When buffalo were needed, the shaman invited several young men into his tipi. He gave them berries to eat, had each one blow on an eagle bone whistle, and then made a pipe offering. At night these young men went out to find buffalo. When they located a herd they surrounded it and drove it steadily toward the opening of the chute by slapping their folded robes on the ground or on the snow. – David Mandelbaum on the Plains Cree

The simple lines of stone cairns are enormously long at Head-Smashed-In, with some single lanes extending for many kilometres into the gathering basin. Yet despite their imposing length, it would have been impossible to have these lanes crisscross the entire area from which bison were to be harvested. There had to be a great expanse of land beyond the reach of the stone cairns where people were on their own in rounding up herds of bison and moving them into the lane complex. Drive lanes can be beautifully constructed, but if you can’t coerce bison to file within their ranks, then an enormous amount of work has been in vain. How did ancient hunters manage to slink through the gathering basin behind Head-Smashed-In, coaxing great herds of buffalo to move towards the cliff and into the drive-lane system?

Of the many stereotypes that visitors bring with them to Head-Smashed-In, a prevailing one is that Native hunters simply ran out onto the prairie, waving and shouting, hoping against hope that the animals would just happen to run toward the cliff. Your chances of success with such a strategy are somewhere close to zero. Bison are simply not going to respond in a dependable manner to this kind of hazing, and predictability is the essential ingredient of a successful bison drive. The truth of what happened in the hills and valleys of the basin is much the opposite of the stereotypical pandemonium. Instead, it was a calculated, carefully orchestrated application of
human ingenuity that once again shows a deep understanding of bison behaviour and biology.

Imagine for a moment you were charged with the task of getting a herd of buffalo to move in a particular direction. First, we take away your pickup truck or horse, and your rifle, give you a pair of moccasins, and tell you to head out toward the herd and get busy. How would you go about it? Carefully, I suspect. Would you have any desire to get up close and personal with a herd of powerful, wild beasts that weigh ten times what you do, can run much faster, and have sharp curved horns that they routinely use for fighting? Not likely. Yet for thousands of years Aboriginal people did just this, often not even armed, because the purpose was to move the animals, not to hunt them. Over millennia of stalking and observing bison, Native hunters became aware of the animals’ natural tendencies. Gradually, no doubt with much trial and error, they converted these observations into an array of ingenious ruses that allowed them to direct the path of bison movement. Few tricks are more inspiring than the hunters’ use of disguises.
Rounding Up

The Spirit Sings

There is nothing relating to the Indians so difficult to understand as their religion. – John Bradbury, 1809–11

It is a daunting task to try to briefly summarize the rich, complex ceremonial life of ancient buffalo hunters, as it would be for any ethnic group. Entire books have been written on this subject, and I will touch only lightly on a few selected aspects of the Native spiritual world. It will be a fleeting look, as determined by my own limitations and by the need to focus on relevant topics. But some consideration of ceremonialism in the buffalo hunt is essential. To neglect the topic would be a huge disservice to Aboriginal culture, as it might imply that the great kills were a triumph of technique and knowledge, when to the people who orchestrated them they were accomplishments granted by the spirit beings. They were gifts from the Creator.

Aboriginal people of the Great Plains lived in a world full of uncertainty and danger. As is true of many hunting and gathering peoples, this precarious style of life is prone to elaboration of the spiritual world, often to the point that nearly every aspect of daily life has a spiritual or ceremonial reference. There was literally nothing in life (and thereafter) not touched in some way by the powers of the spirits. Living and inanimate objects, to which western culture would ascribe no special abilities, had and still have power to Aboriginal people.

BUGS: Fireflies were the spirits of the ancestors and were revered.

ROCKS: Small round rocks were collected and respected, because they had neither beginning nor end. Large rocks on the prairies were the work of the spirits and were given offerings of food.

BIRDS: Eagles possessed astonishing hunting powers and their feathers were coveted, and stuffed eagles were hung in lodges as good luck. Swallows and bluebirds pecked out rock art images with their beaks. Magpies were not hunted because they helped people win their dominance over buffalo.

REPTILES: Turtle hearts were fed to young children so that they would grow up, like turtles, with strong bodies. Rattles from snakes were symbols of power and were hung on war shields.
Powerful ceremonies, such as the Buffalo Dance of the Mandan, were designed to invoke the help of the spirit world in calling the buffalo to a kill event. Painting by Karl Bodmer. (Courtesy Edward E. Ayer Collection, The Newberry Library, Chicago)

† Archaeologists working in the high country of Wyoming have discovered skulls of game animals completely incorporated by trees. The skulls must have been placed in the notches by respectful hunters.

TREES: Trees were life-giving to the prairie people and were honoured with gifts of food and bones placed in the notches of branches.

LAKES AND RIVERS: These waters were the source of both people and buffalo.

SMALL ANIMALS: Weasels were revered as magnificent hunters, and their tails adorned shirts and shields.

LARGE ANIMALS: Bears were regarded as ferocious predators. Out of respect, their flesh was seldom eaten, but their claws, worn as ornaments, transferred the power of the bear to the owner.

As can be imagined, societies so intensely focused on hunting a single game animal for their survival had numerous special rites, ceremonies, and taboos associated with buffalo and the hunting of this animal. It is absolutely correct to state that everything about a buffalo hunt, from beginning to end, was steeped in spiritual beliefs and appropriate ceremony. As Fletcher and La Flesche recorded for the Omaha in 1911,

The life of the people depended on this animal, as it afforded the principal supply of meat and pelts; therefore the buffalo hunt was inaugurated and conducted with religious rites, which not only recognized a dependence on Wakon’dá [spirit of mysterious life force], but enforced the observance by the people of certain formalities which secured to each member of the tribe an opportunity to obtain a share in the game.
Rounding Up

While the days leading up to the great communal kills were filled with numerous preparatory tasks and chores, they were also filled with critical ceremonial events, the successful execution of which would determine the outcome of the effort. Responsibility for orchestrating both jumps and pounds (corrals) usually fell to one or occasionally to a few key individuals. These were shamans, or medicine men and women, credited by their people for possessing extraordinary spiritual powers. Most importantly, their power enabled them to see where the herds of buffalo were located and also to charm or call the animals toward the lethal trap, ensuring the proper location for the kill. Remember the Plains is a vast area, the distribution of herds was always patchy, and small camps of people would frequently not know the location of the closest herd at any one time. The ability to predict the location was a critical part of being a successful shaman.

Since orchestrating the great communal hunts was relatively rare compared with daily and weekly small-scale hunts, it stands to reason that medicine people had to ply their trade much more often for the smaller hunts, especially when the people were dangerously low on food, or even starving. When the Mandan were desperate for buffalo, George Catlin recorded that “every man … brings out of his lodge his mask (the skin of a buffalo’s head with the horns on), which he is obliged to keep in readiness for this occasion; and then commences the buffalo dance … which is held for the purpose of making ‘buffalo come.’ ” A typical account of how a medicine person might be pressed into service in desperate times comes from Robert Lowie, one of the prominent anthropologists of the Plains Indians. Interviewing the Crow people at the beginning of the twentieth century, Lowie tells of a remarkable shaman:

Once the people could not find any game. Big-ox bade them get a buffalo skull and put its nose toward the camp. In the night they began to sing. In the morning they saw six head of buffalo and killed them. The following morning they again found several head. When they had had enough, Big-ox bade them turn the skull around, then they did not see any more buffalo.

Frequently, the ability to see the location of the bison came to the shaman in the form of a dream or vision. Having such a vision, Mandelbaum recorded among the Plains Cree, “carried with it considerable prestige,” including “the privilege of constructing a buffalo

† The term “medicine” was widely used by Plains Indians to describe objects and places of power. The first Europeans brought with them certain western remedies, which were used on occasion to heal Native people. This, of course, was magical to the Natives, and when they asked what it was, were told it was medicine. They in turn told Europeans of magical parts of their world, and the closest English word for such phenomena was medicine. Thus we have medicine men and women, medicine wheels, and so on.
A man had supernatural guarantees that he would be able to entice buffalo into a pound before he could build one, for its success depended on the aid of the shaman’s supernaturals. People who had visions that led to success were revered and consulted again for subsequent hunts. Those whose visions failed would lose respect and might be ignored during future endeavours. Sometimes visions came to people in the form of dreams, but if people were desperate and a vision was needed, it was common for the medicine people to try to induce them by engaging in various forms of self-torture. Subjecting yourself to pain and deprivation certainly had the power to bring on extraordinary hallucinations. These were then interpreted to tease out the deep meaning of how and when a successful hunt might be held. Lowie again informs us that “Some shamans called buffalo by dragging buffalo skins tied to their backs and singing buffalo-bull songs on the way.”

