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THE LAST OF THE BUFFALO.

By George Bird Grinnell.



ON the floor, on either side of my fireplace, lie two buffalo skulls. They are white and weathered, the horns cracked and bleached by the snows and frosts, and the rains and heats of many winters and summers. Often, late at night, when the house is quiet, I sit before the fire, and muse and dream of the old days; and as I gaze at these relics of the past, they take life before my eyes. The matted brown hair again clothes the dry bone, and in the empty orbits the wild eyes gleam. Above me curves the blue arch; away on every hand stretches the yellow prairie, and scattered near and far are the dark forms of buffalo. They dot the rolling hills, quietly feeding like tame cattle, or lie at ease on the slopes, chewing the cud and half asleep. The yellow calves are close by their mothers; on little eminences the great bulls paw the dust, and mutter and moan, while those whose horns have grown one, two, and three winters are mingled with their elders.

Not less peaceful is the scene near some river-bank, when the herds come down to water. From the high prairie on every side they stream into the valley, stringing along in single file, each band following the deep trail worn in the parched soil by the tireless feet of generations of their kind. At a quick walk they swing along, their heads held

low. The long beards of the bulls sweep the ground; the shuffling tread of many hoofs marks their passing, and above each long line rises a cloud of dust that sometimes obscures the westering sun.

Life, activity, excitement, mark another memory as vivid as these. From behind a near hill, mounted men ride out and charge down toward the herd. For an instant the buffalo pause to stare, and then crowd together in a close throng, jostling and pushing each other, a confused mass of horns, hair, and hoofs. Heads down and tails in air, they rush away from their pursuers, and as they race along herd joins herd, till the black mass sweeping over the prairie numbers thousands. On its skirts hover the active, nimble horsemen, with twanging bowstrings and sharp arrows piercing many fat cows. The naked Indians cling to their naked horses as if the two were parts of one incomparable animal, and swing and yield to every motion of their steeds with the grace of perfect horsemanship. The ponies, as quick and skillful as the men, race up beside the fastest of the herd, swing off to avoid the charge of a maddened cow, and returning, dart close to the victim, whirling hither and yon, like swallows on the wing. And their riders, with the unconscious skill, grace, and power of matchless archery, are drawing their bows to the arrow's head, and driving the feathered shaft deep through the bodies of the buffalo. Returning on

their tracks, they skin the dead, then load the meat and robes on their horses, and with laughter and jest ride away.

After them, on the deserted prairie, come the wolves to tear at the carcasses. The rain and the snow wash the blood from the bones, and fade and bleach

carefully guarded in the forests of Grodno, about equal in numbers the buffalo in the Yellowstone Park; while the wild bison in the Caucasus may be compared with the "wood" buffalo which survive in the Peace River district. In view of the former abundance



A Blackfoot Piskun.

the hair. For a few months the skeleton holds together; then it falls down, and the fox and the badger pull about the whitening bones and scatter them over the plain. So this cow and this bull of mine may have left their bones on the prairie where I found them and picked them up to keep as mementoes of the past, to dream over, and in such reverie to see again the swelling hosts which yesterday covered the plains, and to-day are but a dream.

So the buffalo passed into history. Once an inhabitant of this continent from the Arctic slope to Mexico, and from Virginia to Oregon, and, within the memory of men yet young, roaming the plains in such numbers that it seemed that it could never be exterminated, it has now disappeared as utterly as has the bison from Europe. For it is probable that the existing herds of that practically extinct species, now

of our buffalo, this parallel is curious and interesting.

The early explorers were constantly astonished by the multitudinous herds which they met with, the regularity of their movements, and the deep roads which they made in travelling from place to place. Many of the earlier references are to territory east of the Mississippi, but even within the last fifteen years buffalo were to be seen on the Western plains in numbers so great that an entirely sober and truthful account seems like fable. Describing the abundance of buffalo in a certain region, an Indian once said to me, in the expressive sign language of which all old frontiersmen have some knowledge, "The country was one robe."

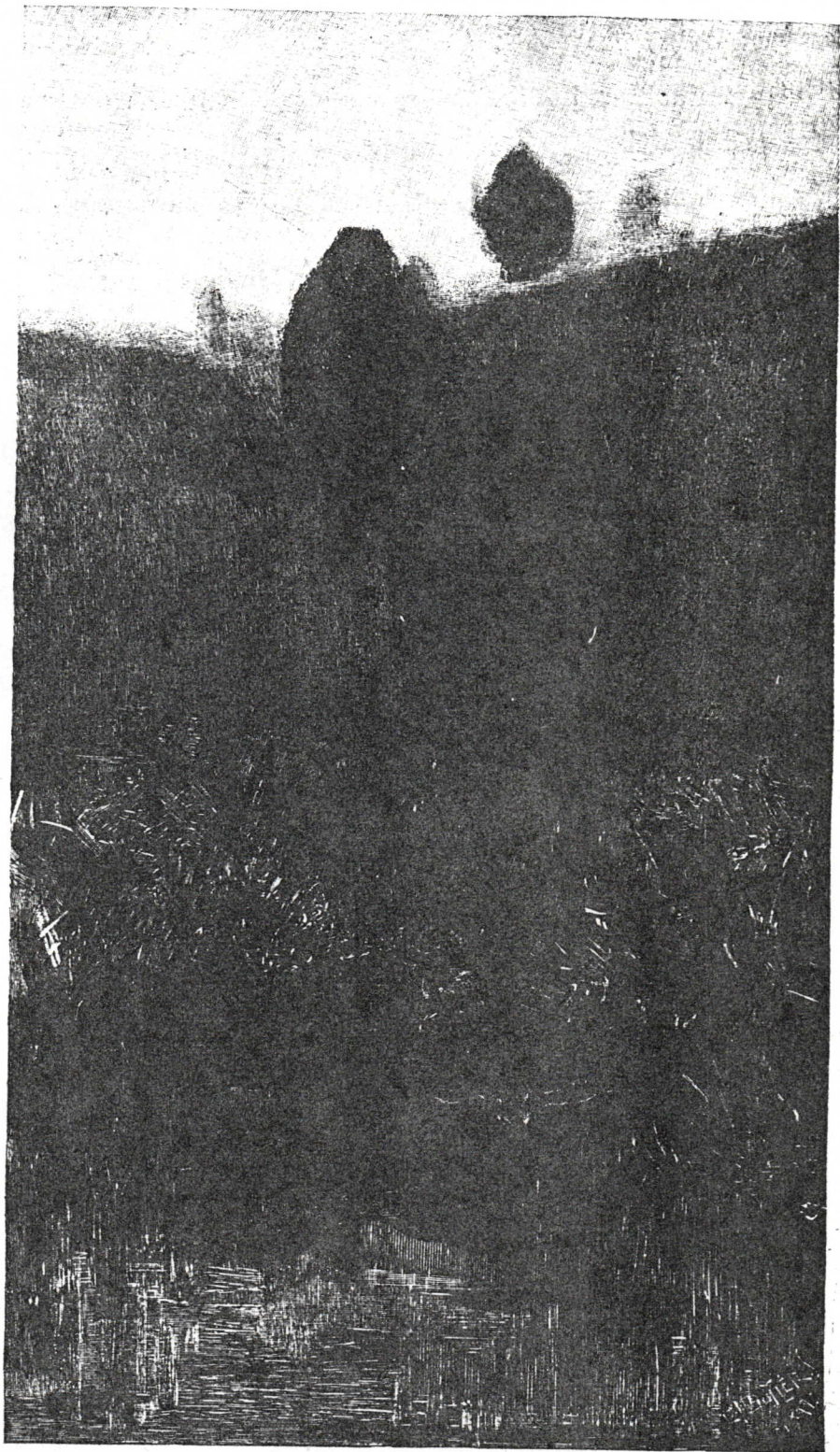
Much has been written about their enormous abundance in the old days, but I have never read anything that I thought an exaggeration of their num-

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DRAWN BY ERNEST E. THOMPSON.

