains peoples’ antelope or bison drives as well.

¹¹ Victor P. Lytwyn. *Muskegowuck Athinuwick: Original People of the Great Swampy Land*. (Winnipeg: University of Manitoba Press, 2002), 86; While caribou hedges are well documented through early ethnographic records of the fur trade, Louis Bird did not mention them. He referred to enclosures with funnels and barricades and to hunting blinds with archers waiting behind them to dispatch the caribou that were driven into these enclosures. He did not mention the use of snares for caribou hunting.

the processing of the meat and hides after the hunt. For these reasons many Cree people congregated at caribou hunting camps close to York Factory.¹²

When the rivers were open, hunters speared caribou from canoes while the animals were swimming across.¹³ This method was also employed in the fall, when the animals crossed the rivers again in great herds on their way to their wintering grounds. Andrew Graham observed such a hunt and wrote:

When the deer are pretty far advanced into the river, the canoes are all manned, and paddle after them, one party surrounding them and preventing their landing on the opposite shore; whilst the women, children and dogs by making a noise and throwing stones, hinder them from returning. The men in the other canoes immediately approach the unhappy victims, and stab them with spears, bayonets, knives, arrows, or even a stick sharpened at the point and hardened in the fire.¹⁴

This hunting method was still used long after the introduction of firearms. Edward Chappell, a lieutenant in the British Royal Navy who visited Hudson Bay during the War of 1812, participated in a similar caribou hunt, though on a much smaller scale. Chappell's party and a Swampy Cree hunter drove five caribou back and forth across a stream to tire them, using a rowboat and a birch bark canoe. The Native hunter paddled close to the animals and stabbed them with a lance and then shot them with his firearm. Chappell also used a spear and his gun. In this way they killed three of the five caribou.¹⁵ According to Victor Lytwyn, the Lowland Cree

¹² *Ibid.*, 86; see also James Isham. *Isham's Observations on Hudson's Bay, 1743*, ed. E. E. Rich (Toronto: Champlain Society, 1949) (HBCA, PAM, E.2/2, fo.43) for a drawing of such a "deer snare." See also description of a snare-hedge by Isham in Lytwyn, *Muskegowuck Athinuwick*, 86.

¹³ Lytwyn, *Muskegowuck Athinuwick*, 84, 85.

¹⁴ *Andrew Graham's Observations*, 15.

¹⁵ Edward Chappell. *Narrative of a Voyage to Hudson's Bay in His Majesty's Ship Rosamond containing some Account of the North-Eastern Coast of America and of the Tribes Inhabiting that Remote Region* (London: R. Watts, 1817 [Reprint facsimile edition by Coles Publishing Company: Toronto, 1970]), 216-218.

purchased metal spear-tips specifically made for hunting caribou. Blacksmiths at York Factory made them by reworking other metal goods.¹⁶

Even though Aboriginal people incorporated European technology into caribou hunting, these methods did not require any European technology and had probably been in use for a considerable time before contact, as archaeological evidence from a pre-contact site on the Ile de l'Ourson, 20 km above Severn House suggests. There antler and bone fragments indicated a heavy focus on caribou as a resource for food and raw materials.¹⁷

Hunting moose, bears, and birds

As late as the early nineteenth century, Subarctic people sometimes killed moose with traditional means. At Ft. Dauphin Peter Fidler observed that local Aboriginal people “at this time of the year run them [the moose] in the Mornings when the snow is hard on the top and chase them with Dogs & are seen killed frequently without firing a shot _ but the meat thus run is not good.”¹⁸

Besides big game, fish and waterfowl were of great importance as food resources. Generally fish weirs were used to catch most species except larger ones such as sturgeon, which were speared.¹⁹ Louis Bird also mentioned shooting fish with arrows. Andrew Graham wrote about Subarctic people in the interior resorting to fishing at all seasons, “when their gun and ammunition fails, or other food fails.”²⁰ According to Louis Bird the HBC engaged their “own

¹⁶ Lytwyn, *Muskegowuck Athinuwick*, 103. Lytwyn did not cite a reference for this. The weapon he described seems similar to so-called “dags,” or “beaver tail knives,” made out of old files or hoof-rasps for horse care. These were wide, double edged daggers, made for sale to Aboriginal people.

¹⁷ *Ibid.*, 85.

¹⁸ HBCA B.51/a/2, Fort Dauphin Post Journal, 1819-1820, 1M41, 1819, April 8th, F35d.

¹⁹ Lytwyn, *Muskegowuck Athinuwick*, 95.

²⁰ See: *Andrew Graham's Observations*, 118, 119; Lytwyn, *Muskegowuck Athinuwick*, 96.

halfbreeds” from York Factory to fish for the posts, while local people began to specialize in hunting geese for the HBC in the area.²¹

Scholars have disagreed about the changing importance of goose hunting to the Omushkego people. The anthropologist John J. Honigmann stated that by 1771, the Hudson’s Bay Company “looked for a special line of guns for the Indian trade.”²² Europeans referred to these smooth-bore muzzle loaders as “fowling pieces” or “sporting guns.” These terms indicate that these weapons could fire solid lead balls for big game, as well as shot to kill birds. It was this versatility that made these weapons especially interesting to Aboriginal people in the Subarctic, because they had access to migratory waterfowl in very large numbers. In this regard Honigman argued that “firearms altered and eased subsistence hunting; especially they allowed the Indians to rely on waterfowl as a seasonal staple food.”²³ Archaeologist Jean-Luc Pilon noted in contrast that, in pre-contact times, “although guns were not available, evidence from the Brant River suggests that waterfowl could be taken in significant numbers, especially during the molt, with technologically simpler means.”²⁴

Louis Bird confirmed that because the birds could not fly during the molt, the Omushkegowak would walk into the nesting areas and simply pick up the number of birds that they wanted.²⁵ However, the flightless molting period lasted only a brief time, whereas bows and arrows as well as firearms allowed the Omushkegowak to take waterfowl “on the wing.” Louis Bird mentioned that it was possible to kill up to three birds with one arrow at a time, an observation corroborated by explorer and fur trader Pierre Radisson who described Aboriginal

²¹ Louis Bird, 0051 – *Our Voices*, “Fish Trapping and Caribou Hunting,” 1989, 2.

²² John J. Honigmann, “West Main Cree,” *Handbook of North American Indians*, vol. 6, Subarctic, ed. William C. Sturtevant (Washington D. C.: Smithsonian Institution, 1978), 218, 223.

²³ *Ibid.*, 218, 223.

²⁴ Jean-Luc Pilon. *Washahoe Inninou Dahtsuounoaoou: Ecological and Cultural Adaptation along the Severn River in the Hudson Bay Lowlands of Ontario* (Kenora, Ministry of Citizenship and Culture: Conservation Archaeology Report, Northwestern Region, Report No. 10., 1987), 35.

²⁵ Louis Bird, personal communication to Anne Lindsay, 10 July 2003.

people doing just that during his claimed travels through the James Bay area in 1660.²⁶ The combined evidence from archaeological sites, Swampy Cree oral testimony and from the reports of Europeans indicates that waterfowl and especially geese were an important seasonal resource to the Hudson Bay Lowland Cree since pre-contact times. However, the introduction of firearms greatly enhanced the numbers of birds hunters could take. Using a fowling piece and shot, a proficient hunter could kill ten or more birds with one shot.²⁷

James Isham noted that geese were formerly hunted in large numbers with bows and arrows, but that Aboriginal people preferred shotguns and other firearms once they became available. While it was rather difficult to kill more than one goose with one arrow, with a shotgun or musket at least five or six birds could be killed with one shot by shooting at the heads of the geese when these were aligned while they were landing, just before touchdown.²⁸

According to Louis Bird, the availability of firearms, as well as the establishment of goose hunting camps by the Hudson's Bay Company from the mid eighteenth century onward, caused a steady depletion of the goose population in the Hudson Bay Lowlands.²⁹ He also noted that the introduction of guns brought about the competitive shooting of loons. Previously, loons had been difficult to kill with a bow and arrow, but a skilled marksman could easily kill them with a gun.³⁰

From pre-contact times on, willow ptarmigan were caught in nets, but boys also shot them with bows and arrows. Thus in 1769 Lowland Cree boys shot over 100 ptarmigan with their arrows near Severn House.³¹ Aboriginal people in the Subarctic, on the Northern Plains

²⁶ Lytwyn. *Muskegowuck Athinuwick*, 92-93. It has not been demonstrated that Radisson actually reached James Bay.

²⁷ Louis Bird, personal communication to Roland Bohr, October 2001.

²⁸ Louis Bird, 0014 – *Our Voices*, "Guns and Bows," 2001; James Isham. *Isham's Observations on Hudson's Bay, 1743*, 118; Louis Bird described a method for multiple killings of geese, very similar to that recorded by Hudson's Bay Company factor James Isham more than 250 years earlier.

²⁹ Louis Bird, 0014 – *Our Voices*, "Guns and Bows," 2001.

³⁰ Louis Bird, personal communication to Anne Lindsay, 7 July 2003.

³¹ Lytwyn, *Muskegowuck Athinuwick*, 111, HBCA B.198/a/11, fo. 23 d.

and in the Southwest made special arrows for bird hunting. Such arrows had their shafts tapered to a point and thorns, quills or nails were attached perpendicularly to the arrow shaft with sinew about three or four inches from the tip. Once the arrow spun in flight these protrusions rotated like propeller blades, significantly enlarging the striking surface of the arrow. When shot into a flock of birds, such an arrow could bring down two or three birds at once.³²

The introduction of firearms affected not only bird hunting, but also the hunting of smaller fur-bearing animals. In the late seventeenth century the Jesuit missionary La Potherie observed Aboriginal people on Hudson Bay using “darts and arrows” to kill beaver that had been driven or lured out of their lodges.³³ According to Lytwyn, guns made it easier to hunt beaver in the summer and were eventually preferred for this purpose.³⁴

However, when noise had to be avoided, for instance when enemies were presumed to be nearby, traditional weapons held an advantage over firearms. Pierre Radisson claimed to have used bows and arrows to kill otter when silence was required due to the presence of an enemy war party nearby.³⁵

³² Weitzner. *Notes on the Hidatsa Indians*, 238; Gilbert Livingstone Wilson, “Hidatsa-Mandan report, 1911,” Vol. 10, Minnesota Historical Society, St. Paul, M460 2/1, 14, 15; Clyde Kluckhohn, W. W. Hill and Lucy Wales Kluckhohn. *Navaho Material Culture* (Cambridge, Massachusetts: Belknap Press of Harvard University Press, 1971), 34, 35; Navajo people used a similar type of thorn-bound arrow to hunt warblers and bluebirds. Otis Tufton Mason. *North American Bows, Arrows, and Quivers* (Mattituck, New York: Amereon House, 1995 [Reprint Smithsonian Report 1893]), plate LX, fig. 2, Cat. No. 90138, U. S. N. M.; Inuit arrow from Whale River in the northeastern part of Hudson Bay. Instead of thorns or quills, this arrow had a metal nail lashed perpendicular to the shaft about two inches from the point. The arrow was collected by Lucien Turner.

³³ “Letters of La Potherie,” ed. J. B. Tyrrell *Documents Relating to the Early History of Hudson Bay* (Toronto: Champlain Society 1968 [1931]), 236; Besides projectile weapons Subarctic people used a wide variety of snares and deadfalls to catch animals varying in size from rabbits to bears. For a detailed discussion of these traps, see: John M. Cooper. *Snares, Deadfalls and Other Traps of the Northern Algonquians and Athapaskans*. Washington D.C.: Catholic University of America, 1938.

³⁴ Lytwyn, *Muskekowuck Athinuwick*, 107, 237, note no. 146. In 1792/93 Peter Fidler observed that the few Peigan who would kill beaver to trade their pelts, used firearms for the purpose. HBCA, 4M 103, E 3/2, 7, Nov. 27, 1792, “Journal of a Journey over Land from Buckingham House to the Rocky Mountains in 1792 – a 3 by Peter Fidler.” 4M 103; E 3/2, 1-36.

³⁵ Pierre Radisson. *Voyages of Peter Esprit Radisson: being an account of his travels and experiences among the North American Indians from 1652 to 1684*. transcr. Gideon D. Scull. Boston: Prince Society, 1885; <http://www.canadiana.org/ECO/ItemRecord/09232?id=8f7f7587fadcefc9>, 143, 144.

The most imposing and dangerous land animals in North America are bears. Aboriginal peoples in the Subarctic and on the Great Plains held these animals in great reverence. While it is possible to kill black bears with wooden bows and arrows, Louis Bird suggested that before the introduction of firearms black bears and polar bears were rarely killed except in emergency situations, for example, when humans had accidentally startled a bear, provoking an attack.³⁶ He stated that firearms killed large animals faster, due to their greater penetrative force and stopping power:

Also the gun can kill the large animals like moose, caribou, black bear, polar bear much easier than bow and arrow. Bow and arrows are just as good, but they are not as quickly as the gun. And at mating season the bull moose is very dangerous and charge you. Usually when that happens, if then somebody got the gun, has a chance to load and he'll be able to knock down the moose, instead of hightailing it. Instead of running away.³⁷

On the Great Plains Aboriginal men of high prestige wore elaborately decorated necklaces of grizzly bear claws to document their exceptional skills as hunters and warriors.³⁸ The American ethnographer George Catlin painted dramatic illustrations of mounted Northern Plains Indians in close combat with grizzly bears, using clubs and lances with metal points.³⁹ These images suggest acts of courageous daring and heroism on the part of the hunters.

However, contemporary eyewitnesses' descriptions paint a different picture of confrontations between people and bears. David Thompson claimed to have observed his host Saukamappee killing a bear with his gun. According to Thompson, three young Peigan hunters had attacked a bear with arrows that lodged in the shoulder blades and other bones. The angered

³⁶ Bow maker Paul Comstock killed a 300-pound black bear with a wooden bow. Rob Young also killed a black bear using a 56", 57 lb. Modoc bow replica. Jim Hamm, ed. *The Traditional Bowyer's Bible*. vol. I (New York: Lyons and Burford, 1992), "About the authors;" Tim Baker, "Bows from Boards," ed. Jim Hamm *The Traditional Bowyer's Bible*. vol. II (New York: Lyons and Burford, 1993), 31.

³⁷ Louis Bird, 0014 – *Our Voices*, "Guns and Bows," 2001.

³⁸ *Karl Bodmer's America*, ed. Joslyn Art Museum, Lincoln, Nebraska, 1984, 300, 318.

³⁹ George Catlin. *Die Indianer Nordamerikas* (Vienna, Austria: Verlag Lothar Borowsky [reprint of the original German edition of 1851]), 161.

bear attacked and killed two of the hunters while the third one was mauled but escaped to call upon Saukamappee for help. The old man took up his gun and ammunition and the wounded youth guided him back to the bear. When the animal reared up on its hind legs, Saukamappee shot it in the chest, hitting the heart and killing the bear instantly.⁴⁰ More than half a century later, E. N. Wilson and about 50 Shoshone men on horseback attacked two bears with arrows. They shot many arrows at them, ruining the hides, before the bears died.⁴¹

Bears were revered for their self-healing powers and especially for their cunning, which Louis Bird cited in describing his first polar bear hunt. When he was sixteen years old, he received a hunting rifle. After his marksmanship had become sufficient, he decided to go after a polar bear. The danger of this undertaking was increased by the fact that he had only one bullet when he set out. Eventually he came across a resting male polar bear and shot it. After the impact of the bullet the animal remained motionless. Unsure whether the shot had been lethal, Louis did not immediately walk up to the animal, believing that it might just “play dead” to lure him close and then attack him. Therefore he went back home to fetch his older brother who also had a rifle and more ammunition. When the two returned, they saw that the bear had indeed moved after

⁴⁰ David Thompson. *David Thompson's Narrative, 1784-1812*, ed. Richard Glover (Toronto: Champlain Society, 1962), 248, 249; Five years after David Thompson, Peter Fidler stayed with a group of Peigan and recorded the following information on Saukamappee:

Arrived this day 2 Tents of Muddy River Indians, along with the Old Southern Indian man from a Pound SE of this about 7 miles – this man has been living with these Indians above 25 Years & has a large family of Children – who all speak the Muddy River Indian or Peekanow Language – as their mothers was of this Tribe, he speaks this Language as well as his own mothers tongue – he is the 2d man in rank of this nation & great attention is paid to what he says respecting war – he has been a noted warrior, by which he acquired his great authority – at present he is hauled about upon a sledge – not being able to walk – by an accident that happened to him last spring – he found a Beaver house in a small Lake – had broke it open & found the vault where the beaver had fled to on breaking open the house – he was staking up the mouth of this vault when a Beaver ran out into the Lake & bit him by the calf of his leg – Where the man stood was knee deep in water – this bite not being properly attended, the warm weather coming on & being an old man – this mortified and carried him of in June 1793 – he was universally beloved by all the Pecanow Tribe - & made himself respected amongst the adjacent friendly nations. HBCA, 4M 103, E 3/2, 16, Dec. 29, 1792, “Journal of a Journey over Land from Buckingham House to the Rocky Mountains in 1792 – a 3 by Peter Fidler.” 4M 103; E 3/2, 1-36.

⁴¹ Elijah Nicholas Wilson. *Among the Shoshones* (Medford, Oregon: Pine Cone Publishers, 1971), 71.

Louis had left, but had died a short distance away.⁴² These examples illustrate that while it was possible to kill bears with traditional weapons if necessary, using firearms was far less dangerous. The hunters' enhanced confidence may have led them to pursue bears more actively.

Subarctic people initially used firearms predominantly for hunting, especially in forested areas where branches and foliage could impede the flight of an arrow but not a musket ball. According to David Thompson, Saukamappee explicitly mentioned that when he accompanied his father westward on a war party to aid the Peigan on the plains, probably in the early 1730s, the Cree left their few firearms with their families for hunting: "There were a few guns amongst us, but very little ammunition, and they were left to hunt for the families."⁴³ In boreal forest environments firearms had gained an early significance as hunting weapons, reflecting the specific hunting needs and types of game encountered by the Cree of the boreal forest and parklands.

Other Aboriginal people also came to prefer firearms for hunting in forested areas. During his travels in the lower and central Missouri region in the early 1820s Duke Paul of Wuerttemberg observed that most of the Osage and Kanza people he encountered used firearms to hunt in forests. When he later met Plains Indians, he noted that they preferred their bows and arrows over guns as hunting weapons, especially for mounted bison hunting.⁴⁴

At least since the mid-eighteenth century Aboriginal leaders on the northern plains had pointed out to European traders and travelers that they did not need firearms to successfully hunt bison on the plains and that their horses and their archery gear were sufficient for this task. When

⁴² Louis Bird, personal communication, Dec. 2004.

⁴³ David Thompson. *David Thompson's Narrative, 1784-1812*, ed. Richard Glover, 241.

⁴⁴ Paul Wilhelm, Herzog von Württemberg. *Reise nach dem nördlichen Amerika in den Jahren 1822 bis 1824*. München, 1979, 186; quoted in Axel Schulze-Thulin, ed. *Indianer der Prärien und Plains Reisen und Sammlungen des Herzogs Paul Wilhelm von Württemberg (1822-24) und des Prinzen Maximilian zu Wied (1833-34) im Linden Museum Stuttgart* (Stuttgart: Linden Museum, 1987), 72,73.

Anthony Henday met Blood or Gros Ventre peoples on the northwestern plains, their leader mentioned that his people preferred to hunt with the bow and presented Henday with a finely crafted archery set.⁴⁵

While Plains Indians expressed a preference for archery over firearms in mounted hunting, Hudson's Bay Company records from the Hudson Bay Lowlands document that by the late eighteenth century firearms had become important for both big-game and bird hunting in that region. The HBC equipped Aboriginal people who worked as hunters for their posts with firearms and ammunition to kill waterfowl and caribou to supply the posts:

"Three ducks said to be seen today. Some Indians came in for hunting guns and went away directly."⁴⁶

"Began to serve Powder and Shot for the deer-hunt."⁴⁷

"Sasquots family came in with ducks, Most of the Indians took powder and shot; Hurried Chickehenniss off to Moose with a letter; as they are in want of provisions gave them powder and shot to kill ducks by the way for his own factory."⁴⁸

Peter Fidler observed in the winter of 1792/93 that the Kutenai, western neighbours of the Peigan, also adopted firearms after they had been pushed into the Rocky Mountains by the Blackfoot tribes and their allies. Aside from occasional incursions onto the Plains to hunt bison, the Kutenai subsisted mainly on "Jumping Deer" [mule deer or black tailed deer, *Odocoileus Hemoniuss*]. Fidler recorded that due to the nature of these game animals, "the Gun is now much

⁴⁵ Lawrence J. Burpee, ed., *The Journal of Anthony Hendry, 1754-55, York Factory to the Blackfeet Country* (Toronto: Canadiana House, 1973), Oct. 15, 1754, 32.

⁴⁶ HBCA, B.3/a/82, Albany Post Journal, 1783-1784, 1M7 f28, April 24, 1784.

⁴⁷ HBCA, B.3/a/82, Albany Post Journal, 1783-1784, 1M7, F44d margin note beside Wednesday, July 21, 1784.

⁴⁸ HBCA, B.3/a/84, Albany Journal, 1784-1785, 1M8, Edward Jarvis, August 14, 1785.

in use with them [the Kutenai] & the Bow is much on the decline & seldom used.”⁴⁹ However, he also mentioned that the Kutenai often killed mountain sheep with bows and arrows.⁵⁰

At this time firearms were probably still rather rare among Fidler’s Peigan hosts. In November 1792 he recorded: “I also sold my Gun, the Indians borrowing it every day, to kill buffalo with on horseback, - and running great risks in falling and breaking it – which induced me to sell it...”⁵¹ Using a firearm, Peter Fidler’s companion John Ward participated in these mounted hunts, along with the Peigan men. Fidler excitedly noted: “Men running buffalo & killed 4 – John Ward also ran one on horseback & killed it with a Gun.”⁵² Ward repeated this feat on several occasions, eventually killing his fourth bison cow in this way.⁵³ This shows that it was possible to effectively use a muzzle-loading firearm in mounted bison hunting. Ward’s exploits anticipated the hunting methods the Red River Metis used in their annual bison hunts on the plains in the early to mid-1800s.

However, rather than becoming a standard practice, mounted bison hunting with muzzle loading firearms seems to have remained an exciting novelty to Fidler’s Peigan hosts. They did not come to see it as a practical way to efficiently kill larger numbers of bison from horseback and after an initial testing period they switched back to bows and arrows for that purpose. Even as late as the late nineteenth century Blackfoot people considered the bow and arrow more efficient for mounted bison hunting than muzzle-loading firearms. Blackfoot bison hunters stated in this regard: “The most buffalo, more than 3 buffalo, up to 6, were killed with arrows, for with

⁴⁹ HBCA, 4M 103, E 3/2, 20, Dec. 31, 1792, “Journal of a Journey over Land from Buckingham House to the Rocky Mountains in 1792 – a 3 by Peter Fidler,” 4M 103; E 3/2, 1-36.

⁵⁰ Ibid., 20, 21, Jan. 1793.

⁵¹ Ibid., 7, Nov. 21, 1792.

⁵² Ibid., 29, 30, Feb. 7, 1793.

⁵³ Ibid., 31, Feb. 17, 1793.

a gun you had to load up in between. With a gun you could not get more than 3.”⁵⁴ The Blackfoot hunter, Bear Standing Up, once chased a group of 31 buffalo and killed 30 of them on horseback using 30 arrows. Even Blackfoot hunters considered this exceptional since even experienced hunters often needed two arrows to kill one buffalo.⁵⁵

Aboriginal people from the parklands, such as certain Cree and Assiniboine groups who moved onto the Plains to take up mobile mounted bison hunting during the mid to late nineteenth century, may have been more ready to use firearms for mounted bison hunting, because they had used them in their Subarctic existence for much longer than Plains peoples such as the Peigan.

Bison hunting

Communal bison hunting was a feature of Aboriginal cultures on the plains for millennia. The rugged and undulating terrain of the Northwestern Plains enabled Aboriginal people to drive bison herds over steep cliffs and precipices. The use of such bison jumps dates back at least 5500 years.⁵⁶

Another method of communal bison hunting consisted of driving the animals into large enclosures, so-called bison pounds or “piskun” in Blackfoot and killing them from up close. This method was very similar to the caribou drives used by the Swampy Cree and other Subarctic Aboriginal peoples. The Peigan also used it to hunt mountain sheep and the Cheyenne killed antelope on the plains in this manner.⁵⁷

⁵⁴ Glenbow Archives, Lucien M. and Jane Richardson Hanks Fonds, M8458, Box 1, Series 1, M8458, file 9, Crooked Meat Strings, 1938, 273.

⁵⁵ Ibid., 16, “How a chief builds a following.”

⁵⁶ Brian O. K. Reeves. *Head-Smashed-In: 5500 Years of Bison Jumping in the Alberta Plains* (Lincoln, Nebraska: J&L Reprint Company, 1990), 164-167. The Mummy Cave complex yielded the earliest evidence for the use of the Head-Smashed-In bison jump site in southern Alberta, dating back to 3600 – 3100 B.C.

⁵⁷ Peigan killed 30 mountain sheep in a pound, especially constructed for sheep hunting; HBCA, 4M 103, E 3/2, 34, Mar. 2, 1793, “Journal of a Journey over Land from Buckingham House to the Rocky Mountains in 1792 – a 3 by

Peter Fidler and John Ward of the HBC spent the winter of 1792/93 with the band of the Peigan leader Sakatow in the Bow River area on the Alberta plains where Fidler observed the Peigans' hunting methods in detail. He noted that his companion "John Ward crawled along the Ground and apprehended them [the bison] very near & killed 2 Good Cows – this is the manner usually practiced by the Europeans & Southern [Cree] Indians."⁵⁸ Even though Fidler specified this method as primarily used by Europeans and the Parkland Cree, George Catlin described and painted Aboriginal hunters from the Upper Missouri, possibly Mandan or Hidatsa, using a very similar method. Equipped with short bows and arrows, these hunters wore wolf pelts over their heads and backs. Because plains bison generally had poor eyesight and were not afraid of individual wolves, these disguises allowed hunters to crawl close to the bison, as long as they kept downwind from their prey.⁵⁹

It is possible that Aboriginal peoples on the Plains employed this method when they wanted to kill only a small number of bison or when they were short of trained horses for bison hunting. By the time of Fidler's stay among the Peigan, they already used horses as beasts of burden and as riding animals in hunting and combat. They had begun to adopt the use of horses only three generations (approximately fifty years) earlier, but already certain cultural aspects regarding their use seem to have been deeply ingrained into their society. Fidler observed, for example, that "the men in general ride – as it would be debasing themselves to walk, the women seldom or ever ride, whom they pitch along."⁶⁰

Peter Fidler." 4M 103; E 3/2, 1-36; George Bird Grinnell. *The Cheyenne Indians: Their History and Ways of Life*. vol. I (Lincoln: University of Nebraska Press, 1972 [1923]), 277-291.

⁵⁸ HBCA, Peter Fidler, "Journal of a Journey over Land," 4M 103, E 3/2, 33, Feb. 24, 1793.

⁵⁹ George Catlin. *Letters and Notes on the North American Indians*, ed. Michael Macdonald Mooney (New York: Clarkson N. Potter Inc., 1975), 2.

⁶⁰ HBCA, Peter Fidler, "Journal of a Journey over Land," 4M 103, E 3/2, 5, Nov. 18, 1792.

Along with the recently acquired horse technology, older hunting methods were still in use. Fidler described the process of driving the bison towards a jump or an enclosure, which required great skill and stamina:

The young men sleep out all night in general – when they bring the Buffalo to the Pound - & sometimes they will bring whole herds above 40 miles off & sleep 2 or 3 nights according as they can drive them direct manner or not towards the Pound – the old men and boys attend the Dead men [two converging lines of obstacles, supposed to guide the running bison into the pound or towards a precipice] when the Buffalo is pretty nigh - one or 2 men alternatingly keep a const. lookout to notice when the young men have brought a herd near – when the holler is made & every old man & boy immediately runs to the Dead men - & lays down flatt on the Ground, before the Buffalo is very nigh – that they might see nothing stirring – The Tents are always pitched in a hollow that the Buffalo cannot see them until they are just at the Point of getting into the Pound - Bringing the Buffalo to the Pound, particularly when at a great distance is a very hard job for the young men, as they are obliged to run so very much to keep the Buffalo in the proper direction for the Pound – there is a deal of art in thus driving them the way they wish – as it is such a wild animal - & the sight of a single Person will frighten a whole herd – they will smell a person at an amazing distance when they are to the leeward of him - & if one runs, should there be thousands in the herd, they will all run – but the Buffalo in the Plains will not run half so far when frightened as those that are found amongst the woods – these will sometimes run & gallop several miles before they even stop the beasts – Those in the Plains generally stand several shots particularly if the first shot kills – before they run away – Those in the woods seldom more than 1 shot.⁶¹

On a hunt in mid-December 1792, Peigan hunters drove 29 buffalo over a cliff. Three of these survived with broken legs and were killed with arrows. After the hunt some Peigan hunters “brought a little meat about 8 or 10 Buffalo which in this part is not thought so much of as a Goose at Hudson Bay.”⁶² On the next day the hunt failed because the bison broke through the

⁶¹ Ibid., 14, Dec. 28, 1792, Louis Bird also mentioned that during caribou drives among the Swampy Cree the young men who drove the animals to the enclosure received a greater share in the meat than anybody else, because their task required constant running, often on snowshoes, to drive the animals in the desired direction. Only the strongest and most agile young hunters were able to do this. Louis Bird, personal communication, Winnipeg, November 1999.