Perhaps the most complete and inspiring account of the incredible amount of ceremonial ritual that went into the duties and events leading up to a major buffalo hunt comes from Fletcher and La Flesche’s description of the Omaha. It provides insight into the overwhelming strength of the spiritual world among buffalo hunting people, beginning with a respected man appointed to be the director of the pound.
hunt. This was a “grave responsibility and high honor,” and was only accorded to men who “possess courage and ability to lead men and command their respect and obedience.” The entire tribe was placed under his control: “He directed the march of the tribe, selected its camping places, chose and dispatched the runners in search of buffalo herds, and directed the hunt when the game had been found.” A council of respected elders was convened and consulted as to which direction the people were to head in search of the buffalo. It was a decision “considered one of the most important acts in the welfare of the people; on it depended the food supply and also safety from enemies while securing it.”

After much speech making, feasting, and pipe smoking by the council, a day was set for departure. The man appointed director of the hunt fasted for four days and waited until all others had left camp. Then he removed his moccasins and walked alone to meet alone in his tipi. During this time he would have no sexual relations, eat little, live apart from his family, and pray continuously, “for on him all the people are depending.” He was responsible for all the actions of his people, good and bad. In a sense he became the embodiment of his people as, an Omaha explained, “a man's hand belongs to his body.” The purpose of all the deprivation he endured was to disassociate himself as much as possible from the everyday natural world and have him in communication only with the spiritual world from which he received his power.

Days continued in this manner until signs of a buffalo herd were seen. Then the director sent out the runners, scouts whose name translated as “those who look,” to find the herds. “Come!,” the director implored the runners, “that you may go and secure knowledge of the land for me.” Runners scoured the land, and when a sizeable herd was spotted they returned to camp. Amidst elaborate ceremony, they reported their findings, careful not to exaggerate the numbers of animals. If the report was promising, a herald was sent around camp proclaiming, “It is reported that smoke (dust) is rising from the earth as far as the eye can reach!” The director, having remained alone in his tent throughout, now emerged and assumed control of the hunt. Young men were selected to carry sacred objects, such as pipestems and ceremonial staffs. A strict silence was enforced so as not to startle the herd. Barking dogs were muzzled or killed.
Led by the young men, the director took his people toward the herd. The walk was done with great pomp and ceremony and, considering the excitement of the hunters, at an excruciatingly slow pace. Four times the march was halted. Each time, pipes were unwrapped and smoked and prayers were offered for the success and the safety of the people. When the herd was close by, the young men who carried the ceremonial staffs ran first toward the buffalo while, under pain of severe reprimand, the others endured an agonizing wait. The boys circled the herd and planted their staffs in the ground, the signal for the hunt to begin. As the killing commenced, two other young men were charged with securing the first tongues from the slain buffalo. Into the frenzy they rushed, “dodging in and out among the animals and hunters, for they must take the tongue from a buffalo before it had been touched with a knife.” A great feast followed the kill, at which there was observance of many restrictions and taboos on eating certain parts of the buffalo. The feast was “a sacred one, the consecrated food was prized, as it was believed to bring health and long life.”

Perhaps the most astonishing thing about the historical account of Omaha buffalo hunting is the wealth of ceremonial detail beyond what I have related above. Every nuance of people’s actions and thoughts, for weeks and days on end, was guided by their spiritual beliefs. The clothes people wore, the food they ate and abstained from, the direction they faced as they exited a tipi, rules governing whom you could and could not speak to: everything in daily life was drenched in deeply held beliefs that dictated the proper course of action – ritual that time and experience had proven would lead to the successful killing of their staff of life.

The depth of reporting on the Omaha is perhaps unusual, but the rituals cited are not. For the Blackfoot, Grinnell reported that a medicine man, one who possessed the iniskim (sacred buffalo stone), “unrolled his pipe, and prayed to the Sun for success.” Another man charged with “calling” the buffalo arose early from sleep and “told his wives that they must not leave the lodge, nor even look out, until he returned; that they should keep burning sweet grass, and should pray to the Sun for his success and safety.” This man then abstained from food and water and led his people to find the buffalo.

The actual hunts were accompanied by no less devotion to strict spiritual beliefs. Corrals made by the Plains Cree had various offerings – feathers, bones, cloth – placed under the wooden ramp forming the
entrance to the pound. The intent, clearly, was to place objects that would encourage bison to come to the trap. Palliser states, “I saw a collection of Indian valuables, among which were bridles, powder horns, tobacco, beads, and the like, placed there by the believing Indians.” He also noted the placement of a tall central pole in the middle of the pound, “on which they hang offerings. To which piece of idolatry I was in a manner accessory by giving them my pocket handkerchief to convert into a flag.”† The Earl of Southesk wrote of a fantastic young man “who had a wonderful power – magical, some thought it – of guiding buffalo in any direction that he pleased.” Edwin James tells how hunters approached the herd and paused to allow “the pipe-bearer an opportunity to perform the ceremony of smoking, which is considered necessary to their success.”

We know from historic records that medicine people often kept up their prayers and rituals during the entire progression of the hunt, even if it took days to complete. And at the end of a successful venture,
the ceremonialists continued to play a key role in how the slaughter and butchering should be done. Describing the final stages of a Plains Cree pound, Mandelbaum gives compelling testimony of the degree to which ceremony permeated every aspect of the kill:

Before the carcasses were butchered, the shaman ascended the wall of the pound and sang his power song, accompanying himself with a rattle. Then small boys undressed and climbed into the enclosure. They threw buffalo intestines over the branches of the central tree, imitating the call of crows as they did so. At the same time, little girls brought wood to the tipi of the shaman. For these functions, each girl received a piece of heart fat and each boy a buffalo tongue. The fatty tissue around the buffalo heart was peculiarly sacred. The person who cut it out of the carcass wailed as he did so.

As hard as it is to believe, documentary records indicate that the actual killing of contained bison was sometimes postponed so that the necessary ceremonies could be observed. In the mid-1800s Audubon stated, “the warriors are all assembled by the pen [pound], calumets are lighted, and the chief smokes to the Great Spirit, the four points of the compass, and lastly to the Buffaloes. The pipe is passed from mouth to mouth in succession, and as soon as this ceremony is ended, the destruction [killing] commences.”

When the slaughter was over, the first order of business was to give thanks to those exceptional people who, through their ability
to commune with the spirit world, had made success possible. Often this entailed giving choice pieces of the buffalo to key players in the hunt. The Cheyenne allowed the few men who had called the buffalo to make the first selection of the finest cuts from the carcasses. In many cases, the highly esteemed tongues were brought to the medicine people and hunt directors as signs of respect and thanks. As the butchering commenced, a series of formal rituals had to be observed, the specifics of which differed from group to group. Often these displayed a clear belief in the ability of the spirits to transfer specific powers to people. Mandelbaum records that the Plains Cree men drank the warm blood of the buffalo “so that they might not be perturbed at the sight of blood in battle.” The Omaha were known to save the fat from around the heart of the buffalo for young children so that they would grow up with strong hearts.

Bones were the subject of much ceremony, as they clearly came to represent the animals themselves. Many groups believed that bones could return to become bison again. Edwin James recorded in 1800, “Many of the Minnetarees [Gros Ventre] believe that the bones of those bison, which they have slain and divested of flesh, rise again clothed with renewed flesh, and quickened with life, and become fat, and fit for slaughtering the succeeding June.” Maximilian also documents the power of bones to control living herds of bison: “In one of their villages they preserve the neck bones of a buffalo, as the Crows also are said to do; and this is done with a view to prevent the buffalo herds from removing to too great a distance from them.”

It was also common to find great piles of bones, usually horns, near the sites of the great kills. For the Cheyenne, Grinnell reports that “there were formerly to be seen piles of buffalo-horns heaped up, which, as described to me, were similar to the piles of horns made under like conditions by the Blackfeet that I have seen near their killing places.” None of the bones were more sacred or used in more ceremonies than the skull.

The attention Native people paid to honouring and respecting the spirit world and the role of bison in this endeavour did not end when the hunts were over. Rather, it permeated every other aspect of daily life, as a simple story recounted by David Thompson conveys: “We had been hunting the Bison, and every horse was loaded with meat, even those we rode on; returning we came to a few Aspins [aspen trees], where everyone made a halt, and from the load of every horse a
Imagining Head-Smashed-In

small bit was cut and thrown on the decayed root of a tree, to appease the spirit of a Man who had died there of hunger many years past.”

All the actions laced with symbolism and deep meaning would be impossible to explore fully here. My central point is that to present only the western science-based explanation of how great buffalo kills worked would be to equate them to extraordinary technical achievements (which in fact they were). What is important is that they were so much more; they were interactions between deeply spiritual people and the world in which they lived.

The Nose of the Buffalo

During our stay here a very large herd of buffalo continued to feed within a quarter of a mile of us. Some of them I observed gazing at us; but as they were to the windward, they had not the power of discovering what we were by the sense of smelling. I found, on inquiry from some of our party who were well acquainted with the habits of these animals, that they seem to rely chiefly on that sense for their safety. – John Bradbury, 1809–11

Bison, like most large mammals, have a highly developed sense of smell. This, not sight, is their primary defence mechanism. Given the right wind conditions, bison can smell another animal, including humans, as much as several kilometres away. It is the smell of trouble that usually causes unease in the herd, and if severe and persistent, it will initiate movement, even a stampede, away from the perceived threat. Bison are constantly checking the wind. Hardly any part of their daily activities – grazing, sleeping, drinking, scratching, playing, or fighting – takes place without frequent reference to what is in the wind.