Through the Mist.

ENGRAVED BY C. I. BUTLER.

bers as I have seen them. Only one who has actually spent months in travelling among them in those old days can credit the stories told about them. The trains of the Kansas Pacific Railroad used frequently to be detained by herds which were crossing the tracks in front of the engines, and in 1870, trains on which I was travelling were

alarmed and running, but were usually scattered about, feeding or lying down on the prairie at a little distance from one another, much as domestic cattle distribute themselves in a pasture or on the range. As far as we could see on every side of the line of march, and ahead, the hillsides were dotted with dark forms, and the field-glass revealed



twice so held, in one case for three hours. When railroad travel first began on this road, the engineers tried the experiment of running through these passing herds, but after their engines had been thrown from the tracks they learned wisdom, and gave the buffalo the right of way. Two or three years later, in the country between the Platte and Republican Rivers, I saw a closely massed herd of buffalo so vast that I dare not hazard a guess as to its numbers; and in later years I have travelled for weeks at a time, in northern Montana, without ever being out of sight of buffalo. These were not in close herds, except now and then when

yet others stretched out on every side in one continuous host, to the most distant hills. Thus was gained a more just notion of their numbers than could be had in any other way, for the sight of this limitless territory occupied by these continuous herds was more impressive than the spectacle of a surging, terrified mass of fleeing buffalo, even though the numbers which passed rapidly before one's gaze in a short time were very great.

The former range of the buffalo has been worked out with painstaking care by Dr. Allen, to whom we owe an admirable monograph on this species. He concludes that the northern limit of this

range was north of the Great Slave Lake, in latitude about 63° N. ; while to the south it extended into Mexico as far as latitude 25° N. To the west it ranged at least as far as the Blue Mountains of Oregon, while on the east it was abundant in the western portions of New York, Pennsylvania, Virginia, North and South Carolina, and Georgia. In the interior the buffalo were very abundant, and occupied Ohio, Kentucky, West Virginia, Tennessee, West Georgia, Illinois, Indiana, and Iowa, parts of Michigan, Wisconsin, and Minnesota, the whole of the great plains, from southern Texas north to their northern limit, and much of the Rocky Mountains. In Montana, Idaho, Wyoming, and most of New Mexico they were abundant, and probably common over a large part of Utah, and perhaps in northern Nevada. So far as now known, their western limit was the Blue Mountains of Oregon and the eastern foothills of the Sierra Nevada.

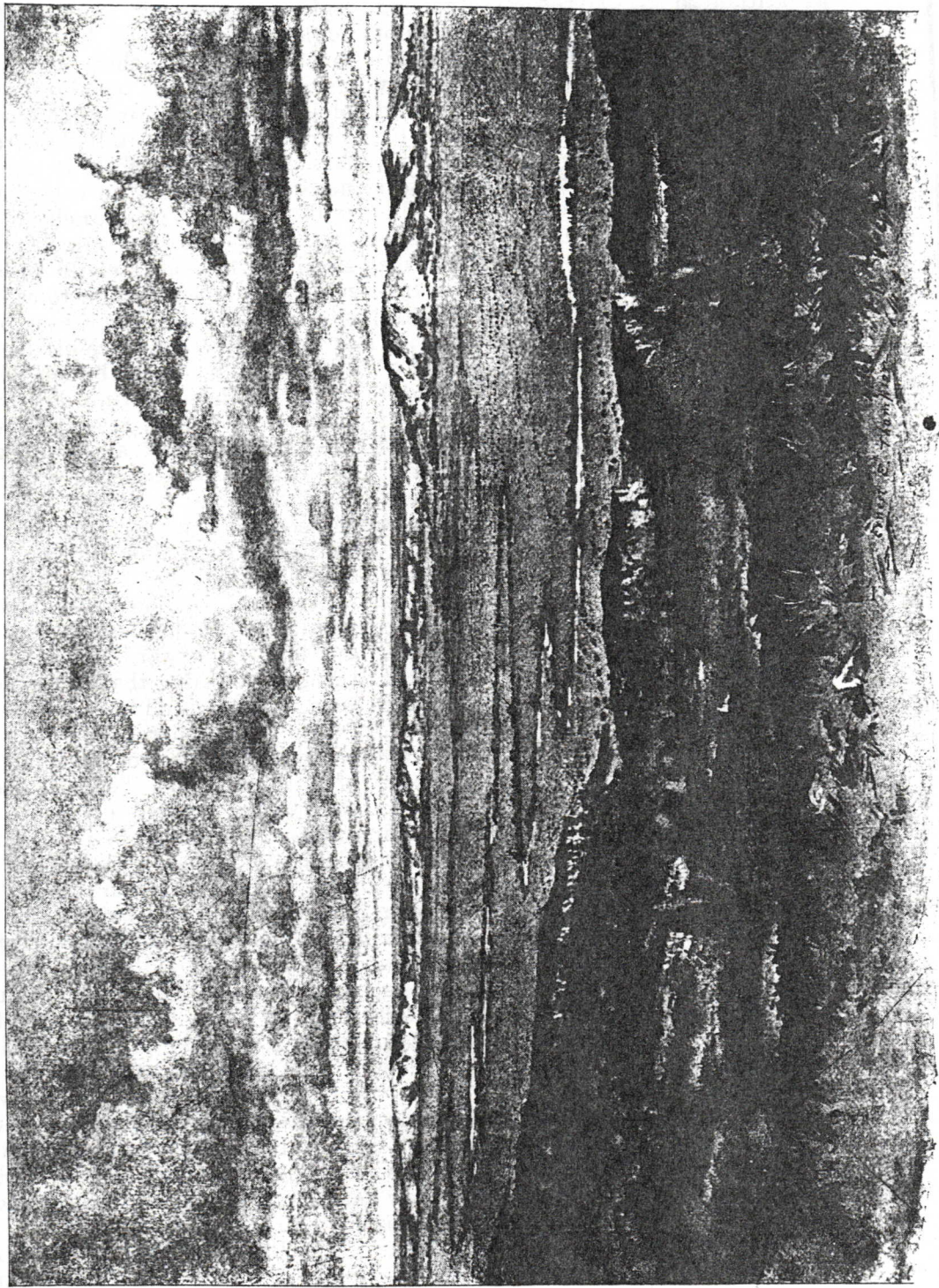
Thus it will be seen that the buffalo once ranged over a large part of the American Continent—Dr. Allen says one-third of it—but it must not be imagined that they were always present at the same time in every part of their range. They were a wandering race, sometimes leaving a district and being long absent, and again returning and occupying it for a considerable period. What laws or what impulses governed these movements we cannot know. Their wandering habits were well understood by the Indians of the Western plains, who depended upon the buffalo for food. It was their custom to follow the herds about, and when, as sometimes occurred, these moved away and could not be found, the Indians were reduced to great straits for food, and sometimes even starved to death.

