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Colorado's Early Indian Troubles as I View Them¹

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From a historical standpoint it would have been more fitting that this little address should have been given by one who had known Denver and Colorado in their first two decades, such as either of my friends Chauncey Thomas or Bert Sanford. But the medical aspects of the subjects have led you to request me to tell my story for what it is worth.

I wholly disclaim any especial, direct personal knowledge of the Indians. It is now nearly 48 years since the last Indian battle in the United States—the battle of Wounded Knee, in South Dakota, in 1890—and members of my generation are the last ones to have had much personal contact with those pioneers who fought in the Indian wars and suffered from Indian depredations and cruelties.

I think it is proper that the present generation should receive some direct word-of-mouth testimony in these matters from those of us still living who, perhaps, command a certain degree of respect for honesty and intelligence. Reading alone does not make a sufficiently vivid impression upon the mind. I recall that, in my school-boy days, in the study of the history of the terrible King Phillip's war in New England, late in the 17th century, it seemed to me little closer than were the wars fought by Joshua, in the time of Moses.

The States east of the Mississippi had their Indian troubles, and there were plenty of them, from one to three centuries ago. From this long settled region come most of the historians and other writers who largely mould the ideas of the younger elements of our population. Many high-minded and intelligent scholars whose knowledge of Indians has apparently been gained from libraries and from a sight of a few tame Indians from the window of a Pullman car, seem to have been influenced largely by pro-Indian literature, perhaps by reports of some of the societies interested in Indian affairs, and by sentimental novels and stories. Too often there is evidence of ignorance or disregard of the hard facts of the problem. I shall present a few of these hard facts.

¹Read at the meeting of the Historical Section of the Medical Society of the City and County of Denver, May 3, 1938.

²Dr. Hall is Second Vice-President of the State Historical Society and the donor of the Mrs. J. N. Hall Foundation for marking historic sites.—Ed.

Let me clear up at once any possible doubt that I do not recognize the unspeakable injustice dealt out to the Indians at the hands of the Whites. We must look at the broad problem of what has always happened when a savage race has stood in the way of the advance of a higher civilization. Two examples in our history tend to prove that fair and just treatment of the Indians in a newly settled region by the controlling Government, *strong enough to prevent injustice by private individuals*, may obviate the dangers of Indian war. In Pennsylvania, William Penn and his associates acted toward the Indians with entire fairness and honesty, and the resulting friendship with them was an invaluable asset to the young colony. The Territory of Utah was not entirely free from Indian wars, but it had less trouble with Indians than any other in the West to the best of my knowledge. This is to be explained by the hard-headed common sense expressed in the saying of Brigham Young, in speaking of the Indians, "I'd rather feed 'em than fight 'em."

The Aborigines naturally resented the invasion of their ancestral hunting grounds, and they fought against it in their natural way—just as a wolf when cornered, fights in his natural way.

Indian troubles commonly originate where Indian lands and new settlements come in contact. These border settlements always attract the scalawags and renegades of society, since the development of even fairly effective legal control of crime lags for years after actual settlement. A small community, in an isolated, mountainous region, with only sparse population adjacent, offers a haven for the man who fears the long arm of the law. When the Goose Creek reservoir of our Denver Water System was built, it was remote from police supervision and we are told that half the employees were ex-convicts. Of the truth or otherwise of this statement I am ignorant, but the example serves our purpose.

Into these new regions, especially if game is abundant, flock cattle thieves, poachers, moonshiners and bootleggers. There are communities in which ignorance, poverty and crime are the outstanding characteristics. The whole moral attitude of such a settlement is changed from the normal for that country. From an extensive experience as a young physician, with some of the first dry-land settlers in Eastern Colorado, I believe that many otherwise honest and normal-minded men came to believe it to be no sin to kill branded range cattle for food. When one of the first arrests for illegal killing of branded cattle took place in Logan county, the Superintendent of a prosperous Sunday School and several of his flock fled in the night.

No one can convince a moonshiner that there is anything criminal in distilling a little corn whiskey, as his ancestors have

done for centuries. Thus, on the Indian frontiers the conception of right or wrong in dealing with the natives was so clouded that otherwise fairly respectable citizens saw no especial harm in bootlegging whiskey to the Indians, or in selling them arms and ammunition if the profits were sufficiently attractive, and such citizens did not suffer seriously in social status. Certain Indian traders and contractors, with the connivance of corrupt Government employees, robbed the natives right and left. In this very State, scrawny Texas yearlings were delivered to the Indians, on a contract calling for good Texas steers! I have seen cotton sheeting which had been furnished when the contract called for cotton duck.