The importance of smell to the story of buffalo hunting is inextricably linked with wind, as wind is the carrier of the smells that reach the noses of the animals. Wind is so important in Aboriginal hunting strategies that it is safe to say that precious few kill events took place in prehistory without reference to what the wind was doing. European hunters quickly learned the same truth; Josiah Gregg hunting in the 1830s noted that a successful hunt depended on the hunters being downwind of the herd. The herd can be approached, Gregg stated, “provided he ‘has the wind of them,’ as hunters say – that is, if the wind blows from the buffalo; but if the reverse, he will find it impossible to approach them, however securely he may have concealed
himself from their sight.” Edwin James, travelling through vast herds in 1820, recounts how the wind blew over his troop and reaching the nose of the bison “it informed them of our presence by the scent which it conveyed. As soon as the odour reached even the farthest animal, though at the distance of two miles on our right, and perhaps half a mile in our rear, he betrayed the utmost alarm, [and broke] into a full bounding run.” James was traversing the extremely flat country of the Platte River (French for the river being flat as a plate) and was able to watch the physical effects that human scent had on bison herds:

The wind happening to blow fresh from the south, the scent of our party was borne directly across the Platte, and we could distinctly note every step of its progress through a distance of eight or ten miles, by the consternation and terror it excited among the buffaloes. The moment the tainted gale infected their atmosphere, they ran with as much violence as if pursued by a party of mounted hunters.

Aspects of smell and wind were combined to create just one of many instances of hunters using their knowledge to get the upper hand on their intended prey and to move them in the desired direction. When the wind was wrong, hunts failed. In 1809 Alexander Henry was called repeatedly by a group of Blackfoot to witness a bison drive, but despite plenty of buffalo aligned in proper position, “the wind was still unfavorable, and every herd that was brought near the ranks struck off in a wrong direction.” Conversely, Henry noted, when the wind comes from behind, “it is most favorable, as they can then direct the buffalo with great ease.”

Bison movement is controlled by a number of short- and long-term needs, especially the search for good grass on which to feed, the need for water, and the changing seasons of the year. All these are under the constant influence of smells carried to the herd in the wind. The instinct to survive is stronger than any immediate need for water or food, and if there is a dangerous scent in the air, an area of fine pasture may be abandoned for the sake of safety. There are two sides to this coin. Bison will move away from a potential threat and will move towards a perceived area of safety. If you are a clever hunter, well aware of these tendencies, how do you make this work to your advantage?

First, you would need to know to what smells bison have an adverse reaction. Given the size and strength of bison, there is not
much they fear in their natural environment. We know from records of early explorers that the grizzly bear had a much larger range than at present, extending well onto the Great Plains.† Named the Plains Grizzly, this fearsome animal did occasionally run down and kill bison (and unfortunate Native people as well). While little is known of the long-term history of the Plains Grizzly, it can be assumed that this animal was probably always a part of the northern Plains landscape and a persistent threat to solitary bison. But grizzlies probably never existed in large numbers on the Plains and accounted for very few buffalo deaths.

The status of bison’s most constant, relentless, and effective enemy would certainly go to the wolf, and these supreme predators were regular companions to bison herds. Henry Brackenridge, in 1811, observed, “Great numbers of wolves were now seen in every direction; we could hardly go forty yards from the buffaloe, before a half a dozen would shew themselves. It was amusing to see them peeping over hillocks, while we pelted them with stones.” At about the same time, John Bradbury recalled a buffalo herd where he “counted fifteen wolves, several of which stood for some minutes looking at us, without exhibiting any signs of fear.”

Obviously, a lone wolf was little threat to any adult bison, although a young calf, if caught alone, could be in serious trouble. Kills in winter favoured the wolves because of their superior ability to run through snow. But wolves are pack animals, frequently ganging up in groups of ten or more. At this strength, they were capable of bringing down any adult bison, although they tended to prefer young, old, and sick animals, the ones less able to defend themselves, especially if they wandered away from the main herd. Edwin James tells of a lone bull

† In 1859, near the fork of the Bow and Red Deer Rivers, Palliser “saw a good deal of buffalo and many antelopes; also five grizzly bears, two old and three young ones, at which there was much firing and only one killed.”
bison, wounded by hunters and pursued by a gang of wolves: “they saw him several times thrown to the ground by the wolves, and afterwards regaining his feet.”

Bison were well aware of the presence of wolves in their immediate environment. Packs of coyotes, as well, would have been a constant companion to the bison-wolf mixture. Coyotes are too small to bring down bison (though the occasional stray calf may have been taken by a pack), but they were supremely adapted scavengers. Lurking on the edges of the action, they readily pounced on the dregs of the wolf kills and on the carcasses of natural deaths in the bison herd. The smell of both these predators would have been pretty much a constant factor of life, and they were generally tolerated lurking around on the outside margins of the herd. Since bison also tended to live and move in large groups, they knew that as long as they stayed close to the main herd they were generally safe. George Catlin recognized this when, in the mid-nineteenth century, he noted that “while the herd of buffaloes are together, they seem to have little dread of the wolf, and allow them to come in close company with them.” It was an ecological fact often put to use by Native hunters.†

Wolves were nearly constant companions of bison herds; they were generally tolerated but closely watched. (Courtesy Clarence Tillenius)

† It appears that wolves adapted to letting humans do the hunting for them. Several observers noted wolves congregating during the hunts. Paul Kane wrote, “As is frequently the case on buffalo hunts, a large band of wolves hovered round us in expectation of a feast.” John Palliser said that wolves eagerly watched the hunters, “perfectly aware that the events about to come off were to terminate in an abundant meal after the field was left to themselves.” Wolves selected the fattest animals to consume first, then hunters selected the fat wolves. Peter Fidler recorded the practice of Indians intentionally letting wolves feed on discarded bison carcasses, knowing that the gorged predators would be slow and easy to kill.

Fire this Time

The grass of these plains is so often on fire, by accident or design … and the whole of the great Plains are subject to these fires during the Summer and Autumn before the Snow lies on the ground. – David Thompson, 1784–1812

Prairie fires, started by lightning strikes as well as by humans, had the power to wreak havoc on bison herds. There are horrific eyewitness
accounts of fires scorching, blinding, and killing large herds of buffalo, as well as other large and small game. An eyewitness to prairie fires, Daniel Harmon, reported, “When the fire passes over the plains, which circumstance happens almost yearly ... great numbers of horses and buffaloes are destroyed; for those animals when surrounded by fire, will stand perfectly still, until they are burned to death.” Robert Rundle, in Alberta in the mid-1800s, gives the sad report of what “a sight the poor burnt buffalo presented” since, consumed by fire, “many [had] perished in that way.”

Understandably, bison had a healthy respect for fire, and the scent of smoke in the air would send a herd fleeing in the direction opposite the perceived source. Fire was a natural and frequent component of the northern Plains. While most were caused by lightning, the human occupants also learned to set fires to create a number of desirable conditions. They long ago learned that grassland burned off in one season came back greener, more nutritious, in the next, as the burned grass provided fertilizer to the soil. The hunters knew that bison would be attracted to these greener, freshly burned areas. Again, many Europeans offer repeated witness to these events, perceiving the processes at work. Edwin James said that Indians “set fire to the plains, in order to attract herbivorous animals, by the growth of tender and nutritious herbage which springs up soon after the burning.” Lewis and Clark in 1805 noted how bison head off in search of “the fresh grass which immediately succeeds to the burning.” David Thompson, with decades of experience watching Aboriginal burning, demonstrated amazing insight into the ecological processes of prairie regeneration:

Along the Great Plains, there are very many places where large groves of Aspens have been burnt ... and no further production of Trees have taken place, the grass of the Plains covers them: and from this cause the Great Plains are constantly increasing in length and breadth, and the Deer give place to the Bison. But the mercy of Providence has given a productive power to the roots of the grass of the Plains and of the Meadows, on which the fire has no effect. The fire passes in flame and smoke, what was a lovely green is now a deep black; the Rains descend, and this odious colour disappears, and is replaced by a still brighter green; if these grasses had not this wonderful productive power on which fire has no effects, these Great Plains would, many centuries ago, have been without Man, Bird, or Beast.
So fires were intentionally lit, usually in the fall or spring, to attract herds into a certain region the following summer. Hunters then frequented these same areas, secure in the knowledge that bison would come.†

There has been much speculation about the intentional use of fire by Native people to move and drive bison herds. A casual glance at literature on bison hunting will turn up a number of comments that Native people lit fires to drive herds towards an intended kill site, such as a buffalo jump. In the mid-1800s, Schoolcraft stated that Indians used fire to surround herds of buffalo, “setting fire to the grass [to] encompass them on all sides. The buffalo, having a great dread of fire, retire towards the centre of the prairie as they see it approach, and here being pressed together in great numbers, many are trampled under foot, and the Indians rushing in with their arrows and musketry, slaughter immense numbers in a short period.”