⁶² HBCA, Peter Fidler, “Journal of a Journey over Land,” 4M 103, E 3/2, 13, Dec. 17, 1792; Peter Fidler’s quotation implies that he considered his Peigan hosts to behave wastefully in regard to the ratio of bison killed to the amount of meat they actually used. However, according to Blood Indian traditions, their culture hero Napi had taught them that “all pieces of meat scraped from hides must be eaten [only by humans or by other creatures, too?] so as not to waste anything.” Glenbow Archives, M4421, M4422, R. N. Wilson Papers, edited and annotated by Philip H. Godsell, vol. 1, Glenbow Foundation: Calgary, 1958, 23, 24.

funnel barriers leading to the cliff. "However, the men killed several upon horseback by galloping after & shooting them with arrows."⁶³

Over the next days Fidler and Ward witnessed similar events. Even when animals fell off the cliff, they sometimes survived unhurt and got away. The Peigan usually tried to kill all animals in a herd that was driven over a cliff, because they believed that any survivors would learn to recognize such a trap and could not be hunted in this manner again.⁶⁴

Fidler's hosts alternated between driving bison over cliffs or into enclosures. Fidler and Ward witnessed several such hunts. Peter Fidler gave a graphic and detailed description of "pounding" bison:

In the afternoon they brought several more heads – near the pound but they all broke out amongst the Dead men and not a single one got into the Pond [pound] – Yesterday a great ceremony of smoaking etc. was made in our Tent the principal part of all the old men assembling, & several speeches was made – the purport of which was that they might have good Luck in getting the Buffalo into the Pond - & that they should run the way the Indian men wished – Our Chief is the Pond Master & when ever a heard comes into the Pond he must go & kill the first one when after any body may kill that wishes – he generally shoots his one with a Gun – the young men kill the rest with arrows – Bayonets tyed at the end of a Pole - & - the Hatchet is frequently used - & it is shocking to see the poor animals their heads up without any way of escaping - butchered in this shocking manner – some with a stroke of an ax will nearly open the whole side of a Buffalo - & the poor animal runs some times a considerable while all thro' the Pond with all its interals dragging on the Ground & trode out by the others – before they dye – so soon the Buffalo gets into the Pound, they constantly keep running all round, never being a moment still, until they are all killed – when the women goes over the hedge & cuts up the Buffalo & takes the best parts. Sometimes the Buffalo a fresh herd will come into the Pound while the women are thus employed, which makes them to run headlong over the hedge to escape – sometimes the Indians say that a few are killed by the Buffalo before they can get out of the Pound .⁶⁵

⁶³ HBCA, Peter Fidler, "Journal of a Journey over Land," 4M 103, E 3/2, 13, Dec. 18, 1792.

⁶⁴ Ibid., 14, December 20, 1792.

⁶⁵ Ibid., 14, Dec. 28, 1792.

Although Aboriginal people killed large numbers of bison in these hunts, they often used only a small portion of the animals they killed. Many bison cadavers were left unused in the pounds.⁶⁶

At the Pound we left the 6th Instant the Pound being quite full laying 5 or 6 Deep one upon the other all thro' which in the whole was above - 250 - Buffalo when the wind happened to blow from the Pound in the direction of the Tents - there was an intolerable stench of the great number of carcasses etc. - on which account was the reason for our leaving it.⁶⁷

Fidler and party passed two other buffalo pounds, one of which had been used by at least 12 tents of Blood Indians all winter, "full of putrefied carcasses of Buffalo."⁶⁸ Impressed with the vast numbers of bison his party encountered on the plains, Fidler noted: "the Buffalo are still very numerous - & the Indians running them on horseback & killed several - they are so plentiful that when the Indians run them they immediately fill up the space like waves in the Sea."⁶⁹

Peter Fidler observed an important change in Peigan hunting methods, caused by the adoption of mounted hunting. The first use of horses in mounted bison hunting was to drive the animals toward a jump or enclosure. This practice eased the task of the young men who previously had driven the herds on foot, often for considerable distances. During several of the hunts that Fidler observed, the drivers were mounted. However, often their efforts did not bring the desired results because the bison broke out through the obstacles before reaching the jump or the piskun.

⁶⁶ For a discussion of Aboriginal conservation practices in the Subarctic and on the Great Plains, see: Robert Brightman. *Grateful Prey: Rock Cree Human-Animal Relationships*. Berkeley: University of California Press, 1993; Shepard Krech. *The Ecological Indian: Myth and History*. New York: W. W. Norton & Company, 1999; Russel Lawrence Barsh and Chantelle Marlor, "Driving Bison and Blackfoot Science," *Human Ecology*. New York: Dec. 2003, Vol. 31, Iss. 4., 571-593.

⁶⁷ HBCA, Peter Fidler, "Journal of a Journey over Land," 4M 103, E 3/2, 23, Jan. 14, 1793.

⁶⁸ *Ibid.*, 34, Mar. 6, 1793; 36, Mar. 14, 1793.

⁶⁹ *Ibid.*, 33, Feb. 23, 1793.

The Peigan then moved to hunting buffalo directly on horseback. This step required new skills. Horsemanship and mounted archery had to be learned and horses had to be trained for mounted hunting. Impressed with the archery of the Peigan, Fidler noted:

Men killed several cows by running them on Horseback & shooting them with arrows – they are so expert at this business that they will ride along side of the Cow they mean to kill & while at full gallop will shoot an arrow into her heart & kill her upon the spot – sometimes when they happen to miss their proper aim (which is very seldom) they will ride close up to the Buffalo while at full Gallop & draw the arrow out & again shoot with it – some of the men will shoot the arrow quite thro' a Bull & fall down on the other side – but this is when the arrow happens to miss the rib bones – Their arrows in general are shod with pieces of Iron work old kettles - & old pieces of Iron battered out thin between 2 stones.⁷⁰

Almost fifty years earlier Anthony Henday claimed to have participated in a mounted buffalo hunt with his Blackfoot hosts:

With the Leader's permission, I rode a hunting with twenty of his young men [Archithinue]. They killed 8 Buffalo, excellent sport. They are so expert that with one, or two arrows they will drop a Buffalo. As for me, I had sufficient employ to manage my horse.⁷¹

The Peigan also applied the methods they developed for mounted bison-running to the hunting of wolves, whose pelts provided their primary article of trade with Europeans until the 1830s. Fidler observed that in hunting wolves near the bison pound, the Peigan used either snares or mounted archery. This latter method was in more general use. The night before the hunt they would kill a buffalo for bait, wait until the wolves had gorged themselves on the meat and the next morning would run them down on horseback, shooting them with bows and arrows. Hungry wolves were said to easily outpace any horse, but with a full stomach they could not run fast enough to get away from the mounted hunters.⁷²

⁷⁰ Ibid., 14, Dec. 25, 1792.

⁷¹ Lawrence J. Burpee, ed., *The Journal of Anthony Hendry*, 34, October 16th, 1754.

⁷² HBCA, Peter Fidler, "Journal of a Journey over Land," 4M 103, E 3/2, 13, Dec. 17, 1792, 26, Jan. 27, 1793.

Accounts of mounted bison hunting with the bow and arrow mention that in order to quickly kill one of these animals, an area the size of a hand just behind the shoulder had to be hit. Thus the arrow would pierce the animal's lung and/or the heart. This skill had to be acquired and honed in actual hunting. Wolf Chief gave a vivid description of how, as a teenager, he learned mounted bison hunting with the bow and arrow:

I first hunted buffalo when I was 16 years old in about 1865. My father had made some small arrows for me. I was then not strong enough to draw a man's bow. I killed some calves with these arrows.

The following winter my brother-in-law offered to teach me to kill adult buffalo. We set out on a hunt together. We came upon a large herd of buffalo. We gave chase on horseback. It was January, the ground was covered with snow. ...

My brother-in-law called to me to approach his left side. As I was not yet an expert hunter it was necessary that I shoot from the right side of the buffalo. Few men, only exceptionally expert bowmen, were able to shoot right or left, as was needed. I was only a novice.

I galloped up to the side of a fat cow. I came up from behind her right flank. At a distance of fifteen feet, I prepared to shoot. "No," my brother-in-law cautioned, "Go closer – closer!" I drew nearer. Again I prepared to shoot; but my brother-in-law called, "Don't be afraid. She won't hurt you – closer, closer!" I struck the sides of my horse with my heels. I rode so close to the buffalo that the point of my arrow was scarcely over a yard away from it. I released the arrow. Directed by my brother-in-law, I shot at the buffalo. I wanted to pierce its lungs. ... As the arrow struck, the buffalo leaped up, and turned back in her tracks. My brother-in-law shouted to me: "Never mind, follow another one."

I moved on but looked back as I rode. The buffalo cow I had shot slackened her pace and dropped to a slow walk. I had continued onward perhaps a hundred yards when the cow dropped. Later, we found her lying on her left side with the arrow protruding from her right side. She was the fattest cow in the herd.

A buffalo shot by an arrow almost invariably leapt back and turned in the direction from which it had come.

My brother-in-law bade me pursue another buffalo. I overtook a cow and shot when about 20 feet away. My arrow buried itself about 5 inches in its carcass; but the buffalo continued to run. I followed. I shot whenever I had an opportunity until I had released about 10 arrows. All these arrows now projected from the buffalo. Some of them stuck upright in its hide; some hung down. The buffalo became enraged. Whenever I approached, it turned, forcing me to retreat.

At this point my brother-in-law approached, laughing heartily. "You are certainly causing the cow to suffer," he said. "What are you doing? Are you trying to kill her by torture? I will show you how to finish her." He galloped around the buffalo cow in a circle. The buffalo turned as he turned and tried repeatedly to charge him. Finally the buffalo stood still. My brother-in-law drew in his pony. He released a shaft. I saw the arrow bury itself half the length of its feather. The buffalo stamped its right hind leg against the ground and ran a short distance. Then, with

blood pouring from its nostrils, quivered, drew up first one foot, then another, knelt on its front legs, sank and dropped on one side.

“Let us return to your first buffalo,” my brother-in-law suggested. “I will dress that carcass first, because it is the fattest. I myself have killed seven.” He did not count among these the buffalo he had finished for me, because a buffalo was the property of the hunter who first wounded it.⁷³

Hunting like this was fraught with danger. The hunter had to concentrate on his prey and on using his weapons, which occupied both hands. Therefore he could direct his horse only through shifting his body weight or pressure from the thighs. Because the rider had to look at the target while approaching it and while shooting, the horse had to find its own way. While galloping alongside the fleeing bison, horses had to avoid badger holes or prairie dog burrows, in order not to break their legs and throw their rider. The horse had to move its rider into the best shooting position on its own accord. After the shot it had to pull away from the bison to avoid an attack by the wounded animal. Sometimes horses were gored by bison during a hunt. George Catlin painted dramatic images of such hunting accidents, showing the rider vault off his horse and jump onto a bison to save himself.⁷⁴ As fanciful as these illustrations may seem, Peter Fidler observed such feats among the Peigan. He stated that in case the horse was injured or fell, the rider would jump onto the bison that had attacked the horse to save himself from being trampled. He would then proceed to kill the bison with a knife, or jump off and run away, once the animal had slowed down.⁷⁵

Not all Plains Indian hunters used the same methods in mounted bison hunting. While most rode up close to their prey, others preferred to shoot their arrows from a greater distance. For example, Wolf Chief mentioned the Hidatsa, End Rock, who habitually killed bison at

⁷³ Weitzner. *Notes on the Hidatsa Indians*, 245, 246.

⁷⁴ George Catlin. *Letters and Notes on the North American Indians*, ed. Michael Macdonald Mooney, 96, Illustration “Buffalo chase, near Fort Union.”

⁷⁵ HBCA, Peter Fidler, “Journal of a Journey over Land,” 4M 103, E 3/2, 30, Feb. 10, 1793.

distances of up to 40 meters. His archery equipment differed markedly from that used by most Hidatsa men, but he was known as one of the best archers among the Hidatsa.⁷⁶

E. N. Wilson described a rather unconventional hunting method for bison, claiming that it was the standard among the Eastern Shoshone group he stayed with. One hunter with a lance would ride (or walk?) up behind a bison and cut its hamstrings, then others would come up and finish it with arrows. When the man who was best at cutting the hamstrings was killed in a battle, hardship resulted for this Shoshone band, because now they were much impeded in bison hunting.⁷⁷

Eventually Plains Indians developed ways to distinguish between desirable and less desirable bison from their new mounted perspective. Differentiating between lean and fat animals could be difficult due to their long shaggy hair. However, Wolf Chief mentioned that the shape of the curve of the animal's lower back when seen from the side provided a clue to whether the animal was fat or lean.⁷⁸ He provided other observational clues as well:

As we pursued a buffalo herd, my brother-in-law watched for the fattest buffalo. He knew the signs by which it was possible to recognize one. A fat cow will have a hump caused by a layer of fat. In the spring a fat bull was frequently marked by black hair along the spine and just back of the eyes. It was believed that the shedding of the hair first in this area was caused by the underlying layers of fat. ... We preferred to kill cows because the meat was more tender and also because cow hides were more valuable.⁷⁹

More than a century earlier Peter Fidler had already observed Plains peoples' preference for bison cows. He observed that Aboriginal hunters sometimes killed buffalo cows only for the unborn calves, which they considered a delicacy.⁸⁰ While predators such as wolves and bears

⁷⁶ Gilbert Wilson, *Hidatsa Report 1911*, vol. 10, 73, 74. Wolf Chief stated that End Rock used a very sturdy bow, but it was braced somewhat more loosely with a thicker bowstring. His arrows were of exceptional quality.

⁷⁷ Elijah Nicholas Wilson. *Among the Shoshones*, 98-103.

⁷⁸ Wilson, "Hidatsa-Mandan report, 1911," 80.

⁷⁹ Weitzner. *Notes on the Hidatsa Indians*, 245.

⁸⁰ HBCA, Peter Fidler, "Journal of a Journey over Land," 4M 103, E 3/2, 28, Jan. 31, 1793, 30, Feb. 10, 1793; Fidler noted that the Peigan hunters sometimes killed only buffalo bulls. He observed an absence of cows whenever

concentrated on calves and injured or weak animals, mounted human hunters mainly went after healthy animals in their prime. Plains Indians preferred two to five-year old bison cows for their meat and for their thinner, smaller and more easily processed hides.⁸¹

Such selective hunting was very different from the wholesale slaughter of communal bison hunting in pedestrian days, but the preference for young bison cows also put precisely that segment of the bison population that was most crucial for its reproduction under disproportionate strain.⁸² This selective hunting, which was only possible with the use of horses, contributed to the decline of the plains bison herds well before the trade in bison robes surpassed the beaver trade in importance and long before non-Aboriginal hide hunters destroyed the remainder of the herds from the 1860s to the 1880s.

In a slow transition, hunting methods suited to the employment of horses began to dominate communal bison hunting on the plains. Eventually mounted bison hunters came to rely on two main hunting methods, the surround technique and running buffalo in a headlong chase as described by Wolf Chief. Especially the latter method enabled Aboriginal people to precisely select the animals they wanted to kill.

For Aboriginal peoples the positive aspects of early firearms far outweighed the negative ones. However, firearms did not rapidly replace traditional distance weapons on the Great Plains. While the lance went slowly out of use, the bow and arrow remained the primary big game hunting weapon on the plains, especially for mounted bison hunting, well into the 1870s.

In the Central Subarctic the development was different. Sojourners among Subarctic Cree and Ojibwa peoples like David Thompson, Peter Fidler and George Nelson mentioned archery

this happened. It is likely that those hunts were conducted during the time the herds broke up into smaller groups and young mature bulls would segregate themselves from the cows and calves.

⁸¹ Dan Flores, "Bison Ecology and Bison Diplomacy: The Southern Plains from 1800 to 1850," *Journal of American History*, September 1991, 479, 480.

⁸² *Ibid.*, 465-485, 479, 480.

much less than travelers on the plains. Although archery was still in use in the Subarctic, it was far less important in that region. Even before the adoption of firearms, the Swampy Cree, for instance, had relied on a wide variety of big game hunting weapons, snares and deadfalls, not mainly bows as was the case on the plains. When Swampy Cree people adopted firearms, they did not instantly give up all of their other traditional big game hunting weapons. Lances went out of use because firearms could be used at a greater and thus safer distance. Firearms slowly superseded bows in importance as distance weapons for big game hunting, because firearms offered greater penetrative power that made it much easier to kill large and potentially dangerous animals. However, small distance weapons like bolas and slings remained in use because they were more portable and were not adversely affected by extremely low temperatures and could withstand the effects of moisture and dampness better than other traditional distance weapons.

One factor that paradoxically may have pushed Subarctic Aboriginal people to adopt firearms as their primary big game hunting weapon was the effect the noise of these weapons had on local game animals. Otis Tufton Mason stated in this regard:

The almost entire absence of noise in the movement of the arrow and the shooting of the bow is the greatest differentiation from the gun, which alarmed the whole earth, man and beast. It may be said that the noise of the gun put the man or the beast to be killed quite as much out of reach of that weapon as the little alarm created by the archer had moved the victim away from his weapon.⁸³

The noise caused by the discharge of firearms, especially muzzle loaders, put animals under stress and made them much more alert. Once the animals had been disturbed and exposed to this stress, it was very difficult for hunters to approach them closely enough to hunt them with traditional weapons, such as bows and arrows. Even though the noise of firearms was a great disadvantage in hunting, in a seemingly paradoxical way, the increased alertness of the animals caused by the noise made it necessary to continue to use firearms, because these generally had a

⁸³ Mason. *North American Bows, Arrows, and Quivers*, 19, 20.

greater range than bows and arrows. Once the use of firearms spread, traditional Aboriginal hunters had no choice but to adopt firearms, because the noise made by the weapons of their neighbours made it almost impossible to continue hunting with traditional distance weapons. Louis Bird mentioned in this regard:

The thing that is mostly notable about the firearm is the noise. Noise will prevent you to hunt quietly, as with the bow and arrow. When you have bow and arrow and you are hunting in the fall, there is a chance that you could kill an animal here, quietly, and be able to go on and not far away encounter another animal who has not yet heard anything. It gives you a chance to hunt a variety of animals close by.

And when you shoot, it's different. As soon as the firearm is heard, this animal is ready to run, and also the other ones around him. But bow and arrows doesn't do that. So the sound sometimes can carry quite a distance under different conditions of atmosphere. Sometimes it'll roll a long, long ways and you are now disturbing the animals so far distant. You only got one chance to have a good shot in the morning, if you can kill them. That's a bad thing about it."⁸⁴

And also, the animals know that. When they hear the gun, they get used to it. When they hear the gun, they know there is a human here, so the caribous can be ready to just go, get away, when they hear which direction there is a gun. ...

But the gun gives more success in hunting big-game animals. So firearm did bring much improved life to First Nations in North America. But it did sort of deny the other people who used the bow and arrow, when there is a gun around. It sort of limit their capability with the bow and arrow. Otherwise, the other one is getting more.⁸⁵

The noise of firearms made animals more wary and alert, such that even hunters with quiet traditional weapons may have found it more difficult to approach them within range of their weapons. This is reflected to some extent in modern Canadian and US hunting regulations, which allow an archery season of several weeks before firearms can be used.

Thus, not so much any inherent superiority of European weapons, but their noise may have contributed to their spread throughout Eastern North American and Subarctic Aboriginal cultures. In order to catch enough animals to feed their people, Aboriginal hunters were forced to adopt firearms once their neighbours began to use them, because the noise of these weapons scared the game out of range of traditional archers.

⁸⁴ Louis Bird, 0014 – *Our Voices*, “Guns and Bows,” 2001; 0116 – *Our Voices*, “Guns & Bows II.”

⁸⁵ Louis Bird, 0014 – *Our Voices*, “Guns and Bows,” 2001.

However, until the last quarter of the nineteenth century the bow and arrow remained the preferred weapon for mounted bison hunting among those Plains Indians who had resided on the upper plains before direct trade with Europeans reached them. Eastern Plains groups with Subarctic roots, however, were an exception, to an extent. Even though muzzle-loading firearms were much more difficult to reload on horseback than shooting with a bow and arrows, easterly groups such as the Plains Cree and Plains Ojibwa seem to have relied more on firearms. Possibly due to their boreal-forest origins, their archery traditions were not as deeply ingrained into their cultures as those of the northwestern Plains Indians. Groups such as the Blackfoot, Crow, Gros Ventre and Arapaho, in contrast, were introduced to horses earlier and, rather than giving up their preferred hunting weapon, adapted to its mounted use. If firearms had reached them in quantity before horses did, their traditional big game hunting weapons might have been displaced by firearms as happened among the Aboriginal peoples of the Hudson Bay Lowlands and interior areas of the Central Subarctic. On the Plains, however, it was the introduction of another import from Europe, the horse, that enabled Aboriginal peoples of the northwestern plains to hold on to their traditional weapons as the main weapons for bison hunting.

The next chapter turns to a study of combat weaponry, which followed a course of development quite different from that of hunting weapons.

Chapter IX

Archery and firearms in combat in the Central Subarctic

The role of archery and firearms in Cree-Inuit warfare on Hudson Bay

As the fur trade shifted westward during the eighteenth and nineteenth century, non-Aboriginal traders and travelers created more journals and ethnographic accounts of Aboriginal peoples living within the reach of the Saskatchewan and Missouri River systems than on those in the Hudson Bay Lowlands. As a consequence, most of the reports or eyewitness accounts of Aboriginal combat in that period refer to the Northern Plains rather than the Central Subarctic. Even these are relatively few, however.

Furthermore, much early ethnographic and anthropological fieldwork from the late 1800s on emerged out of a desire to illuminate events of the "Indian Wars" in the US and similar conflicts on the Canadian plains.¹ In this context non-Aboriginal researchers recorded accounts of Aboriginal combat methods from Plains elders who had participated in such events during the second half of the nineteenth century. In contrast, Central Subarctic inter-group conflicts had gradually faded during the early nineteenth century, and most anthropological fieldwork on Central Subarctic peoples was conducted long after the elders who had participated in them had passed away. Researchers working with Central Subarctic peoples, such as Frank G. Speck and John M. Cooper, were also

¹ Frank Bird Linderman. *Plenty Coups, Chief of the Crows*, Lincoln: University of Nebraska Press, 1962 (1930). Frank Bird Linderman. *Pretty Shield, Medicine Woman of the Crows*. Lincoln: University of Nebraska Press, 1972 (1932). Thomas B. Marquis. *Wooden Leg: A Warrior Who Fought Custer*. Minneapolis: Midwest Co., 1931. George Bird Grinnell. *The Fighting Cheyennes*. New York: Scribner, 1915.

primarily interested in issues other than intertribal warfare.² Therefore far less direct information on Aboriginal tactics and weapons use is available for the Central Subarctic than for the Northern Plains. However, some accounts generated by European outsiders, or preserved in Aboriginal oral traditions, provide important information on Aboriginal people's motivations for conflict and on the tactics and weapons used in these hostilities. This and the following chapter will examine Aboriginal people's use of archery and firearms in inter-group conflict in the Hudson Bay Lowlands and the Northern Plains.

According to Louis Bird, the Swampy Cree classified potentially harmful outsiders into three categories:

There are three ways to say the word. One is "Atoyewak" and these were believed to be Inuit people who seem to attack the Omushkego camp from the bay area. There were other kinds of tribes that did come around and visit the James Bay and Hudson Bay area for their own reason. They attack the Omushkegos and these were known to be "Aatawewak." It means "they look," "people who look for something." Aatawewak are the ones that actually kill people. But the other ones are called "Natawewak." These are the people who look for some tribes or some human, sometimes not as friend, but sometimes partially in friendship and also to satisfy their spiritual beliefs and practice.³

This categorization placed greater importance on the motives of the Aboriginal opponents of the Cree than on their ethnic affiliation. Oral traditions and documentary evidence indicate that the Swampy Cree were at times engaged in violent conflict with mainly three Aboriginal groups. During the seventeenth century Iroquois raiders attacked Lowland Cree communities from the southeast, the region of the Nottaway River. The

² John M. Cooper. *Notes on the Ethnology of the Otchipwe of Lake of the Woods and Rainy Lake*. Washington D.C.: Catholic University of America, 1936. John M. Cooper. *Snares, Deadfalls and Other Traps of the Northern Algonquians and Athapaskans*. Washington D.C.: Catholic University of America, 1938. Frank G. Speck. *Naskapi, the savage hunters of the Labrador Peninsula*. Norman: University of Oklahoma Press, 1935. Frank G. Speck. *Penobscot Man*. Philadelphia: University of Pennsylvania Press, 1940.

³ Louis Bird, 0077- *Our Voices*, "Inuit-expedition, skirmishes," rec. April, 2003, transcr. by Roland Bohr.

name of this river still reflects these conflicts because the Lowland Cree used the term "Natawewak" to refer to the "Iroquois."⁴

At times the Cree were also at odds with Dene peoples such as the Dogrib and the Chipewyan to their northwest.⁵ However, their most persistent animosity was against the Inuit on the east coast of Hudson Bay and on the Belcher Islands in the northern and northwestern part of Hudson Bay.

La Potherie recorded animosity between the Swampy Cree and the Inuit already during his visit to Hudson Bay in 1697.⁶ Edward Chappell noted the occurrence of hostile encounters between the Inuit and the coastal Cree as late as the early nineteenth century.⁷ John Oldmixon, who visited the Hudson Bay Lowlands in 1708, recorded that Inuit raiding parties occasionally attacked the Cree:

The *Indians* about *Rupert's River*, and other Places in the Bay, are more simple than the *Canadians*, who have had longer *Commerce* with the Europeans. They are generally peaceable, and not given to quarrel either with themselves or others, except the *Nodways*, a wild barbarous people on the borders of *Hudson's Streights*; who sometimes in slight Parties make Incursions on the other Indians, and, having knock'd 8 or 10 on the Head, return in Triumph.⁸

⁴ Charles Bishop and Victor Lytwyn, "Barbarism and ardour of war from the tenderest years: Cree – Inuit Warfare in the Hudson Bay Region," in Richard Chacon and Ruben Mendoza, eds. *Problems In Paradise*. Tucson: University of Arizona Press, forthcoming, 6. Louis Bird preferred the term "Natowaywuk."² An old term, *na'towe'wa, was widely used in Algonquian languages to refer to various Iroquoian groups. Some have translated it as "snake"² but Ives Goddard believes that this is a later extension and that it "should instead be compared to the verbal element *-a'towe'--'speak a foreign language', to which it can be related by regular grammatical processes." Both variants, with and without the initial n, have validity. Ives Goddard, "Synonymy [for Iroquois]." *Handbook of North American Indians*. Vol. 15: *Northeast*, ed. William Sturtevant (Washington, DC: Smithsonian Institution, 1978), 320.

⁵ "Letters of La Potherie," ed. J. B. Tyrrell. *Documents Relating to the Early History of Hudson Bay*. (Toronto: Champlain Society 1968 [1931]), 264-266.

⁶ "This [the Nelson River] is a very beautiful river about a league across at its mouth, in the land of the Mashkegonhyrinis or Savannahs [Swampy Cree], who are at war with the Hakouhirmious [Inuit]." "Letters of La Potherie," ed. J. B. Tyrrell. *Documents Relating to the Early History of Hudson Bay*, 258.

⁷ Edward Chappell. *Narrative of a Voyage to Hudson's Bay* (London: R. Watts, 1817 [Reprint facsimile edition by Coles Publishing Company: Toronto, 1970]), 93, 166.

⁸ John Oldmixon. "The History of Hudson's-Bay" (1708), ed. J. B. Tyrrell. *Documents Relating to the Early History of Hudson Bay*, 381, 382.