Under natural conditions the buffalo was an animal of rather sluggish habits, mild, inoffensive, and dull. In its ways of life and intelligence it closely resembled our domestic cattle. It was slow to learn by experience, and this lack of intelligence greatly hastened the destruction of the race. Until the very last years of its existence as a species, it did not appear to connect the report of fire-arms with any idea of danger to

itself, and, though constantly pursued, did not become wild. If he used skill and judgment in shooting, a hunter who had "got a stand" on a small bunch could kill them all before they had moved out of rifle-shot. It was my fortune, one summer, to hunt for a camp of soldiers, and more than once I have lain on a hill above a little herd of buffalo, shot down what young bulls I needed to supply the camp, and then walked down to the bunch and, by waving my hat and shouting, driven off the survivors, so that I could prepare the meat for transportation to camp. This slowness to take the alarm, or indeed to realize the presence of danger, was characteristic of the buffalo almost up to the very last. A time did come when they were alarmed readily enough, but this was not until all the large herds had been broken up and scattered, and the miserable survivors had been so chased and harried that at last they learned to start and run even at their own shadows.

Another peculiarity of the buffalo was its habit, when stampeded, of dashing blindly forward against, over, or through anything that might be in the way. When running, a herd of buffalo followed its leaders, and yet these leaders lost the power of stopping, or even of turning aside, because they were constantly crowded upon and pushed forward by those behind. This explains why herds would dash into mire or quicksands, as they often did, and thus perish by the thousands. Those in front could not stop, while those behind could not see the danger toward which they were rushing. So, too, they ran into rivers, or into traps made for them by the Indians, or against railroad cars, or even dashed into the rivers and swam blindly against the sides of steamboats. If an obstacle lay squarely across their path, they tried to go through it, but if it lay at an angle to their course they would turn a little to follow it.

The buffalo calf is born from April to June, and at first is an awkward little creature, looking much like a domestic calf, but with a shorter neck. The hump at first is scarcely noticeable, but develops rapidly. They are odd-looking and



DRAWN BY ERNEST E. THOMPSON.

Going to Water.

very playful little animals. They are easily caught and tamed, when quite young, but when a few months old they become as shy as the old buffalo, and are much more swift of foot.

Although apparently very sluggish, buffalo are really extremely active, and are able to go at headlong speed over a country where no man would dare to ride a horse. When alarmed they will throw themselves down the almost vertical side of a cañon and climb the opposite wall with cat-like agility. Sometimes they will descend cut banks by jumping from shelf to shelf of rock like the mountain sheep. To get at water when thirsty, they will climb down bluffs that seem altogether impracticable for such great animals. Many years ago, while descending the Missouri River in a flat-boat with two companions, I landed in a wide bottom to kill a mountain sheep. As we were bringing the meat to the boat, we saw on the opposite side of the river, about half-way down the bluffs, which were here about fifteen hundred feet high, a large buffalo bull. The bluffs were almost vertical, and this old fellow was having some difficulty in making his way down to the water. He went slowly and carefully, at times having pretty good going, and at others slipping and sliding for thirty or forty feet, sending the clay and stones rolling ahead of him in great quantities. We watched him for a little while, and then it occurred to some malicious spirit among us that it would be fun to see whether the bull could go up where he had come down. • A shot was fired so as to strike near him—for no one wanted to hurt the old fellow—and as soon as the report reached his ears, he turned about and began to scramble up the bluffs. His first rush carried him, perhaps, a hundred feet vertically, and then he stopped and looked around. He seemed not to have the slightest difficulty in climbing up, nor did he use any caution or appear to pick his way at all. A second shot caused another rush up the steep ascent, but this time he went only half as far as before and again stopped. Three or four other shots drove him by shorter and shorter rushes up the bluffs, until at length he would go no further, and subsequent shots only

caused him to shake his head angrily. Plainly he had climbed until his wind had given out, and now he would stand and fight. Our fun was over, and looking back as we floated down the river, our last glimpse was of the old bull, still standing on his shelf, waiting with lowered head for the unknown enemy that he supposed was about to attack him.

It is not only under stress of circumstances that the bison climbs. The mountain buffalo is almost as active as the mountain sheep, and was often found in places that tested the nerve and activity of a man to reach; and even the buffalo of the plains had a fondness for high places, and used to climb up on to broken buttes or high rocky points in the foothills. In recent years I have often noticed the same habit among range cattle and horses.

The buffalo were fond of rolling in the dirt, and to this habit, practised when the ground was wet, are due the buffalo wallows which so frequently occur in the old ranges, and which often contain water after all other moisture, except that of the streams, is dried up. These wallows were formed by the rolling of a succession of buffalo in the same moist place, and were often quite deep. They have often been described. Less well known was the habit of scratching themselves against trees and rocks. Sometimes a solitary erratic boulder, five or six feet high, may be seen on the bare prairie, the ground immediately around it being worn down two or three feet below the level of the surrounding earth. This is where the buffalo have walked about the stone, rubbing against it, and where they trod loosening the soil, which has been blown away by the wind, so that in course of time a deep trench was worn about the rock. Often single trees along streams were worn quite smooth by the shoulders and sides of the buffalo.

When the first telegraph line was built across the continent, the poles used were light and small, for transportation over the plains was slow and expensive, and it was not thought necessary to raise the wires high above the ground. These poles were much resorted to by the buffalo to scratch against, and before long a great many

Going to Water.

DRAWN BY ERNEST E. THOMPSON.

of them were pushed over. A story, now of considerable antiquity, is told of an ingenious employee of the telegraph company, who devised a plan for preventing the buffalo from disturbing the poles. This he expected to accomplish by driving into them spikes which should prick the animals when they rubbed against them. The result somewhat astonished the inventor, for it was discovered that, where formerly one buffalo rubbed against the smooth telegraph poles, ten now struggled and fought for the chance to scratch themselves against the spiked poles, the iron furnishing just the irritation which their tough hides needed.

It was in spring, when his coat was being shed, that the buffalo, odd-looking enough at any time, presented his most grotesque appearance. The matted hair and wool of the shoulders and sides began to peel off in great sheets, and these sheets, clinging to the skin and flapping in the wind, gave the animal the appearance of being clad in rags.

The buffalo was a timid creature, but brought to bay would fight with ferocity. There were few sights more terrifying to the novice than the spectacle of an old bull at bay. His mighty bulk a quivering mass of active, enraged muscle; the shining horns, the little, spiky tail, and the eyes half hidden beneath the shaggy frontlet, yet gleaming with rage, combined to render him an awe-inspiring object. Nevertheless, owing to their greater speed and activity, the cows were much more to be feared than the bulls.

It was once thought that the buffalo performed annually extensive migrations, and it was even said that those which spent the summer on the banks of the Saskatchewan wintered in Texas. There is no reason for believing this to have been true. Undoubtedly there were slight general movements north and south, and east and west, at certain seasons of the year, but many of the accounts of these movements are entirely misleading, because greatly exaggerated. In one portion of the northern country I know that there was a decided east and west seasonal migration, the herds tending in spring away

from the mountains, while in the autumn they worked back again, no doubt seeking shelter in the rough, broken country of the foothills from the cold west winds of the winter.

The buffalo is easily tamed when caught as a calf, and in all its ways of life resembles the domestic cattle. It at once learns to respect a fence, and manifests no disposition to wander.