Fire may have occasionally been used intentionally to drive bison into a surround of some kind, but I suspect the circumstances permitting this were rare. The widespread use of fire to drive bison seems contrary to all we know about the need to precisely control the circumstances of the hunt. A prairie fire, even when lit by the experienced hands of people who managed fire continuously, is a dangerous thing. The critical things people consider when they set fires are the dryness of the grass, the strength and direction of the wind, and the lay of the land (flat versus sloping). Winds might prevail from a certain direction, but this is not to say they don’t vary. A fire

† Many relative newcomers to the Plains mistook intentional Aboriginal fires for wanton destruction. John Sullivan, a member of the Palliser expedition failed to appreciate the many purposes of Aboriginal burning and attributed intentional burning to the simple purpose of communication: “The most trivial signal of one Indian to another has often lost hundreds of acres of forest trees which might have brought wealth and comfort to the future settler, while it has brought starvation and misery to the Indian tribes themselves by spoiling their hunting grounds. The Indians, however, never taught by experience, still use ‘signal fires’ to the same extent as in former years, driving the animals from their retreats and marring the fair face of nature for the future colonist.”
lit with a prevailing wind can still swirl, gust, surge in other directions. Not only might this be dangerous to people and their camps, fire and smoke, at the wrong time and place, could foil the efforts of Plains hunters to lure bison into a trap. Henry the younger witnessed Blackfoot men “driving whole herds from different directions, until these came within scent of the smoke, when they dispersed.” Coaxing a herd to arrive at a highly specific destination leaves no room for error. It’s not good enough to have a herd of bison come close to the opening of a pound, the mouth of a box canyon, or the edge of a cliff. Great effort was invested in making sure bison moved to an exact place where hunters lay in wait for the kill. Predictability was essential, and the unpredictability of a prairie fire argues against its being used for this purpose. Also, if indeed most communal kills took place in fall, grass is driest at this time and would burn fast and hot – not the most desirable conditions for control.

I once had my own encounter with a small prairie fire, and it was a scary moment. I had a crew out in the Head-Smashed-In gathering basin surveying some of the drive-lane cairns. It was a gorgeous sunny summer day. As the afternoon wore on, great thunderhead clouds piled up in the sky well to the north of us. We watched with only casual interest as rain and lightning pelted down on the Porcupine Hills in the far distance. It was a common afternoon occurrence and of no special concern when the action was many kilometres away. Then a bizarre thing happened.

Despite clear blue skies above and all around us, a bolt of lightning suddenly arced its way over from the storm to the north and literally landed at our feet. The moment was made all the more frightening by the fact that our surveying employed tall metal instruments, one of the worst elements to have around when lightning decides to pay a visit. I yelled at my crew to run for a nearby bedrock outcrop that had a small overhang where we could hide. Tucked under the rock, we waited out a barrage of many more very close strikes, with thunder rolling over us like cannon booms. Finally, the storm passed and we emerged to find the grass all around our survey gear on fire. It wasn’t a raging fire, so using jean jackets, shovels, and our feet, we managed to put it out before it spread. Native elders have since told me that this was a sign; our work that day offended some spirit power. My own feeling was one of relief that no one was hurt, and this was a first-hand lesson in the unpredictable nature of lightning and prairie fires.
The inherent danger of fire on the prairies doesn't necessarily mean that people didn't harness this power to move bison toward an intended kill site. I just don't think they did it by torching the grasslands and hoping for the best. They may have lit contained fires, ones that they could be the master of rather than a slave to, and one way this might have been done is to carry fire with you as you moved into position for a bison drive. How do you carry fire? Using a mix of dry and moist grass, you make a small fire inside a rawhide pouch, one that allows you to open and close the top. Moist grass on the bottom prevents burning the pouch, and the mixed grasses give off more smoke than heat. Hunters could move behind a bison herd, putting themselves upwind, and then open and close the hide bags to let out puffs of smoke. The smoke drifts downwind into the herd, creating the impression of a grass fire moving towards them. The herd's instinct is to move away from the threat, downwind, and thus toward the intended kill location. Tricks such as this might have been used (there are a few historic accounts in support of it) during the early stages of rounding up the animals; that is, to get them into the general region of the kill site.† Beyond this, more precise means of controlling the herd were needed, and that's where the drive lanes and people who lined them took over.

Luring the Buffalo

They generally drive the herd faster, until it begins to enter the ranges, where a swift-footed person has been stationed with a buffalo robe over his head, to imitate that animal ... When he sees buffaloes approaching, he moves slowly toward the pound until they appear to follow him; then he sets off at full speed, imitating a buffalo as well as he can, with the herd after him.

– Alexander Henry, 1809

Playing on known aspects of buffalo behaviour, Native hunters employed a great number of tricks to move them into the drive-lane complex. Some of them were relatively simple, others exceedingly complicated. An example of a simple trick would be the advantage hunters took of the fact that bison, like some other large game animals, have a decidedly curious streak. It was nothing as pronounced as seen in pronghorn (antelope), an exceedingly curious animal, a fact that, as James noted in 1819–20, occasionally led to its demise:

† The artist Paul Kane seems to have witnessed this trick in the 1840s when he observed a hunter who had circled around a herd: He “strikes a light with a flint and steel, and places the lighted spunk in a handful of dried grass, the smoke arising from which the buffaloes soon smell and start away from it at the top of their speed.” Alexander Henry probably observed the use of contained fires when he wrote that “the herd must be started by slow degrees. This is done by setting fire to dung or grass.”
“The antelope possesses an unconquerable inquisitiveness, of which
the hunters often take advantage … [He] conceals himself by lying
down, then fixing a handkerchief or cap upon the end of his ramrod,
continues to wave it, still remaining concealed. The animal, after a
long contest between curiosity and fear, at length approaches near
enough to become a sacrifice to the former.” Although not as de-
veloped as that of the antelope, bison do have a certain curious nature,
and if you know the tricks this trait can be manipulated.

Historic accounts of bison drives report Natives stealthily moving
near the herds, falling to the ground, jumping into the air, twisting
around several times, falling again, running a short distance, and
doing it all again. Each action was punctuated by periods of calm
where the hunters would lay or stand perfectly still. Understandably,
European observers were completely perplexed by the antics of the
Natives, although the great student of the Blackfoot, George Bird Grin-
nell, was one of the few to appreciate the nature of the ruse: “A man
who was very skilful in arousing the buffalo’s curiosity, might go out
without disguise, and by wheeling round and round in front of the
herd, appearing and disappearing, would induce them to move toward
him, when it was easy to entice them into the chute [of the pound].”
What was going on here was a clever play on the curiosity of bison. These short, interrupted actions were just enough to capture the attention of the herd. Any of these actions alone would have been ineffective. Simply lying down or standing still would have drawn no attention, and persistent running would have spooked the animals. But a carefully timed combination of these, performed by experienced actors, was enough to capture the interest of the beasts.

The hunters would carefully position themselves between the grazing herd and the desired destination, in this case the opening of the drive-lane funnel. The hunters were downwind of the herd, since the wind must always be blowing over the herd and towards the kill site, keeping the scent of the waiting hunters and those at the camp from drifting back to the animals. Once in position, the actors commenced their bewildering charade. The less-than-keen eyes of the bison would stare long and hard at the figures. When the action ceased, they returned warily to grazing but maintained a watchful eye. When action started and stopped several times, the bison simply couldn’t resist any longer, and they began to approach the figures. This was exactly the plan. Slowly the hunters retreated towards the cliff or pound, continuing their antics, never moving too much at any one time, drawing the curious but unsuspecting herd toward them and to their impending death.