The term “Nodways” that John Oldmixon recorded bears a resemblance to “Nottaway,” possibly a corruption of the Cree term “Natawewak.” Louis Bird explained the meaning of this term thus:

“Natawewak” are the people who look for some human to satisfy their spiritual beliefs and practice, because in those days there was no Christianity. And every tribes across the land have the similar belief. People who practice mitewiwin, some but not all, believe that if a person takes a life of a person, you’ll extend the life of yourself, or your friend, or your loved one. And it seemed to indicate that the beliefs were similar across the country, which is the reason, maybe, there were the warrior tribes, there were literally some tribes who travels so long, far distance to accomplish this. There were tribes someplace, who literally traveled every, or every second summer far distance up north to capture the other tribes and take them back to their country and use them as a sacrificial offer.⁹

The implication that the raiders referred to as “Natawewak” came from the south, and the sacrifice element suggest that they may have been Iroquois people. However, despite the resemblance between “Nodway” and “Nottaway,” John Oldmixon identified the aggressors as Inuit, perhaps because they were said to have come from Hudson Strait. The conflicts between Inuit and Lowland Cree originated in pre-contact times. On the part of the Cree, three main motivations for these conflicts stand out. Cree traditions from the west coast of James Bay indicate that they clashed with the Inuit over access to resources such as seal and waterfowl hunting at Nehapiskaw on Akimiski Island, adjacent to the James Bay coast. Conflict occurred particularly during summer, because the seal favoured locations near the southwest coast of James Bay from late May to June. The Cree believed that the Inuit who visited Akimiski Island were fairly numerous, probably

⁹ Louis Bird, 0077- *Our Voices, Inuit-expedition, skirmishes*, 2003; Victor P. Lytwyn. *Muskegowuck Athinuwick Original People of the Great Swampy Land* (Winnipeg: University of Manitoba Press, 2002), 222, note 5; Victor Lytwyn quoted William Coates who was an HBC employee from 1727 to 1751 and who recorded that Lowland Cree people sometimes gave Inuit captives to Ottawa raiders who handed them over to the Five Nations Iroquois people who sacrificed them. The Cree and Ottawa apparently delivered these captives to avoid becoming Iroquois sacrificial victims themselves. William Coates. *The Geography of Hudson’s Bay: Being the Remarks of Captain W. Coates, in Many Voyages to that Locality, Between the Years 1727 and 1751*, ed. John Barrow (London: The Hakluyt Society, 1852), 56, 57.

outnumbering them. An uneasy coexistence of Cree and Inuit seasonal hunting camps on the island occasionally escalated into violent clashes.¹⁰ Renée Fossett argued that throughout the seventeenth century when Inuit used violence against outsiders, they mostly acted to protect their resources or to gain material benefits.¹¹

According to Louis Bird, another motivation for the Cree to attack the Inuit was to seek revenge for Cree people killed in past attacks. A third motivation was based on Aboriginal spiritual concepts. Reports from European observers as well as Cree traditions indicate that the Cree believed the Inuit to be “a nation of sorcerers.” Whenever hunting or trapping was bad for the Cree, they blamed Inuit sorcery and consequently launched a punitive expedition.¹² Similarly hostilities between Chipewyan people and the Coppermine River Inuit had also been going on at least since the seventeenth century, and Chipewyan people blamed these conflicts on the Inuit use of sorcery and witchcraft to harm them. Inuit people, on the other hand, more likely had economic motives, for instance, access to outcroppings of surface copper and to a stone quarry at Peel River. These resources attracted both peoples to the region, often causing violent conflict and sometimes uneasy trading relationships.¹³

Cree and Inuit traditions both cast their own groups mainly as the victims of outside aggression. For example, Inuit scholar Rachel Attituq Quitsualik stated that

there are nineteenth century Copper Inuit tales of raids by “white men.” While the Inuit men are away hunting, the camp is raided by “whites,” who butcher everyone except for some hidden children.

¹⁰ Louis Bird, 0077- *Our Voices, Inuit-expedition, skirmishes*, 2003.

¹¹ Renée Fossett. *In Order to Live Untroubled: Inuit of the Central Arctic, 1550 – 1940* (Winnipeg: University of Manitoba Press, 2001), 54.

¹² Edward Chappell. *Narrative of a Voyage to Hudson's Bay*, 110; Louis Bird, 0077- *Our Voices, Inuit-expedition, skirmishes*, 2003.

¹³ Fossett, *In Order to Live Untroubled*, 54.

Returning, the hunters track down the murderers and kill them. Interestingly the tales are strikingly similar to even earlier tales of Indian raids, or raids by other Inuit bands. This tale type seems to be an Inuit folkloric template, where the latest enemy can be inserted to suit the current culture.¹⁴

However, the meaning of the term “white people” may have changed among the Inuit. European observers sometimes remarked on the fair complexion of the coastal Cree people. For instance, Joseph Robson noted

the natives [near Churchill River] are a white people, without anything peculiar in their shape and size to distinguish them from the rest of mankind. They are less hairy indeed than the Europeans, the men having little or no beard; and those who have conversed with the women say, that they have no hair but upon their heads.”¹⁵

The appearance of early European explorers, and later whaling ships in the northern regions of Hudson Bay brought other groups of outsiders into contact with Inuit people. Some of these encounters led to friendly exchanges and trade, but sometimes they disintegrated into unpredicted and unplanned clashes, possibly because Inuit people in the Central Arctic tended to perceive strangers primarily as dangerous and hostile.¹⁶

However, the pattern described by Rachel Attituq Quitsualik is consistent with Aboriginal warfare in the region. The raiders she described could have been Europeans, Dene or Cree people.

While the presence of inter-group violence among Arctic Aboriginal groups has long been recognized, it is a widespread perception that Eastern, Central and Alaskan

¹⁴ Rachel Attituq Quitsualik, “War: Part Six,” February 11, 2000, 6, *Nunatsiaq News*, <http://www.nunatsiaq.com/archives/nunavut000230/nunani.html>.

¹⁵ Joseph Robson. *Six Years in Hudson's Bay from 1733 to 1736 and 1744 to 1747* (Toronto: S. R. Publishers Limited, Johnson Reprint Corporation, 1965), 48.

¹⁶ “Nothing is more ingrained in the real Eskimo and nothing pervades more thoroughly his traditions and folklore than the idea that strangers are necessarily hostile and treacherous.” Vilhalmur Stefansson. *The Friendly Arctic: The Story of Five Years in Polar Regions* (Reprint, New York: The Macmillan Co., 1943 [1921]), 426.

Inuit were a peaceable people, without any notions of warfare.¹⁷ However, Inuit communities in these regions did have well-established ways to deal with hostile outsiders. They had trained warriors, designated military leaders and military tactics that combined and concentrated forces from several Inuit communities in case of emergency.¹⁸ Archery figured prominently in confrontations between Inuit and Martin Frobisher's and Thomas Button's expeditions in the southeast of Baffin Island in 1576-1578 and in 1611-1612.¹⁹ In these confrontations Inuit people shot volleys of arrows at their opponents, either in an attempt to quickly break their resistance, or to cover the retreat of their own non-combatants. When they ran out of arrows, they even picked up and shot arrows that the English had shot at them.²⁰ If the arrow volleys did not immediately deter their opponents, Inuit warriors would send out one or more of their own as "easy targets" to taunt the enemy into expending their arrows. Similar tactics were recorded in western and northern Alaska as part of violent conflict among Yup'ik and Inupiat peoples.²¹

Inuit people had a wide variety of weapons designed mainly for combat. These included barbed arrowheads and spears, special cutting weapons, war clubs and body armour of bone or ivory.²² Inuit were keen on obtaining metal objects. La Potherie

¹⁷ E. Adamson Hoebel. *The Law of Primitive Man: A Study in Comparative Legal Dynamics* (Cambridge, MA: Cambridge University Press, 1961); Margaret Mead, "Warfare is only an Invention," in *War: Studies from Psychology, Sociology, Anthropology*, eds. Leon Bramson, George W. Goethals (New York: Basic Books, 1964); Margaret Mead, "Alternatives to War," in *War: The Anthropology of Armed Conflict and Aggression*, eds. M. Fried, M. Harris, and R. Murphy (Garden City, New York: Natural History Press, 1968).

¹⁸ Fossett, *In Order to Live Untroubled*, 48, 49.

¹⁹ *Ibid.*, 44-49.

²⁰ *Ibid.*, 37; In the late sixteenth century bows and arrows were still standard equipment on English warships.

²¹ *Ibid.*, 46; Ann Fienup-Riordan. *Eskimo Essays: Yup'ik Lives and How We See Them* (New Brunswick and London: Rutgers University Press, 1990), 156, 157.

²² Fossett, *In Order to Live Untroubled*, 50; Rachel Attituq Quitsualik, "War: Part Five," February 4, 2000, 7, 8, *Nunatsiaq News*, <http://www.nunatsiaq.com/archives/nunavut000230/nunani.html>.

observed in 1697 that Inuit traded with the French ships for metal tools, such as knives, scissors, bells and needles. He noted that Inuit arrows had foreshafts of walrus ivory which were tipped with iron.²³

More than a century later Edward Chappell noted that Inuit people shaped their own iron arrowheads and lance points: "The knowledge which the Esquimaux possess of the use of fire, is observable in the ingenuity with which they transform iron nails, hoops, &c. into heads for their arrows, spears and harpoons."²⁴

The account of Martin Frobisher's expedition in 1577 was probably the first European document to record a description of Inuit bows backed with sinew cables: "Their bowes are of wood of a yard long, sinewed on the back with strong sinews, not glued to, but fast girded and tyed on. Their bowe strings are likewise sinews."²⁵

When visiting Hudson Bay in the 1740s, Henry Ellis was impressed by Inuit bows.

Their greatest Ingenuity is shown in the Structure of their Bows, made commonly of three Pieces of Wood, each making a part of the same Arch, very nicely and exactly joined together. They are commonly of Fir or Larch, which the English there call Juniper, and as this wants Strength and Elasticity, they supply both by bracing the Back of the Bow with a kind of Thread or Line made of the Sinew of their Deer, and the Bowstring of the same material. To make them draw more stiffly, they dip them into Water, which causes both, the Back of the Bow and the String to contract and consequently gives it greater force.²⁶

²³ "Letters of La Potherie," ed. J. B. Tyrrell. *Documents Relating to the Early History of Hudson Bay*, 198-200.

²⁴ Edward Chappell. *Narrative of a Voyage to Hudson's Bay*, 62, 63.

²⁵ Vilhjalmur Stefansson, and A.M. McCaskill, eds. *The Three Voyages of Martin Frobisher In search of a passage to Cathay and India by the North-West, A.D. 1576-8*. 2 vols. (London: Argonaut Press, 1938), vol. 2, 21, from Dionyse Settle's account of the second voyage, London, 1577.

²⁶ Henry Ellis. *A Voyage to Hudson's Bay in the Dobbs Galley and Californiain the Years 1746 and 1747 for Discovering a North West Passage; with An Accurate Survey of the Coast, and a Short Natural History of the Country* (New York: Johnson Reprint Corporation, 1967 [1748]), 138; Andrew Graham, *Andrew Graham's Observations on Hudson Bay, 1767-1791*, ed. Glyndwyr Williams (London: Hudson's Bay Record Society, 1969), 234, 235. Andrew Graham described a very similar Inuit bow that was presented to the Edinburgh Royal Society in January 1787.

When Edward Chappell visited an Inuit tent in 1814, the owner ran ahead and concealed his archery gear under some furs at the back of the tent. "Curiosity prompted me to inquire into this mysterious conduct; and, on removing the skins, I discovered his bow and arrows, in a sort of seal-skin quiver."²⁷ When Chappell offered to trade an archery set for a knife, the owner considered the offer too low and wanted to give only an unfinished bow instead.²⁸ However, unlike Ellis, Chappell was not impressed with Inuit workmanship:

But the bow is merely made of two pieces of plain wood, firmly corded together, and rarely strengthened at the back with thongs of the sea-horse's hide; the string is formed of two slips of hide or dried gut; the arrows are headed, either with iron, sea horse's teeth, sea-unicorn's horn, or, in some few cases, with stone; and the whole fabrication of the bow and arrow does not surpass the workmanship of an English school-boy."²⁹

It is not clear if Inuit bow making skills had declined by the time of Chappell's visit. The type of bow that Chappell described was apparently different from those observed by Ellis several decades earlier. However, sinew cable-backed Inuit bows from Northern Manitoba collected during the late nineteenth and the twentieth century still exhibit excellent craftsmanship and have the triple curve described by Ellis.³⁰

²⁷ Edward Chappell. *Narrative of a Voyage to Hudson's Bay*, 77.

²⁸ *Ibid.*, 78. In 1812 on a voyage to Hudson Bay Thomas M'Keevor observed Labrador Inuit people who were very unwilling to sell their archery gear to the Europeans, possibly because at that time they were at war with another Aboriginal group. Thomas M'Keevor. *A Voyage to Hudson's Bay, during the summer of 1812: containing a particular account of the icebergs and other phenomena which present themselves in those regions: also a description of the Esquimeaux and North American Indians, their manners, customs, dress, language, &c. &c. &c.* London: Printed for Sir Richard Phillips and Co., 1819. Early Canadiana Online, <http://innopac.uwinnipeg.ca:2097/ECO/PageView/27370/0046?id=7dfc132a236cf314>, p. 36.

²⁹ Edward Chappell. *Narrative of a Voyage to Hudson's Bay*, 78.

³⁰ Environment Canada, Canadian Parks Service, 145 Mc Dermot Avenue, Winnipeg, Cat. No. JB.64 X.66A, Photo No. PHQ #25-35, acquired by Parks Canada in January 1964; triple-curved sinew cable-backed Inuit bow, 135.5 cm long, measured along the string of the strung bow.

James Isham and Henry Ellis both included illustrations of Inuit bows from Hudson Bay in their narratives.³¹ These bows were backed with sinew in very long braided cables. The cable was similar in diameter to packaging cord. Starting at one tip, it passed along the back of the bow, around the other tip and back to the start. This was repeated until 20 to 40 strands of this cable ran along the back of the bow. At intervals they were secured to the limbs of the bow with half hitches. Before use, these cables had to be twisted tight with a special twisting tool to impart the necessary tension to the bow.³² After use they were untwisted again. Such a sinew-backing was necessary, because the wood available to the Inuit was generally of poor quality for bow making; in fact, sometimes bone or horn were substituted for the wood. Therefore the power of the weapon had to come from its sinew backing and not so much from the wood or horn belly.

³¹ James Isham. *Isham's Observations on Hudson's Bay, 1743*, ed. E. E. Rich (Toronto: Champlain Society, 1949), 118; Henry Ellis. *A Voyage to Hudson's Bay*, 132, illustr. B, 232, illustr. on facing page.

³² This was an oblong S-shaped tool of wood or bone, the size of a teaspoon. One of its crooked ends was inserted between the strands of the sinew cable on the back of the bow and twisted towards the side of the bow. Then the tool was pushed through the cable so that its other crooked end gripped the sinew cables, when it was twisted again in the same direction. The process was repeated until the cable backing reached the desired tension. Mason. *North American Bows, Arrows and Quivers*, plates LXXIV and LXXV.

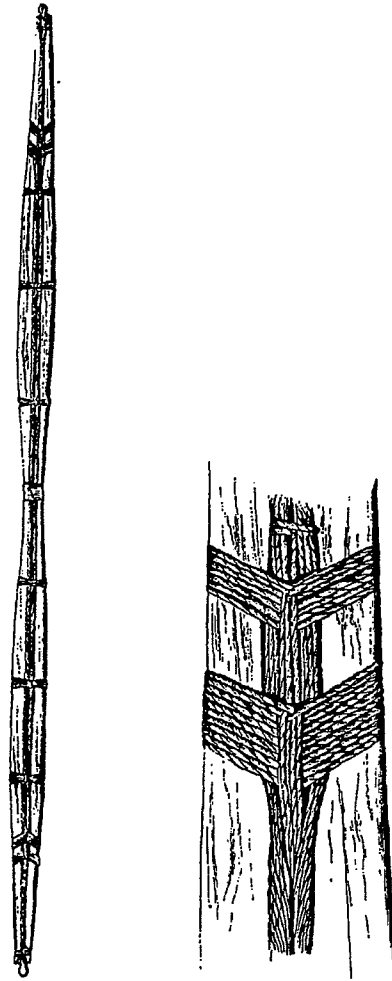


Fig. 25. Western Arctic type of sinew cable backed Inuit bow, detail showing the attachment of the sinew cable to the wood near the upper tip of the bow. Adapted from Mason. *North American Bows, Arrows and Quivers*, plate LXXI.

Bows from the Copper Inuit of northwestern Hudson Bay often consisted of three pieces of wood spliced together, similar to the bows Ellis described. Each of the three pieces had a convex (deflex) curve, bending towards the bowstring. The largest part with the greatest bend formed the center of the bow, while the other two smaller parts formed appendages similar to the “siyahs” or “ears” on the ends of Asiatic composite bows.

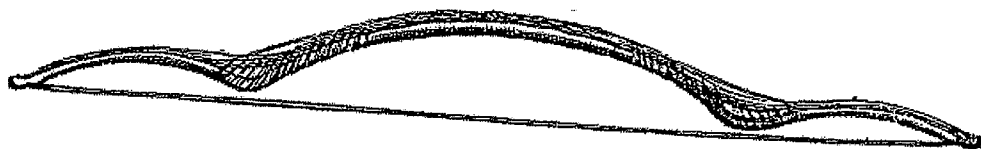


Fig. 26. Eighteenth century “triple curved” sinew cable backed Inuit bow from Hudson Bay. Adapted from Henry Ellis. *A Voyage to Hudson’s Bay in the Dobbs Galley and Californian in the Years 1746 and 1747 for Discovering a North West Passage; with An Accurate Survey of the Coast, and a Short Natural History of the Country* (New York: Johnson Reprint Corporation, 1967 [1748]), 132.

However, on Asian bows these outer parts at the end of each limb are usually recurved, meaning they bend away from the string when the bow is unstrung. This gives the bow greater power by applying greater leverage to the arm or limb of the bow when the bow is drawn. In contrast, on the Inuit bows described by Ellis and Isham all three parts of the bow curve toward the string when the bow is unstrung. This is less efficient in terms of energy storage. Therefore John Murdoch in his study of Inuit bows referred to this type as a “confused pattern where the siyahs are usually non-functional.”³³ Murdoch and others saw the three-piece construction with “siyahs” (an Arabic term) as vestiges of the recurved ends of Asian composite bows. In their view, the presence of siyahs on Inuit bows indicated an Asiatic origin of Inuit people. The supposedly “non-functional” siyahs on Inuit bows seemed to confirm this idea, because they were mainly found on Inuit bows in the eastern part of the Central Arctic, farther away from Asia, while Inuit peoples in the Western Arctic sometimes made bows with true recurves.



Fig. 27. Recurved sinew cable backed Inuit bow from Point Barrow, Alaska (Cat. No. 89245, U. S. N. M.) Adapted from Mason, *North American Bows, Arrows and Quivers*, pl. LXVII.

³³ Hamilton. *Native American Bows*. 74-85.

To Murdoch the “non-functional” siyahs were an improperly constructed element whose function was only vaguely understood by its makers, indicating that Central Inuit bow making skills had declined over time.³⁴

However, when one takes into consideration the environmental constraints of Inuit people’s homelands on the shores of Hudson Bay, the “vestigial siyahs” can be explained differently. The triple deflex curve of these bows considerably reduced tension and compression strain during the stringing and drawing of the bow. After the bow was strung, the sinew cable on the back was twisted tight with a twisting tool until the desired draw weight was reached. Before the bow was unstrung after use, the cables on the back were untwisted. Then the string could be taken off with very little stress to the wood of the bow. Furthermore, in cross section, the wooden parts were almost perfectly rectangular and tapered gradually in thickness towards the ends of the bow.³⁵ This distributed tension and compression forces very evenly. The deflex curves and the considerable length of these bows, the “siyahs” and the rectangular cross section all contributed to reduce stress on the wood as much as possible. This made the use of relatively weak woods in extremely cold temperatures much safer. In this way these Inuit bows were a highly ingenious adaptation to a severe climate and an environment that supplied only marginal materials for bow making.

The Noice collection of Copper Inuit material culture at the Field Museum in Chicago contains a very similar triple deflex-curved Inuit bow.³⁶ I examined several

³⁴ Ibid.

³⁵ Ibid., 11, 12; These wooden parts have a very regular, almost machined appearance. Otis Tufton Mason implied that they were made from wooden parts of barrels or hoops supplied by whaling ships.

³⁶ James W. VanStone. *The Noice Collection of Copper Inuit Material Culture* (Chicago: Field Museum of Natural History, 1994), 26-29.

similar triple-curved sinew-backed Inuit bows at the Manitoba Museum and in the Parks Canada collection in Winnipeg. All of these weapons showed expert craftsmanship and were very uniform in appearance but varied slightly in their dimensions. Inuit bows backed with sinew-cables could be formidable weapons. Saxton Pope tested a sinew cable-backed Inuit bow from the Western Arctic in 1923. It was made of Douglas fir and was 56 inches long. At 26 inches of draw length the draw weight was 80 lbs. This bow cast an arrow a distance of 180 yards. T. M. Hamilton commented: "That was a weapon which would have been regarded with respect in England in the days of Edward III."³⁷

Edward Chappell believed that among the Inuit bows and arrows were mainly a combat weapon:

Esquimaux have some superstitious veneration for their bows and arrows: but their hiding may be intended as a compliment to their visitors, or an assurance of their security whilst under that roof. None of the canoes that visited us on *Hudson's Straits*, had either bow or arrows on board; consequently, they are only used by the *Esquimaux* in their wars, and not for the purpose of killing birds or fishes.³⁸

However, Copper Inuit people were reported to have used bows to hunt birds and caribou. Their effective hunting range for birds was between 25 and thirty yards, while caribou could be taken a distances up to 75 and even 90 yards. At 30 or 40 yards arrows passed entirely through an adult caribou and flew on for several yards after passing through the body of the animal.³⁹

The formidable power and ingenious craftsmanship of Inuit bows and arrows stimulated European observers to leave relatively precise descriptions of these weapons

³⁷ Hamilton. *Native American Bows*, 83, 84, (quoting Saxton Pope, 1923, 338).

³⁸ Edward Chappell. *Narrative of a Voyage to Hudson's Bay*, 78.

³⁹ *Andrew Graham's Observations on Hudson Bay, 1767-1791*, ed. Glyndwyr Williams, 234; Vilhjalmur Stefansson. *The Stefansson-Anderson Arctic Expedition of the American Museum: Preliminary Ethnological Report* (New York: Anthropological Papers of the American Museum of Natural History, 14 (1), 1914), 96; Vilhjalmur Stefansson. *The Friendly Arctic*, 241, 401.

and their capabilities. In contrast, they commented far less frequently and favourably on the archery of the Hudson Bay Lowland Cree and the Chipewyan. As mentioned earlier, little information regarding Cree archery gear from the seventeenth to the early nineteenth century has been recorded. Most information on Subarctic archery comes from the early to mid twentieth century, when it had changed considerably. These later accounts point to self bows in general use among Central Subarctic Aboriginal peoples. A few vague references mention the manufacture and use of sinew-backed bows among the Lowland Cree. Although the reasons are obscure, it seems likely that the Subarctic Cree did not adopt the use of sinew-backed bows on a large scale. This may have put them at a disadvantage in their confrontations with the Inuit before they adopted firearms, since in winter the use of Cree and Chipewyan self bows was restricted by severe cold.

Even though the Swampy Cree made bows for use in combat that were more powerful than those used in hunting, they seem to have employed archery in combat much less frequently than Aboriginal people on the plains. An observation made by fur trader George Nelson among Northern Ojibwa and Cree peoples in the early nineteenth century suggests that among them bows and arrows were not often used in combat at close quarters. Nelson related a story about an impending fight between the mythological character Nahhanimis and a group of beings referred to as the "Hairy Breasts." Before combat began, Nayhanimis hung his bow and quiver in a tree at his own height, while the Hairy Breasts, trusting to their superior numbers, had hung their bows and quivers in the tops of very high trees, so that none of the participants had their bows and arrows ready

for use in the ensuing battle. This might indicate that bows and arrows were meant as a means to keep attackers at bay at a distance, but were not usually used in close combat.⁴⁰

When Samuel Hearne accompanied a Chipewyan raiding party against the Copper River Inuit in 1771, he noted that the Chipewyan and Copper River Indians used their bows only to kill “deer” [caribou] driven into pounds. The combat weapons of the Chipewyan attackers consisted of guns, spears, clubs, and shields to deflect their enemies’ arrows: “Those targets [shields] were composed of thin boards, about three quarters of an inch thick, two feet broad and three feet long; and were intended to ward off the arrows of the Esquimeaux.”⁴¹ Therefore the Chipewyan expected the Inuit to shoot arrows at them. However, on this raid the Chipewyan mostly ambushed their Inuit opponents in their sleep and the victims had little opportunity to defend themselves with bows and arrows.

Information on combat with the Inuit was also preserved in Cree traditions. These accounts indicate that due to increasing conflict between Inuit and Cree it eventually became unsafe for Omushkego people to camp along the west coast of James Bay and the southwest coast of Hudson Bay, particularly Cape Henrietta Maria, because the ice on the bay surrounds the cape until July, offering fairly convenient “land” travel to potential Inuit attackers. These attackers were said to have come from large communities in the Belcher Islands in the north of Hudson Bay. According to Louis Bird, the Cree estimated the population of the main Inuit encampment there at over 600 persons. These raiders

40 Jennifer S. H. Brown and Robert Brightman. *“The Orders of the Dreamed” George Nelson on Cree and Northern Ojibwa Religion and Myth, 1823* (Winnipeg: University of Manitoba Press, 1988), 78.

41 Samuel Hearne. *A journey from Prince of Wales’s Fort, in Hudson Bay, to the northern ocean: undertaken by order of the Hudson’s Bay Company for the discovery of copper mines, a north west passage, & c. in the years 1769, 1770, 1771 & 1772* (London: Printed for A. Strahan and T. Cadell, 1795, May 1771), 97, 114, 115, 321, 322;
<http://www.canadiana.org/ECO/PageView/35434/0145?id=49078bb615707343>.

were said to suddenly appear on the shores of the Hudson Bay Lowlands. Skillfully using the terrain to remain undetected, they launched surprise attacks on unsuspecting Cree camps.⁴²

The Cree occasionally made retaliatory raids against these Inuit. Louis Bird recorded an account detailing such an undertaking.⁴³ Before the Cree set out, their warriors underwent some form of special training. This may suggest that they were planning to use tactics very different from their usual methods of warfare, possibly because they were going to employ many more warriors than usual. On the other hand, it may imply that by the time this account was recorded, raids and intertribal warfare had been absent from coastal Cree culture for so long that the elders who passed these accounts on considered such activities very unusual.

The goal of this retaliatory strike was to attack deep within Inuit home territory in the Belcher Islands where they usually felt safe, to dissuade them from any further raids on the Cree. Apparently the Cree warriors rehearsed every aspect of their undertaking, from the method of travel to the details of their attack. They decided to launch their campaign when the ice on the bay was still thick enough to travel on. Boats, sleighs and provisions were all manufactured for this expedition a full season in advance.

Eventually the war party set out from Cape Henrietta Maria, walking across the ice and using their canoes to cross the water between ice floes. They reached their target area undetected and scouted out the Inuit encampment. Louis Bird mentioned the importance of men with shamanistic abilities for both sides in this confrontation:

⁴² Louis Bird, 0077 – *Our Voices, Inuit-expedition, skirmishes*, 2003.

⁴³ *Ibid.*; Louis Bird recorded this account from a person he referred to as “Elder K,” who had obtained it from his grandfather.

This strange knowledge about those people, the Inuit has it, the Omushkego have it. It's what they call "mitew." The Omushkego has a power to neutralize the Inuit mitew power to detect them. It is not a radar. It sounds like a radar, but when a mitew is fully capable can and will detect a danger from the distance. And when he does the scanning his own power, the other person, who has similar power, can't, can make it so that the mitew cannot detect them, wherever he is, by the mind power. So therefore two groups had the same, equal power for their protection and for their warfare. And it was that situation which gives the Omushkego advantage.

They had their own particular mitew, who was so useful for this purpose, as they observe the camp to study what strength and how many people there are, and how they're gonna attack it. And they also sent spies into the camp to see where the chief is located and where the great mitew is located. ... Those who described the camp, said: "One end and through the camp right across, you cannot see the men at the other end, at the end of the camp and also the crossways." There were so many. The dwellings were so many and the people just milled around. Their action was everyday almost the same. So they studied these actions. The only time that Inuit people would stay quiet is about three o'clock in the morning. Especially that season, because they chose the season to attack these Inuit in the month of June, 15th of June, just when the longest day is, in the middle of June. They chose the season, because they don't want to have a problem because of darkness. They know the Inuit people always hunt early [in the] morning and then late in the evening. So they have to move around while they were sleeping. And that's exactly what they did after they studied the camp and they studied the nature of [the] people. So they planned to attack during the time when the Inuit people are sleeping.⁴⁴

After careful observation and planning, the Cree attackers were eventually in place and ready to strike. The events that unfolded after the attack began suggest a larger battle and not merely a small-scale skirmish:

So they attacked them about three o'clock in the morning. And they attacked the camp exactly where the men are, the hunters, the fighting men. And then they also attacked the camp of the chief, the leader. And it was this time that the story took place, the fearsome fighting that took place and the killing that took place, that this elder told us the story that was so cruel, that your spine would turn chill, how cruel these people can be. But they said the Inuit people have done the same thing to them many times before that. And this was just a lesson to make these Inuit people feel the same fear and the same helplessness when they attacked unexpected people, elders and children in their camp. It was more like a revenge and a lesson to them.

So the attackers were successful. They were able to disarm, to startle the soldiers, or the warriors, or the hunters who were skillful fighters and in that way they were able to eliminate their own casualties. And also they were planning, the leaders of the Omushkego fighters, the soldiers who were able to direct the kind of attack and the way to attack to overcome their enemy. And then it was said by this elder that each fighting

⁴⁴ Ibid.