But, admitting all of these crimes by the Whites, ten times over, I wish now to call your attention to the reverse side of the picture.

I heard about Indians from my childhood. Into my grandfather Hall's house, after his death, there moved the great granddaughter of Hannah Dustin. Her story is still told in New England. Captured at Haverhill, Massachusetts, with Hannah Neff and a thirteen year old boy, her baby slain before her eyes, she was taken into the mountains of New Hampshire. But these Indians caught a Tartar. In ten days she floated down the Merrimac river to Haverhill, in an Indian canoe, sound and well, with her two companions, an Indian rifle, several tomahawks and the scalps of ten Indian warriors. These Indians had been slain in their sleep after she had extracted from the Indian who had her in charge, and who spoke some English, the knowledge of how the warriors killed a sleeping man by striking him in the temporal region with a tomahawk, without causing an outcry.

The old records of the Massachusetts colony still show the payment to Hannah Dustin of fifty pounds, the prescribed award for the ten scalps!

My father was a California '49er, who returned to Massachusetts in 1852, and some of my earlier recollections are of his part in the Digger Indian war.

In the winter of 1850, these Indians started a campaign to kill off the miners who had invaded their hunting grounds. The miners retaliated. They organized the Mariposa Scouts, who proceeded up the Merced river and through the Gate (El Portal) into Yosemite valley. The first written description of this wonder of nature came from the hand of the surgeon of this Company.

The Indians here lived largely in winter upon the acorns of the white oak. These were stored in large baskets, in trees, safe from the attacks of bears. The bottoms of the baskets were punched out with long poles by the Whites, and the acorns de-

stroyed in order that the Indians should be compelled to leave that region to obtain food.

My father was a member of one of the smaller bands who carried out similar tactics against the Indians. Not far from their camp on the Merced river, they came upon and buried the body of a miner who had been captured by the Diggers, and *skinned alive!* Soon they came to a camp where they interrupted an Indian attack.

On arrival the party found a dead Indian, and nearby a white miner, with an arrow stuck in his spine. He was paralyzed from the waist down. He told the story of the fight. The sudden Indian attack met with sharp resistance. The dead Indian had been shot through the right shoulder and the left hip, and the miner was wounded as noted above. When the Indians perceived at a little distance the approach of the White reinforcements they seized the rifle of the wounded miner and fled, having no time to scalp him or to carry off their wounded comrade, as their customs prescribed.

The White and the Indian lay but a few yards apart. The latter, with his sound right leg was able to hold his bow with his toes, and with his left hand began to "pop" arrows at the miner. With no weapon but his sheath knife, the miner took it in his teeth and with his two sound arms and shoulders dragged himself on his belly, like a back-broken bear, overcame his enemy and plunged his knife into his throat, with fatal result.

The party extemporized a crude litter and carried the miner back to their camp. Here, under the care of a physician, mining close by, he made a complete recovery.

During the first 48 hours, his sudden outbursts of fierce laughter disturbed the miners so that they feared that his mind was unhinged. Finally, a delegation waited upon him and demanded an explanation of his laughter. He saw that, by their questions they feared for his sanity. Then he laughed again, and his reply dispersed their fears. He said, "Oh, Hell, I ain't going crazy. But every time I think of the terrible shriek that 'Injun' gave when I turned that knife around in his throat it makes me laugh out 'loud!'" It is evident that the movement of the knife severed the windpipe, accounting for the strange sound which was so laughable to the miner.

I have certainly seen and heard other things which seemed to me more calculated to inspire a hearty laugh, but those '49ers were tough boys.

My father's sister, Mrs. William Weston, went with her husband and son to settle at New Ulm, in the then new State of Minnesota, in 1860. At the outbreak of the war between the States, the Government withdrew some of the small garrisons from the State,

and the Sioux Indians seized the opportunity to get rid of some of the Whites who had taken up land in their domain. My people were advised that serious trouble was imminent, and returned to Massachusetts. The Indian outbreak came suddenly, and curiously, the first attack was on their town of New Ulm. Many settlers were killed. A relief party was sent to aid them. They found a settler's wife crucified on the wall of her log cabin. She had been stripped of clothing, and a warrior had performed a Caesarean section upon her with one sweep of his knife. The Indian seized the unborn child, smashed its skull on the logs of the cabin, and the little corpse lay at her feet.

In traveling to the Mayo Clinic many years ago, I changed cars at Mankato, as so many of you have done. I was interested to see the town, for I had read that here, on December 27, 1862, thirty-eight Indians were hanged with one stroke upon one scaffold for the atrocities at New Ulm and elsewhere.