Paul Kane, western artist and traveller, recorded another seemingly bizarre method of approaching bison herds, one that apparently played on the buffalo’s tolerance for foreign sights within their field of view. It was the mid-1800s, near Edmonton, and Kane reports that the trick was used often and with great success:

*It consisted in crawling on our bellies and dragging ourselves along by our hands, being first fully certain that we were to the leeward of the herd, however light the wind, lest they should scent us until we came within a few yards of them, which they would almost invariably permit us to do. Should there be twenty hunters engaged in the sport, each man follows exactly in the track of his leader, keeping his head close to the heels of his predecessor; the buffaloes seem not to take the slightest notice of the moving line, which the Indians account for by saying that the buffalo supposes it to be a big snake winding through the snow or grass.*

George Frison (the reigning authority on buffalo jumps introduced earlier) has spent a lot of time around bison. He recounted
to me how he discovered a similar response from herds when he approached them early in the morning. In the dim early light, with many animals still lying down and with the wind right, he would move slowly into view, stop and remain still, move slowly again, stop, and move slowly. Sure enough, the herds would rise and move slowly towards him. George discovered the same principle that Natives had been employing to their advantage for centuries. No offense to George, but I think he would agree that Native hunters were probably masters at these tricks compared with him (although I do cherish the mental

Buffalo Runners

Old men consulted the leaders ... and together they decided on the young men who were to go and search for the buffalo. This task required young men who were known to be truthful and faithful to duty, as well as possessed of the necessary physical ability ... This was one of the greatest honors that could be conferred on a man, as it indicated that the tribe depended upon him for help in the food supply, without which it could not exist. It was necessary that these men know the topography of the country and understand the ways of the buffalo. – Francis Densmore, on the Teton Sioux, 1918

Runners were typically young men. The work was too strenuous and demanding for older individuals. In the prime of life, these men were instructed in the art of manoeuvring bison herds by the older buffalo runners. It was a hazardous occupation indeed, and no doubt many buffalo runners never made it to retirement. The tricks of the trade were passed down through the generations, skills acquired through vast cumulative experience in moving herds of bison. Buffalo runners were the ones who put on some of the most impressive shows for early European visitors to the Plains. We are fortunate to have graphic accounts of how these seemingly fearless men routinely put themselves in harm's way in order to bring bison to the drive lanes, and in turn provide sustenance to their people.
Certainly the most famous trick of the buffalo runners, famous because Europeans marvelled at it and wrote about it, was the use of disguises. Native people understood that many other animals of the Plains could approach bison herds. Pronghorn, deer, elk, wolves, and coyotes could regularly be seen lingering near buffalo herds. If you could make yourself appear to be one of these animals, perhaps you, too, would be tolerated close to a bison herd. So buffalo runners donned the hides of these animals, rubbed their bodies with sage and animal fat to mask their own smell, and moved out toward the herds. They didn’t move as human beings; they moved as the animals they had become. Having thousands of years to observe the behaviour of all the game of the Plains, these fellow residents of the land would have an intimate knowledge of how each species walks, runs, sways, pauses, sniffs the air, lowers its head, and paws the earth. To say that the buffalo runners donned a disguise belittles their performance. They transformed themselves.

George Catlin, the famous artist of the West, made a striking painting of two Native hunters covered with the skins of white wolves and moving out toward a bison herd. Actually, he made two versions of this painting: one shows the hide-covered hunters crawling on hands and knees, gripping bows and sets of arrows; the other has the hunters without weapons. I’m not sure why Catlin made the two versions. Perhaps it was to illustrate the difference between men heading out intending to kill a few bison and those runners intent only on driving the game toward a mass kill. Whatever the reason, it serves to illustrate different reasons for hunters donning disguises. While they frequently imitated other animals to coerce a bison herd toward a desired destination, they also used disguises to facilitate solitary hunting. Remembering that Native hunters quickly seized on the fact that other game was tolerated in close proximity to bison herds (whereas humans were not), George Catlin observed that wolves are always seen “following about in the vicinity of herds of buffaloes and stand ready to pick the bones of those that the hunters leave on the ground, or to overtake and devour those that are wounded … The Indian then has taken advantage of this fact, and often places himself under the skin of this animal, and crawls for half a mile or more on his hands and knees, until he approaches within a few rods of the unsuspecting group, and easily shoots down the fattest of the throng.”

† Catlin also reports that the Sioux hid themselves “under skins of buffaloes, imitating the movements of those animals” to trick their enemies into an ambush.

Next page: George Catlin’s painting shows Native hunters disguised as wolves approaching a herd. (Courtesy Bruce Peel Special Collections Library, University of Alberta)
While the focus of this book is on communal hunting, it is important to remember that individual hunting was an almost constant part of life on the Plains. Large communal hunts involving many groups of people coming together to kill many animals were special events, organized perhaps once a year, and sometimes not even that often. Except for in the dead of winter, solitary hunting was a regular feature of life for people who depended on the buffalo. Disguises were an important part of the methods used in all types of bison hunting.

During their amazing trek westward, Lewis and Clark also had the opportunity to witness buffalo runners using their tricks to bring a herd to the intended kill:

*The mode of hunting is to select one of the most active and fleet young men, who is disguised by a buffaloe skin round his body; the skin of the head with the ears and horns fastened on his own head in such a way as to deceive the buffaloe; thus dressed, he fixes himself at a convenient distance between a herd of buffaloe and any of the river precipices, which sometimes extend for some miles. His companions in the meantime get in the rear and side of the herd, and at a given signal show themselves, and advance towards the buffaloe; they instantly take the alarm, and finding the hunters beside them, they run towards the disguised Indian or decoy, who leads them on at full speed toward the river."

The general assumption is that bison will follow these decoys because they are fooled into thinking that it is one of their own and that the decoy is leading them toward an escape from danger. Josiah Gregg figured this out when he wrote, “A gang of buffalo is frightened towards the pen, while an Indian, covered with one of their woolly skins, runs at a distance ahead. Being seen by the animals, they mistake him for one of their kind, and follow him into the pen.”

Without doubt my favourite account of buffalo runners using disguises comes from the journals of Alexander Henry (the elder). It’s my favourite because it reveals the enormous depth of understanding that Plains people had of their principal prey animal. While travelling through central and western Canada in the 1760s and 1770s, Henry was eyewitness to a bison hunt. In preparing to round up a nearby herd, several buffalo runners draped themselves in the skinned-out hides of bison. The decoys approached the unsuspecting buffalo “bellowing like themselves. On hearing the noise, the oxen did not fail to give it attention; and, whether from curiosity or sympathy, advanced to meet
those from whom it proceeded.” Henry could not contain his astonishment as he watched the runners work the herd. So perfectly did they imitate the antics and sound of the bison – their gait, pace, sway, body movements – that Henry paid them the ultimate compliment:

At day-light, several of the more expert hunters were sent to decoy the animals into the pound. They were dressed in ox-skins, with the hair and horns. Their faces were covered, and their gestures so closely resembled those of the animals themselves, that had I not been in the secret, I should have been as much deceived as the oxen.

Given the talent these runners had for deception, I can’t help but wonder if, on a rare occasion, a disguised hunter was hit by an arrow or ball shot by compatriots who had lost track of the hunter and the hunted. I am likewise astonished when I ponder the degree of skill that must have been required to pull off such a flawless impression of another animal. Yet no one should be astonished. These are a people who spent thousands of years studying the habits of the animal that occupied the centre of their universe.

Lost Calves

When all is ready a young man, very swift of foot, starts at daylight covered over with a Buffalo robe and wearing a Buffalo head-dress. The moment he sees the herd to be taken, he bellows like a young calf, and makes his way slowly towards the contracted part of the funnel, imitating the cry of the calf, at frequent intervals. The Buffaloes advance after the decoy. – John Audubon, 1843

There is yet another remarkable take on the bison disguise trick. Not only did the buffalo runners perfectly imitate the movement of bison, they also duplicated the sound of the buffalo calf. It was not just any sound, but the specific call that is made when a calf becomes separated from its mother. Anyone who works with cattle knows that cows have a strong bond with their own calves. They are constantly checking to see where a calf is, ensuring that it doesn’t come to any danger. Calves in turn have a mechanism to alert their mothers when they become separated. They make a loud bleating sound. This distress signal is guaranteed to get the attention of the cows, as they scan the herd and sniff the air, checking to see if it is their calf that has issued
Imagining Head-Smashed-In

† Thomas Woolsey, in the mid 1800s, noted a variation when he observed a Native hunter on horseback “imitating the lowing of the cow. On this being noticed by the [herd], they are instantly in motion and probably hundreds of them approach nearer to him supposing that other buffalos are contiguous.”

the call. Bison cows and calves behave in the same manner. Ancient hunters knew this and took lethal advantage.

Picture a bison herd grazing in the Head-Smashed-In gathering basin. The wind is blowing from the west, over the herd and into the wide end of the drive-lane funnel, providing perfect conditions for a drive to the cliff. Buffalo runners drape bison calf skins over their bodies and move into position, placing themselves between the herd and the drive lanes. Their disguises permit them to move in close to the herd, always staying downwind, perfectly imitating the body movement of the calves. When close enough to be heard they begin making the bleating sound of a calf separated from its mother. Since the herd consists mainly of cows and calves – the preferred target group for nearly all Plains hunters – the trick has the desired effect. Cows raise their heads and check for their calves. Even if she knows her own calf is nearby, maternal instinct dictates that every cow will investigate the source of the plaintive bleating. A calf in danger cannot be ignored. In the distance to the east, they see a couple calves off by themselves, wandering away from the main herd, calling for help. The cows respond and start after the “lost calves.”

The buffalo runners continue the hoax, wandering slowly away from the herd, into the mouth of the funnel, toward a mighty hunting party laying in wait. Since the cows can’t see or smell any immediate threat to the lost calves, it is unlikely that they would run to their aid. After all, a bleating lost calf is a common occurrence, requiring only that the mothers eventually bring them back into the fold.† The runners keep up their calling and movement away from the herd, and the herd continues to follow, walking into the jaws of the trap.