Omushkego was to set themselves close to the tent to every hunter, outside to wait until there is a signal to attack. And they set themselves into position to each camp where there is a hunters, where there is some soldiers are supposed to be.⁴⁵

The Gwichin [Kutchin] of the western Subarctic used similar methods in surprise attacks on enemy encampments. The leader of a war party assigned one or more warriors to each enemy dwelling before the attack. At a given signal the warriors rushed the dwellings simultaneously, knocked them down, and fought the inhabitants in close combat, as they struggled to free themselves from the wreckage of their dwellings. Those who ran were shot with arrows.⁴⁶ These tactics were very similar to those of the Chipewyan raiders against the Inuit, observed by Samuel Hearne.

Louis Bird described how the Cree attack culminated in a showdown involving the two leading Cree and Inuit shamans:

The leader of the Omushkego went directly to the center where the chief is located, the big mitew. One Omushkego mitew against the Inuit mitew. They were to clash each other right in the center. And when they set up themselves, they gave a signal to attack. And it was that time that slaughter took place. They had literally slaughtered the Inuit people.

And then story took swing into the center, where the chief was located. And the Omushkego leader, or general, if you wish, led the attack on the Inuit chief. And it was said at that time, the arrows that are sharp and can penetrate any kind of object, a wood and everything, except a stone, could not penetrate to the camp [tent?] of this powerful shaman, the leader of the Inuit. And he was inside. They can hear him move around and he has his men inside, also, and his family. But the Omushkego could not shoot through the camp and every time when they want to come close, there is a way this Inuit peoples was able to shoot with crossbow that was small, with a powerful bone as a bow and has a very short arrows that he uses and shoot through the holes in the camp and is a covering of his tent. So it took many people to finally penetrate the place. They literally have to cut holes in it. And people who cut holes sometimes they were killed from within. But this chief was only himself, there were only his family and he was able to fight off the enemy by himself very skillfully. Then finally they were able to cut a section off the covering, which they find out after that it was three layers of the thickest walrus hide that he was

⁴⁵ Ibid.

⁴⁶ Slobodin, "Eastern Kutchin Warfare," *Anthropologica*, vol. 2, 1960, 84; David E. Jones. *Native North American Armor, Shields and Fortifications* (Austin: University of Texas Press, 2004), 89.

using as his camp. He must have expected the attack to come. They said: "So that is the reason the arrows could not penetrate." Finally they were able to subdue him and finally able to kill the leader.⁴⁷

After the death of their leader/shaman, Inuit resistance collapsed. This account placed great importance on the Crees' systematic planning and preparation of their campaign, the thorough training of their warriors before the mission, the protective power of their shamans and the skillful and well-coordinated attack as the main factors that brought about their victory over their more numerous Inuit adversaries. Especially shamanic skills were considered essential for whatever success was gained on each side before the end of the battle:

But the most powerful things that they have brought is the mitew fighters, because mitew can accomplish anything that is impossible to regular human. It has been said when they actually cornered the chief, the one who was a shaman also, it has been said that many times people think they shoot him right into his body, but nothing happened, he kept on fighting. Even though he didn't wear anything, he was not able, as if nothing can hurt him. And it was only later, when the other mitew came in close contact, that they were able to actually kill the leader inside his camp.⁴⁸

Once Inuit resistance was broken, the Cree spared the survivors and warned them to refrain from attacks on the Cree in the future. It is not clear if this account refers to a single event or represents combined elements from various similar ventures. From 1707 to 1793 the Fort Albany post journals recorded eighteen years in which Cree war parties set out to attack Inuit people on the eastern coast of Hudson Bay, mostly in the summer. This activity was especially intense in the 1730s and from the late 1760s to the early

⁴⁷ Louis Bird, 0077 – *Our Voices, Inuit-expedition, skirmishes*, 2003; The Hudson's Bay Company Archives have a historic photograph of a Subarctic Aboriginal man with a native-made crossbow of wood. (HBCA. 1987/363-I-83/30, "Man with bow.") Reginald and Galdys Laubin also reported the use of crossbows by Canadian Aboriginal people. Laubin, *American Indian Archery*, 158.

⁴⁸ Louis Bird, 0077 – *Our Voices, Inuit-expedition, skirmishes*, 2003.

1780s. In most of these cases the Cree had suffered calamities from accidents or starvation during the winter prior to such raids.⁴⁹

Several elements of the account recorded by Louis Bird stand out. The Cree goal was to take revenge upon the Inuit for their previous attacks and killings. The careful preparation, the manufacturing of equipment and provisions long before the start of the expedition and the formal and intensive training of the Cree warriors were important. These aspects suggests that the elders who passed this account on believed that such expeditions had not occurred frequently among the Swampy Cree and that their warriors had little experience in this kind of warfare. However, by the time Louis Bird first heard and recorded this story, warfare had become an element of the distant past, unfamiliar to the elders who provided this account.

Even though limited in scope, warfare in the Subarctic was lethal. Aboriginal groups there had apparently little inclination to take prisoners or to spare those they had overcome. The Inuit rarely took prisoners; most of the people on the losing side were killed by the victors.

According to Edward Chappell, when Cree warriors came upon an Inuit encampment, they usually tried to launch a surprise attack and would kill everybody they found.⁵⁰

Samuel Hearne described how his Chipewyan companions killed an entire Inuit encampment of several tents in such an attack.⁵¹ Similarly, Aboriginal people in the

⁴⁹ Charles A. Bishop and Victor P. Lytwyn, "Barbarism and ardour of war from the tenderest years': Cree – Inuit Warfare in the Hudson Bay Region," in Richard Chacon and Ruben Mendoza, eds. *Problems In Paradise*. Tucson: University of Arizona Press, forthcoming, 33.

⁵⁰ Edward Chappell. *Narrative of a Voyage to Hudson's Bay*, 110, 111.

⁵¹ Samuel Hearne. *Journey to the Northern Ocean*, 154.

western Subarctic often killed all of their enemies in a single encampment, regardless of their age or gender.⁵²

Even though warfare may have been less frequent in the Subarctic than on the Plains, it was accompanied by relatively greater numbers of casualties among both the warriors and the non-combatants in a conquered encampment. Since many of these conflicts were at least to some extent based on revenge, the reasoning behind such relentless and indiscriminate killing may have been to wipe out all the relatives of the attacked in order to avoid revenge from them or their descendants.⁵³

However, women were sometimes taken captive to carry booty, to cook and to sew on the journey home. Some of these were killed after the journey, others were allowed to live among their captors and later escaped.⁵⁴ During the eighteenth century Cree people took Inuit and Dene captives, mostly young women and small boys, and sold them to fur traders to work at posts on Hudson and James Bay, or integrated them into their community.⁵⁵ Due to population losses sustained through European epidemic diseases or in the aftermath of military defeats the Huron and Iroquois, and also Plains people such as the Peigan took enemy women and children captive to bolster their

⁵² Slobodin, "Eastern Kutchin Warfare," 84; Jones. *Native North American Armor, Shields and Fortifications*, 89.

⁵³ *Ibid.*, 89.

⁵⁴ Fossett. *In Order to Live Untroubled*, 47; Smithsonian Institution Archives, Hudson's Bay Company Collection, Box 1, (personal files of Jennifer S. H. Brown, University of Winnipeg) letter from James Lockhart at Fort Resolution on Great Slave Lake to Robert Kennicott, 5 December 1864, describing the captivity and subsequent escape of a Yellowknife woman among Inuit people. Warfare and captivity experiences had been part of Dene people's lives for so long that the motif of the "Stolen woman" had become deeply embedded in their oral traditions and legends. For an example, see: Emile Petitot. *Traditions Indiennes du Canada Nord-Ouest* (Paris, 1886), 413-423; Chicago, Newberry Library, B 858.67. A captive Dene woman, known as "Thanadelthur," is credited with a crucial role in James Knight's attempts to bring about peace between Cree and Chipewyan peoples in 1715-1716, and has been popularized by numerous writers. For an overview, see: Patricia McCormack, "The Many Faces of Thanadelthur," eds. Jennifer S. H. Brown and Elizabeth Vibert. *Reading Beyond Words: Contexts for Native History* (Peterborough, Ontario: Broadview Press, 2003), 329-364.

⁵⁵ Lytwyn. *Muskegowuck Athinuwick*, 65-68, 70, 73; Andrew Graham, *Andrew Graham's Observations on Hudson Bay*, 174.

numbers. Often captives were adopted and fully integrated into the community of their captors.⁵⁶ Similarly, the desire to raise their numbers by adopting captives may have contributed to increased raiding activities against Inuit and Dene people after epidemics struck Cree communities on Hudson Bay.

The fact that among Inuit communities in Hudson Strait, as well as among the Yup'ik in Alaska, men kept track of the numbers of enemies they had killed by tattooing lines on their foreheads, suggests that participation in these raids elevated a warrior's status in his home community.⁵⁷

Cree traditions suggest that the deterrent effects of such raids as Louis Bird described against the Belcher Islands Inuit did not last long. Eventually violence flared up again and the killing continued in a similar pattern. Louis Bird described another later campaign with a similar goal, conducted in a similar way. However, this time the Cree carried muzzle-loading firearms. The leader of this war party brought together Cree warriors from various communities, beginning in Kashechewan (the Albany River). Later warriors from Attawapiskat, farther north on James Bay and other areas joined until the total strength of this group was about 110 warriors, plus three elders who were to be advisors to this group. The war party traveled in 10 large birch bark canoes equipped with sails that had been made especially for this campaign. Because of the large number of warriors involved, Louis Bird estimated that the numbers of the Inuit must have been considerable as well.

Eventually the Cree located and attacked the Inuit camp. The Cree were victorious and when the battle turned against them many Inuit ran for the sea or jumped

⁵⁶ David Thompson. *David Thompson's Narrative, 1784-1812*, ed. Richard Glover, 247.

⁵⁷ Fossett, *In Order to Live Untroubled*, 47.

off the ice floes into the freezing waters. The Frobisher expedition recorded a similar desperate behaviour of their Inuit opponents when the battle turned against them. Renée Fossett suggested that generally because of the practice of not taking prisoners, vanquished Inuit might have preferred to drown themselves instead of being killed after capture by their opponents.⁵⁸

During the eighteenth century the Swampy Cree gradually gained the upper hand over their Inuit foes. Fur traders and other European observers largely attributed this to the firearms that the English and to a lesser extent the French supplied to the Lowland Cree. Joseph Robson, who worked for the HBC from 1733 to 1736 and from 1744 to 1747 recorded: "I have seen French guns among the Natives that come to York-fort; and once heard Mr. Brady, the surgeon, converse with one of them in the French language."⁵⁹

Eventually the Cree managed to expel the Inuit from Akimiski Island and also from areas along the southeast and west coast of Hudson Bay. Churchill River was said to have been much frequented by Inuit people before the HBC built posts there. That was the reason for the place name, "Eskimaux-point," where traces of an earlier Inuit presence were excavated by Robson and his HBC predecessors. These artifacts included "pieces of stone pots [pottery or soapstone?], spears, arrows, &c."⁶⁰

Regarding the east coast of Hudson Bay, Robson recorded:

The Eskimaux used to inhabit the country on the east-main, between the straits and the bottom of the Bay: but they are since driven away to the northward by the other Indians, who are rendered much superior to them, on account of the supply of arms and ammunition which they receive from the English: so that a tract of land more than three hundred miles extent from north to south, lies almost waste, without trade and without inhabitants.⁶¹

⁵⁸ Ibid., 45, 46, 47.

⁵⁹ Joseph Robson. *Six Years in Hudson's Bay*, 62.

⁶⁰ Ibid., 63, 64.

⁶¹ Ibid.

Cree traditions confirm this estimate of the usefulness of firearms against the Inuit. Cree elders stated that the firearms and ammunition obtained from European traders had a crucial role in Swampy Cree military successes.⁶²

As early as 1718 Henry Kelsey had implored Aboriginal people at York Factory not to use firearms in inter-group warfare, saying “that we did not bring Powder Guns & other necessaries to destroy mankind but to kill food for them and their family.”⁶³ The fur traders were aware that Aboriginal people sometimes employed the firearms they purchased at the posts in warfare, but responding to strong demand, they continued to sell them.

Louis Bird recorded another story indicating the usefulness of firearms to the Swampy Cree, this time for defence. According to this account, a Cree camp had been attacked and overcome by raiders from another Aboriginal group, possibly Iroquois, but not Inuit, while the Cree men were away on a long hunt. After the fight, the attackers started on their return journey with many Cree women and children prisoners. Only two teenage boys, who had hidden outside the camp, remained behind. Because the men would not be back for several days, the two boys decided to seek the help of a Swampy Cree shaman who lived alone a considerable distance from their camp. Traveling without rest, the boys eventually reached his camp and secured his help. He decided to lay an ambush for the returning raiders to free the Cree prisoners. Thus the shaman and the two boys set an ambush at a narrow defile where the raiders had to pass through on their way home. The shaman set up a device similar to a trap gun (a firearm triggered by a trip wire

⁶² Louis Bird, 0077 – *Our Voices, Inuit-expedition, skirmishes*, 2003.

⁶³ York Factory post journal, 1 August 1718, B.239/a/4, reel 1M154, HBCA, David Smyth, “The Niitsitapi Trade: Euroamericans and the Blackfoot-Speaking Peoples to the Mid-1830s,” Ph. D. thesis (Ottawa: Carleton University, 2001), 308.

or cord), to fire along the narrow path, as soon as the first of the raiders would trigger the cord. Louis Bird explained that this weapon was not a common firearm with a self trigger, as they were often used to kill game in the Hudson Bay Lowlands, but said that it was a different device, similar to a flame thrower. The shaman and the boys lay in wait at the end of the narrow spot and on the flank. After the raiders appeared, the three Cree shot arrows at them as soon as the first raider had set off the device at the head of the path. In this way they overcame the raiders and freed the Cree prisoners.⁶⁴

Textual documents and Aboriginal oral traditions indicate that guns gave the Lowland Cree a distinct advantage over the Inuit, both physical and psychological. Although both sides suffered casualties prior to contact, once the Cree obtained guns, Lowland Cree casualties in battles with the Inuit declined, while the number of Inuit killed over this period may have been considerable relative to overall population size.⁶⁵ In the previously mentioned Chipewyan raid on the Inuit witnessed by Samuel Hearne, the attackers sustained no casualties while few if any of their Inuit foes survived.

The combination of firearms with ambush tactics and a grim determination to kill their enemies led to Cree ascendancy over their Inuit adversaries. The steady supply of European tools, weaponry and ammunition enabled the Hudson Bay Cree to continue their raids against the Inuit, who were kept at a military disadvantage due to their lack of firearms. In the long run their formidable archery could not stand up against the massive use of firearms by the Chipewyan and Cree.

The balance of power shifted in instances when Inuit people obtained firearms in greater quantity. In 1684 Father Silvy observed on the north coast of Belle Isle: "We saw

⁶⁴ Louis Bird, personal communication, Winnipeg, April 2003.

⁶⁵ Bishop, Lytwyn, "Barbarism and ardour of war from the tenderest years: Cree – Inuit Warfare in the Hudson Bay Region," 38, 39.

some Eskimos in canoes with blunderbusses.”⁶⁶ Even though Inuit people occasionally obtained some firearms, likely from European ships entering or leaving Hudson Bay, their access to these weapons was still inconsistent. Only in the late eighteenth and early nineteenth century did Inuit people obtain firearms through trade more consistently.

Andrew Graham recorded that

their southern neighbours, having the use of fire-arms, attack the Esquimaux to a great advantage; for the latter until a few years since were not permitted to trade any guns or ammunition. But when their young people began to winter at Churchill Settlement, they were initiated into the use of them, and a few of them are now annually bartered. When I commanded Churchill Factory Anno Domini 1773, 4 and 5 [In fact 1774-5 only], I trained up four young Esquimaux to use fire-arms, and left them fully a match for our best Indians, either at an object sitting or on the wing.”⁶⁷

More consistent access to firearms and improved skill in their use eventually led to the disappearance of Aboriginal combat archery and shields in the Central Subarctic and may have dissuaded the Cree and Dene from attacks on the Inuit. While this technological shift may not have been the primary reason for the gradual cessation of hostilities, it was likely a deterring factor of considerable importance.

Raids on the Inuit gradually subsided as Cree people took advantage of new HBC employment opportunities that kept them occupied precisely at those times they formerly used to raid. The returns from such summer employment provided goods that could help to lessen hardship in the bush. Even though starvation still occurred during severe winters, because of their improved living standards, Cree people may also have had less

⁶⁶ Fossett, *In Order to Live Untroubled*, 59; Antoine Silvy, “Journal of Father Silvy from Belle Isle to Port Nelson,” ed. J. B. Tyrrell. *Documents Relating to the Early History of Hudson Bay*, 79; A blunderbuss was a short musket of wide bore and flaring muzzle, used to scatter shot at close range. They were used from the seventeenth century to the 1840s and were variously equipped with flintlocks, wheel locks, or percussion locks. They could fire almost any hard object from bird seed to pebbles, or grape shot. This gave the weapon great versatility in the field where some sort of hard object would probably be at hand even if proper musket balls were in short supply. Such weapons were especially popular for fighting at close quarters in confined spaces aboard ship.

⁶⁷ *Andrew Graham's Observations on Hudson Bay, 1767-1791*, 236.

reason for retaliatory raids against the Inuit, to punish them for the use of harmful magic.⁶⁸ Furthermore, the smallpox epidemic of the early 1780s may have caused a population decline among the Hudson Bay Cree that deterred them from raiding. A combination of factors eventually brought Cree raids on the Inuit to a halt by the early to mid nineteenth century.

The initially unequal distribution of firearms on the Northern Plains at first had an effect on inter-group conflicts similar to that in the Subarctic. However, as the next chapter will show, once most Aboriginal peoples of the plains had consistent access to firearms, such access did not deter hostilities and had different consequences for Aboriginal peoples' use of Indigenous weaponry.

⁶⁸ Charles Bishop and Victor Lytwyn, "Barbarism and ardour of war from the tenderest years: Cree – Inuit Warfare in the Hudson Bay Region," 41.

Chapter X

Archery and firearms in combat on the Northern Great Plains

Archaeological evidence and Aboriginal rock art indicate that violent conflict on the Northern Great Plains dates back far into pre-contact times.¹ In the 1700s, the unequal introduction and distribution of horses, metal weapons and firearms caused significant changes in North American Aboriginal techniques and strategies of warfare. This chapter focuses especially on Aboriginal people's use of archery and muzzle-loading firearms in combat and their effect on combat tactics on the plains.

David Thompson recorded one of the earliest surviving Aboriginal accounts of inter-group warfare dating back into the early eighteenth century. It came from Saukamappee, a Cree who rose to a position of leadership among the Peigan, largely due to his skill as a warrior and war leader. This account began with Saukamappee's youth in the 1730s and reached to his old age, when he hosted the young David Thompson who had come as an emissary of the HBC in the winter of 1786/87.

Saukamappee described two major battles between the Snake Indians (Shoshone and allies) and the Piegan-Blackfoot and their Cree and Assiniboine allies, in which he participated. The first of these battles took place when Saukamappee was about 16 years old, before the presence of guns and the use of horses in combat. His father had assembled a war party of about 20 Cree men to travel west from the parklands to the plains to aid the Piegan against the Shoshone. The weapons of the Piegan, Cree and Assiniboine already included metal arrowheads and lance points. Saukamappee described the Cree weapons as follows:

¹ Patrick S. Willey. *Prehistoric Warfare on the Great Plains: Skeletal Analysis of the Crow Creek Massacre Victims* (New York: Garland Publishing, 1991).

A Lance, mostly pointed with iron, some few of stone, A Bow and a Quiver of Arrows; the Bows were of Larch, the length came to the chin; the quiver had about fifty arrows, of which ten had iron points, the others were headed with stone. He [Saukamappee's father] carried his knife on his breast and his axe in his belt. Such was my fathers weapons, and those with him had much the same weapons. I had a Bow and Arrows and a knife, of which I was very proud.²

However, he did not mention the use of body armour, such as quilted leather armour and shirts made from several layers of leather, each coated in glue and covered with sand. From his Gros Ventre hosts Matthew Cocking learned in 1772-73 that the Blackfoot and their allies, as well as the Shoshone used such equipment.³ Lewis and Clark reported that the Shoshone still used such armour in 1805.⁴ In the early 1800s David Thompson recorded the use of "war coats of leather" by the Blackfoot in their conflicts with the Salish (Flathead).⁵ As late as the early twentieth century Blackfoot people recalled traditions of such armour.⁶

After Saukamappee's Cree and Assiniboine companions had joined a much larger Piegan war party, they set off to find their enemies. Eventually they encountered a Snake war party and both groups readied themselves for battle. While the Piegan, Cree and Assiniboine had about 350 warriors, Saukamappee estimated their enemies to have been somewhat more numerous.

After some singing and dancing they [the enemies] sat down on the ground, and placed their large shields before them, which covered them: We did the same, but our shields were not so many, and some of our shields had to shelter two men. Theirs were all placed touching each other.⁷

² David Thompson. *David Thompson's Narrative, 1784-1812*, ed. Richard Glover. (Toronto: Champlain Society, 1962), 241.

³ Matthew Cocking. *An Adventurer from Hudson Bay: Journal of Matthew Cocking from York Factory to the Blackfeet Country, 1772-1773*, ed. L. J. Burpee. Transactions of the Royal Society of Canada, Series 3, Vol. II. 1908, 110, 111.

⁴ Frank Raymond Secoy. *Changing Military Patterns on the Great Plains (17th Century through Early 19th Century)* (Seattle: University of Washington Press, 1953), 16; Lewis and Clark. *Original Journals of the Lewis and Clark Expedition, 1804-1806*, ed. R. G. Thwaites, 1904-05, vol. 3, 21.

⁵ David Thompson. *David Thompson's Narrative of His Explorations in Western America: 1784 - 1812*, ed. J. B. Tyrrell (Toronto: Champlain Society, 1916), 424.

⁶ Clark Wissler. *Material Culture of the Blackfoot Indians*. Anthropological Papers of the American Museum of Natural History, 1910, vol. 9, part 1, 163.

⁷ David Thompson. *David Thompson's Narrative*, ed. Richard Glover, 241.

Each party formed a long line of warriors facing their opponents and were shooting arrows at each other. Even though several men were wounded by arrows, no one was killed. Because neither of the two formations broke and no party made a direct charge, nightfall eventually put an end to the confrontation. Saukamaptee stated: “in those days such was the result, unless one party was more numerous than the other.”⁸

The use of shields for physical protection from enemy projectiles played a major part in the two battles that Saukamaptee described. These shields were very large with a “breadth of full three feet or more.”⁹ While there were differences in size and numbers of shields between the allied tribes and the Shoshone, the materials they were made of were not mentioned. Iron-headed arrows used by the warriors of the Piegan and their allies were unable to penetrate these shields, but stuck in them, while the stone-headed Snake arrows broke when they struck a hard target.¹⁰ These characteristics indicate that the shields were likely made of rawhide. The term “parfleche,” originating from the French words “parer” (“to ward off”) and “fleche” (“arrow”), which in later times was employed to designate almost any kind of container made of rawhide, supports the possibility that these early shields, like many later ones from the Great Plains, were also made of rawhide.¹¹

Images from Writing-On-Stone, an Aboriginal rock art site in southern Alberta, dating at least to the protohistoric period and possibly to pre-contact times, show warriors using large circular shields, carrying spears or clubs. These images show either pairs or groups of combatants whose large shields cover their bodies from the ankles to the chin. Some of the

⁸ Ibid..

⁹ Ibid, 242.

¹⁰ Ibid, 241.

¹¹ John C. Ewers suggested that the shields were made from rawhide, because later shields on the Plains were made from this material, too; John C. Ewers, *The Blackfeet: Raiders on the Northwestern Plains* (Norman, Oklahoma 1971 [1958]), 16.

shields display geometric designs or stylized animals. Sites along the upper Yellowstone River and in northwestern South Dakota show similar images.¹² These images of shield-bearing warriors correspond well to Saukamappee's descriptions.

Five years after David Thompson's stay with the Piegan, Peter Fidler recorded Piegan methods of combat that were reminiscent of the fighting methods recorded by Thompson:

In the evening all the Young men [Piegan] had a sham fight – with their Shields on - & using only bluff [blunt?] headed arrows – they formed into two equal parties & went thro all the evolutions of the Indian art of open attack, with great dexterity, the principal part is to move the shield about, which hang by a thong on the left side, so as to always oppose the flight of the arrow that is aimed directly at them – a quick eye is also another indispensable thing to mark the arrows flight when coming toward them – sometimes they stand upright - & **very often on their knees – when the shield covers them entirely** [my emphasis]. They have also much to guard against any oblique assault – when one is attacked from diff[eren]t. quarters, he seldom escapes being hit.¹³

This description clearly indicates the use of large shields, often from a kneeling position. The young men fought on foot, not from horseback, even though the Piegan already used horses as beasts of burden and in mounted bison hunting at the time of Fidler's visit. Shields, bows and arrows were the main weapons. Fidler described fluent and quick movement in attacking or parrying, quite different from the large static battle formations of opposing lines of warriors so prominent in Saukamappee's account. Both forms of combat probably coexisted for some time and may have been used in different situations. However, later accounts of combat on the plains rarely mentioned static formations such as those described by Saukamappee.¹⁴

¹² James D. Keyser, "The Plains Indian War Complex and the Rock Art of Writing-on-Stone, Alberta," *Journal of Field Archaeology* 6, 1979, 43; James D. Keyser, "A Lexicon for Historic Plains Indian Rock Art. Increasing Interpretive Potential," *Plains Anthropologist* 32:115, 1987, 46, 47; North Cave Hills, South Dakota; Pictograph Cave and Joliet in Montana.

¹³ HBCA, Peter Fidler, "Journal of a Journey over Land from Buckingham House to the Rocky Mountains in 1792 – a 3 by Peter Fidler." 4M 103, E 3/2, 33, Feb. 28, 1793.

¹⁴ Accounts by outside observers from the 1830s, such as George Catlin and Prince Maximilian, and especially Aboriginal accounts from the second half of the nineteenth century do not mention battle formations similar to those described by Thompson/Saukamappee. In these later accounts individual warrior's actions, small group raids, stealth and speed were prominent in offensive warfare, while rifle pits and earthworks were important in defence.

Before Saukamappee's group of Cree fought their next battle against the Shoshone, they received word of a stunning and alarming new weapon, used by the "Snake Indians" and their allies. Piegan messengers related to the Cree that the Shoshone had recently routed them, riding up close on horses and smashing the Piegan warriors' heads with stone clubs.¹⁵

Several rock art sites, especially Writing-On-Stone in southern Alberta, show images of early forms of mounted combat. The horses and their riders are stylized, but the images clearly show that the horses were covered in some form of armour. The riders carried smaller round shields and lances or clubs. Writing-On-Stone has at least three images of such warriors defeating pedestrian warriors who are carrying large round shields and lances or clubs.¹⁶ The North Cave Hills site in northwestern South Dakota shows at least two similar images.¹⁷ Most of these sites are in an area that was controlled by the Shoshone in the early 1700s, which corroborates Saukamappee's and Thompson's account to some extent.

Saukamappee's descriptions of combat did not mention mounted archers.

Correspondingly, rock art images of shield-bearing riders on armoured horses do not show the use of bows and arrows on horseback. According to James D. Keyser's chronology of northern plains rock art, this indicates that the combination of archery and horsemanship developed only after an initial experimental phase of copying the cavalry equipment and tactics of the Spanish who largely fought with lances or swords on horseback.

¹⁵ David Thompson. *David Thompson's Narrative*, ed. Richard Glover, 241, 242; The Blood Indian Scalp Roller, born approximately in 1808, told R. N. Wilson in 1893 about the origin of horses: "When I was young there were many horses among our people but not the great number that there were later. My father never saw the time when there were no horses but my father's mother, who was a very old woman, told me that she remembered when there were no horses. She said that the first horses were procured from the Pegans (Piegans) who got them from the Mountain Indians." Glenbow Archives, M4421, M4422, R. N. Wilson Papers, edited and annotated by Philip H. Godsell, vol. 1, Glenbow Foundation: Calgary, 1958, Appendix II, 334.

¹⁶ Keyser, "The Plains Indian War Complex," 43.

¹⁷ Keyser, "A Lexicon for Historic Plains Indian Rock Art," 46, 47; North Cave Hills, South Dakota; Pictograph Cave and Joliet in Montana, 47; There, however, the defeated persons are depicted as larger, not smaller than their mounted conquerors, and they do not bear any arms. At least one of them may depict a woman, not a man.