Three years ago there were in this country about two hundred and fifty domesticated buffalo, in the possession of about a dozen individuals. Of these the most important herd was that of Hon. C. J. Jones, of Garden City, Kan., which included about fifty animals captured and reared by himself, and the Bedson herd of over eighty, purchased in Manitoba. The Jones herd at one time consisted of about one hundred and fifty head. Next came that of Charles Allard and Michel Pablo, of the Flat Head Agency in Montana, which in 1888 numbered thirty-five, and has now increased to about ninety. Mr. Jones's herd has been broken up, and he now retains only about forty-five head, of which fifteen are breeding cows. He tells me that within the past year or two he has sold over sixty pure buffalo, and that nearly as many more have died through injuries received in transporting them by rail.

Mr. Jones is the only individual who of recent years has made any systematic effort to cross the buffalo with our own domestic cattle. As far back as the beginning of the present century, this was successfully done in the West and Northwest, and in Audubon & Bachman's "Quadrupeds of America" may be found an extremely interesting account, written by Robert Wickliffe, of Lexington, Ky., giving the results of a series of careful and successful experiments which he carried on for more than thirty years. These experiments showed that the cross for certain purposes was a very valuable one, but no systematic efforts to establish and perpetuate a breed of buffalo cattle were afterward made until within the past ten years. Mr. Jones has bred buffalo bulls to Galloway, Polled Angus, and ordinary range cows, and has succeeded in obtaining calves from all. Such half-breeds are of very

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At Mid-day,

DRAWN BY ERNEST E. THOMPSON.

large size, extremely hardy, and, as a farmer would say, "easy keepers." They are fertile among themselves or with either parent. A half-breed cow of Mr. Jones's that I examined was fully as large as an ordinary work-ox, and in

domesticated buffalo will be allowed to leave the country where they were born. Indeed, it would seem quite within the lines of the work now being carried on by the Agricultural Department for the Government to purchase all the domes-



A Relic.

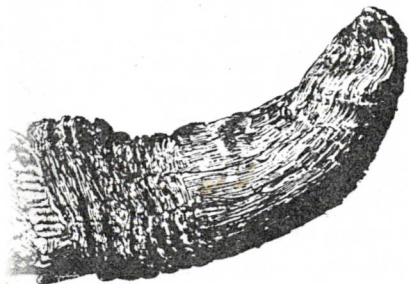
spring, while nursing a calf, was fat on grass. She lacked the buffalo hump, but her hide would have made a good robe. The great size and tremendous frame of these cross-bred cattle should make them very valuable for beef, while their hardiness would exempt them from the dangers from winter—so often fatal to domestic range cattle—and they produce a robe which is quite as valuable as that of the buffalo, and more beautiful because more even all over. If continued, these attempts at cross-breeding may do much to improve our Western range cattle.

Mr. Jones has sold a number of buffalo to persons in Europe where there is a considerable demand for them. It is to be hoped that no more of these

ticated American buffalo that can be had, and to start, in some one of the Western States, an experimental farm for buffalo breeding and buffalo crossing. With a herd of fifty pure bred buffalo cows and a sufficient number of bulls, a series of experiments could be carried on which might be of great value to the cattle growers of our western country. The stock of pure buffalo could be kept up and increased, surplus bulls, pure and half bred, could be sold to farmers, and, in time, the new race of buffalo cattle might become so firmly established that it would endure.

To undertake this with any prospect of success, such a farm would have to be managed by a man of intelligence and of wide experience in this particu-

domesticated buffalo will be allowed to range in the country where they were born. It would seem quite within the scope of the work now being carried on by the Agricultural Department for the Government to purchase all the domesticated



field; otherwise all the money invested would be wasted. Mr. Jones is perhaps the only man living who knows enough of this subject to carry on such an experimental farm with success.

Although only one species of buffalo is known to science, old mountaineers and Indians tell of four kinds. These are, besides the ordinary animal of the plains, the "mountain buffalo," sometimes called "bison," which is found in the timbered Rocky Mountains; the "wood buffalo" of the Northwest, which inhabits the timbered country to the west and north of Athabaska Lake; and the "beaver buffalo." The last named has been vaguely described to me by northern Indians as small and having a very curly coat. I know of only one printed account of it, and this says that it had "short, sharp horns which were small at the root and curiously turned up and bent backward, not unlike a ram's, but quite unlike the bend of the horn in the common buffalo." It is possible that this description may refer to the musk ox and not to a buffalo. The "mountain" and "wood" buffalo seem to be very much alike in habit and appearance. They are larger, darker, and heavier than the animal of the plains, but there is no reason for thinking them specifically distinct from it. Such differences as existed were due to the conditions of their environments.

The color of the buffalo in its new coat is a dark liver-brown. This soon changes, however, and the robes, which are at their best in November and early December, begin to grow paler toward spring; and when the coat is shed, the hair and wool from young animals is almost a dark smoky-gray. The calf when first born is of a bright yellow color, almost a pale red on the line of the back. As it grows older it becomes darker, and by late autumn is almost as dark as the adults. Variations from the normal color are very rare, but pied, spotted, and roan animals were sometimes killed. Blue or mouse-colored buffalo were occasionally seen, and a bull of this color was observed in the National Park last January. White buffalo—though often referred to as mythical—sometimes occurred. These varied from gray to

cream-white. The rare and valuable "silk" or "beaver" robe owes its name to its dark color and its peculiar sheen or gloss. White or spotted robes were highly valued by the Indians. Among the Blackfeet they were presented to the Sun as votive offerings. Other tribes kept them in their sacred bundles.

Apart from man, the buffalo had but few natural enemies. Of these the most destructive were the wolves, which killed a great many of them. These, however, were principally old, straggling bulls, for the calves were protected by their mothers, and the females and young stock were so vigorous and so gregarious that they had but little to fear from this danger. It is probable that, notwithstanding the destruction which they wrought, the wolves performed an important service for the buffalo race, keeping it vigorous and healthy by killing weak, disabled, and superannuated animals, which could no longer serve any useful purpose in the herd, and yet consumed the grass which would support a healthy breeding animal. It is certainly true that sick buffalo, or those out of condition, were rarely seen.

The grizzly bear fed to some extent on the carcasses of buffalo drowned in the rivers or caught in the quicksands, and occasionally they caught living buffalo and killed them. A Blackfoot Indian told me of an attempt of this kind which he witnessed. He was lying hidden by a buffalo trail in the Bad Lands, near a little creek, waiting for a small bunch to come down to water, so that he might kill one. The buffalo came on in single file as usual, the leading animal being a young heifer. When they had nearly reached the water, and were passing under a vertical clay wall, a grizzly bear, lying hid on a shelf of this wall, reached down, and with both paws caught the heifer about the neck and threw himself upon her. The others at once ran off, and a short struggle ensued, the bear trying to kill the heifer, and she to escape. Almost at once, however, the Indian saw a splendid young bull come rushing down the trail toward the scene of conflict, and charge the bear, knocking him down. A fierce combat ensued. The bull would charge the bear, and when

American buffalo that can be started, in some one of the states, an experimental farm breeding and buffalo cross-bred a herd of fifty pure bred and a sufficient number of experiments could be which might be of great cattle growers of our west.

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he struck him fairly would knock him off his feet, often inflicting severe wounds with his sharp horns. The bear struck at the bull, and tried to catch him by the head or shoulders, and to hold him, but this he could not do. After fifteen or twenty minutes of fierce and active fighting the bear had received all the punishment he cared for, and tried to escape, but the bull would not let him go, and kept up the attack until he had killed his adversary. Even after the bear was dead the bull would gore the carcass and sometimes lift it clear of the ground on his horns. He seemed insane with rage, and, notwithstanding the fact that most of the skin was torn from his head and shoulders, appeared to be looking about for something else to fight. The Indian was very much afraid lest the bull should discover and kill him, and was greatly relieved when he finally left the bear and went off to join his band. This Blackfoot had never heard of Uncle Remus's tales, but he imitated Brer Rabbit—laid low and said nothing.