The artist Paul Kane reported yet another ploy using disguises to attract cows, but this trick involved the clever combination of both wolves and bellowing calves. Hunting with his companion François, Kane described how a wolf attack is staged to attract the adults:

*This ruse is generally performed by two men, one covering himself with wolf skin, the other with buffalo skin. They then crawl on all fours within sight of the buffaloes, and as soon as they have engaged their attention, the pretended wolf jumps on the pretended calf, which bellows in imitation of a real one. The buffaloes seem to be easily deceived in this way. As the bellowing is generally perfect, the herd rush on to the protection of their supposed young with such impetuosity that they do not perceive the cheat until they*
are quite close enough to be shot; indeed, François’ bellowing was so perfect, that we were nearly run down. As soon, however, as we jumped up, they turned and fled, leaving two of their number behind, who paid the penalty of their want of discernment with their lives.

Although this multiple disguise trick was performed by Europeans, I have no doubt that it was learned from the Aboriginal hunters among whom Kane had spent time. Everything about it smacks of a Native understanding of bison behaviour.

Buffalo runners had a wide variety of clever ploys to move bison, but all of them had a single purpose: to bring distant herds into the confines of the drive-lane funnel. Once inside the lanes, hunters had a great deal more control over the movement of the beasts. The runners had the hardest job of all: getting unrestrained, free-roaming herds of wild animals to move to a single predetermined destination. One wrong move, a gust of wind from the wrong direction, a suspicious bleating call, a distant dog bark, a hunter showing himself at the wrong moment – the slightest miscue could send the herd fleeing off in any number of wrong directions. The efforts of many people could be instantly undone and an even greater effort required to correct the mistake and bring the herd back into position. People who work with modern bison will tell you that once a herd has been hazed and settled down before it can be approached successfully. We will never know how many attempted buffalo jumps failed because a herd was spooked at the wrong moment, but I suspect disappointment was not infrequent.†

With skill, an element of luck, and the blessing of the spirits, the carefully orchestrated ploys of the buffalo runners worked as designed, and the bison herds were drawn into the wide end of the funnel. How long this whole operation might have taken depended, of course, on a host of factors, such as the original distance of the herd from the cliff, the number and skill of the runners, the co-operation of the wind, and the peculiar behavioural traits of each distinct herd. On a good day, when everything just happened to fall into place, the entire drive may have lasted just a few hours. In the mid-1800s, Thomas Woolsey reported that a man might continue luring a herd by imitating the sound of a cow bison for up to two days. I’m sure that there were many instances where even greater time was spent getting

† In 1841 Robert Rundle wrote: “I had hoped to witness the capture of buffalo by the method of decoying them but was doomed to be disappointed. Two or three herds were driven near the entrance whilst I remained there but they escaped by rushing off in a contrary direction to that of the mouth of the pond.” An aged Peigan, Lazy Boy, told this story to John Ewers: “Their chief announced, ‘Now we are going to make a buffalo fall.’ They built a corral below a cliff and piled rocks at intervals in a great V-shape on the slope above the fall. Then they chose a man to lead the buffalo to the fall. But each time he lured them between the lines of rocks, they broke away before they reached the cliff edge. After this had occurred three times, Many Tail Feathers, a young man of that band, became angry. That night he made a fire and burned the corral.”
Once this was accomplished, many more people pitched in to contain the herd and keep it moving toward the cliff. These were the people stationed along the sides of the drive-lane cairns, carefully positioned so as to monitor the movement of the herd and to troubleshoot if the animals showed an inclination to turn around or make a break through the line of cairns.

While most Plains tribes shared similar habits of directing bison drives, one notable difference is seen in the composition of the people who monitored the lines of cairns. For some groups, only men partook in the activity. For others, women and older children joined in the efforts to contain the bison. The duties were much the same for everyone and generally consisted of waving arms or bison hides, shouting, and making as much of a scene as possible to keep the animals from approaching the sides of the funnel. At all costs the herd must be kept between the drive lanes and must not be allowed to turn back towards the unguarded gathering basin. Sometimes the cost was dear indeed. We know from historic records that herds did occasionally foil the drive attempt and charge through the line of cairns, trampling all those in their path.

† Alexander Henry, a witness to Blackfoot bison drives early in the nineteenth century, stated that sometimes the lead bison broke through the ranks of people “carrying before them everything,” and that “lives are sometimes lost” as Natives are trampled or thrown from the cliff.

You might think the buffalo runners had done their duty and retired to rest while others concluded the drive, but written descriptions tell us that in many cases the runners continued to lead the herd right through the middle of the drive lanes, often having to run to keep ahead of the rapidly panicking bison. Some lost their...
Rounding Up

Once the buffalo runners had accomplished their job of getting the herd into the drive-lane funnel, a great number of people pitched in to keep the animals moving in the desired direction. (Courtesy Shayne Tolman)

lives in the process. Others were seriously injured. Lewis and Clark report that the result of the runners’ deception was occasionally catastrophic: “Sometimes in this perilous seduction the Indian is himself either trodden under foot by the rapid movements of the buffaloe, or missing his footing in the cliff is urged down the precipice by the falling herd.”

Special provisions were made to rescue these revered men. Though it seems incomprehensible, some runners escaped being trampled by ducking into specially dug holes in the ground, the herd thundering overhead, or into a prearranged hiding place. Again, Lewis and Clark provide compelling testimony, reporting that a runner “suddenly securing himself in some crevice of the cliff which he had previously fixed on, the herd is left on the brink of the precipice.” Occasionally runners must have been killed or maimed in the process.

Sometimes prearranged places in heavily fortified sections of the drive lanes were prepared for a quick exit by the runner. People guarding the final stretch of the lane, possibly standing shoulder to shoulder and holding up bison hides, would part at the last moment to create a small opening for the runner to slip through. Interviewing a Gros Ventre woman born in 1854, Flannery was told that the buffalo runner “would run forward toward a steep precipice and just at the edge would jump aside while the buffalo following him would go over.” The opening was immediately closed behind the runner to keep any bison in hot pursuit from getting the same idea. Instead of
Imagining Head-Smashed-In

a wall of dark hides keeping bison contained in wooden pounds, the wall was formed of humans holding bison skins. Sometimes runners, either by chance or design, ended up leading the herd right to the edge of the cliff. Here they either ducked under the ledge of the cliff, dove through a temporary gap at the sides of the drive lanes, or, on a bad day, sailed over the cliff along with the frantic herd.

Other ingenious techniques were used by buffalo runners and other members of Native society to round up and move bison. All involved some form of trick to either pull the herd towards something (the twisting, whirling humans; the lost calf) or to push the herd away from a perceived threat (a contained fire; hunters disguised as wolves or coyotes). The historic literature is rich in detail of this fascinating aspect of bison drives, but the literature is far from complete. Communal kills were enacted all over the Great Plains by a number of different tribal groups, many of which were never witnessed by any European visitor. No doubt, some methods of directing the movements of bison went unrecorded and are forever lost. Others still remain in the memories of select elders, waiting to be captured before they, too, fall victim to the passage of time and the end of the buffalo days. Such were the memories of Billy Strikes With A Gun.

Billy’s Stories

If I ever had any doubts that contemporary Native elders still retained vital knowledge about the past, they were disposed of during the course of interviews I did before the opening of the interpretive centre at Head-Smashed-In. For many weeks I made the thousand-kilometre round-trip trek from my home to the Piikani (Peigan) cultural centre at the reserve town of Brocket to conduct interviews with elders. Though dozens showed up for the event (we provided free lunch), it always fell to just a few elders to carry the conversation. As I came to know more about Native culture, I realized that this was following proper protocol. In a room full of non-Native elders, when asked about particular experiences of our culture, I suspect that most of us would feel that we would have something to contribute. After all, we all have a personal history, and a family history, that provide us with insights into our culture and identity.

Native culture does not operate in the same manner. While everyone present has stories to tell, there is a matter of, for lack of a better
term, authority. When it comes to talking about their history, not everyone has the right to tell stories, not everyone has the recognized authority. There is clear recognition that certain individuals know the most traditional stories, the most correct versions of the people’s history. A person doesn’t acquire this status from education degrees, or by belonging to an important family, or by being successful in one’s own life. It comes from recognition from one’s peers that a person was raised in such a way that he or she inherited or was schooled in a great deal of traditional knowledge. Everyone knows who these people are.

In times past, all transmission of knowledge from one generation to the next was done by experienced people telling stories to the young. There were no books to consult, no classrooms, no libraries, no Google. There were just people who had lived through the important experiences of life and who passed this information on to the inexperienced. People living on the reserve today know who was raised in the most traditional families by parents, or often grandparents, who themselves were reared in families with a strong traditional background. These were the ones with authority to speak, the ones to whom everyone else deferred. Few had more authority than Billy Strikes With A Gun.