The Segesser hide paintings depict early eighteenth century Spanish slaving expeditions against pedestrian Apache people, conducted by mounted Spanish troops and Aboriginal or mestizo allies. The illustrations of mounted combatants closely resemble rock art images from Writing-On-Stone and other sites on the northwestern plains. The Spanish and Aboriginal mounted combatants were equipped with lances, round shields and sabers. Eight of the riders wore feathers in their hair, or caps with feathers and horns. Their horses wore full-body leather armour, common in the Spanish cavalry at the time.¹⁸

Although the Spanish occasionally used crossbows from horseback, mounted archery was rare. After an initial experimental phase of copying from the Spanish, Aboriginal people on the plains likely developed on their own the practice of using weapons on horseback, including the bow and arrow. It has often been stated that the Plains Indians shortened their bows after the adoption of horse riding for easier use from horseback, especially for military purposes and that before the adoption of mounted warfare, the bows were considerably longer.¹⁹ For example, the Lakota Spotted Bear, born in about 1860 stated in 1958 that “before the horse came, the bow was longer and shot farther.”²⁰ However, at the time that Lakota people used longer bows, they still lived in the western Great Lakes region and on the headwaters of the Mississippi where they had access to long, straight and evenly growing hardwood trees that were ideal for the manufacture of longer self bows. Shortly before and during their adoption of horses Lakota people began to

¹⁸ James F. Brooks. *Captives and Cousins: Slavery, Kinship and Community in the Southwest Borderlands* (Williamsburg, Virginia: University of North Carolina Press, 2002), 121, 122.

¹⁹ Alice Fletcher und Francis La Flesche: *The Omaha Tribe, Annual Report of the Bureau of American Ethnology, Smithsonian Institution 1905/06*, vol. 27, 452; Jim Hamm, “Plains Indian Bows,” ed. Jim Hamm. *The Traditional Bowyer's Bible*. vol. III (New York: Lyons and Burford, 1994), 118, 119.

²⁰ T. M. Hamilton. *Native American Bows* (Columbia, Missouri: Missouri Archaeological Society, Special Publications No. 5, 1982), 102.

migrate onto the western plains, where they mostly had to rely on shorter knotty pieces of wood for bow making, which required sinew-backing.²¹

Therefore, the generalization that Plains peoples developed short sinew-backed bows mainly as an adaptation of archery to mounted use is difficult to sustain. Saukamapee told David Thompson in 1787 that short sinew backed wooden bows were used in combat on the Northwestern Plains before the general introduction of horseback riding in battle.²² Other examples also challenge this generalization. The Comanche, statistically one of the Plains peoples with the shortest average body height (males ca. 1.75 m) used relatively long self bows of osage orange wood (about 1.40 m in length) during the nineteenth century, whereas the Blackfoot, who counted among the tallest Plains people (on average males ca. 1.85 m), used very short, mostly sinew-backed bows (0.95m to 1.10 m in length) during the nineteenth century.²³ Furthermore, during the nineteenth century the Comanche mostly hunted and fought from horseback, while at the same time on the Northern Plains it was common to dismount and fight on foot. In these examples, relatively long self bows were used by rather short people from horseback, while relatively short sinew-backed bows were used by tall people on foot.

²¹ George E. Hyde. *Red Cloud's Folk: A History of the Oglala Sioux Indians* (Norman: University of Oklahoma Press, 1976 [1937]), 3-19; Richard White, "The Winning of the West: The Expansion of the Western Sioux in the Eighteenth and Nineteenth Centuries," *Journal of American History* 65(1978), 321.

²² David Thompson. *David Thompson's Narrative*, ed. Richard Glover, 241; In Thompson's rendering of the account, Saukamapee described a battle fought between the "Snake Indians" [Eastern Shoshone] on one side and combined Cree, Assiniboine and Piegan-Blackfoot forces on the other. This battle probably occurred around 1730, before any of these Aboriginal groups had taken to using horses in warfare. While Saukamapee described the bows of the Cree [and probably of the other allies as well] as man-sized and being made of "larch" (tamarack), the bows of the Snake were said to have been short and of a better quality wood while their backs were covered with bison sinew.

²³ Ernest Wallace, E. Adamson Hoebel. *The Comanches: Lords of the South Plains* (Norman: University of Oklahoma Press, 1976 [1952]), 17, 18; John C. Ewers, *The Blackfeet*, 37, 211; John C. Ewers, ed. *The Indians of Texas in 1830*, by Jean Louis Berlandier (Washington D. C.: Smithsonian Institution Press, 1969), 32; Hamm, "Plains Indian Bows," 132, 133; Prince Maximilian noted about the height of Blackfoot men he observed in 1833: "One of the Blood Indians measured six feet eleven inches English measure. Several Piekanns were nearly six feet, French measure. The Big Soldier was five feet ten inches two lines, French measure." Reuben Gold Thwaites, ed. *Early Western Travels, 1748-1846. Vol. XXII, Part I of Maximilian, Prince of Wied's, Travels in the Interior of North America, 1832-1834* (New York: AMS Press, Inc., 1966), 97.

Saukamappee's first description of a battle with the Shoshone contains references to short, sinew-backed bows that the Shoshone used while fighting on foot, and before horses were used in combat. The historic Comanche stemmed from Shoshonean ancestors, likely related to those people whom Thompson, and through him Saukamappee, referred to as "Snakes." Apparently those Shoshonean people who later came to be known as "Comanche" switched to a longer bow type once they came to inhabit vast areas of the Southern Plains, where they acquired a reputation as master horsemen. While the Comanche were adapting to an equestrian lifestyle their bows may have been lengthened, not shortened. The eastern portion of the Southern Plains abounded in hardwoods such as hickory or the prized osage orange of sufficient length and straightness for the manufacture of self bows. Turning these into longer rather than shorter bows rendered the labour-intensive process of sinew-backing unnecessary, thereby greatly reducing the time it took to manufacture a bow. In contrast, on the Northern Great Plains, where bow wood of sufficient length and straightness was much harder to come by, bowyers often had to content themselves with rather short and knotty pieces of wood. Sinew-backing enabled them to use shorter pieces of wood that could not have been made into serviceable and safe bows without sinew-backing. Although it is possible that individual bow makers manufactured bows with adaptations to mounted use in mind, on average the availability of suitable bow wood seems to have been the decisive factor in determining bow length and design. Similarly, in Northern California and the Great Basin, where long and straight bow wood was rare and shrubs and small trees were common, Aboriginal people did not develop a horse culture as on the plains, but nevertheless relied on short sinew-backed bows, likely due to a lack of serviceable woods of sufficient length and straightness.

Comparing Saukamaptee's account to later sources on the Northwestern Plains, it becomes clear that the Parkland-Cree and the Piegan eventually switched from a longer to a shorter type of bow.²⁴ Nevertheless Saukamaptee gave no indication to Thompson that this move was prompted by the adoption of the horse for mounted combat and hunting. Reinforcing this point is his statement that the Shoshone, when they first emerged as mounted warriors, used war clubs rather than bows and arrows against their Piegan adversaries.

Lances, hatchets, clubs, and knives

Saukamaptee mentioned lances as a major weapon of the Parkland Cree of the early eighteenth century. These lances were mostly headed with metal points, but some had stone points. Since lances were thrusting weapons, lance heads of metal were probably preferred over the more brittle lance heads of stone. Saukamaptee did not give the length of these lances or the source of the metal.

Saukamaptee also mentioned an axe as part of his father's arsenal. This was probably a metal weapon or tool obtained in trade. Interestingly, he related that his father wore his knife on his breast, rather than attached to a belt.²⁵ Knife sheaths that were worn on a long plain leather thong or on a quilled or beaded band around the neck were common among the cultures of the Eastern Woodlands and the Subarctic.²⁶ For instance Andrew Graham noted about the Swampy

²⁴ Clark Wissler, "Material Culture of the Blackfoot Indians," in: *Anthropological Papers of the American Museum of Natural History*, 5 (1), 1910, 155, 156.

²⁵ Richard Glover, ed. *David Thompson's Narrative*, 241.

²⁶ James A. Hanson. *Spirits in the Art From the Plains and Southwest Indian Cultures* (Kansas City: The Lowell Press, Inc., 1994), 23, 258; Colin Taylor. *Native American Weapons* (Norman: University of Oklahoma Press, 2001), 40; Ruth B. Phillips. *Patterns of Power: The Jasper Grant Collection and Great Lakes Indian Art of the Early Nineteenth Century* (Kleinburg, Ontario: The McMichael Canadian Collection, 1984), 44, 82.

Cree: "At the breast is a case curiously wrought with quill-work; in it is suspended the bayonet to be ready on any occasion."²⁷

Saukamappee's description of his father's weapons suggest those of the Piegan were very similar to the weapons used by the Cree. However, when Prince Maximilian encountered Blackfoot people in 1833 he observed that they carried their knives in a sheath stuck through a leather belt behind their backs.²⁸ On the Northern Plains by the mid nineteenth century, the wearing of knife sheaths on the breast had given way to attaching them to a belt around the waist.²⁹ This may have been an adaptation to horseback riding, because a knife bouncing on the rider's chest during gallop was more likely to fall from its sheath than a knife in a sheath pressed close to the body by a sturdy belt.

Saukamappee also mentioned the use of stone war clubs by the Shoshone, either on foot or from horseback. He described these weapons as "short stone clubs for close combat," and termed them a "dangerous weapon."³⁰ Various types of stone clubs were in use on the Plains throughout the eighteenth and nineteenth centuries. They were based on the concept of combining a heavy stone and a wooden handle by encasing them both in a piece of wet rawhide which tightened when dry. In some specimens the stone and the handle formed a rigid unit, in others their connection was more flexible. The lengths of the handles varied widely. While short handled examples with rounded stone heads could be used as weapons or as mauls to pound

²⁷ Andrew Graham. *Andrew Graham's Observations on Hudson Bay, 1767-1791*, ed. Glyndwyr Williams (London: Hudson's Bay Record Society, 1969), 147.

²⁸ Axel Schulze-Thulin, ed. *Indianer der Prärien und Plains Reisen und Sammlungen des Herzogs Paul Wilhelm von Württemberg (1822-24) und des Prinzen Maximilian zu Wied (1833-34) im Linden Museum Stuttgart* (Stuttgart: Linden Museum, 1987), 72,73, I, 565, 566.

²⁹ Of all the different types of knife sheaths worn on the Great Plains during the nineteenth century, especially the so-called "beaver tail-knife sheaths," peculiar to the Blackfoot, may still point to Woodland origins. These knife sheaths usually contained a long and broad double edged dagger. These weapons were termed "beaver tail knives" in the fur trade, due to their shape. The sheaths in which they were worn were heavily beaded and had a pendant attached to their lower ends in the shape of a beaver tail. The shape of these knife sheaths is reminiscent of earlier woodland style sheaths, but nevertheless most known specimens have an undecorated area about the center of the knife sheath that suggests they were tucked under a belt when worn; James A. Hanson, *Spirits in the Art*, 34.

³⁰ Richard Glover, ed. *David Thompson's Narrative*, 242.

meat, berries, or lodge stakes, those with longer handles may have been a later variant, made for use from horseback.³¹

Accuracy of firearms and archery gear

Early firearms have been much maligned for their lack of long range accuracy.³² However, contemporary black powder-enthusiasts, using replicas of early nineteenth century smooth bore firearms, are able to hit plate-sized targets accurately at distances from 40 to 60 meters.³³ Accuracy with any distance weapon is much more dependent on the user's ability and training than the quality or sophistication of the equipment. Rather than trying to improve their archery gear beyond basic functionality, Aboriginal archers tried to get as much in tune with their bows and arrows as possible and simply practised more if they found their shooting was not satisfactory.³⁴ They likely also applied this approach to marksmanship to their newly acquired firearms, although shortages of black powder often prevented extensive practice.

The ethnohistorian Patrick Malone argued that Aboriginal men in seventeenth century New England were far more skilled marksmen than their European contemporaries with any weapon,

³¹ Colin Taylor. *Native American Weapons*. 8, 9, 17; Barbara Hail. *Hau Kola! The Plains Indian Collection of the Haffenreffer Museum of Anthropology* (Bristol, Rhode Island: Brown University Press, 1993), 157-166.

³² Joan B. Townsend, "Firearms Against Native Arms: A Study in Comparative Efficiencies with an Alaskan Example," *Arctic Anthropology*, 1983, vol. 20 (2), 1-32; "Some [Cheyenne] men declare that the best bowmen could send an arrow five hundred yards, and old men say that in days of the old smoothbore flintlock trade guns the bow [mountain sheep horn bow] at long-distance shooting was a more effective weapon than the gun." George Bird Grinnell. *The Cheyenne Indians: Their History and Ways of Life*. vol. I (Lincoln: University of Nebraska Press, 1972 [1923]), 176, 177.

³³ Maurice Doll, curator of firearms at the Provincial Museum of Alberta in Edmonton, personal communication and demonstration, August 2002.

³⁴ Ron Taillon, "Understanding Old Bows," *Primitive Archer*, vol. 6, issue 2, (1998), 31-40; Reginald Laubin related the example of the Lakota One Bull. During a visit to One Bull's family in Little Eagle South Dakota on the Standing Rock Reservation, Laubin gave his sporting bows and arrows to One Bull to try out. One Bull shot six arrows at a cardboard box about a foot square at a distance of approximately 30 yards. On the first try he missed the box but placed all six arrows in a tight cluster. When he tried again he placed all six arrows in the box. At the time One Bull was over ninety years old and hadn't used a bow and arrow in approximately 60 years. Furthermore, Laubin's bow and arrows were much longer than traditional Lakota bows and arrows. Nonetheless, he managed to hit the target, even though Laubin's archery gear was unfamiliar to him and therefore more difficult to use. Laubin, *American Indian Archery*, 4, 5.

because they had been trained for the role of hunter and warrior from early childhood and had spent years acquiring the weaponry skills and the mindset this demanded, while most European colonists were primarily agriculturalists without a great familiarity with distance weapons in general and firearms in particular, because they came from a culture that severely restricted the rights of ownership and use of weaponry to a privileged few.³⁵

While stationed at Brandon House, Peter Fidler made the following observations on local Aboriginal peoples' accuracy with firearms in hunting: "Allow the hunters 4 balls and 4 charges of powder per animal [deer] shot, if they use more it is charged to their account but this very seldom happens and they are in general able to lay up a small stock for themselves."³⁶

Almost sixty years earlier, on his journey inland to the Alberta plains, Anthony Henday recorded: "Killed one Buffalo: I supply them [his Cree and Assiniboine guides] with powder very sparingly, one charge at a time; the bullet we oftentimes get again."³⁷ Henday's remark demonstrates his Aboriginal guides' great accuracy with muzzle-loading firearms, because the only way to retrieve a spent musket ball was to dig it out of the carcass of the animal during butchering. Such a projectile was deformed upon impact, but by melting it down and recasting it in a bullet mold it could be made usable again.

Long-range accuracy with firearms was important in hunting on foot, or in defence, for instance when warding off attackers at a distance, trying to gain time for the non-combatants in one's camp to flee. However, generally accuracy at distances beyond 50 or 60 m was of no great concern in Plains Indian combat, since close-up, hand-to-hand combat was considered more important. Killing an enemy at a great distance brought little prestige, while overcoming one's foe

³⁵ Patrick M. Malone. *The Skulking Way of War: Technology and Tactics among the New England Indians* (Baltimore: John Hopkins University Press, 1991), 62-66.

³⁶ HBCA B.22/a/19, Brandon House, Peter Fidler, F19d, 1M17, February 22, 1816.

³⁷ Lawrence J. Burpee, ed., *The Journal of Anthony Hendry, 1754-55, York Factory to the Blackfeet Country* (Toronto: Canadiana House, 1973), 38, December 30, 1754.

in hand-to-hand combat or touching an enemy while escaping unscathed was considered an act of valor.³⁸

Hitting small moving targets with an arrow while running or riding is a difficult feat, yet it was routinely accomplished by Aboriginal archers.³⁹ Accounts of mounted bison hunting mention that in order to quickly kill one of these animals, an area the size of a hand just behind the shoulder had to be hit. As already indicated in the section on arrow injuries, in combat an opponent had to be hit in the chest, spinal column or head, in order for the wound to be instantly disabling.

Mode of employment and effectiveness of archery gear in combat

For hunting and combat the effective range of bows and arrows was approximately 40 meters at most, for smooth-bore, muzzle-loading firearms it was probably at most 60 meters. Both weapons could propel their projectiles to much greater distances, but the best results were obtained at these shorter ranges.

Wolf Chief explained that the Mandan and Hidatsa made bows intended for combat more robust and thicker than hunting bows, because as a last resort combat bows sometimes had to be used as clubs. The asymmetrical design and the bowstrings of these bows helped to break the force of the impact when these bows were used as clubs. According to Wolf Chief, a well-made ash bow could withstand tremendous impact forces.⁴⁰ This indicates that even as distance weapons, Plains Indian bows and arrows were meant to be used at short distances.

³⁸ Heinz Pyszcyk, "The Use of Fur Trade Goods by the Plains Indians, Central and Southern Alberta, Canada," *Journal Canadien d'Archéologie* 21, 1997, 58; John S. Milloy. *The Plains Cree: Trade, Diplomacy and War, 1790-1870* (Winnipeg: University of Manitoba Press, 1988), 75, 110.

³⁹ Laubin. *American Indian Archery*, 138.

⁴⁰ Wilson, "Hidatsa-Mandan report, 1911," 5; The intended use of asymmetrical bows as clubs may have been a reason for the much maligned double-curved deflex bow design of many Mandan and Hidatsa bows. Wood that already bends toward the bowstring can more easily be bent during the tillering process. This means that draw weight and draw length being equal, bows could be made more massive and heavier, which facilitated their use as clubs. At the same time they were less likely to break, because of their more robust construction.

Aboriginal pictographs from the Northern Plains confirm this view. They show archers facing each other at short distances in a crouched position, ready to loose their arrows at their opponents.⁴¹ Otis Tufton Mason made the following observations on Aboriginal archers' use of bows and arrows in combat and in hunting:

The design of the hunter or the warrior was to get close up. In all the sham battles which the writer has witnessed from his boyhood, the warriors almost touched each other. The dexterity with which they parried and fenced the arm shield and the bow was marvellous. The absence of noise, the invention of game drives, the universality of decoys, the hundreds of disguises, the efficient skulking, the imitations of the cries of animals, all point to the intention of getting within a distance of 20 yards or less.⁴²

This, as well as the following examples from biographical accounts of northern plains Aboriginal peoples from the nineteenth century, shows that they mainly employed bows and arrows at rather short range.⁴³ The Crow Two Leggings related aspects of the grim reality of intertribal warfare when he described how he obtained his first coup as a teenager. He was with a Crow war party traveling towards Piegan country north of the Musselshell River in Montana:

One day when the sun was in the middle of the sky we noticed a man on a nearby hill making smoke signals for us to come over. We could not see whether he was Piegan or Crow from another clan. Eight men started towards him but we called them back, laid down our packs and heavy robes, and began walking in a body. Immediately men dashed out from behind rocks and bushes around the signaler, carrying muzzle-loading rifles and firing as soon as they were within range. We found cover but kept advancing. As they fell back to reload, I ran out screaming a war cry.

One hung behind and I shot him in the shoulder. Reaching back he jerked out the arrow, broke it, and threw it on the ground. He pulled out his knife and ran at me. Jumping aside I shot him in the breast. He also pulled out that arrow, broke it and threw it down. I tried to keep out of his reach, yelling to get him excited. Then I shot a third arrow into his stomach. He made a growling sound, but after he broke that arrow he made signs for me to go back. I made signs that I was going to kill him. Then he made signs for me to come closer so he could fight with his knife, and I made signs that I would not. ...

⁴¹ Colin C. Taylor, *Buckskin and Buffalo* (London: Salamander Books, 1998), 48, 49; Garrick Mallery. *Picture Writing of the American Indians* (New York: Dover Publications, 1972 [1888-89]), vol. 1, 380, vol. 2, 562; Peabody Museum, Harvard University, Cat. No. 99-12-10/53121, Mandan bison robe collected by the Lewis and Clark expedition, 1804-05, showing Mandan and Hidatsa people in combat with Arikara and Lakota warriors.

⁴² Mason. *North American Bows, Arrows, and Quivers*, 17.

⁴³ Linderman, *Plenty Coups*, 102, 103, 210, 211; Peter Nabokov. *Two Leggings: The Making of a Crow Warrior* (New York: Thomas Y. Crowell Company, 1967), 35.

He was almost dead and there was no reason to be afraid, so I suppose I played with him. He was my enemy and had probably killed some of my relatives. He tried to dodge my next arrow but it went into his chest and came out of his lower back. Blood ran from his mouth and nose as he walked slowly towards his friends. I shot once more. He stumbled and fell and died a moment later. Then I scalped him and tied the hair to my bow. After yelling out to our men far ahead, I sang my first victory song.

Eight men came back, and when they saw the Piegan they divided the rest of the scalp and joined me in singing, shooting arrows into the body. Then we ran to meet the others returning over the hill. ... After they all had shot arrows into the body they wrapped it in a robe and laid it on a rock.⁴⁴

This example shows several characteristics of Plains Indian use of firearms and archery gear in combat. Two Leggings' Piegan opponents used their firearms from an ambush position, attempting to kill the Crows with volleys from their muzzle loaders. Two Leggings used his bow at very short range. The fact that he expended several arrows to kill one opponent does not indicate the inefficiency of Two Legging's archery, because Two Leggings stated that he was only "playing" with his opponent and did not intend to kill the man immediately.

In another engagement a large group of Blackfoot pursued Two Leggings on horseback. One horseman was so far ahead of the others that Two Leggings decided to ambush him. He dismounted, hid his horse, and hiding high up on the edge of a ravine, strung his bow and waited for the Blackfoot rider. When the Blackfoot had come close enough, Two Leggings shot his first arrow. Because he had aimed too low, the arrow pierced the man's pelvis, pinning him to his horse. Man and horse went down under the impact and Two Leggings killed his opponent at close quarters, before making his escape.⁴⁵

With the advantage of surprise, a determined archer on foot could sometimes hold his own against mounted opponents equipped with firearms, as the following example from late nineteenth

⁴⁴ Ibid., 35, 36; Steve Allely and Jimm Hamm. *Encyclopedia of Native American Bows, Arrows & Quivers. Vol. 2. Plains and Southwest* (Azle, Texas: Bois d'Arc Press, 2002), 141, 143; Allely and Hamm show two Blackfoot bows from the University of Pennsylvania Museum (Philadelphia, PA) and from the American Museum of Natural History (New York, NY) with strands or braids of human hair attached to the upper tips of each bow.

⁴⁵ Peter Nabokov. *Two Leggings*, 139.

century conflict between the Pawnee and the Lakota and Cheyenne illustrates. Riding ahead of a large war party of Lakota and Cheyenne on their way to attack one of the Pawnee villages in present-day Nebraska, a scouting party of six encountered a single Pawnee warrior on foot. The scouts believed that this lone enemy was easy prey. However, as soon as the Pawnee noticed the scouts, he dropped his pack, whipped his bow out of its case, strung it and attacked at a run, shooting arrows at the scouts. Long before he had closed the distance to the scouts, one of their horses was dead, another horse was wounded and one man was injured. In panic the scouts turned to flee, barely rescuing their horseless comrade. This episode is especially interesting, because this scouting party consisted of such notables as Spotted Tail, who later became leader of the Sicangu (Brule)-Lakota, as well as the Cheyenne leaders White Antelope and Tall Bull, later the leader of the Cheyenne dog soldier society.⁴⁶ However, Lakota pictographs and accounts from Pawnee people indicate that if war parties on foot, armed mostly with bows and arrows, were caught on the open plains by an equal or greater number of mounted opponents, their fate was usually sealed.⁴⁷

Even on horseback, combat distances with distance weapons, such as bows and arrows, were often very short, especially in combat involving only two opponents. The painter and traveler George Catlin described such action from an account he had obtained from the Mandan leader Mato Tope (Four Bears) in 1832. In this account Mato Tope described his fight against a Cheyenne leader. Both combatants had started out on horseback, circling each other, first using firearms, then bows and arrows, finally dismounting and switching to hand weapons.⁴⁸

Catlin depicted and described a mock battle among mounted Comanche warriors who employed similar methods. They used rawhide shields to ward off arrows and shielded their bodies

⁴⁶ George Bird Grinnell. *The Cheyenne Indians: Their History and Ways of Life*. vol. II, (Lincoln: University of Nebraska Press, 1972 [1923]), 54, 55.

⁴⁷ Joyce M. Szabo, "The Question of Artistic License and Plains Representational Imagery," *American Indian Art Magazine*, Autumn 1998, 85, 89.

⁴⁸ George Catlin. *Die Indianer Nordamerikas* (Wels, Austria: Verlag Lothar Borowsky), 138-39.

by dropping down to a hanging position on the right side of their horses, while shooting arrows at their opponents across their own horse's backs.⁴⁹ Two Leggings described mounted warriors using similar methods against individual mounted opponents, as well as against opponents on foot behind fortifications.⁵⁰ He described a fight against a Salish man, while both were mounted. This encounter was very similar to Mato Tope's account, because it involved the use of archery at very short range while both combatants hung from the sides of their horses, shielding themselves and circling each other, while shooting arrows from under or across their horses' necks.⁵¹

Aboriginal use of firearms

On the Great Plains, until the introduction of breech-loading and repeating firearms, the paramount use of muzzle-loading firearms was in combat. Once firearms became readily available to the Parkland Cree, Blackfoot and their respective allies, they took them along on their military expeditions.⁵² Numerous references attest to warfare as the preeminent field of use for firearms among Aboriginal peoples of the plains. Matthew Cocking's Cree guides told him in 1774 that the "Yeathithinnee" [Blackfoot, Gros Ventre and Sarcee] stockpiled ammunition for use against their enemies, "the Snake Indians," while they still killed game animals with the bow and arrow.⁵³ When a group of Blood Indians came to trade at Manchester House in March 1787, they purchased 18 guns and four pistols, almost all the firearms in stock, because they were planning to go to war against the Snake Indians.⁵⁴ Several years later Peter Fidler recorded that the Piegan used their

⁴⁹ Ibid., 262-263, 305.

⁵⁰ Nabokov. *Two Leggings*, 125.

⁵¹ Ibid., 91.

⁵² Richard Glover, ed. *David Thompson's Narrative*, 241, 242.

⁵³ David Smyth, "The Niitsitapi Trade," 150, Matthew Cocking's inland journal (in York Factory journal series), September 1772, HBCA, B.239/a/69, reel 1M158.

⁵⁴ HBCA, Manchester House Post Journal, 1M 73, B 121/a/1, 35, March 19, 1787.

firearms primarily for warfare.⁵⁵ Writing in 1818, Peter Fidler recorded that “our Inds [Cree] say some of the Mandans have from 6 to 10 Guns and every Man one at least _ keeping them carefully for Defence.”⁵⁶ Their primarily military use of firearms prevailed until the late nineteenth century. Wolf Chief stated that among the Mandan and Hidatsa firearms were reserved for military activities, while bows and arrows remained the principal big game hunting weapon even after the advent of repeating weapons and cartridge ammunition, because the latter items were always scarce.⁵⁷

Aboriginal people on the Plains and in the Subarctic consistently tried to prevent fur traders from trading firearms to their enemies. The Piegan, for instance, were very keen to prevent direct trade between their western neighbours and Europeans. They feared that they would lose their military superiority if Aboriginal peoples of the Rocky Mountains and Plateau region were equipped with firearms. Then groups like the Flathead and Kutenai would confront the Blackfoot to reclaim their bison hunting grounds on the eastern fringes of the mountains.⁵⁸ Peter Fidler recorded a similar aversion among the Assiniboine to the North West Company’s sales of firearms to the Mandan, Hidatsa and Arikara.⁵⁹

The strong opposition of Aboriginal people towards arms sales to their enemies indicates the high military value they ascribed to these weapons, especially in confrontations with those peoples who had fewer or no firearms. According to Saukamappee’s account, the terror caused

⁵⁵ “The Principal part of what ammunition these Indians [Piegan] trade use for war - & as a principal article to barter with other nations they are at peace with for Horses, etc.” Peter Fidler, “Journal of a Journey over Land from Buckingham House to the Rocky Mountains in 1792 – a 3 by Peter Fidler.” HBCA, 4M 103, E 3/2, 14, Dec. 25, 1792.

⁵⁶ HBCA B.22/a/20, F37d, March 7, 1818, Brandon House – Post Journal, 1817-1818.

⁵⁷ Carolyn Gilman and Mary Jane Schneider. *The Way to Independence, Memories of a Hidatsa Indian Family, 1840 – 1920* (St. Paul, Minnesota: Minnesota Historical Society Press, 1987), 76.

⁵⁸ Jack Nisbet. *Sources of the River: Tracking David Thompson Across Western North America* (Seattle: Sasquatch Books, 1994), 105; Richard Glover, ed. *David Thompson’s Narrative*, 277-278.

⁵⁹ They [the North West Company envoys to the Mandan] came past the East end of the Turtle Mountain on purpose to avoid meeting with any Stone Indians that might intentionally be in the way to plunder our people, **as they don’t like us to carry ammunition & c to their Enemies** [my emphasis]; HBCA B.22/a/20, F24-25d-25, Brandon House – Post Journal, 1817-1818, F2, Dec. 15, 1817.

among the Shoshone by the guns used by the allied tribes prevented any further major battles with the Shoshone, who fled south- and westward, leaving the country on the Red Deer River and the Bow River in present-day Alberta to the Piegan.