To the Indians the buffalo was the staff of life. It was their food, clothing, dwellings, tools. The needs of a savage people are not many, perhaps, but whatever the Indians of the plains had, that the buffalo gave them. It is not strange, then, that this animal was revered by most plains tribes, nor that it entered largely into their sacred ceremonies, and was in a sense worshipped by them. The Pawnees say "Through the corn and the buffalo we worship the Father." The Blackfeet ask, "What one of all the animals is most sacred?" and the reply given is "The buffalo."

The robe was the Indian's winter covering and his bed, while the skin, freed from the hair and dressed, constituted his summer sheet or blanket. The dressed hide was used for moccasins, leggings, shirts, and women's dresses. Dressed cow-skins formed their lodges, the warmest and most comfortable portable shelters ever devised. Braided strands of raw hide furnished them with ropes and lines, and these were made also from the twisted hair. The green hide was sometimes used as a kettle, in which to boil

meat, or, stretched over a frame of boughs, gave them coracles, or boats, for crossing rivers. The tough, thick hide of the bull's neck, allowed to shrink smooth, made a shield which would turn a lance-thrust, an arrow, or even the ball from an old-fashioned smooth-bore gun. From the raw hide, the hair having been shaved off, were made *parfleches*—envelope-like cases which served for trunks or boxes—useful to contain small articles. The cannon-bones and ribs were used to make implements for dressing hides; the shoulder-blades lashed to sticks made hoes and axes, and the ribs runners for small sledges drawn by dogs. The hoofs were boiled to make a glue for fastening the feathers and heads on their arrows, the hair used to stuff cushions, and later saddles, strands of the long black beard to ornament articles of wearing-apparel and implements of war, such as shields and quivers. The sinews lying along the back gave them thread and bow-strings, and backed their bows. The horns furnished spoons and ladles, and ornamented their war bonnets. Water buckets were made from the lining of the paunch. The skin of the hind leg cut off above the pastern, and again a short distance above the hock, was once used for a moccasin or boot. Fly-brushes were made from the skin of the tail dried on sticks. Knife-sheaths, quivers, bow-cases, gun-covers, saddle-cloths, and a hundred other useful and necessary articles, all were furnished by the buffalo. The Indians killed some smaller game, as elk, deer, and antelope, but for food their dependence was on the buffalo. But before the coming of the whites their knives and arrow-heads were merely sharpened stones, weapons which would be inefficient against such great, thick-skinned beasts. Even under the most favorable circumstances, with these primitive implements, they could not kill food in quantities sufficient to supply their needs. There must be some means of taking the buffalo in considerable numbers. Such wholesale capture was accomplished by traps or surrounds, which all depended for success on one characteristic of the animal—its curiosity.

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The Blackfeet, Plains Crees, Gros Ventres of the Prairie, Sarcees, some bands of the Dakotas, Snakes, Crows, and some others, drove the herds of buffalo into pens from above, or over high cliffs, where the fall killed or crippled a large majority of the herd. The Cheyennes and Arapahoes drove them into pens on level ground; the Blackfeet, Aricaras, Mandans, Gros Ventres of the Village, Pawnees, Omahas, Otoes, and others, surrounded the herds in great circles on the prairie, and then frightening them so that they started running, kept them from breaking through the line of men, and made them race round and round in a circle, until they were so exhausted that they could not run away, and were easily killed.

These primitive modes of slaughter have been described by earlier writers, and frequently quoted in recent years; yet, in all that has been written on this subject I fail to find a single account which gives at all a true notion of the methods employed, or the means by which the buffalo were brought into the enclosures. Eye-witnesses have been careless observers, and have taken many things for granted. My understanding of this matter is derived from men who from childhood have been familiar with these things, and from them, during years of close association, I have again and again heard the story of these old hunting methods.

The Blackfoot trap was called the *pískūn*. It was an enclosure, one side of which was formed by the vertical wall of a cut bank, the others being built of rocks, logs, poles, and brush six or eight feet high. It was not necessary that these walls should be very strong, but they had to be tight, so that the buffalo could not see through them. From a point on the cut bank above this enclosure, in two diverging lines stretching far out into the prairie, piles of rock were heaped up at short intervals, or bushes were stuck in the ground, forming the wings of a V-shaped chute, which would guide any animals running down the chute to its angle above the *pískūn*. When a herd of buffalo were feeding near at hand, the people prepared for the hunt, in

which almost the whole camp took part. It is commonly stated that the buffalo were driven into the *pískūn* by mounted men, but this is not the case. They were not driven but led, and they were led by an appeal to their curiosity. The man who brought them was usually the possessor of a "buffalo rock," a talisman which was believed to give him greater power to call the buffalo than was had by others. The previous night was spent by this man in praying for success in the enterprise of the morrow. The help of the Sun, *Nápi*, and all Above People was asked for, and sweet grass was burned to them. Early in the morning, without eating or drinking, the man started away from the camp and went up on the prairie. Before he left the lodge he told his wives that they must not go out, or even look out, of the lodge during his absence. They should stay there, and pray to the Sun for his success, and burn sweet grass until he returned. When he left the camp and went up on to the prairie toward the buffalo, all the people followed him, and distributed themselves along the wings of the chute, hiding behind the piles of rock or brush. The caller sometimes wore a robe and a bull's head bonnet, or at times was naked. When he had approached close to the buffalo, he endeavored to attract their attention by moving about, wheeling round and round, and alternately appearing and disappearing. The feeding buffalo soon began to raise their heads and stare at him, and presently the nearest ones would walk toward him to discover what this strange creature might be, and the others would follow. As they began to approach, the man withdrew toward the entrance of the chute. If the buffalo began to trot, he increased his speed, and before very long he had the herd well within the wings. As soon as they had passed the first piles of rock, behind which some of the people were concealed, the Indians sprang into view, and by yelling and waving robes frightened the hindmost of the buffalo, which then began to run down the chute. As they passed along, more and more people showed themselves and added to their terror,

and in a very short time the herd was in a headlong stampede, guided toward the angle above the *piskūn* by the piles of rock on either side.

About the walls of the *piskūn*, now full of buffalo, were distributed the women and children of the camp, who, leaning over the enclosure, waving their arms and calling out, did all they could to frighten the penned-in animals, and to keep them from pushing against the walls or trying to jump or climb over them. As a rule the buffalo raced round within the enclosure, and the men shot them down as they passed, until all were killed. After this the people all entered the *piskūn* and cut up the dead, transporting the meat to camp. The skulls, bones, and less perishable offal were removed from the enclosure, and the wolves, coyotes, foxes, and badgers devoured what was left.

It occasionally happened that something occurred to turn the buffalo, so that they passed through the guiding arms and escaped. Usually they went on straight to the angle and jumped over the cliff into the enclosure below. In winter, when snow was on the ground, their straight course was made additionally certain by placing on, or just above the snow, a line of buffalo chips leading from the angle of the V, midway between its arms out on to the prairie. These dark objects, only twenty or thirty feet apart, were easily seen against the white snow, and the buffalo always followed them, no doubt thinking this a trail where another herd had passed.