Billy was in his early seventies when I interviewed him in the mid-1980s. He had been raised mainly by his grandparents. They would have lived through the last half of the nineteenth century, the
final days of the buffalo hunting culture. Billy was raised by people who had lived in tipis, travelled by horse, and hunted buffalo. When I asked questions about the old days, translated into Blackfoot, there might be some general discussion around the room, but soon someone would say, “Let Billy tell it.” The room would become quiet, and Billy would speak, often at considerable length, telling stories and passing on information just as it had been passed to him.

There is a great responsibility that comes with being recognized as one of the precious few who carry the history of a people. It is imperative to recount what you have learned exactly as it was conveyed to you, without embellishment or change. That this code was rigidly followed was made clear to me when I compared Billy’s words (when translated) to texts of traditional Blackfoot stories written in both Blackfoot and English in the early twentieth century. Astonishingly, I could follow along with the written text noting an almost word-for-word correspondence with Billy’s version (the correspondence was so uncanny that there were fleeting moments where I thought that Billy must have read the same decades-old book, though I assumed this was not possible). But Billy also told stories that have never appeared in any book. One of them struck a special chord with me, because it provided insight into rounding up and moving bison towards a kill.

Billy told how sometimes buffalo jumps were held during winter. The conditions for the people were much more difficult, and they had to contend with cold, frozen ground, and drive lanes covered with snow. The people had to resort to other tricks, had to reach deep into their pool of knowledge. The Porcupine Hills were an excellent wintering place for herds of buffalo, so the animals were often gathered in the hills. The task was to move them toward the cliff. Billy told how people knew that bison are attracted to and will follow their own trails, perceiving them as a safe route of travel. The trick was to create a fake trail, one that bison would perceive as a means of escape but that, in reality, led to death. Billy recounted how the hunters would first rub their bodies and moccasins with sage so as to hide their human smell. Then they would take several tanned buffalo hides and head into the gathering basin, collecting all the frozen buffalo chips they could find. Chips (now freeze-dried and lightweight) were piled on the hides and dragged by the hunters until they reached the place where the drive would begin. Once in position, hunters walked.
backwards toward the edge of the cliff, dragging the chip-laden hides behind them. Billy explained how dragging the hides over the footprints of the people further served to mask the scent of the humans. As they walked, the hunters tossed out chip after chip, forming a long line of dark circles set against the snow or frozen ground. They continued this until they reached the edge of the cliff.

Hunters knew that bison preferred to follow an existing trail. After all, if the animals had travelled a certain route many times before, it must lead to safety. There are several dead giveaways that a trail is old. One clue is the deep ruts cut by thousands of sharp hoofs. Another is the ubiquitous dark circles of dung that, in earlier times, surely lined all paths the bison travelled. Hunters knew that this would be a chosen path of escape and so used dried buffalo chips to create a false trail leading to the cliff edge. By walking backwards and dragging hides behind them, they covered their own scent with that of the intended prey. A herd of bison, frightened by hunters circling around them, could see and smell a safe path of escape in the form of a beaten trail marked with a line of chips. Billy’s story made perfect sense.

I had never seen this trick recorded in any literature, yet armed with a bit of knowledge about the nature of bison, I had no doubts about the authority of the account.† Billy has now passed away, a sad loss for the community and for all who yearn to know the past. Thankfully, some record of his profound knowledge was made before his passing.

The End of the Drive

When the buffalo appear inclined to take a direction leading from the space marked out by the “dead men,” [the people] show themselves for a moment and wave their robes ... This serves to turn the buffalo slightly in another direction – Henry Youle Hind, 1857–58

Getting bison herds into the wide end of the drive lanes was far from the end of the drama and suspense. In terms of excitement and danger, it was just the beginning. Now the herd had to be contained and pressed ever forward. The stone cairns outfitted with brush or other flags could keep the animals on track even without hunters stationed nearby, but there is no question that nothing would contain the herd better than people, and the more the better. I envision

† Yet I did eventually find a variation of it, employing the same idea of creating a false trail for a drive during winter. Interviewing Blackfoot elders at the end of the 1800s, Grinnell wrote, “In winter, when the snow was on the ground, and the buffalo were to be led to the pis’kun [buffalo pound or jump], the following method was adopted to keep the herd travelling in the desired direction after they had got between the wings of the chute. A line of buffalo chips, each one supported on three small sticks, so that it stood a few inches above the snow, was carried from the mouth of the pis’kun straight out toward the prairie. The chips were about thirty feet apart, and ran midway between the wings of the chute. This line was, of course, conspicuous against the white snow, and when the buffalo were running down the chute, they always followed it, never turning to the right nor to the left.”
dozens, probably hundreds, of people, often including women and older children, moving back and forth along each side of the funnel, watching the movement of the herd, looking for trouble spots where the animals might test the strength of the lanes. Their job was to augment the cairns.

If the herd made a move toward one of the drive lanes, the waiting sentinels spooked the animals back into the centre of the funnel, then moved on to the next spot that might require attention. Meanwhile, those stationed at the distant end of the funnel waited for the herd to pass and then fell in behind, their job being to eliminate the possibility of the animals turning and heading back out of the funnel. In this way the bison were encouraged to move in one direction only, deeper into the ever-constricting wings of the drive lanes.

Clearly, this was a carefully choreographed event. There must have been frequent and critical communication between widely distant groups of people, presumably using signals of various kinds and shouts. “A man stood at the top of the hill,” the aged Blackfoot Weasel Tail told John Ewers, “and gave a signal to the women and children, who were hiding behind the willow piles, when the buffalo were coming. As the buffalo passed them the women and children ran out from their hiding places.”

Ewers’ mention of women and children working the drive lanes is indeed interesting. Much about bison hunting (and Plains Native society, generally) is heavily male dominated. But the occasion of a great communal drive was an exception for many tribes. Blackfoot, Plains Cree, Assiniboine, Gros Ventre, Crow, and several other tribes are known to have employed women, children, and even old people...
Rounding Up

to help steer bison toward the kill. Their roles were twofold. In some instances they positioned themselves along the drive lanes, shouting, waving their arms and bison robes as the herd thundered past; other times they formed a rear guard, sweeping in behind the herd as it moved past, preventing escape. As Alexander Henry observed in the early 1800s, as the bison enter the drive lanes, “every man, woman, and child runs to the ranges that lead to the pound, to prevent the buffalo from taking a wrong direction.”

It might sound as if a full-blown stampede of bison was, at this point, in progress. Far from it. The great majority of movement leading up to and through the drive lanes was almost certainly of a much more gentle, though deliberate, nature. Henry the younger noted just this pattern when he wrote, “Young men are usually sent out to collect and bring in the buffalo – a tedious task which requires great patience, for the herd must be started by slow degrees.” Henry, astutely observing the gentle, coercive nature of a drive, remarked that bison are not so much run to their death, but, rather, “they are in a manner enticed to their destruction” [my emphasis].

The drive probably consisted of short bursts of movement where the herd scampered ahead, followed by a lull where the hunters purposefully allowed them to rest and remain calm. Patiently, the hunters waited for the herd to regroup, perhaps resume grazing, and then looked for an opportunity to nudge them ahead another short distance. A full stampede any distance from the edge of the

As the herd passed along the sides of the drive lanes, hunters fell in behind to ensure that the buffalo did not turn around to escape out the back of the funnel. (Courtesy Shayne Tolman)
Imagining Head-Smashed-In

Bison are gregarious animals that travel in large herds. That they run as a group and follow leaders was key to the success of communal kill events. (Courtesy Glenbow Archives/NA 3878-95)

cliff was undesirable and was actively avoided. But why not take full advantage of having the herd trapped inside the drive lanes and run them immediately toward the cliff? Why risk prolonging the event, increasing the chances that something might go wrong and have the animals escape? As with everything connected with a buffalo drive, there were sound reasons behind the human actions, reasons again rooted in an ancient understanding of the nature of the prey.

Bison are herd animals, a gregarious species that prefers to live and travel in large groups. When harassed or in trouble they run as a group, with certain mature cows recognized as the leaders. But imagine a herd of one or two hundred bison running over a long distance, say several kilometres. Every herd will automatically include a wide array of individuals, very old, very young, sick, wounded, and healthy prime animals. A herd of this diversity might well start off running as a tight group, but it won’t last long. In short order, the prime animals will sprint into the lead, some of the sick and old will start to lag behind, some of the very young will not have fully developed flight instincts and might run for a bit and then stop, causing the mothers to also halt their progress. Over the course of a moderate distance, a stampeding herd will lose its cohesion, becoming a strung-out line of animals rather than a running pack. Why would this be a bad thing? After all, if the prime cows are in the lead, and these are the most desirable animals, why not just keep driving the leaders toward the cliff and ignore the stragglers?
The answer has everything to do with the difference between a successful massive kill and utter failure. Hunters understood that running a long, strung-out herd of bison toward a cliff might well end with the killing of none, while getting a tight pack of animals to the precipice could end with killing all of them. It led Native hunters to avoid a full blown stampede until the final course of the drive, perhaps the final kilometre, or less. Before that, the drive likely progressed as an admixture of short spurts of movement and periods of rest, both for the bison and the hunters. This continued into the ever-constricting drive lanes. The tapering of the funnel permitted greater numbers of people to congregate along the narrowest parts of the lane, where the need for control, and the danger, was greatest.