Some elements of Blood Indian traditions recorded in the early twentieth century correspond to Saukamappee's account. Three Bears stated that a Cree war party attacked a Blood camp and took most of the women and children prisoner while the men were away running buffalo. Four women escaped from the camp and hid in some bushes, but one of the Cree warriors found their tracks in the snow, followed them and took them captive. On the return journey this Cree and the four Blood women straggled far behind the rest of the Cree war party because the Cree man was getting weak from traveling on foot. When they came to a creek the four women jumped the Cree man, drowned him and one of them took his scalp. When the four women returned to their camp, they met the returning Blood buffalo hunters. These decided against going after the Cree, except for one man and the woman who had scalped the Cree. They wanted to pursue the Cree and rescue their families and relatives at all costs. The Blood woman and man finally caught up with the Cree. At first they were mistaken for the missing Cree man and one of his female captives. However, when their true identity was discovered, the leaders of the Cree war party asked them about the missing Cree man and made them swear upon a medicine pipe to tell the truth. The Cree promised not to kill them, but to grant them each a wish. When the Blood woman said that she had killed the Cree man and that she and her companion had come to rescue their relatives, these were released. The Cree further offered to make peace the next summer and to release their other Blood captives then.

And the next summer the Crees and the Bloods meet and make peace. and the Bloods got their women and children back. and four of the Blood chiefs were given rifles by the Crees and the Bloods did not know how to shoot with the guns, and the Crees set up a mark and showed the Bloods how to shoot with the guns and when the Bloods would shoot with the guns they were

afraid of them and would drop the guns when they would go off, and finally they got use to shooting, now the Bloods gave the Crees horses for presents and as the Crees couldn't ride much they would fall off the horses when the horses would go on a trot or lope so the Bloods gave the Crees the laugh because they could not ride horseback, and later on the Piegiens got firearms, and while a few Piegiens were on the war party, a great many Snake Indians attacked the few Piegiens, and the Piegiens opened fire on them with their guns and as the Snakes never heard or seen guns, they all took to their heels and run away and were afraid of the guns of the Piegiens and also the Crows run from the Piegiens when the Piegiens first took some shots at them from their rifles, - as the Crows did not know anything about guns at the time."⁶⁰

Similarly, fur traders commented on the dramatic effects the use of firearms in warfare had on intertribal relations. For example, Peter Fidler recorded in 1792:

Formerly the Snake Indians used to inhabit about this Hill [in the Bow River area in Southern Alberta], but since the Europeans have penetrated into these parts & supplied the surrounding Nations with fire arms, those Indians have gradually receded back to the SW wards, & at this Time there is not a Tent of that nation to be found within 500 miles.⁶¹

Another passage from Peter Fidler's journal provides more information on Aboriginal and European evaluations and estimates of the lethality of muzzle-loading firearms:

Feb. 14, 1793, arrived at our tent 17 Blood Indian Young men, who have been on a friendly visit to the Snake Indians - at present friends- the Snake Indians & their neighbours the Crow Mountain Indians being at present at an inveterate war with each other - the former induced the 17 Blood Indian men to accompany them to war against the Crow Mountain Indians - on account of their body all having Guns - they found 35 men of that tribe - & melancholy to relate only 3 escaped to relate the horrid catastrophe to their country men - the Spoils they took from the slain was 2 Guns (Spanish) - 20 swards several Shields - Bows arrows - Clothing & etc. - every man they scalped according to their wonted customs - 4 of which trophies of war was given amongst the 17 Blood Indian Young men as a sufficient recompense for their assisting in the above horrid affair - tho it is natural to think that these men by having all firearms was the principal cause of their killing such a number - & so very few escaping - had these men not assisted, the opposite sides would have been armed exactly alike - & the event would probably not been so melancholy - before either one side or the other ran for it - No quarter is given by any Indians at war - these men arrived with their faces all black with coal - their usual custom, when they return from war at

⁶⁰ Glenbow Archives, M4376, David C. Duval Papers, 1904 - 1911, vol. III, 621-626, "How Bloods first got guns," March 3, 1911. Duval wrote: "I got this information from Three Bears. P. S. Blood Heavy Runner, gave the same story about when the Bloods first got guns," 625, 626. Even though the term "rifles" appears here, it may probably have been in reference to smooth bore muzzle-loading flintlock trade guns.

⁶¹ HBCA, 4M 103, E.3/1, Peter Fidler Journal of Exploration and Survey, 1789-1806, Number Three - July 25th 1792 to July 4th 1793, A Journal from York Fort Hudson's Bay, to Cumberland Hudson, Manchester & Buckingham Houses - up the Saskatchewan River by Way of Lake Wennepeg in 1792 by Peter Fidler. F93.

any people Tents they found on their return – They also continue in this manner with black faces a few days after they arrive at their own Tents – Singing, Dancing the greater part of the time at short intervals – This was now the case here - & our Indians joined the Chorus & carried the scalps upon a stick in the manner of a staff & kept dancing and singing all the while – this they kept up the greater part of the night.⁶²

Just as the Piegan had welcomed assistance from the Cree and Assiniboine with their firearms decades earlier, the Snake now used the same tactics of employing gun-bearing allies in their raid against the Mountain Crow, who at that time had only few firearms. However, once more trade guns began to reach the Rocky Mountain peoples, they could turn the tables on their eastern neighbours and defend themselves successfully against Aboriginal attackers with firearms. When two parties of Gros Ventre came to trade at the HBC's Hudson House in 1785, William Tomison wrote: "they was at war last summer against the snake [Shoshone] Indians but gained little by it; as they have now got guns as well as they."⁶³

How could the relatively few potentially problematic firearms sold to Aboriginal people have significantly influenced the military situation on the Great Plains? In order to gauge the impact of these weapons, a closer examination of the actual use of firearms by Aboriginal people is required. Saukamappee's account provides critical information on the methods of firearms use in combat. He described his participation in a battle that took place around 1740 between two groups of several hundred warriors on the Alberta Plains. Saukamappee was with a small group of Cree and Assiniboine who had joined a large Piegan war party. Together they confronted a group of "Snake Indians" and their allies from the Rocky Mountains. The Piegan highly welcomed the assistance from the Cree and Assiniboine, because these allies had brought ten guns to the battle.

⁶² HBCA, Peter Fidler, "Journal of a Journey over Land from Buckingham House to the Rocky Mountains in 1792 – a 3 by Peter Fidler," 4M 103, E 3/2, 31, Feb. 14, 1793.

⁶³ HBCA, Hudson House Post Journal, Dec. 26, 1785, B.87/a/8, reel 1M63.

The combatants faced each other in two straight and parallel lines, about sixty meters apart, kneeling or sitting behind large shields, while shooting arrows at each other. The Snake did not use any firearms and were apparently not yet familiar with them. Therefore the Cree/Assiniboine, including Saukamappee, lay behind their shields with their guns, waiting for an enemy to expose his body while trying to shoot with his bow and arrows. When the Cree and Assiniboine suddenly fired their guns at their opponents, it caused total confusion and disarray among their enemies, because the musket fire was accurate enough to instantly disable or kill their opponents.

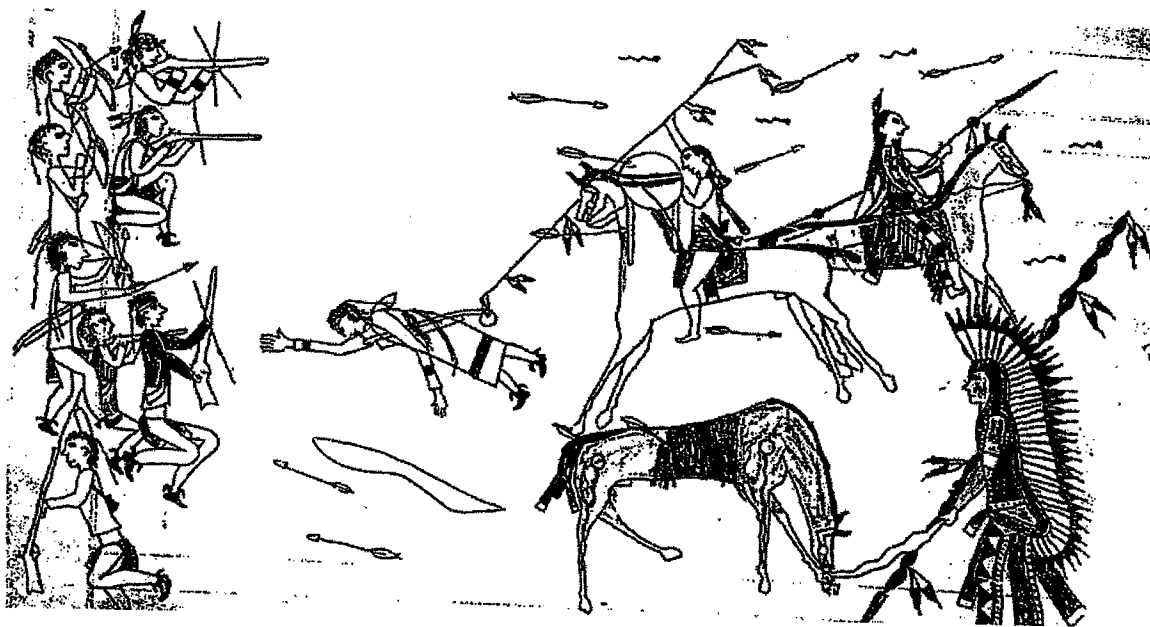
Apparently the Cree and Assiniboine did not attempt to shoot through the enemy shields. It remains unclear whether this was due to the musket balls not being able to penetrate the shields, or because the warriors were not yet aware of the extreme penetrative power of their new weapons.⁶⁴ Arrows, on the other hand, regardless of whether their arrowheads were made of stone or metal, could not pierce the thick but somewhat elastic rawhide shields.

In this particular battle the Snake formation was critically weakened, not just because of the direct effect of the firearms, but also because increasing numbers of Snake warriors left their positions in the battle line to escape. A final massed charge by the Piegan, Cree and Assiniboine culminated in hand-to-hand combat, causing high casualties and the eventual flight of the surviving Snake warriors. The Piegan leaders considered the battle a resounding victory. They believed that the firearms used by the Cree and Assiniboine warriors had been a decisive factor and explicitly honoured these men for their participation in the battle. Aboriginal people with

⁶⁴ Lawrence J. Burpee, ed. *Journal and Letters of Pierre Gaultier de Varennes de la Verendrye and his Sons* (Toronto: Champlain Society, 1927), 422; In early 1743 La Verendrye's sons Francois and Chevalier (Louis-Joseph?) accompanied a large war party of the Gens de l'Arc or Bowmen (possibly Pawnee-Arikara), going to war against the Gens du Serpent (Kiowa? Comanche?). On the return journey, after an unsuccessful attempt to make contact with the enemy and after a subsequent disorderly retreat La Verendrye's sons fired their guns at a group of enemy warriors who had readied themselves to attack the French and their hosts. The attackers retreated hastily after a few shots. One of La Verendrye's sons commented: "Seeing that they were preparing to attack us, I judged it well to let fly a few shots at them which caused them to retreat in a hurry, fire-arms enjoying a high respect among these tribes, who do not make use of them, **and whose shields cannot protect them against bullets** [my emphasis]."

access to firearms soon realized that new approaches were needed to integrate this new weapon into their military tactics, while those who could not obtain these weapons sought ways to defend themselves against this threat.

The presumably low loading speed of the muzzle-loading firearms seems to have been of little consequence in this battle, because the ten Cree and Assiniboine men could fire their guns individually at intervals, keeping their opponents under constant fire, while they were covered and protected by the arrow shots of their Piegan allies. A ledger drawing depicting a battle between mounted Kiowa and Pawnee on foot that probably took place in the second half of the nineteenth century, shows a line of Pawnee warriors with muzzle-loading weapons covered by a second line of warriors with bows and arrows while firing and reloading their guns, similar to Saukamappee's description.⁶⁵



⁶⁵ Norman Bancroft-Hunt. *Warriors: Warfare and the Native American Indian* (London: Salamander Books, 1995), 219. One of the Pawnee placed the muzzle of his gun on a forked stick while aiming, probably to achieve greater accuracy. Two Leggings related that he usually carried such a stick with his flintlock gun and on at least one occasion was able to kill a bison cow with one shot, even though the animal was barely within range. Nabokov. *Two Leggings*, 67.

Fig. 28. Depiction of a battle between Pawnee on foot and mounted Kiowa, possibly from a Kiowa ledger by Man-With-Bird-on-Cheek. Adapted from Norman Bancroft-Hunt. *Warriors: Warfare and the Native American Indian*. Salamander Books: London, 1995, 219.

Eyewitness accounts detailing Aboriginal modes of combat are rare for the eighteenth and early nineteenth centuries. Several accounts reported high casualties inflicted by Aboriginal groups recently equipped with firearms, against their previously better-armed foes. For example, when in the summer of 1810 Finan McDonald of the NWC was traveling with a group of Salish (Flathead) who had recently received a number of firearms, they repulsed a Piegan attack, killing fourteen Piegan warriors.⁶⁶ Peter Fidler recorded details about this battle which are crucial to understanding Aboriginal peoples' use of firearms in combat:

A Canadian Clerk [Finnin] [M^c Donald] in Company with about 30 Flat head Indians fell in with a war party of Muddy river Indians [Piegan] last Summer in the Rocky Mountains – The Flat heads retreated when they first saw the Enemy to a creek with steep banks where they lay till the others came up – **when suddenly all rising up fired & killed 15 Muddy river Inds** [my emphasis]– only one fell of the Flat heads – Then they who survived made a very precipitate retreat - & [them] [Learning] that a Canadian were in Company with the Flat heads – was the cause of this Tribe of Indians driving back the Canadians last fall – they [the Piegan] are particularly objectionable against the Canadians or even us from going to Trade with their distant Tribes in & beyond the Rocky Mountains – as they receive from us Guns Arms & Ammunition, which makes them bolder - & more dangerous to attack than formerly when they had only Bows & Arrows_ They are also much against us from even Trading with them in any Necessary Articles – as they formerly used to Trade with them at vast profits - & then bring those skins & trade with us – receiving about 12 times the value for the same article from us than what they sold it for to the Distant Tribes - & by our going into those parts, we cut off the great profits they always made.⁶⁷

⁶⁶ David Smyth, "The Niitsitapi Trade," 257; Smyth correlates the documentary evidence from fur traders to a Piikani winter count; Paul M. Raczka, *Winter Count: A History of the Blackfoot People* (Brockton, Alberta: Old Man River Cultural Centre, 1979), 37. This was apparently part of a Piikani initiative to stop the arms trade between European fur trade companies and the Piikanis' western neighbours and enemies, such as the Salish (Flathead) and Kutenai.

⁶⁷ HBCA 1M63, B.89/a/2, Isle a la Cross Journal, 1811, F24-25d, February 9, 1811; Aboriginal people in the Western Great Lakes used their firearms in combat in similar ways. See: Vernon W. Kinietz. *The Indians of the Western Great Lakes: 1615-1760*. (Ann Arbor, Michigan: Ann Arbor Paperbacks, University of Michigan Press, 1965), 254-55.

The Blackfoot Crooked Meat Strings described similar surprise tactics used by Plains Cree in their winter attacks on Blackfoot encampments during the mid to late nineteenth century:

Cree always announced their attack by calling out: "Napi niko'to!" Friend, I am here!" Then they fire and run in! They have guns cocked and start to shoot at that moment. On one side of the camp the Cree are backed up. Blackfoot escape out the other side, especially the women. The Cree attempt to encircle the camp then. Cree always attack at daybreak. Some Cree don't join the fight but "prefer" to run off horses before the shooting starts. If Cree win, they carry off anything nice like guns, arrows and bow, etc.⁶⁸

These passages, as well as the encounter about Two Leggings' first coup, indicate that Aboriginal people tried to use ambush tactics when employing their firearms in an attack. They attempted to break or seriously disorganize resistance, and reduce the number of enemy combatants by an initial surprise volley. After that they could continue their attack with traditional distance weapons or engage in close combat.

The German naturalist and traveler Prince Maximilian of Wied and the Swiss painter Karl Bodmer witnessed a battle between a relatively small group of Piegan and Blood and a large Cree and Assiniboine war party about 600 strong at Ft. McKenzie, a post of the American Fur Company on the Upper Missouri in present-day Montana on August 28, 1833. During the early morning hours the Cree and Assiniboine launched a surprise attack on the small Blackfoot camp, which was situated close to the fort. While fighting in the confined space among the tents, attackers and defenders used firearms and bows at close quarters. However, when the initial momentum of the attack had been halted, the Blackfoot warriors with firearms formed a loose firing line and kept up constant individual firing, joined by some of the crew of Ft. McKenzie. This eventually drove the attackers to retreat.⁶⁹

⁶⁸ Glenbow Archives, L. M. and J. R. Hanks Fonds, M 8458, file 6, 165, Crooked Meat Strings via Mary White Elk, Sept. 12, 1938.

⁶⁹ R. G. Thwaites, ed. *Early Western Travels, 1748-1846. Vol. XXIII, Parts II of Maximilian, Prince of Wied's, Travels in the Interior of North America, 1832-1834* (New York: AMS Press Inc., 1966), 146-155.

In a battle against Blackfoot warriors in the 1860s Two Leggings' arrow pierced the neck of one of his opponents, the impact spinning the man around. In spite of being hit twice more, the warrior managed to run back to his party. Although all of the Blackfoot warriors carried firearms, the Crow managed to drive them off, even though they had only three guns in their entire group, while all others carried bows and arrows as their only distance weapon. Two Leggings estimated that had the Blackfoot all been mounted, none of the Crow party would have survived, placing a higher combat value on horses than on firearms in this particular case.⁷⁰ However, Two Leggings did not specify if the firearms used in this battle were single-shot muzzle loaders, breech loaders or even repeating firearms.

These examples indicate that Aboriginal peoples on the northern plains, similar to the Hudson Bay Cree and Chipewyan, favoured employing their firearms in sudden ambush attacks in order to quickly break or significantly reduce enemy resistance, if possible at close range.

Firearms and archery gear used together

As soon as firearms became available in larger numbers, Aboriginal people on the plains began to use them along with their traditional distance weapons. Numerous accounts and illustrations made by non-Aboriginal eyewitnesses during the early and mid nineteenth century show Aboriginal men carrying firearms and archery gear at the same time.⁷¹ Peter Fidler observed in 1792 that Piegan men carried both firearms and archery gear, when they went to war or on trading missions.⁷²

⁷⁰ Nabokov, *Two Leggings*, 18.

⁷¹ Maximilian Prinz zu Wied. *Reise in das Innere Nordamerika*, Vignettenband, (Muenchen: Verlag Lothar Borowsky, 1995), 19, 20; George Catlin. *Die Indianer Nordamerikas* (Wels, Austria: Verlag Lothar Borowsky), 138-39.

⁷² HBCA, Peter Fidler, "Journal of a Journey," 4M 103; E 3/2, 16, Dec. 30, 1792.

When Prince Maximilian traveled parts of the Northern Plains in 1833/34, the equipment commonly used by Aboriginal warriors had changed, contrasting with the weaponry used by the Cree and Assiniboine during Saukamappee's youth, almost a century earlier. Prince Maximilian described the weapons of the Assiniboine and other Plains Indians they encountered thus:

They were the first Assiniboines we had met with. ... Most of them had guns, and all, without distinction, bows and arrows, the latter in a quiver or bag made of skin, to which also the case for the bow was attached.⁷³

In general, every Blackfoot carries a whip, as well as his weapons, in his hand; a gun and his bow and arrows on his shoulder, the latter in a quiver or bag made of skin or leather, to which a bow case of the same is fastened. On his shoulder he likewise has his pouch, containing his powder-horn, and a large knife, in a sheath, is stuck behind in his leathern girdle.⁷⁴

Probably referring to the second half of the nineteenth century, Crooked Meat Strings related that the equipment of Blackfoot warriors on war parties on foot had to be light, but included "Bow and arrows; gun; bullets & powder; knives, moccasins & awl & sinew. One also takes a sign of a holy thing – e. g., around wrist or neck, or something to be in the hair."⁷⁵ Two Leggings frequently carried bow and arrows and a firearm on raids and war expeditions.⁷⁶ He also encountered Salish and Lakota warriors who each were equipped with bows and firearms.⁷⁷ The grave goods of the Cheyenne leader High-Backed Wolf, who was killed on the North Platte in 1868, included his bow and a supply of arrows, a stone-headed war club, an army camp knife, and a Henry repeating rifle.⁷⁸

⁷³ R. G. Thwaites, ed. *Early Western Travels, 1748-1846. Vol. XXII, Part I of Maximilian, Prince of Wied's, Travels in the Interior of North America, 1832-1834*, 370, 371, June 23, 1833.

⁷⁴ *Ibid.*, 103.

⁷⁵ Glenbow Archives, L. M. and J. R. Hanks Fonds, M 8458, file 6, 172, Crooked Meat Strings via Mary White Elk, Sept. 12, 1938.

⁷⁶ Nabokov. *Two Leggings*, 32, 40, 52, 138.

⁷⁷ *Ibid.*, 91, 125.

⁷⁸ Hanson, Charles E. *The Northwest Gun* (Lincoln: Nebraska State Historical Society, 1955), 51; See also *Annals of Wyoming: High-Backed Wolf* 27:1:14; 28:2:183, "Cheyenne Indians," http://wyshts.org/index_h.htm.

Surviving first-hand accounts of Aboriginal combat methods with bows and muzzle-loading firearms, although largely referring to the late nineteenth century, indicate some of the methods used to employ firearms and archery together. Two Leggings explained why he often carried archery gear and a firearm on war expeditions. When several enemies pursued him, for example, he decided to ambush the advance guard of his opponents to gain time to escape. In order to do this, he dismounted and planned to use his gun with a heavy charge as his initial “artillery” against the massed enemies, then he wanted to shoot arrows at individual opponents.⁷⁹ In such situations Aboriginal people often loaded their weapons with a double charge of powder and more than one musket ball, which could have a devastating effect at close range.⁸⁰ According to Two Leggings’ description, a firearm could be used effectively even if the user was exhausted and out of breath, while the effective use of bows and arrows required a greater amount of physical strength, stamina and calmness.⁸¹

Firearms and archery offered different advantages that could complement each other. For example, bows and arrows were better suited for night-fighting, because they emitted neither loud noises nor muzzle flashes that could betray a warrior’s position to his opponents.⁸² But firearms could be used in winter when very low temperatures made the use of self bows risky. A gun could be fired wearing mittens, while a plains archer had to take off his mittens to use bow and arrows. Loaded with shot, smoothbore trade guns could be used as short-range “artillery” against tight groups of opponents, while an arrow usually affected only one opponent at a time. Pistols could be concealed under clothing and fired from concealment much more easily than bows and arrows, especially since they could be discharged using only one hand. Bows and

⁷⁹ Nabokov, *Two Leggings*, 40-44.

⁸⁰ Hanson, *Spirits in the Art*, 29.

⁸¹ Nabokov, *Two Leggings*, 40-44.

⁸² Ball, *Indeh, an Apache Odyssey*, 115.

arrows, on the other hand, were quiet, could often be made from locally available materials and their projectiles could be re-used. Compared to bows and arrows, muzzle-loading, single shot firearms had a much slower rate of fire, but they could be fired from concealment, from behind a shield for instance, whereas an archer had to expose part of his body in order to shoot, thereby becoming a target himself.

By the late nineteenth century firearms had become an important combat weapon on the plains, while bows and arrows were still much used. For example, on July 11, 1869 Pawnee scouts and US cavalry under General Carr captured weapons from Tall Bull's band of Cheyenne and Oglala dog soldiers after the battle of Summit Springs, near Sterling, Colorado. These weapons included 56 rifles, 22 revolvers, 40 sets of bows and arrows, 20 tomahawks, 47 axes, 150 knives, 50 lbs of powder, 20 lbs of bullets, 14 bullet molds, 8 bars of lead, 26 boxes of percussion caps, 17 sabers and 9 lances. During the battle 52 Native people were killed, seventeen women and children were captured. The US troops and their Pawnee scouts suffered no casualties but one man was lightly wounded by an arrow.⁸³

Several accounts of Plains Indian warfare indicate that by the 1860s and 1870s firearms had gained principal importance as combat weapons among Blackfoot people. For example the Siksika Raw Eater, who was a respected war leader created a pictorial record on hide of several battles with Cree people during the late 1800s. The capture of guns from the Cree and the use of rifle pits in defense by the Blackfoot stand out among the images on this robe while none of the combat scenes depict archery gear. Firearms figure prominently in all five battles depicted.⁸⁴ The Blackfoot Wolf Collar (Maguigoxkinas) recorded his experiences in

⁸³ Ruby E. Wilson. *Frank J. North, Pawnee Scout Commander and Pioneer* (Chicago: Swallow Press, 1984), 160, 161.

⁸⁴ "Raw Eater's Story Robe," *Nitsitapiisini – Our Way of Life*. Leaflet of the Glenbow Museum, Calgary, Alberta, www.glenbow.org.

combat against Cree people in drawings. These images and the accompanying descriptions emphasize the use of firearms, rifle pits and improvised fortifications in combat. Wolf Collar also killed a bear with his gun, but used his bow and arrows in mounted bison hunting.⁸⁵

For Blackfoot people and other Plains Indians the capture of enemy guns and other spoils in combat was a way to gain wealth, prestige and influence through redistributing them among relatives and others. The Blackfoot White Eagle, for example, when he went to war in the 1860s, gained both social status and wealth. He was successful and captured many horses and guns from the enemy. He captured his first gun when he was 14 years old.⁸⁶ Eagle Ribs jr. went on a war party when he was only 12 years old and captured a gun and much ammunition.⁸⁷ Joe Little Chief related that another Blackfoot leader, Good Eagle, captured two horses, one gun and one bow & arrows in a battle with Cree people in the spring of 1859. In all his 14 war parties combined Good Eagle captured eight guns, five scalps, two knives and one bow & arrows, one Medicine Pipe and 22 horses, among them six pintos.⁸⁸

On such occasions Blackfoot warriors captured a greater number of guns than traditional weapons like bows and arrows. This may indicate that they were accorded a higher status or that they were more numerous than bows and arrows among the mostly Cree enemies and thus easier to capture. Perhaps guns gained such importance in building status, not just because they were

⁸⁵ Glenbow Archives, Paul Wolf Collar Fonds, "The War Experiences of my Grandfather," pictographic war record. Paul Wolf Collar, 1901 – 1985, provided this information to Hugh A. Dempsey in 1961 with Adolphus Weasel Child interpreting. Paul Wolf Collar's grandfather (Maguigoxkinas) was born in 1839 and died in 1928.

⁸⁶ Glenbow Archives, Joe Little Chief Fonds, M 4394, f. 2, 1, 2. White eagle was born in 1842; Glenbow Archives, L. M. and J. R. Hanks Fonds, M 8458, file 6, 189, 190, Crooked Meat Strings via Mary White Elk, Sept. 12, 1938; Glenbow Archives, L. M. and J. R. Hanks Fonds, M 8458, Box 1, file 1, Pitoxpikis (Sleigh) Eagle Ribs via Mary Royal (interpreter), Eagle Rib's War deeds, 1938, 50. Eagle Ribs was 68 years old at the time of the interview in 1938. He spoke about the war deeds of an older relative [his father?] who passed on in 1910 when he was in his eighties. (M8458, file 2, 72).

⁸⁷ Glenbow Archives, Joe Little Chief Fonds, M 4394, f. 2, pp. 5, 6, 14; Capture of guns from Sioux, "Snake," and Kutenai frequently mentioned.

⁸⁸ Glenbow Archives, Joe Little Chief Fonds, M 4394, f. 2, 8, 9.

powerful weapons, but also because they were expensive. Because Blackfoot people could not make them, they considered them more valuable.

Patterns of warfare

The two battles described in Saukamaptee's account show a similar structure. The opponents sat or knelt, sheltered by their large shields, forming two opposing parallel lines of combatants. Both sides shot arrows at each other. Unless one group was vastly superior in numbers so as to make a charge and overrun or outflank their opponents, a stalemate was the usual outcome. Heavy casualties occurred only after one line of warriors had broken, when the fleeing warriors were struck down by their pursuers.

With the advent of firearms combat became more individualistic because large and static formations of shield-bearing warriors could no longer be maintained. Aboriginal forms of body armour fell into disuse because they were largely ineffectual against firearms. If a musket ball pierced a warrior's armour it was likely to drag minute pieces of it into the wound which could cause a deadly infection. Ambush tactics and surprise attacks gained in importance. According to Saukamaptee, heavy casualties more commonly occurred when small camps, which had separated from the main body for winter hunting, were surprised and annihilated by enemies.⁸⁹

The introduction of horses also encouraged more individualist approaches to mounted combat. Plains Indians did not adopt large-scale cavalry formations for combat. Firearms and horses contributed to an increase in the tempo of warfare. With the use of horses provisions of dried meat could be acquired faster which left more time for martial endeavours. Furthermore, the initially highly unequal distribution of firearms encouraged those Aboriginal people who had

⁸⁹ Richard Glover, ed. *David Thompson's Narrative*, 241.

them to increase their raids on those who did not as they felt more secure and assured of victory due to their increased firepower.