By the *Sauiksik* tribe of the Black-foot nation and the Plains Crees, the *piskūn* was built in a somewhat different way, but the methods employed were similar. With these people, who inhabited a flat country, the enclosure was built of logs and near a timbered stream. Its walls were complete; that is, there was no opening or gateway in them, but at one point this wall, elsewhere eight feet high, was cut away so that its height was only about four feet. From this point a bridge or causeway of logs, covered with dirt, sloped by a gradual descent down to the level of the prairie. This bridge was fenced on either side with logs, and the arms

of the V came together at the point where the bridge reached the ground. The buffalo were driven down the chute as before, ran up on this bridge, and were forced to leap into the pen. As soon as all had entered, Indians who had been concealed near by ran up and put poles across the opening through which the buffalo had passed, and over these poles hung robes so as entirely to conceal the outer world. Then the butchering of the animals took place.

Further to the south, out on the prairie, where timber and rocks and brush were not obtainable for making traps like these, simpler but less effective methods were adopted. The people would go out on the prairie and conceal themselves in a great circle, open on one side. Then some man would approach the buffalo, and decoy them into the circle. Men would now show themselves at different points and start the buffalo running in a circle, yelling and waving robes to keep them from approaching, or trying to break through, the ring of men. This had to be done with great judgment, however, for often if the herd got started in one direction it was impossible to turn it, and it would rush through the ring and none would be secured. Sometimes if a herd was found in a favorable position, and there was no wind, a large camp of people would set up their lodges all about the buffalo, in which case the chances of success in the surround were greatly increased.

The tribes which used the *piskūn* also practised driving the buffalo over high, rough cliffs, where the fall crippled or killed most of the animals which went over. In such situations, no enclosure was built at the foot of the precipice.

In the later days of the *piskūn* in the north, the man who brought the buffalo often went to them on horseback, riding a white horse. He would ride backward and forward before them, zig-zagging this way and that, and after a little they would follow him. He never attempted to drive, but always led them. The driving began only after the herd had passed the outer rock piles, and the people had begun to rise up and frighten them.

This method of securing meat has been practised in Montana within thirty years, and even more recently among the Plains Crees of the north. I have seen the remains of old *piskūns*, and the guiding wings of the chute, and have talked with many men who have taken part in such killings.

All this had to do, of course, with the primitive methods of buffalo killing. As soon as horses became abundant, and sheet-iron arrow-heads, and later guns, were secured by the Indians, these old practices began to give way to the more exciting pursuit of running buffalo and of surrounding them on horseback. Of this modern method, as practised twenty years ago, and exclusively with the bow and arrow, I have already written at some length in another place.

To the white travellers on the plains in early days the buffalo furnished support and sustenance. Their abundance made fresh meat usually obtainable, and the early travellers usually carried with them bundles of dried meat, or sacks of pemmican, food made from the flesh of the buffalo, that contained a great deal of nutriment in very small bulk. Robes were used for bedding, and in winter buffalo moccasins were worn for warmth, the hair side within. Coats of buffalo skin are the warmest covering known, the only garment which will present an effective barrier to the bitter blasts that sweep over the plains of the Northwest.

Perhaps as useful to early travellers as any product of the buffalo, was the "buffalo chip," or dried dung. This, being composed of comminuted woody fibre of the grass, made an excellent fuel, and in many parts of the treeless plains was the only substance which could be used to cook with.

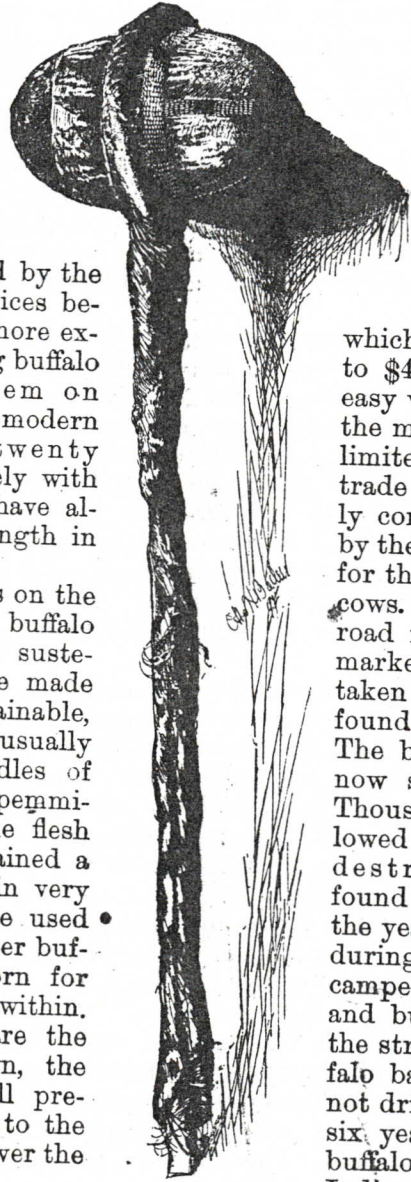
The dismal story of the extermina-

tion of the buffalo for its hides has been so often told, that I may be spared the sickening details of the butchery which was carried on from the Mexican to the British boundary line in the struggle to obtain a few dollars by a

most ignoble means. As soon as railroads penetrated the buffalo country, a market was opened for their hides. Men too lazy to work were not too lazy to hunt, and a good hunter could kill in the early days from thirty to seventy-five buffalo a day, the hides of

which were worth from \$1.50 to \$4 each. This seemed an easy way to make money, and the market for hides was unlimited. Up to this time the trade in robes had been mainly confined to those dressed by the Indians, and these were for the most part taken from cows. The coming of the railroad made hides of all sorts marketable, and even those taken from naked old bulls found a sale at some price. The butchery of buffalo was now something stupendous. Thousands of hunters followed millions of buffalo and destroyed them wherever found and at all seasons of the year. They pursued them, during the day, and at night camped at the watering places, and built lines of fires along the streams, to drive the buffalo back so that they could not drink. It took less than six years to destroy all the buffalo in Kansas, Nebraska, Indian Territory, and northern Texas. The few that were

left of the southern herd retreated to the waterless plains of Texas, and there for a while had a brief respite. Even here the hunters followed them, but as the animals were few and the territory in which they ranged vast, they held out here for some years. It was in this country, and against the very last sur-



Indian Maul.

vivors of this southern herd, that "Buffalo Jones" made his very successful trips to capture calves.

The extirpation of the northern herd was longer delayed. No very terrible slaughter occurred until the completion of the Northern Pacific Railroad; then, however, the same scenes of butchery were enacted. Buffalo were shot down by tens of thousands, their hides stripped off, and the meat left to the wolves. The result of the crusade was soon seen, the last buffalo were killed in the Northwest near the boundary line in 1883, and that year may be said to have finished up the species, though some few were killed in 1884 to 1885.

After the slaughter had been begun, but years before it had been accomplished, the subject was brought to the attention of Congress, and legislation looking to the preservation of the species was urged upon that body. Little general interest was taken in the subject, but in 1874, after much discussion, Congress did pass an act providing for the protection of the buffalo. The bill, however, was never signed by the President.

During the last days of the buffalo, a remarkable change took place in its form, and this change is worthy of consideration by naturalists, for it is an example of specialization—of development in one particular direction—which was due to a change in the environment of the species, and is interesting because it was brought about in a very few years, and indicates how rapidly, under favoring conditions, such specialization may take place.