Of Illusions, Pickup Trucks, and Curves in the Road

There are a number of important things that happen near the end of the drive to the cliff. Each is seemingly minor, but in combination they are part of the constellation of features that helped transform Head-Smashed-In into a most effective bison killing machine. Many buffalo jumps operated without any number of the special attributes that are present at Head-Smashed-In, but they didn't operate as often or as successfully.

The final stretch of the drive lanes swings through a prominent yet shallow valley that lies behind the jump. This valley perfectly guides the animals toward the cliff and would have been a major help in containing the herd – the buffalo confined to the valley bottom, the
Imagining Head-Smashed-In

† There are a number of theories as to why stone cairns suddenly disappear along the final stretch of the drive at Head-Smashed-In. One informant told me that the rocks were collected to form rip-rap for a weir on the Oldman River. With an abundance of surface rock blanketing the prairie much closer to the river, I find this hard to believe. More likely, given that the final run is both downhill and down wind, silt and sand, blown over the crest of the ridge, may have covered the small rock piles.

hunters and rock cairns commanding the high ground on each side. As you would expect, lines of stone cairns snake their way along both sides of this valley, a silent reminder that this was the path chosen by ancient map-makers thousands of years ago.

From their vantage point above the herds, the hunters had the upper hand in preventing the herd from rising up the sides of the valley and escaping. Other hunters poured into the valley bottom behind the herd to keep them from turning around. But this perfectly formed trap doesn’t continue right to the edge of the cliff. Approaching the final five hundred metres of the drive, the valley rises up a gradual slope out of the gathering basin and crests the ridge marking the top of the local hill behind the jump. Here the valley becomes less defined, broader, flatter, and it probably presented a greater challenge to controlling the herd. Unfortunately, stone cairns can no longer be found along this final stretch, so it is difficult to know the exact course of the drive.

After cresting the ridge, the land drops down a slight slope and begins the final run toward the cliff. A slight valley continues along this downslope run, and in the absence of stone cairns we can assume that the hunters sought to maintain control by keeping the animals in the lowest part of the land. Once, as an experiment, I walked the final distance toward the jump, instructing myself to keep to the lowest point of land. Crossing over this broader, rolling country, I swerved back and forth, always taking the lowest path. I worked my way east toward the cliff, eventually intersecting the sandstone escarpment exactly above the spot where the deep archaeological digs have been conducted, the place we think served as the major kill site. It seems likely that my footsteps that day followed the same path as the thundering herds of buffalo.

The final run to the cliff is all slightly downhill. This fact had two very important consequences that made Head-Smashed-In all that much more deadly. First, a downhill run takes advantage of the weight distribution in bison. They are massive animals, but a great deal of that mass is concentrated in the front end of the beast. The head is huge, with thick skull bones, horns, and massive sheets of neck muscle needed to hold up the mighty head. Also, the thickest part of the hide is found around the neck, which is why Natives used hide from the neck for making their war shields. Poised over the shoulder of the front legs is the great hump of the buffalo, a mass of
fat and muscle intertwined around the tall bony spines of the thoracic vertebrae. Below the hump is the deepest part of the chest, and the powerful front legs. Buffalo are like pickup trucks, the engine and weight housed in the front end, the rear end relatively light and poor for traction.

A front-heavy animal running downhill has a much more difficult time stopping or turning. Its weight carries it forward, propelling its motion. To be sure, bison are fantastic runners going down hill. Modern studies have shown bison increase their speed when running downhill, especially during a stampede. A century and a half ago, Edward Harris, ascending the Missouri with Audubon, commented on a chase made over “a long [downhill] slope of a couple of miles, giving greatly the advantage to the Buffalo who run with remarkable speed down hill, while the speed of a horse is sensibly checked.” It’s not that bison don’t run fast downhill; it’s that they have much less control than a horse does.

As the animals approached the final metres before the cliff, they would surely try to stop hard to avoid the precipice. Bison have no innate desire to plunge from the edge of a high cliff. Running on level ground, or slightly uphill, they would have a much better chance to take evasive action. But running downhill, the buffalo are at a distinct disadvantage, the momentum of their weight pulls them onward. Last minute turns or stops are just all that much more awkward and difficult. It isn’t a requirement that a buffalo jump has a downhill run at the end, but it sure helps. When interviewed in the 1940s by John Ewers, Weasel Tail recounted how “We built a corral near the edge of timber toward the bottom of a downhill slope.”

The second advantage of a downhill run at the end of the buffalo drive is more elusive. I had never seen it written about and only noticed it many years after I began working at Head-Smashed-In. Along with several members of my crew, I was exploring the land

The bedrock on each side of the channel leading to the jump has been etched with petroglyphs (rock carvings). The meaning of these grooves, lines, and circles is unclear, but their placement on each side of the final approach to the kill – and nowhere else in the area – suggests a relationship with the bison drive. (Courtesy Royal Alberta Museum)
above the cliff. I was further upslope from my crew and turned to look back. As my eyes scanned across the figures and the shortgrass prairie around them, I noticed something amiss, as if I was looking in the wrong direction. Where was the cliff? Had I somehow gotten turned around? I could see my crew, and grasslands extending well beyond them, beyond them forever, as far as my eye could see. The downhill aspect to the final run to the cliff creates an optical illusion. Because you are looking down, the land beyond the cliff simply merges with the foreground, creating the appearance of a continuous stretch of prairie with no interruption, no deadly break in the slope. The cliff virtually disappears.‡

† A member of the 1960s archaeology crew told me how they made a frightening discovery of the same effect. While moving excavation gear from the back side of the cliff, the driver of the pick-up truck came down the final sloping prairie, failed to notice the precipice, and nearly drove over the edge.

‡ Human eyesight is relatively good compared to the weaker eyes of bison. As the animals pounded down the final leg of the drive, they would have been even harder pressed than I to spot the edge of the cliff. They would have perceived a vast prairie in front of them – escape, freedom, relief from the pressing force of the nearby hunters. They may have run even harder over this final stretch, fixated by a belief that safe exit lay just ahead. Again, the illusion created by
the downhill run isn’t essential to a buffalo drive, but it is one more piece of an enormous complex of factors that contributed to Head-Smashed-In being perhaps the premier of all jumps.

The final important thing that happens at the end of the drive is again subtle, but it is a characteristic that Head-Smashed-In shares with a few other communal buffalo kills. It is a turn in the direction of the stampede. Leading up to the final stretch, the last several kilometres of the drive lanes winding their way through the gathering basin have been essentially straight, trending west to east. But as the lanes crest the ridge and begin the downhill run, there is a broad, gentle sweep to the north. The valley of confinement becomes less distinct here, but there still is a definite low point of land – the one I followed that day when I walked to the very edge of the cliff. It is this lowest part of the land that makes a subtle curve to the north. Not due north, parallel to the cliff, but northeast, so that the path of the drive still intersects the cliff edge, just at more of an angle rather than straight on.

This trait seems to have been intentionally selected by ancient hunters, as it shows up at a number of bison jumps and pounds on the Great Plains. Writing about bison pounds built by the Plains Cree, Mandelbaum stated, “The chute took a sharp turn just before the entrance to the enclosure so that the onrushing herd could not see the corral until it was too late to stop. Men were stationed at this bend and at several places along the chute.”

The intent of the curve near the end of the drive seems clear. It was to help perpetuate for as long as possible the illusion that no trouble lay ahead, to hide the presence of the cliff until the last possible moment. Bison cresting the ridge and stampeding down the final leg, assuming hunters commanded the high ground and animals were confined to the shallow valley, had to curve their path towards the northeast if they wanted to avoid the people shouting and waving robes who were perched to both sides of them. Running this curve and looking ahead into the distance, even if just for a few moments, takes their eyes off the position of the cliff. Every second the animals didn’t see the danger that lay before them was one more fraction of an advantage for the hunters and one more nail in the coffin of the stampeding herd. That this trait shows up at a number of buffalo kill sites suggests that these few seconds were critical to the success of the drive.
If all went as planned, if the Spirit Beings were appropriately appeased, if the wind was right, if the buffalo runners executed their roles with skill, if the herd was in the right place and of the right composition, and if every other factor fell into place, a thundering herd of perhaps a hundred or more five-hundred- to one-thousand-kilogram animals bore down on the edge of a steep escarpment. The moment of truth had arrived. The most crucial few seconds in the lives of many Plains Aboriginal groups, and for countless buffalo, were about to begin. These few seconds have made buffalo jumps famous and infamous around the world. In a global perspective, they must have been some of the most dramatic moments of any hunting and gathering society on earth.