Interpreted in terms of European concepts, methods and motives for warfare Saukamappee's account has sometimes led to sweeping generalizations about Plains Indian alliances, suggesting that Cree, Assiniboine and Piegan "armies" moved in a concerted effort against the "Snake" Saukamappee's account mentions a call for military assistance from the Piegan to the specific Cree band Saukamappee's family was part of.⁹⁰ However, the Piegan war parties Saukamappee described were several hundred strong, while the few Cree and Assiniboine warriors who joined them, at first without firearms, likely did not make a crucial difference in a confrontation with an enemy who was equally numerous. Only when ten Cree and Assiniboine with firearms joined the endeavour did the Piegan war leaders consider the participation of these allies more crucial to their victory. Instead of viewing them as alliances between "nations," similar to those between European state societies, these activities were probably based on very localized and temporary agreements between different bands or even extended family groups who may have been connected through kinship. Considering the low numbers of Cree and Assiniboine warriors who participated in these war parties, the call from the Piegan may have been an invitation rather than an urgent call for military assistance.

According to Saukamappee, after the introduction of firearms and later of horses, war was mainly carried out in small groups and by surprise. The Piegan had the upper hand in this type of warfare, due to the "Guns, arrow shods of iron, long knives, flat bayonets and axes from the Traders."⁹¹ As an example of this new type of warfare Saukamappee told of a small war party

⁹⁰ John S. Milloy. *The Plains Cree: Trade, Diplomacy, and War, 1790 to 1870*. Winnipeg: University of Manitoba Press, 1988, 83-99.

⁹¹ *Ibid.*, 245.

setting off to the south to steal horses. The venture ended with the return of the victorious warriors, among them his eldest son, who brought 35 enemy horses back to the Piegan camp.

Overall, not only the methods and techniques of warfare changed, but also its objectives. The earlier warfare described by Saukamappee may have been driven by a desire to take revenge for past wrongs and by spiritual motivations. According to Thompson, Saukamappee had participated in his second war party against the "Snake" because his in-laws had insisted that he obtain an enemy scalp to honour his father-in-law's medicine bundle.⁹² Not only among the Cree, but also among Blackfoot people scalps could become part of medicine bundles. The Blood Eagle Ribs explained in this regard

Why is a scalp valuable? Wife dances with the enemy scalp, all see her. Scalps are made into necklaces and bracelets. The scalp may be given by brother to chief and is paid for it. ... A scalp must be given to medicine pipe owner or anyone who can conduct a Sun Dance [i.e. a spiritually powerful person]. To be fixed up, made into a necklace, and placed with either beaver or natoas bundle [the two most important Blackfoot medicine bundles]; or it is made into a hair fringe suit.⁹³

The presence of European trading posts provided new incentives for warfare. Plains peoples conducted raids to take captives and sell them as workers to the posts. The La Verendrye expeditions reported such activities on the plains in the early 1740s.⁹⁴ Anthony Henday claimed to have been offered war captives by Plains peoples in 1755: "The Captives, Boys & Girls, were given away as presents to one another. They presented to me a Boy & Girl, which I declined accepting of in as modest a manner possible." A few days later another journal entry reads: "A Captive Girl aged about 17 years was knocked on the head with a Tomahawk by a Man's wife in

⁹² Richard Glover, ed. *David Thompson's Narrative*, 242.

⁹³ Glenbow Archives, L. M. and J. R. Hanks Fonds, M 8458, Box 1, file 1, Pitoxpikis (Sleigh) Eagle Ribs via Mary Royal (interpreter), Eagle Rib's War deeds, 1938, 51.

⁹⁴ Lawrence J. Burpee, ed. *Journal and Letters of Pierre Gaultier de Varennes de la Verendrye and his Sons* (Toronto: Champlain Society, 1927), Report of La Verendrye, October 31, 1744, 451, 452; 135, note 2.

a fit of jealousy: No notice was taken as such game is common amongst them: the unfortunate Girl had been presented to the Murtherer's husband yesterday."⁹⁵ Various Aboriginal groups on the Northern Plains engaged in this trade and sold captives at trading posts.⁹⁶

After the smallpox epidemics of the eighteenth and nineteenth century, Plains people such as the Peigan attempted to bolster their numbers by integrating captive women and young children into their community.⁹⁷ In the late nineteenth century the Blackfoot Red Arrow told Robert Wilson in this regard:

The only prisoners taken as a rule were women and children. Boys who would grow up as our own, and women who would be married in our tribe. The latter in many cases made good wives, with the exception of Cree women who on account of the short distance to their country, used to run away taking some of our horses with them.⁹⁸

Crooked Meat String related about captives:

Once in a while an Gros Ventre (Gros Ventre) is taken. Pitoxpikis had a Gros Ventre slave. Piegan and Blood once took Cree women, in an attack, but killed most. Killing better, so as to say "I killed so many people."

A man who captures a woman gives her as a wife to his tak.a [partner or "brother-friend"], because he and tak.a go round together and know what each does with women – often a tak.a gives his tak.a his sweetheart. Captives not given to brother or relative because she has been used. It's alright to have played with a tak.a's sweetheart before, so she can be given to a tak.a.

Once Ak ikakatosi captured a girl-child, because [he was] very fond of her. Then in a peace, the Cree bought her back. Captives are not taken very often therefore because men want to be able to announce a large number of killings. Women and children count as much as men.⁹⁹

The view that captives were generally to be killed or treated badly was not uniform among the Blackfoot. For example, Eagle Ribs (Pitoxpikis) led a war party against the Crow in

⁹⁵ Lawrence J. Burpee, ed., *The Journal of Anthony Hendry*, 41, February 28th, 1755, March 1, 1755.

⁹⁶ Theodore Binnema. *The Common and Contested Ground: A Human and Environmental History of the Northwestern Plains* (Norman: University of Oklahoma Press, 2001), 171, 181, 192, 228, note 134.

⁹⁷ Richard Glover, ed. *David Thompson's Narrative*, 247.

⁹⁸ Glenbow Archives, M4421, M4422, R. N. Wilson Papers, edited and annotated by Philip H. Godsell, vol. 1, Glenbow Foundation: Calgary, 1958, 123.

⁹⁹ Glenbow Archives, L. M. and J. R. Hanks Fonds, M 8458, file 6, 181, 182, Crooked Meat Strings via Mary White Elk, Sept. 12, 1938.

the second half of the nineteenth century. They attacked a small Crow camp of six men, one woman and a boy. Eagle Ribs and his men took the woman and the boy captive and killed five of the Crow warriors while the sixth escaped.

On the way back they camped on a butte on the south side of the Bow River. Striped Bull, Kixtipistamik, had the woman. Pitoxpikis said to all the men: "Be good to this woman and to this boy. Remember what has been done to his people. He'll be poor now. Respect this woman who is to be a wife of Kixtipistamik and don't do anything to her."¹⁰⁰

The results of epidemic diseases and the use of firearms and horses resulted in the displacement of several Aboriginal groups. When David Thompson and Peter Fidler stayed among the Piegan, they observed that the Shoshone and their allies had been pushed out of the plains east of the Rocky Mountains and the Bow River region. While access to the dwindling bison herds became a major reason for conflict between Blackfoot peoples and the Plains Cree and Assiniboine in the second half of the nineteenth century, conflict over resource use and territorial displacement of Aboriginal groups seems to have been an after effect of the epidemics and the introduction of firearms on the Northern Plains, rather than a predetermined objective of Aboriginal peoples.¹⁰¹

While revenge remained an important motivation to go to war, other objectives gained ground after the widespread adoption of horses for mounted combat and the introduction of firearms. Quests for personal prestige and status through military accomplishments became major goals of this increasingly important type of small scale warfare.¹⁰² Later, with the

¹⁰⁰ Glenbow Archives, L. M. and J. R. Hanks Fonds, M 8458, Box 1, file 1, Pitoxpikis (Sleigh) Eagle Ribs via Mary Royal (interpreter), Eagle Rib's War deeds, 1938, 44, 45. Eagle Ribs was 68 years old at the time of the interview in 1938. He spoke about the war deeds of an older relative [his father?] who passed on in 1910 when he was in his eighties. (M8458, file 2, 72)

¹⁰¹ For access to bison as a motivation for hostilities between Blackfoot and Cree, see: John S. Milloy. *The Plains Cree: Trade, Diplomacy, and War, 1790 to 1870*. Winnipeg: University of Manitoba Press, 1988, 104-110.

¹⁰² For revenge as a motivation for small-scale war parties, but also for large scale revenge raids involving hundreds of warriors, see Glenbow Archives, L. M. and J. R. Hanks Fonds, M 8458, file 6, 164-171, Crooked Meat Strings via Mary White Elk, Sept. 12, 1938.

accelerating demise of the bison herds during the nineteenth century a struggle for access to this important resource characterized much of the conflict between Aboriginal peoples on the Canadian Plains.

Casualties

The statement from Saukamappee's account about casualties being usually low in Aboriginal combat before the use of firearms has often been misinterpreted to mean that casualty rates in Aboriginal warfare before the introduction of firearms were very low because Aboriginal weaponry was considered inefficient.¹⁰³ However, birthrates in Indigenous societies were rather low and each individual counted when it came to securing a livelihood for the entire group. This was especially the case in Subarctic societies, where Aboriginal groups often split into smaller family groups over the winter in order to be able to secure scarce resources and to spread the population according to the availability of food resources and raw materials. Therefore casualties in warfare have to be seen in relation to the populations of the communities involved. Even though they may seem low by European military standards, to Aboriginal groups the loss of even a few experienced hunters could severely affect a group's chances of survival. Peter Fidler recorded in this regard:

relating a shocking Massacre of 31 Bungees out of 34 within 15 Miles of Turtle river by a large party of the Sioux Indians. ... The Bungees being killed early in the morning of the 20th December last ... it was only 2 Years ago that the Sioux killed several Bungees a little above this place...now will be the cause of a great diminution of Trade there, not only as there are fewer hunters, but their Countrymen will lament their Deaths and in consequence do little or nothing for the remainder of the Hunting Season.¹⁰⁴

¹⁰³ Richard Glover, ed. *David Thompson's Narrative*, 241.

¹⁰⁴ HBCA B.22/a/19, Brandon House, 1M17, F15-16d, January 26, 1816.

Even though the numbers of casualties may have increased after the adoption of firearms and horses for military purposes, Aboriginal warfare in pedestrian times was by no means purely ritualistic or "harmless." As the examples above have shown, warfare on the Plains ranged from an almost playful matching of individual warriors' skills to brutal conflicts of annihilation.¹⁰⁵ Whatever the original intentions of the participants, combat situations were dangerous and potentially lethal. An older Cheyenne warrior, giving advice to a novice, stated in this regard:

Now, when the party is about to make a charge on the enemy do not be afraid. Do as the others do. When you fight, try to kill. When you meet the enemy, if you are brave and kill and count a coup, it will make a man of you, and the people will look on you as a man. Do not fear anything. It is not a disgrace to be killed in a fight.¹⁰⁶

The introduction of horses and firearms affected methods of Aboriginal military leadership. Among most Plains peoples, the authority of a war leader was limited. He could not order a massive European military style charge against an entrenched enemy, which might accomplish a short-term objective, but would certainly result in a number of casualties. Such trade-offs were alien to Aboriginal methods of combat. To the leader of a war party, preserving the lives of his men was far more important than attaining a short-term military goal, such as storming a fortification. Loss of lives seriously damaged a war leader's prestige and the degree of his competence in the view of his peers and followers. Such expeditions were rarely counted as successes, even if their military objective had been accomplished. Aboriginal warriors were also accustomed to making their own decisions. Therefore it was difficult at the best of times to enforce a rigid discipline during battle. If, for some reason, warriors were not in agreement with their leader's decisions, they simply turned around, or did what they thought best. Under such circumstances the introduction of firearms further weakened a war-leader's authority because

¹⁰⁵ For one of the more playful accounts of conflict between the Plains Cree and the Blackfoot in the 1880s, see: Edward Ahenakew. *Voices of the Plains Cree* (Toronto: McClelland and Stewart, 1973), 45-47.

¹⁰⁶ Grinnell, *The Cheyenne Indians*, vol. I, 119.

even a small number of firearms in the hands of determined combatants could deter their opponents from continuing to fight. Using guns as an initial devastating and demoralizing “artillery” shock, even small war parties could beat more numerous ones into retreat.

While bows and arrows remained in use on the Northern Great Plains alongside muzzle loading firearms until late in the nineteenth century, archery gear gradually lost its advantages after breech loading and repeating firearms became available. As the Crow leader Plenty Coups stated:

But it was a long time before we saw a breech loading gun. ... When they finally came I did not rest until I owned one, giving ten finely dressed robes for it. Such a gun could be loaded on a running horse, and I laid my bow away forever. But some of the older men stuck tight to their familiar weapon. I could understand why they did so before the cartridge gun came, but after that the bow seemed only a plaything. Sometimes a man would lose his gun or trade it away, and then for a time he would be obliged to go back to his bow and arrows; but we younger men got guns and kept them.¹⁰⁷

¹⁰⁷ Linderman, *Plenty Coups*, 106, 107.

Chapter XI

Conclusion

A wide range of factors influenced Aboriginal people's perceptions and decisions about the uses of their own technology in comparison with the new tools and weapons introduced from Europe. With growing experience they recognized the capabilities and advantages that edged metal weapons and firearms offered, especially as these weapons improved. In a gradual process they integrated these weapons into their material culture and belief systems and adapted them to their specific needs and purposes.

Metal axes, knives, arrowheads and firearms were not superior in every respect to Aboriginal weapons, but they offered advantages that Aboriginal people considered worthwhile. For example, starting in the 1670s, the Hudson's Bay Company sold metal arrowheads to Aboriginal people.¹ During the late eighteenth century Plains people increasingly traded processed bison meat to the fur traders and in the 1830s the trade in bison robes began to dominate the fur trade on the plains. Unlike the trade in beaver pelts, this trade complemented Plains Indian subsistence activities and enabled Aboriginal people to obtain metal arrowheads in exchange for bison products. By killing bison in excess of what they needed for survival, Plains Indians secured surplus goods that they could trade for non-Aboriginal manufactured goods, such as metal arrowheads. The inventory of Fort Benton in Montana for the 1850s listed the price for metal arrowheads at one and a half cents each. For a single dressed bison robe Plains Indians could obtain dozens of such arrowheads.² Such low prices provided a strong incentive to give up the time consuming manufacture of stone points and adopt metal ones. Even though they were not as sharp as

¹ E. E. Rich. *Minutes of the Hudson's Bay Company, 1671-1674* (London: Hudson's Bay Record Society, vol. 5, 1942), XXXI.

² John C. Ewers. *The Blackfeet: Raiders of the Northwestern Plains* (Norman: University of Oklahoma Press, 1958), 70.

stone points, metal arrowheads were more durable and could often be used more than once, which was usually not possible with stone arrowheads.

Similarly, firearms were not superior or inferior to indigenous distance weapons in absolute terms. Rather, they enabled Aboriginal people to accomplish objectives and fulfill purposes in specific situations, that could not, or could only with difficulty be accomplished with indigenous weapons. However, they were cumbersome in other situations, where indigenous weaponry prevailed with few alterations. This had as much to do with environmental limitations on indigenous technology, as with Aboriginal hunting and combat methods, forms of leadership and military organization.

The limited availability of suitable woods for bow making and the increasing emphasis on trapping and hunting of individual animals in the Central Subarctic favored the use of firearms. When guns became available more consistently to Central Subarctic Aboriginal people, they quickly replaced the lance and caused a gradual shift away from archery for big game hunting and combat. However, archery remained in use to hunt small game and birds. Bows used for such purposes did not have to be as powerful as bows intended for big game hunting and combat. These had to accommodate strain close to or sometimes exceeding the capabilities of the woods they were made of, while self bows intended for small game could be built with lower draw weights that accommodated the shortcomings of locally available woods and made these bows safer to use. The decline of bows as a big game hunting weapon may have led to design changes in Subarctic self bows away from the wide flat bows to narrower, more easily constructed bows because this latter type of bow was sufficient to hunt small game and birds and continued in use in the Central Subarctic well into the twentieth century. In a seemingly paradoxical way the adoption of firearms contributed to the survival of archery in the Subarctic, although in a different form.

On the Northwestern Plains the development was different. Even though the availability of suitable raw materials for bow and arrow making were limited, the Plains provided more usable hardwood species than the Subarctic. Ingenious construction methods such as sinew-backing allowed Plains peoples to manufacture powerful and dependable bows from locally available materials. Furthermore, most Aboriginal people of the region adopted horses and mounted bison hunting before they gained consistent access to firearms on a large scale. By the time firearms became available in greater numbers, the bow and arrow was already well established as the main weapon for mounted bison hunting and remained in that position well into the last quarter of the nineteenth century. When the bison herds were destroyed and reserves were established, Plains Indians had to venture into agriculture and ranching and gave up most of their traditional economy and subsistence patterns and social organization. Hunting declined in importance as a subsistence activity and Plains peoples preferred firearms over bows and arrows for deer and small game. Possibly because archery was so deeply connected to the Plains Indians' old autonomous life, it may also have been shunned as a reminder of loss and defeat after the establishment of reserves.

Although firearms replaced bows and arrows as the main distance weapon for combat in the Central Subarctic during the eighteenth century, Plains peoples used bows and various types of firearms together, from the adoption of muzzle loading firearms until the late nineteenth century. Non-Aboriginal fur traders and explorers, such as Peter Fidler, George Catlin, and Prince Maximilian, and Aboriginal accounts frequently mentioned the use of bows and arrows and firearms in warfare.³ Cree and Blackfoot

³ Reuben Gold Thwaites (ed.) *Early Western Travels, 1748-1846. Vol. XXII, Part I of Maximilian, Prince of Wied's, Travels in the Interior of North America, 1832-1834* (New York: AMS Press, Inc., 1966), 389; Maximilian Prinz zu Wied, *Reise in das innere Nordamerika. Vignettenband*, Augsburg 1995, Vignette 19, "Blackfoot - Indianer zu Pferd," Vignette 20, "Mex-ke-mau-as-tan, ein Chef der Grosventres des Prairies;" George Catlin, *North American Indians*, painting: "Meeting of the Dragoons and Comanches in 1834."

people used bows and arrows alongside firearms in combat as late as the late 1850s.⁴

However, on the Plains firearms were mainly a combat weapon, while the bow and arrow remained the preferred weapon for mounted bison hunting, because it was more convenient to use and it saved ammunition for firearms that could be used in combat.⁵

On the Plains, warfare held great importance as a means to obtain prestige and social standing. Plains Indians developed elaborate and precise systems to record and compare military achievements such as the capture of horses or enemy weapons, touching an enemy under fire (“counting coup”), killing enemies and taking scalps. This well established system, which was largely absent in the Subarctic, has led some scholars to believe that warfare on the plains was a highly ritualized sport or contest with few casualties and little impact on the societies involved. However, warfare on the Plains was not uniform and ranged from exciting contests or “war games” to bloody battles with large numbers of casualties. Horses greatly facilitated Plains Indian warfare and led to a higher frequency of raids because horses provided easier and faster transportation and the capture of enemy horses a strong incentive to go to war.

The uneven introduction and distribution of horses and guns led to the displacement of Aboriginal groups like the Eastern Shoshone, Kutenai and Flathead from the western plains by the Blackfoot, Sarcee, Gros Ventre, Plains Cree and Assiniboine.⁶ This happened mainly during a period when the number of firearms per band was lower than in later times. From HBC account books Arthur Ray and Heinz Pyszcyk compared the number of firearms the HBC traded inland to Plains Indian population estimates by European traders and travelers. According to these figures, from 1720 to 1774 the HBC traded a total of

⁴ John S. Milloy. *The Plains Cree: Trade, Diplomacy and War, 1790-1870* (Winnipeg: University of Manitoba Press, 1988), 75, 110; William Gladstone. *William Gladstone's Diary* (Pincher Creek, Alberta: Rocky Mountain Echo, 1903), July 28, 1859.

⁵ Gilman and Schneider. *The Way to Independence*, 132.

⁶ Binnema, *Common and Contested Ground*, chapters 5 to 8.

6551 firearms to an estimated 1380 lodges of Plains Indians in the Saskatchewan district.

This amounted to a ratio of 0.09 firearms per lodge per year.⁷ This suggests that only relatively small numbers of firearms reached Aboriginal communities on the plains.

However, this small number of sometimes problematic weapons had a significant effect on intertribal military relations. The bow and arrow offered clear advantages in regard to shooting speed, availability of ammunition, absence of noise and ease of handling on horseback. Nonetheless, considering penetrative force alone, even the most basic firearms were far superior to even the most advanced historic archery equipment.

This alone is not enough to explain the popularity of firearms as combat weapons and their effect on inter-tribal military relations. The issue is not so much one of the inherent "superiority" of these weapons but rather how Aboriginal people adopted them in combat in combination with traditional weapons, such as bows and arrows. Ambush tactics and surprise attacks with firearms as initial "artillery" at close distances were highly effective. Archers could also provide cover for warriors with firearms who shot at Aboriginal opponents who did not have firearms, as suggested by Saukamappee's account and a ledger drawing of a confrontation between Pawnee and Kiowa people in the second half of the nineteenth century.

Aboriginal concepts of leadership in warfare also contributed to the effect of firearms. According to Saukamappee's account, even before the introduction of firearms, the primary objective of the leader of a war party was to bring back alive every member of his party.⁸ Among most Plains peoples, the authority of a war leader was limited. He could not order a massive European military-style charge against an entrenched enemy, which

⁷ Arthur J. Ray. *Indians in the Fur Trade: Their Role as Trappers, Hunters, and Middlemen in the Lands Southwest of Hudson Bay, 1660-1870* (Toronto: University of Toronto Press, 1998), 87; Heinz Pyszcyk, "The Use of Fur Trade Goods by the Plains Indians, Central and Southern Alberta, Canada," *Journal Canadien d'Archéologie* 21, 1997, 45-84, p. 52.

⁸ Richard Glover, ed. *David Thompson's Narrative*, 277.

might accomplish a short-term objective but would certainly result in a number of casualties. For example, when fur trader Finan McDonald accompanied a party of Salish from the Rocky Mountains onto the plains to hunt bison in the summer of 1812, they fell in with a large Blackfoot war party. The Salish eventually drove the Blackfeet to take shelter in a thick cluster of trees from where they kept up constant gunfire, killing and wounding a few Salish. McDonald and the leader of his party tried in vain to induce the Salish warriors to storm the trees and drive the Blackfoot from their cover.⁹ This example indicates that the limited authority of Aboriginal war leaders made them unlikely to launch concerted attacks against a foe who had even just a small number of muzzle-loading firearms. Such attacks could not be accomplished without at least a few casualties which would damage a leader's reputation. Even if he initiated such an attack, most of the warriors likely would not have followed.

This deterring effect was enhanced with the appearance of firearms with greater long-range accuracy, such as muzzle-loading rifles or the Sharps guns used by non-Aboriginal commercial bison hunters in the second half of the nineteenth century. These new weapons often had a devastating effect on Aboriginal war parties, even though they far outnumbered their opponents. In such encounters even a small number of firearms could demoralize warriors to a point where they simply gave up and abandoned the fight, leading to the dissolution or collapse of the entire war party. For example, in 1853 on the Southern Plains a large war party estimated at 1500 Comanche, Kiowa, Kiowa-Apaches, Osage, Arapaho and Cheyenne set out to wipe out Sauk and Fox people who had been deported to the eastern fringe of the Southern Plains by the US government. However, the Plains Indians suffered a devastating defeat by the Sauk and Fox who were mostly armed with

⁹ Catherine M. White, ed. *David Thompson's Journals Relating to Montana and Adjacent Regions, 1808-1812* (Missoula, Montana: Montana State University Press, 1950), 210, 211; citing Ross Cox. *Adventures on the Columbia*, 167, 168.

rifles.¹⁰ Similarly, on June 27, 1874 fewer than 30 hide hunters entrenched in an old post at Adobe Walls on the Canadian River in Texas and armed with long-range bison hunting guns repelled a war party of several hundred Southern Plains Indians, losing three of their own and killing nine warriors.¹¹ In both cases the vastly more numerous Plains Indians refused to attack their enemies in a massed charge against precise rifle fire.

The introduction of firearms to the Northern Great Plains and their adoption by Aboriginal peoples coincided with several outbreaks of European epidemic diseases on the Great Plains and far beyond its borders. The smallpox epidemics of the early 1780s and of the late 1830s were especially devastating. The hardest hit were probably the agricultural Arikara, Hidatsa and Mandan in their densely populated earth lodge villages along the Upper Missouri River. But the Plains peoples were also devastated by the disease. After each epidemic many Aboriginal communities were in shambles and most groups were barely able to hunt to feed their families. Aside from the cultural loss and the interruption of numerous traditions through the loss of elders and specialized crafts people, the population losses inflicted by the epidemics left Aboriginal communities more vulnerable to attack.

During the first years after epidemics Aboriginal warfare seems to have become less frequent. However, when it gained momentum again, the lives of individuals counted even more than before, since the substantial population losses could not easily be compensated for. This led to an increase of expeditions for the purpose of capturing women and children from enemy tribes, in order to augment the numbers of one's own community. It may also have led war leaders to a more cautious approach in combat, accepting even fewer risks of losing people under their leadership. If such a mindset prevailed, firearms

¹⁰ Wallace and Hoebel, *The Comanches*, 299; George Bird Grinnell, *The Fighting Cheyennes* (New York: Scribner, 1915) 80-92.

¹¹ Wallace and Hoebel, *The Comanches*, 325, 326.

may have become even more important in Aboriginal warfare as means of deterring attacks and a means to bolster communities' defenses, or as powerful offensive weapons.

Because of their great penetrative force, firearms made the large formations of shield bearing warriors described by Saukamappee ineffective, contributing to increasingly individualistic approaches of Aboriginal people on the Plains to warfare and combat. Their advantages contributed to bolster the importance of even a few technically problematic firearms. Had Aboriginal people used firearms according to European military concepts involving massed formations and hierarchical command structures, these weapons might have had less of an impact. For example, Joan Townsend pointed out that on eighteenth and nineteenth century European battlefields with large formations of massed soldiers, muzzle-loading smooth bore firearms were often not very effective at longer ranges.¹² However, because Aboriginal people employed these weapons differently and often at close range they could use these weapons to their fullest potential, which meant that even small numbers of firearms conferred a decisive advantage in battle.

In contrast to the Plains, Subarctic peoples placed less emphasis on individual "war honours" as a means of determining social standing. Warfare in the Subarctic seems to have been motivated primarily by desire for revenge and access to resources and trade. While it was less frequent, available data suggest that it was also more aggressive than on the Plains. In combat Subarctic Aboriginal people employed firearms in ways similar to those of the Plains peoples, using ambush tactics and sudden fire at close range. However, because they primarily hunted different kinds of animals such as caribou, moose and water birds, Subarctic people embraced firearms technology more thoroughly for hunting than did the peoples of the Northwestern Plains.

¹² Joan B. Townsend, "Firearms Against Native Arms: A Study in Comparative Efficiencies with an Alaskan Example," *Arctic Anthropology*, vol. 20 (2), 1-32, 7, 8, 9.

Despite outside pressures for cultural and economic assimilation, hunting continued to be of importance as a means of procuring food to many Aboriginal communities in the Subarctic until the present, largely because other economic options were few and because much of their environment was still intact, providing sufficient numbers of animals to hunt. In contrast, hunting as an economic mainstay lost its importance to the Aboriginal people of the Northwestern Plains. The extermination of the bison herds and the environmental, cultural and economic changes forced on the Plains people made the continuation of hunting as a major contributing factor to their livelihood impossible.

As long as hunting was still feasible for the Aboriginal people of the Northwestern Plains, bows and arrows were used well into the last quarter of the nineteenth century as the major big game hunting weapon. The retention of archery was based on several factors. Archery had been deeply ingrained, not only in the hunting and military complex, but also in socio-religious aspects of Plains Indian culture well before horses and firearms became available to the Plains peoples. When horses were finally utilized as riding animals by Plains peoples in large numbers, most Northwestern Plains peoples learned to combine their use with archery before they gained continuous access to firearms on a large scale. Furthermore, the specific conditions of mounted bison hunting favored the retention of archery over muzzle loading firearms because bows and arrows were more efficient and convenient to use on horseback. Only after breech loading and repeating rifles and revolvers became available in sufficient quantities did they gradually replace the bow and arrow on the plains. If firearms had not become so widely used on the plains, Aboriginal rawhide armour for people and horses and the accompanying methods of combat might have remained in place. Without firearms, Plains peoples might have developed different combat methods for mounted warfare and

consistent access to horses might have been the most decisive factor in military relations on the plains from the early eighteenth century to the beginning of large-scale non-Aboriginal settlement on the Northern Plains in the late nineteenth century.