This change was noticed and commented on by hunters who followed the northern buffalo, as well as by those who assisted in the extermination of the southern herd. The southern hunters, however, averred that the "regular" buffalo had disappeared—gone off somewhere—and that their place had been taken by what they called the southern buffalo, a race said to have come up from Mexico, and characterized by longer legs and a longer, lighter body than the buffalo of earlier years, and which was also peculiar in that the animals never became fat. Intelligent hunters

of the northern herd, however, recognized the true state of the case, which was that the buffalo, during the last years of their existence, were so constantly pursued and driven from place to place that they never had time to lay on fat as in earlier years, and that, as a consequence of this continual running, the animal's form changed, and instead of a fat, short-backed, short-legged animal, it became a long-legged, light-bodied beast, formed for running.

This specialization in the direction of speed at first proceeded very slowly, but at last, as the dangers to which the animals were subjected became more and more pressing, it took place rapidly, and as a consequence the last buffalo killed on the plains were extremely long-legged and rangy, and were very different in appearance—as they were in their habits—from the animals of twenty years ago.

Buffalo running was not a sport that required much skill, yet it was not without its dangers. Occasionally a man was killed by the buffalo, but deaths from falls and from bursting guns were more common. Many curious stories of such accidents are told by the few real old-timers whose memory goes back fifty years, to the time when flint-lock guns were in use. A mere fall from a horse is lightly regarded by the practised rider; the danger to be feared is that in such a fall the horse may roll on the man and crush him. Even more serious accidents occurred when a man fell upon some part of his equipment, which was driven through his body. Hunters have fallen in such a way that their whip-stocks, arrows, bows, and even guns, have been driven through their bodies. The old flint-lock guns, or "fukes," which were loaded on the run, with powder poured in from the horn by guess, and a ball from the mouth, used frequently to burst, causing the loss of hands, arms, and even lives.

While most of the deaths which occurred in the chase resulted from causes other than the resistance of the buffalo, these did occasionally kill a man. A curious accident happened in a camp of Red River half-breeds in the early '70s. The son of an Iroquois half-

herd, however, recognize of the case, which buffalo, during the last existence, were so con- and driven from place never had time to lay er years, and that, as a his continual running, a changed, and instead a short-legged ani- a long-legged, light- med for running. tion in the direction of roceeded very slowly, dangers to which the bjected became more g, it took place rap- sequence the last buf- plains were extremely angy, and were very rance — as they were from the animals of

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breed, about twenty years old, went out one day with the rest of the camp to run buffalo. At night he did not return, and the next day all the men went out to search for him. They found the horse and the arms, but could not find the man, and could not imagine what had become of him. About a year later, as the half-breeds were hunting in another part of the country, a cow was seen which had something unusual on its head. They chased and killed her, and found that she had on her head the pelvis of a man, one of the horns having pierced the thin part of the bone, which was wedged on so tightly that they could hardly get it off. Much of the hair on the head, neck, and shoulders of the cow was worn off short, and on the side on which the bone was, down on the neck and shoulders, the hair was short, black, and looked new, as if it had been worn entirely off the skin, and was just beginning to grow out again. It is supposed that this bone was part of the missing young man, who had been hooked by the cow, and carried about on her head until his body fell to pieces.

My old and valued friend, Charles Reynolds, for years chief of scouts at Fort Lincoln, Dak., and who was killed by the Sioux in the Custer fight in 1876, told me of the death of a hunting partner of his, which shows how dangerous even a dying buffalo may be. The two men had started from the railroad to go south and bring in a load of meat. On finding a bunch of buffalo, they killed by stalking what they required, and then on foot went up to the animals to butcher them. One cow, lying on her side, was still moving a little convulsively, but dying. The man approached her as if about to cut her throat, but when he was within a few feet of her head, she sprang to her feet, rushed at him, struck him in the chest with her horns, and then fell dead. Charley ran up to his partner, and to his horror saw that the cow's horn had ripped him up from the belly to the throat, so that he could see the heart still expanding and contracting.

Charley buried his partner there, and returning to the town, told his story. He was at once arrested on the

charge that he had murdered his companion, and was obliged to return to the place and to assist in digging up the body to establish the truth of his statements.

In the early days when the game was plenty, buffalo running was exhilarating sport. Given a good horse, the only other requisite to success was the ability to remain on his back till the end of the chase. No greater degree of skill was needed than this, and yet the quick motion of the horse, the rough ground to be traversed, and the feeling that there was something ahead that must be overtaken and stopped, made the ride attractive. There was the very slightest spice of danger, for while no one anticipated an accident, it was possible that one's horse might step into a badger hole, in which case his rider would get a fall that would make his bones ache.

The most exciting, and by far the most interesting, hunts in which I ever took part were those with the Indians of the plains. They were conducted almost noiselessly, and no ring of rifle-shot broke the stillness of the air, nor puff of smoke rose toward the still, gray autumn sky. The consummate grace and skill of the naked Indians, and the speed and quickness of their splendid ponies, were well displayed in such chases as these. More than one instance is recorded where an Indian has sent an arrow entirely through the bodies of two buffalo. Sometimes such a hunt was signalized by some feat of daring bravado that, save in the seeing, was scarcely credible, as when the Cheyenne Big Ribs rode his horse close up to the side of a huge bull, and, springing on his back, rode the savage beast for some distance, and then with his knife gave it its death-stroke. Or a man might find himself in a position of comical danger, as did "The Trader" who was thrown from his horse on to the horns of a bull without being injured. One of the horns passed under his belt and supported him, and at the same time prevented the bull from tossing him. In this way he was carried for some distance on the animal's head, when the belt gave way and he fell to the ground unhurt, while the

bull ran on. There were occasions when buffalo or horses fell in front of horsemen riding at full run, and when a fall was avoided only by leaping one's horse over the fallen animal. In the buffalo chase of old days it was well for a man to keep his wits about him, for, though he might run buffalo a thousand times without accident, the moment might come when only instant action would save him his life, or at least an ugly hurt.

In the early days of the first Pacific Railroad, and before the herds had been driven back from the track, singular hunting parties were sometimes seen on the buffalo range. These hunters were capitalists connected with the newly constructed roads, and some of them now for the first time bestrode a horse, while few had ever used firearms. On such a hunt, one well-known railroad director, eager to kill a buffalo, declined to trust himself on horseback, preferring to bounce over the rough prairie in an ambulance driven by an alarmed soldier, who gave less attention to the mules he was guiding than to the loaded and cocked pistol which his excited passenger was brandishing. These were amusing excursions where a merry party of pleasant officers from a frontier post, and their guests, a jolly crowd of merchants, brokers, and railroad men from the East, start out to have a buffalo hunt. With them go the post guide and a scout or two, the escort of soldiers, and the great blue army wagons, under whose white tilts are piled all the comforts that the post can furnish—unlimited food and drink, and many sacks of forage for the animals. Here all was mirth and jest and good fellowship, and, except that canvas covered them while they slept, the hunters lived in as much comfort as when at home. The killing of buffalo was to them only an excuse for their jolly outing amid novel scenes.

It was on the plains of Montana, in the days when buffalo were still abundant, that I had one of my last buffalo hunts—a hunt with a serious purpose. A company of fifty or more men, who for weeks had been living on bacon and beans, longed for the "boss

ribs" of fat cow, and when we struck the buffalo range two of us were deputed to kill some meat. My companion was an old prairie man of great experience, and I myself was not altogether new to the West, for I had hunted in many territories, and had more than once been "jumped" by hostile Indians. Our horses were not buffalo runners, yet we felt a certain confidence that if we could find a bunch and get a good start on them, we would bring in the desired meat. The troops would march during the day, for the commanding officer has no notion of waiting in camp merely for fresh meat, and we were to go out, hunt, and overtake the command at their night's camp.