The early trade between non-Aboriginal newcomers and Aboriginal peoples on the Northwestern Plains was sporadic. Often it was characterized by intense rivalries and competition between traders of different companies and nationalities. While Aboriginal people did use these tensions to their advantage, they also competed for middleman positions in the trade and for military dominance over other groups. These continuous upheavals made trading risky, and their giving up of traditional weapons for firearms would have made them entirely reliant on the traders for items essential for defense. Thus traditional weapons were retained until every Aboriginal group on the Northwestern Plains had access to permanent trading posts where they could purchase modern firearms.

In contrast to the situation on the Northwestern Plains, trading in the Central Subarctic was much more stable, at least since the early eighteenth century when the Hudson's Bay Company began to operate permanent trading posts on the west coast of Hudson Bay and James Bay. There local Aboriginals increasingly began to be employed as hunters, guides, messengers, and manufacturers of necessary items, such as winter clothing and snow shoes.¹³ Furthermore, indigenous warfare sometimes involving violence against the traders was not as frequent as it was on the Northwestern Plains.¹⁴ Thus firearms were more readily available to Aboriginals in the Subarctic on a more continuous basis, at a much earlier time, than they were to Aboriginals on the Plains. The shift from traditional weapons to firearms, however, was not sudden, but gradual. Sales of firearms to the Eastern Cree by the Hudson's Bay Company were infrequent at first,

¹³ Victor Petro Lytwyn, "The Hudson Bay Lowland Cree in the Fur Trade to 1821: A Study in Historical Geography," Ph.D. Thesis (Winnipeg: University of Manitoba, 1993), 57, 58.

¹⁴ Toby Morantz, "Old Texts, Old Questions: Another Look at the Issue of Continuity and the Early Fur Trade Period," *Canadian Historical Review*, LXXIII, 2, (1992), 179, 180.

but by the early 1700's they had become a standard trade item, although sales remained low in the beginning. Only an average of 26 muskets per year were sold to the Swampy Cree from 1700 to 1704.¹⁵ It took more than another century before firearms became the main hunting weapon of these Aboriginal people.

Hunting methods also influenced the retention or loss of Aboriginal technology and the adoption of European weapons. While Plains hunters did pursue individual animals in small groups, the most important hunting activity for securing the major annual portion of food was communal hunting of bison herds. In the Subarctic, in contrast, although waterfowl and caribou were taken in large numbers at certain times of the year, hunting became more focused on fur trapping and the pursuit of individual animals, especially after the devastating smallpox epidemic of 1782/83.¹⁶ The fur trade in the Subarctic enhanced this tendency since traders were mainly interested in obtaining high quality beaver pelts and the furs of other small mammals, which were mostly trapped or hunted individually. In contrast, the fur trade on the Plains until the mid-nineteenth century was mainly a provisioning business for the traders who sought to procure bison products as portable and preservable food sources for their more northerly fur trading operations in areas where food procurement on a large scale was impossible or at least uncertain for most of the year.

While Aboriginal people on the Plains lived in relatively large groups most of the time, Subarctic people lived in rather small groups throughout most of the year. These differences help explain why Subarctic people adopted firearms as the major weapon for big game hunting, while Plains people favored the retention of archery. Archery held a central position in the cultures of most Plains groups. Bows, arrows and quivers of high

¹⁵ Ibid., 178.

¹⁶ Lytwyn, "The Hudson Bay Lowland Cree," ii.

quality and mastery of their use were considered symbols of masculinity among most peoples of the Great Plains. In contrast, Aboriginal peoples in the Subarctic faced a wide variety of hunting situations and game animals which made it necessary to utilize a wide variety of hunting tools. These ranged from traps, snares, deadfalls and nets to bolas, slings, lances, spears, bows and arrows and finally to firearms. None of these except firearms was credited with the kind of special social status or symbolic connotations that were attached to archery gear by Aboriginals on the Plains. Aboriginal people in the Subarctic used whatever means were necessary in order to make a living. To them bows and arrows were simply one hunting tool among others that could be used under certain favourable circumstances while a wide variety of hunting situations required a diversity of hunting tools and weapons. This already created a pre-disposition among the Swampy Cree and other Subarctic Aboriginal peoples to adopt firearms for big game hunting. Firearms were one more useful addition to their arsenal, augmenting existing Aboriginal hunting methods and weapons. They were most useful in hunting situations where distance weapons had not been used much before, such as individual caribou hunting or hunting bears.

On the Plains, hunting situations and techniques may have been similarly diverse before the adoption of the horse. With the emergence of mounted bison hunting as the most prominent form of hunting on the Plains, however, other hunting methods and the importance of other game animals declined, leading to less variety in hunting tools and weapons.

Anthony Henday noted about his Cree and Assiniboine guides while traveling across the Northern Plains in 1754: "We saw a few Moose & Waskesew [red deer or elk]; but as the natives seldom kill them with the Bow & Arrows they will not expend

ammunition, while Buffalo are so numerous.”¹⁷ This indicates that Aboriginal people preferred firearms to hunt deer, moose or similar animals, while the bow and arrow remained the preferred weapon for bison hunting. Apparently they considered it easier to kill bison with bows and arrows and more important to preserve ammunition for defense.

If bows and arrows had been of major importance in big game hunting in the Subarctic, they were replaced as a big game hunting weapon by firearms sooner and more thoroughly than on the Plains. In the Subarctic, according to Louis Bird, bows were considered expendable and would be left behind when camp was moved, since they were thought to be awkward to carry through the bush while the people were carrying heavy burdens of other equipment considered more essential for survival. After arriving at the new location the hunters would make themselves new bows.¹⁸ Such concepts would probably have been astonishing to most Plains Indian hunters and warriors who considered their archery outfits their most prized possessions; bows and arrows were among the first toys for Plains boys, and finely crafted archery outfits were presented as gifts to visiting foreign dignitaries.¹⁹ Since bows were considered symbols of adult male warrior status, simply leaving them behind probably would have occurred to Plains Indian men only in the most desperate situations. This symbolism might also explain that among most Plains people women were prohibited from handling and especially from using archery gear.

Louis Bird mentioned in this regard that similar restrictions existed among the Swampy Cree, although with some exceptions. Some men let their wives or daughters touch their bows and arrows to bring them good luck in hunting and preferred their wives

¹⁷ Lawrence J. Burpee, ed., *The Journal of Anthony Hendry*, 27, Sept. 15, 1754.

¹⁸ Louis Bird, 0014 – *Our Voices*, “Guns and Bows,” 2001.

¹⁹ George Catlin. *North American Indians*, ed. Peter Matthiessen. (New York: Penguin Books, 1989), 83, letter 12; Linderman, *Plenty Coups*, 80-82.

to attach the fletchings to arrows.²⁰ Public sanctions against women touching and handling archery gear may have been directed to bows and arrows used for combat rather than those used for hunting. With the decline of combat archery in the Subarctic they may eventually have disappeared altogether because at least by the early twentieth century Subarctic women used bows and arrows to hunt small game.²¹ The strong symbolism and prestige attached to archery on the Plains were largely absent in the Subarctic.

For firearms repairs, spare parts and ammunition, Aboriginal people ultimately depended on Europeans and their supplies, while they could manufacture and repair most archery gear with locally available materials. This was one reason why even some non-Aboriginal people, such as mountain men and non-Aboriginal bison hunters adopted the short plains bow and arrows as their preferred weapon for mounted bison hunting, alongside their firearms. For example, when in the winter of 1754 and in the spring of 1755 Anthony Henday's party ran short on ammunition for their firearms, Henday killed two moose and a swan with his bows and arrows, probably the archery set he had received as a gift from his Blackfoot host.²² Furthermore, bows and arrows were more convenient to use on horseback than muzzle-loading firearms.²³ The presence of bows and arrows in the arsenal of Plains warriors, even as late as the late 1860s indicates that archery was still of importance, for instance for mounted bison hunting, silent shooting and night-fighting, even in the age of repeating firearms.

The arrival of breech-loading firearms, especially repeaters and revolvers ended the superiority of the bow and arrow on the Plains. The new weapons offered high rates of fire

²⁰ Louis Bird, 0014 – *Our Voices*, "Guns and Bows," 2001.

²¹ The Manitoba Museum holds a photograph showing three Northern Ojibwa or Cree women using bows and bird blunt arrows. The picture was probably taken in the area of The Pas around 1925 in Northern Manitoba by the school teacher Sam Waller (Photo Negative Number 6515). Furthermore, the Ojibwa linguist Roger Roulette mentioned that among his people women owned, used and even made their own archery gear. Roger Roulette, personal communication, Fall 2000.

²² Lawrence J. Burpee, ed., *The Journal of Anthony Hendry*, 37, Dec. 15, 1754; 43, April 17, 1755; 43, April 24, 1755.

²³ Linderman, *Plenty Coups*, 17, 18.

and convenience on horseback. Among the Blackfoot, firearms gained overwhelming importance as the main military weapon after the 1860s. Accounts of personal war exploits and winter counts for that time frequently mentioned the use of firearms and fortifications such as rifle pits in armed conflicts, while at the same time making little or no mention of archery in military contexts.

Furthermore, the system of military honours extended to individual Blackfoot warriors seems to have accommodated firearms. Capturing an enemy's gun was one of the highest military honors, a fact reflected in Blackfoot personal names, such as "One Gun," "Many Guns," or "Night Gun." Such names seem to have become more frequent among the Blackfoot during the second half of the nineteenth century than personal names containing terms for archery gear. Photographs of Blackfoot men from the late nineteenth and early twentieth century show beaded gun cases worn on dress occasions far more often than quivers and bow cases, much in contrast to the prevalence of bows, arrows and elaborately decorated quivers on the Southern Plains at the same time.²⁴ This may indicate that among the Blackfoot firearms had superseded archery gear as symbols of warrior prowess and hunting ability.

However, Aboriginal archery lingered on a smaller scale on the Plains and in the Subarctic, even after the extermination of the bison herds, the decline of the fur trade and the establishment of reserves. Residential schools on the Blood and Blackfoot reserves listed archery as a recreational activity for the students.²⁵ In some locations, for instance

²⁴ Most of the photographs of Blackfoot men with archery gear show members of the Pigeon society or "bear braves." See Paula Zalar, "Piegan: The American Blackfeet," *Whispering Wind*, Vol. 28, No. 2, 1996, 22; Colin Taylor, "The Plains," in *The Native Americans*, ed. William Sturtevant (London: Salamander Books, 1991), 64.

²⁵ Government of Canada, Sessional Papers, Dominion of Canada, Department of the Interior, Indian Affairs Report 1905 for 1904, J. L. Le Vern, principal, NWT, Blood Boarding School, Blood Reserve, Stand-Off, Alta., Jul. 8, 1904, 332; Sessional Papers, Dominion of Canada, Annual Report of the Department of Indian Affairs for the year ended March 31, 1910, Ottawa 1910, Reports of Inspectors and Principals of Boarding and Industrial Schools, The Report of the Rev. J. M. Salaun, Principal of the Roman Catholic boarding school, Blood Reserve, Alta., for the year ended March 31, 1910, p. 477; Sessional

at Moose Factory on James Bay students were allowed to hunt small game near the school, using bows and arrows made by their male relatives or by themselves at the school: "The [Swampy Cree] boys delight especially to shoot birds with the bows and arrows provided by their fathers, or manufactured by themselves. Every boy has a bow and arrow, and their aim is true, so many a poor little bird is carried home in triumph 'after the hunt.'"²⁶ Among Plains Cree children at Cowessess Boarding School in southern Saskatchewan recreation during summer included "shooting with bows and arrows of their own making."²⁷ Reports from several other residential schools in Canada indicated that some of their male students practised archery, or even bow and arrow making and the hunting of small game as recreational activities.²⁸ Some of the archery equipment now in museum collections may have been made and used at residential schools.

Papers, Dominion of Canada, Annual Report of the Department of Indian Affairs for the year ended March 31, 1910, Ottawa 1910, Reports of Inspectors and Principals of Boarding and Industrial Schools, The Report of the Rev. J. L. Levern, O. M. I., Principal of the boarding school (Crowfoot), Blackfoot Reserve, Alta., for the year ended March 31, 1910, 478.

²⁶ Government of Canada, Sessional Papers, Dominion of Canada, Annual Report of the Department of Indian Affairs for the year ended March 31, 1910, Ottawa 1910, Reports of Inspectors and Principals of Boarding and Industrial Schools, The Report of the Rev. Ernest O. Duke, Principal of the boarding school, Moose Factory, James Bay Ont., for the year ended March 31, 1910, p. 429.

²⁷ Government of Canada, Sessional Papers, Dominion of Canada, Annual Report of the Department of Indian Affairs for the year ended March 31, 1910, Ottawa 1910, Reports of Inspectors and Principals of Boarding and Industrial Schools, The Report of the Rev. S. Perreault, O. M. I., Principal of the boarding school, Cowessess Reserve, Crooked Lakes Agency, Sask., for the year ended March 31, 1910, p. 454.

²⁸ Government of Canada, Sessional Papers of the Government of Canada, Department of Indian Affairs Reports,

J. L. Le Vern, Principal, NWT, Blood Boarding School, Blood Reserve, Stand-Off, Alta., Jul. 8, 1904, p. 332; Report of Rev. S. R. McVitty, Principal of the Mount Elgin Institute, Muncey, Ont., for 1910, p. 421; Report of Rev. Ernest O. Duke, Principal of the Boarding School at Moose Fort, James Bay, Ont., for 1910, p. 429, here Cree fathers supplied archery gear to their sons at school or the boys made their own; Report of Boarding School Principal Rev. P. R. Soanes at Chapleau, Ont. for 1910, p. 430; Report of Rev. G. Leonard, O. M. I., Principal of the Boarding School at Sandy Bay, Man. For 1910, p. 442; Report of Rev. S. Perreault, O. M. I., Principal of the Boarding School on Cowessess Reserve, Crooked Lakes Agency, Sask. for 1910, p. 454, here Aboriginal boys made their own archery gear; Report of Rev. J. M. Salaun, Blood reserve, Alta. For 1910, p. 477; Report of Rev. J. L. Levern, Crowfoot boarding School, Blackfoot Reserve, Alta. for 1910, p. 478; Sister M. McDougall, Fort Chipewyan Boarding School, Alta. for 1910, p. 485; Report of Rev. P. Jousard, O. M. I., Lesser Slave Lake, Alta. for 1910, p. 486; Report of the Rev. J. Calais, O. M. I., Sturgeon Lake, Alta. for 1910, p. 487; Report of Rev. Sister McQuillan, Fort Resolution, Great Slave Lake, for 1910, p. 490.)



Fig. 29. "Archery at a mission school." Lantern slide copy of a photograph, possibly taken in Northern Manitoba. The bows and arrows in this photograph closely resemble Subarctic archery items at the Manitoba Museum, collected in the first half of the twentieth century. Egerton R. Young Collection. United Church Archives, Victoria University, University of Toronto. Adapted from a copy in files of Jennifer S. H. Brown, University of Winnipeg.

Apparently the administrators of these institutions did not view archery as detrimental to their "civilizing" efforts. This notion may have been influenced by the growing popularity of the boy-scout and girl-guide movement that promoted self-reliance through programs involving wood craft and wilderness survival skills, loosely patterned on non-Aboriginal perceptions of Aboriginal cultural elements.²⁹

During the late nineteenth and early twentieth century nostalgic and romanticizing views about the "frontier" and Aboriginal people grew among the non-Aboriginal public and policy makers in Canada and the US. Early anthropologists and tourists flocked to

²⁹ For a discussion of Euro-American appropriations of Aboriginal cultural elements, see: Philip Joseph Deloria, *Playing Indian* (New Haven: Yale University Press, 1998).

reserves on the western plains or in the Canadian shield in what had become “cottage country.” This opened up new opportunities for Aboriginal people as hunting guides and labourers, as performers of “Indian pageants” and as manufacturers of tourist souvenirs. For example, Indian Agent J. B. McDougall at the Walpole Island Agency reported in September 1904 of local Potawatomi and Chippewa people that “the men make bows, arrows, canes and small canoes, which brings them in a large revenue.”³⁰ Similarly, a photograph of Plains Indian prisoners at Ft. Marion in Florida taken after 1874 shows them manufacturing arrows. The picture’s caption reads: “Making curiosities,” suggesting that these items were intended to be sold as “Indian curios.”³¹

With the fading importance of archery the level of craftsmanship in bows and arrows declined. Plains Indian arrows collected during the mid to late nineteenth century still exhibit excellent craftsmanship. They are well balanced, the shafts are often barreled and the fletchings long and low cut. In contrast, arrows made more recently from the 1890s to the mid twentieth century often show much cruder workmanship and construction characteristics such as are more commonly found on non-Aboriginal sporting arrows, such as short fletchings with a rounded outline. For example, two Blackfoot arrows at the Manitoba Museum, which were once part of an entire archery set obtained from the Blackfoot Reserve as a “buffalo hunting outfit” and made in the 1930s hardly resemble older Plains arrows at all.³² Apparently the maker was not familiar with

³⁰ Government of Canada, Sessional Paper No. 27, Department of Indian Affairs Report 1905 for 1904, Indian Agent J. B. McDougall, Walpole Island Agency, Pottawattamies and Chippewas, Walpole Island, Sept. 8, 1904, p. 41.

³¹ Joyce M. Szabo. *Howling Wolf and the History of Ledger Art* (Abuquerque: University of New Mexico Press, 1994), 76, Richard H. Pratt papers, Western American Collections, Beinecke Rare Book and Manuscript Library, Yale University.

³² Manitoba Museum, Cat. No. H-4.43-19 a and b, arrows, originally part of an archery set consisting of eleven arrows, bow, bowcase and quiver, all now missing except these two arrows. Donated in 1933 by Philip H. Godsell who purchased the archery set from Calf Child on the Blackfoot reserve, Gleichen, Alberta.

bows and arrows that had actually been used in mounted bison hunting but may have tried to manufacture something that looked “traditional.”

Bows, arrows and quivers that had once been used in hunting and combat lost their importance for these purposes after the establishment of reserves in the late nineteenth century. Many items, once highly valued as tools of survival, symbols of masculinity or even items of spiritual significance eventually became “Indian curios” as well. For example the cowhide quiver and bowcase combination from the Blackfoot donated by Hugh Berry to the Glenbow Museum, mentioned in chapter six, was patterned after similar but older artifacts made from otter skins, which held great spiritual meaning to Blackfoot people. In comparison the cow hide of this artifact may have been less spiritually significant, but the quiver nonetheless followed older designs in its shape, its beadwork decoration and mode of construction. Whatever its original purpose may have been, it was apparently used in a pageant where Aboriginal people re-enacted aspects of their past to entertain visiting European dignitaries. Afterwards it may have been presented as a gift to the visitors and eventually became the toy of a non-Aboriginal child, before reaching the Glenbow Museum.

Bows and arrows came to be seen as primitive, a symbol of Aboriginal peoples’ defeat by Europeans and their technology, especially on the Great Plains. Such views were instilled into Aboriginal people, and Non-Aboriginal scholars fostered them with their emphasis on an alleged superiority of European technology that was said to have been crucial in determining the course of Aboriginal people’s history after contact.

However, as this study has demonstrated, these traditional weapons and tools were well adapted to meet Aboriginal people’s needs in providing sustenance as hunting tools and protection as combat weapons. Considering the restrictions that the limited availability of raw materials and the often severe climate conditions placed on options for

the manufacture of weapons and tools, Aboriginal people were still able to get the best performance possible from their weapons through various ingenious construction methods and weapons designs.

When European tools and weapons became available, Aboriginal people integrated them into their material culture and adapted them to fit their needs. These processes were not uniform throughout North America. Different environments, subsistence activities, social organization, and economic pressures demanded different adaptive strategies that shaped Aboriginal people's responses to European technologies. However, both on the Northern Plains and in the Central Subarctic, Aboriginal people saw the advantages as well as the disadvantages that the new technologies from Europe offered. They tried to achieve a functional balance by employing edged metal weapons and firearms together with indigenous technology so that each could complement the other. By using firearms differently from Europeans in ways suited to their own diverse needs, they achieved the best results possible with the equipment available.

Glossary of archery terms

Arm guard/wrist guard: A device, usually worn on the inside of the lower arm that holds the bow, or on the wrist on the inside of the bow arm, which protects the arm from the blow of the rebounding bow string. Especially low strung bows, like those of Aboriginal people on the Plains, tend to have a strong rebounding impact, close to the wrist or even the hand.

Arrow hand: The hand that leads the arrow during the discharge. For right handed people this is usually the right hand.

Arrowhead: That part of the arrow that is intended to cause a wound, damage, or to have some other effect on the target. The arrow head is mounted at the front end of an arrow.

Arrow nock: The rear part of an arrow that is supported by the archer's hand during the discharge and that contains the notch for the bowstring.

Arrow notch: A cavity in the arrow nock to accept the bowstring.

Back: The side of the bow that faces the target during the discharge of the arrow. The side that is facing the archer is called the "belly".

Barreled arrow shaft: A barreled arrow shaft has its greatest diameter at about the center and tapers to smaller diameters at the front and rear ends. Placing the largest diameter at the center makes the arrow stiffer and less elastic. If the arrow's stiffness is properly matched to the bow it is used from, the barreling can give the arrow a more stable flight and will make it stabilize earlier after its release from the bow.

Belly: The side of the bow that faces the archer during the discharge of the arrow. A bow flexes towards the belly when an arrow is discharged. The side of the bow that faces the target during the shot is called the "back." In medieval English archery the bow was likened to a human body which can normally flex much farther towards the belly

than towards the back. Overbending towards the back might break the human spinal column just as it might break the back of a bow.

Bow arm/bow hand: The arm and hand that hold the bow during the discharge of an arrow: for right-handed people, usually the left arm and left hand. For left-handed archers this is reversed.

Bow case: An oblong container made from leather, hide, fur or textile to protect and transport the bow. Mostly used in combination with shorter bows.

Bow limbs: The areas above and below the handle section of a bow. The limbs of the bow store kinetic energy while being bent during the draw. It is this energy that is released in the discharge of an arrow that propels the projectile.

Bow nocks: Devices at the ends or “tips” of a bow to secure the bowstring. For example, nocks may consist of notches cut into the bow, or of ridges built up around the tips of a bow, to prevent the bowstring from slipping off.

Bow stave: A roughed out piece of material, ready to be made into a bow. For a wooden bow, this could be a piece of wood with the bark taken off and with the rough dimensions of the bow already shaped.

Bow tips: The outermost ends of the limbs of a bow, where the bow string is attached.

Bowstring: A cord to string the bow with, in order to bring the bow under tension, so that an arrow can be placed on the bowstring, the string pulled back and the arrow discharged. Bowstrings were made from various plant or animal fibers.

Bowyer: A person who manufactures bows.

Brace height: The distance from the back of the bow to the bowstring while the bow is strung, but not drawn.

Cast: The maximum distance that an arrow can be propelled by a given bow.

Cock feather: See “fletching”.

Composite bow: A bow made from more than one material, for instance, horn, wood, sinew and glue. This term is mostly used in reference to Asiatic bows with a sinew backing, a wooden core and a horn belly.

Deflex: A bend of the bow towards the belly when the bow is unstrung. The opposite of “reflex.”

Draw: The process of charging the limbs of a bow with energy by pulling back the bowstring while the bow is strung. This energy is necessary to propel the arrow. Non-Aboriginal archers and Eastern North American Aboriginal people usually draw back the bowstring with the arrow hand, while they hold the bow arm outstretched. Plains Indians pulled back the bow string with the arrow hand while at the same time pushing out the bow with the bow hand. When the maximum draw length was reached, the arrow was released.

Draw length: This length is measured from the back of the bow to the lowest point of the bowstring notch in the nock of the arrow at the moment of reaching the full draw weight of the bow, immediately before the arrow is released. Mostly measured in inches (one inch is approximately 2.54 cm).

Draw weight: The force that needs to be overcome in the drawing of a bow to full draw length. It is mostly measured in pounds. One pound equals about 453.59 grams. In order to be able to compare different bows with each other, it is important to know to which draw length the draw weight of a given bow refers.

Fletching: Devices mounted on the rear portion of an arrow to insure a straight and even flight. Bird feathers are most commonly used to make fletchings, but leaves, wood or leather are also used. Tangential and radial fletchings are the two most common types.

Tangential fletchings consist of two or more unsplit feathers lashed to the shaft of an arrow with their quills parallel to the shaft. Tangential fletchings with two whole feathers were common in the Arctic and on the Northwest Coast. Radial fletchings consist of two or more split feathers lashed and/or glued parallel to the arrow shaft, equidistant from each other. Radial fletchings were common throughout North America. A common variant of the tangential fletching is the “cock feather” arrangement. In this variation one of the three split feathers is aligned at right angles to the notch for the bowstring (seen from the rear); the other two are placed equidistant from the first one. This arrangement of the feathers is believed to provide less resistance when the arrow passes the handle of the bow in discharge, but only if the arrow is placed on the string with the cock feather pointing away from the bow. If the cock feather faces the bow, it will scrape along the handle of the bow in discharge, which makes the arrow’s flight slower and less stable. However, many Plains arrows that I examined had one split feather placed parallel to the notch for the bowstring (seen from the rear), not at right angles. The other two feathers were again placed equidistant to the first one. This design offered the advantage that the arrow could be placed on the string either way, and the archer did not need to look at the arrow to place it correctly on the string. This may have been an important advantage in mounted archery or when shooting rapidly.

Handle/handle section: The area of the bow where the weapon is held by the bow hand during the discharge of the arrow.

Quiver: Container for the transport and protection of arrows. Some Aboriginal people carried their bows in their quivers, along with their arrows.

Radial fletching: See “fletching”.

Reflex: A bend of the bow towards the back when the bow is unstrung. The opposite of “deflex.”

Release: The release of the drawn bowstring and the arrow. There are several arrow releases, differentiated by variations in the positioning of the hand and fingers.

The most common are the Mediterranean, the pinch grip and the Mongolian release. With the Mediterranean release the first two or three fingers pull back the bowstring which runs past these fingers' first joints. The nock of the arrow is just lightly guided by one or two of the fingers, but they do not exert pressure or pull on the arrow. In the pinch grip, the thumb and the first finger hold the nock of the arrow, while some or all of the remaining fingers may be placed on the bowstring to assist in pulling it back. With the Mongolian release the thumb exerts the major pull on the bowstring, while the nock of the arrow rests lightly between the thumb and the first finger. The first joint of the first finger is lapped over the first joint of the thumb to lock it in place while the string is pulled back. In order to protect the thumb from the friction of the string a thumb ring, or other protective device is used. With the Mongolian release the arrow is usually placed on the right side of the bow, while in almost all other releases the arrow is usually placed on the left side of the bow. Aboriginal archers on the northwest coast and in California practiced variations of the Mongolian arrow release. Archers on the Plains usually used a pinch grip while Subarctic archers used variations of the Mediterranean release.

Self bow: A bow made from a single piece of wood without any other material. Subarctic and Eastern Woodland bows were usually of this type. Self bows were less common on the Northern Plains.

Sinew backing: Fibers from animal tendons applied to the back of a bow to protect the bow from breakage and to enhance its power. Sinew backings can be made from dried and shredded sinew, glued to the back of the bow with hide or fish glue, or from braided sinew fibers applied as cordage, as in many Inuit bows.

Sinew backing was an important feature of Plains and Inuit bows.

Siyahs: Separate pieces of wood, horn or bone, spliced into the extremities of the bow limbs. Usually they curve towards the back of the bow to act as rigid levers to impart extra energy to the limbs and added thrust to the arrow. The term comes from an Arabic word. Siyahs were an important feature of many Asiatic and Middle Eastern bows.

Several types of sinew cable-backed Inuit bows have siyahs, but they are rare in other North American Aboriginal bows.

Spine: Elasticity of the arrow shaft. A longer arrow shaft is usually more flexible than a shorter one, while an arrow shaft with a small diameter is typically more flexible than an arrow shaft with a large diameter. In most Aboriginal bows the arrow has to flex around the handle of the bow when it is discharged. Thus too much flexibility of the arrow shaft may make the arrow fly far to the right, or even break it, while an arrow with too little elasticity is likely to fly left of the target. Therefore the elasticity of arrow shafts needs to be matched as closely as possible to the bow from which they are shot.

String follow: The tendency of a bow to retain a bend towards the belly when unstrung. String follow is detrimental to the cast and power of a bow. In order to achieve ideal cast, a bow should be straight, or even bend towards the back when unstrung, to be able to store more energy. However, since string follow also reduces the stress placed on a bow during the draw, it can be desirable in moderate amounts under certain circumstances, for instance when using wood with less than ideal tension and compression strength.

Stringing and bracing: Preparing a bow to shoot by bringing the bowstring into position for use. The first application of a bowstring is often called “bracing.” The opposite of “stringing” is “unstringing,” the loosening of the bowstring from one end of the bow. When the bowstring is loosened, the bow is no longer under tension and cannot be shot. Most types of bows need to be unstrung when not in use in order to preserve their elasticity.

Tangential fletching: See “fletching”.

Tillering: The process of achieving the correct bend of a bow by removing material, mostly on the belly side, thus reducing its thickness or width. Tillering is a slow process of repeated material removal and testing of the bend and the draw weight of the bow. It is probably the most important step in bow manufacture.

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