The next day after we had reached the buffalo range we started out long before the eastern sky was gray, and were soon riding off over the chilly prairie. The trail which the command was to follow ran a little north of east, and we kept to the south and away from it, believing that in this direction we would find the game; and that if we started them they would run north or northwest—against the wind, so that we could kill them near the trail. Until some time after the sun had risen we saw nothing larger than antelope, but at length, from the top of a high hill we could see far away to the east dark dots on the prairie, which we knew could only be buffalo. They were undisturbed too, for, though we watched them for some time, we could detect no motion in their ranks.

It took us nearly two hours to reach the low, broken buttes on the north side of which the buffalo were, and, riding up on the easternmost of these, we tried to locate our game more exactly. It was important to get as close as possible before starting them, so that our first rush might carry us into the midst of them. Knowing the capabilities of our horses, which were thin from long travel, we felt sure that if the buffalo should take the alarm before we were close to them, we could not overtake the cows and young animals which always run in the van, and should have to content ourselves with old bulls. On the other hand, if we could dash in among

them during the first few hundred yards of the race, we should be able to keep up with and select the fattest animals in the herd.

When we reached a point just below the crest of the hill, I stopped and waited, while my companion rode on. Just before he got to the top he too halted, then took off his hat and peered over the ridge, examining so much of the prairie beyond as was now visible to him. His inspection was careful and thorough, and when he had made sure that nothing was in sight, his horse took a step or two forward and then stopped again, and the rider scanned every foot of country before him. The horse, trained as the real hunter's horse is always trained, understood what was required of him, and with pricked ears examined the prairie beyond with as much interest as did his rider. When the calf of Charley's right leg pressed the horse's side, two or three steps more were taken, and then a lifting of the bridle hand caused another halt.

At length I saw my companion slowly bend forward over his horse's neck, turn, and ride back to me. He had seen the backs of two buffalo lying on the edge of a little flat hardly a quarter of a mile from where we stood. The others of the band must be still nearer to us. By riding along the lowest part of the sag which separated the two buttes, and then down a little ravine, it seemed probable that we could come within a few yards of the buffalo unobserved. Our preparations did not take long. The saddle cinches were loosened, blankets arranged, saddles put in their proper places and tightly cinched again. Cartridges were brought round to the front and right of the belt, where they would be convenient for reloading. Our coats tied behind the saddle were looked to, the strings which held them being tightened and securely retied. All this was not lost on our horses, which understood as well as we did what was coming. We skirted the butte, rode through the low sag and down into the little ravine, which soon grew deeper, so that our heads were below the range of vision of almost anything on the butte. Passing the mouth of the little side ravine, however, there came into full

view a huge bull lying well up on the hillside. Luckily his back was toward us, and, each bending low over his horse's neck, we rode on, and in a moment were hidden by the side of the ravine. Two or three minutes more, and we came to another side ravine which was wide and commanded a view of the flat. We stopped before reaching this, and a peep showed that we were within a few yards of two old cows, a young heifer, and a yearling, all of them to the north of us. Beyond, we could see the backs of others all lying down.

We jumped on our horses again, and, setting the spurs well in, galloped up the ravine and up on the flat, and as we came into view the nearest buffalo, as if propelled by a huge spring, were on their feet, and, with a second's pause to look, dashed away to the north. Scattered over the flat were fifty or seventy-five buffalo, all of which, by the time we had glanced over the field, were off, with heads hanging low to the ground, and short, spiky tails stretched out behind. We were up even with the last of the cows, and our horses were running easily and seemed to have plenty of reserve power. Charley, who was a little ahead of me, called back, "They will cross the trail about a mile north of here. Kill a couple when we get to it." I nodded, and we went on. The herd raced forward over the rolling hills, and in what seemed a very short time we rushed down a long slope on to a wide flat, in which was a prairie dog town of considerable extent. We were on the very heels of the herd, and in a cloud of dust kicked up by their rapid flight. To see the ground ahead was impossible. We could only trust to our horses and our good luck to save us from falling. Our animals were doing better than we had supposed they could, and were going well and under a pull. I felt that a touch of the spurs and a little riding would bring us up even with the leaders of the buffalo. The pace had already proved too much for several bulls, which had turned off to one side and been passed by. As we flew across the flat, I saw far off a dark line and two white objects, which I knew must be our command. I called

to my comrade and, questioning by the sign, pointed at the buffalo. He nodded, and in a moment we had given free rein to our horses, and were up among the herd. During the ride I had two or three times selected my game, but the individuals of the band changed positions so constantly that I could not keep track of them. Now, however, I picked out a fat two-year-old bull, but as I drew up to him he ran faster than before, and rapidly made his way toward the head of the band. I was resolved that he should not escape, and so, though I was still fifteen or twenty yards in the rear, fired. At the shot he fell heels over head directly across a cow, which was running by his side and a little behind him. I saw her turn a somerset, and almost at the same instant heard Charley shoot twice in quick succession, and saw two buffalo fall. I fired at a fat young cow, that I had pushed my pony up close to. At the shot she whirled, my horse did the same, and she chased me as hard as she could go for seventy-five yards, while I did some exceedingly vigorous spurring, for she was close behind me all the time. To do my horse justice, I think that he would have run as fast as he could, even without the spurs, for he appreciated the situation. At no time was there any immediate danger that the cow would overtake us; if there had been, I should have dodged her. Presently the cow stopped, and stood there very sick. When I rode back I did not find it easy to get my horse near her, but another shot was not needed, and while I sat looking at her, she fell over dead. The three buffalo first killed had fallen within a hundred yards of the trail where the wagons afterward passed, and my cow was but little farther away. The command soon came up, the soldiers did the butchering, and before long we were on the march again.

Of the millions of buffalo which even in our own time ranged the plains in freedom, none now remain. From the prairies which they used to darken, the wild herds, down to the last straggling bull, have disappeared. In the Yellowstone National Park, protected

from destruction by United States troops, are the only wild buffalo which exist within the borders of the United States. These are mountain buffalo, and, from their habit of living in the thick timber and on the rough mountain sides, they are only now and then seen by visitors to the Park. It is impossible to say just how many there are, but from the best information that I can get, based on the estimates of reliable and conservative men, I conclude that the number was not less than four hundred in the winter of 1891-92. Each winter or spring the Government scout employed in the Park sees one or more herds of these buffalo, and as such herds are usually made up in part of young animals and have calves with them, it is fair to assume that they are steadily if slowly increasing. The report of a trip made last January speaks of four herds seen in the Hayden Valley, which numbered respectively 78, 50, 110, and 15. Besides these, a number of single animals and of scattering groups were seen at a distance, which would perhaps bring the total number up to three hundred. Of course, it is not to be supposed that all the buffalo in the Park were at that time collected in this one valley.

In the far Northwest, in the Peace River district, there may still be found a few wood buffalo. Judging from reports of them which occasionally reach us from Indians and Hudson's Bay men, their habits resemble those of the European bison. They are seldom killed, and the estimate of their numbers varies from five hundred to fifteen hundred. This cannot be other than the merest guess, since they are scattered over many thousand square miles of territory which is without inhabitants, and for the most part unexplored.

On the great plains is still found the buffalo skull half buried in the soil and crumbling to decay. The deep trails once trodden by the marching hosts are grass-grown now, and fast filling up. When these most enduring relics of a vanished race shall have passed away, there will be found, in all the limitless domain once darkened by their feeding herds, not one trace of the American buffalo.