By a curious coincidence, when I boarded the train and bought a Minneapolis paper, I read the news of a celebration of the fiftieth anniversary of her marriage by an old Minnesota pioneer. She was, the story told, the very woman I have mentioned. A surgeon with the relief party had sewn up her incision, and she was still living!

My father's own sister might just as well have been the victim of this attack had she remained in New Ulm.

At a meeting of the Surgeon's Club, at the Clinic, a member of the Staff of the New York Lying-in Hospital, described their method of performing Caesarean section. It was so well done that I felt embarrassed that no one arose to discuss it. But when I described what was presumably the first Caesarean section performed in Minnesota, I felt better about it.

In the summer of 1878, a band of Sioux Indians, who had been transferred to the old Indian Territory, became discontented and broke away to return to their favorite hunting grounds in the North. They raided through the country, crossing the South Platte valley, near the newly-established colony of Sterling. Several settlers were killed, and the bodies of three cowboys slain and scalped near Sterling, were the first to be interred in the new Sterling cemetery.

Incidentally, these Indians crossed at a season when no large game was to be found, and they dug out every skunk den from the 131 ranch to Iliff's ranch. Trappers reported few skunk skins from that section for several years. A hungry man must have food!

Meanwhile, my future wife and the other girls went with the women to Fort Sidney, Nebraska, 45 miles north of Sterling, and remained until the marauders had crossed over the main line of

the Union Pacific railroad, in Nebraska. The men of the Colony remained about the sod fort, but no serious fighting occurred. The location of this Fort and of the sod school house which it sheltered, and in which Mrs. Hall opened and taught the first public school in the lower Platte valley when she was fifteen years and two months old, is indicated by a marker on the south side of the cement highway, four miles east of Sterling.

A few years later I was called to the Union Pacific Hotel, to attend a sick man just taken off the train. He was a dissipated, degenerate, drunken half-breed Indian, dying of morphine poisoning. He bore the name of his great grandfather, who was one of the Massachusetts signers of the Declaration of Independence!

At Greeley, before the Sterling Colony had been organized, Mrs. Hall as a child attended the public school where one of the older girl students of her acquaintance was Josie Meeker, who was captured by the Northern Utes, at the time of the Meeker massacre, in 1879. I knew Ralph Meeker, her brother, who was, fortunately, absent from the Agency at the time of the revolt. After I came to Denver, I came in contact with other men who had had Indian experiences, and from every one I absorbed some ideas as to the problem we are considering tonight.

Buffalo Bill was a patient of mine. I practiced in the family of Oliver Wiggins, and became quite well acquainted with him when he acted as an officer of the United States District Court, in his advanced age. He had been a companion of Kit Carson's and went as a Scout with General Fremont, on his first exploring expedition in 1842.

As coroner's physicians Dr. H. L. Taylor and I received many checks for services from Col. John M. Chivington, then coroner. He had commanded the 100-day men and the other troops at the battle of Sand Creek, in November, 1864. I mention the checks, for this fine old man had the typical tremulous chirography of paralysis agitans, from which he suffered in his later years.

The Scout Joe Rankin, who, when Agent Meeker realized that trouble was imminent, rode in to Rawlins, Wyoming, to seek help from the army, and Harrington, a mounted messenger, who went in to the Agency with the troops, both belonged to families, members of which later came under my care.

Summit Springs, where the last pitched battle with the Plains Indians in Colorado occurred, in 1869, and where the great Cheyenne Chief Tall Bull was killed, lies only twelve miles southeast of Sterling, where I first located. As the fight opened, Tall Bull attempted to kill Mrs. Weichsel, his white prisoner. She recovered from her wounds, re-married and lived in the Valley for years afterwards. Another white woman was killed by her captors when the white troops appeared.

A few miles away was Fort Wicked, a sod stage station on the Platte valley line. When the plains Indians arose late in 1864, and set out to destroy every stage station from the Missouri river to Denver, this station was the only one with one exception in the whole 600 miles to escape destruction. The agent, Holon Godfrey, a tough, old pioneer from whom Godfrey's Bottom and Godfrey's Bluff, on the old river road to Sterling, were named, put up so desperate a resistance that the Indians gave it up. It is said that the attackers themselves bestowed the new name "Fort Wicked," on the station. I confined half a dozen women within sight of its sod walls. Jimmy Chambers, an early South Platte ranchman and a close friend of Godfrey's, told me that the old stage station keeper was noted all along the line for his vigorous and picturesque profanity. Perhaps this helped to scare off the Indians! (See marker on the north side of the cement road about 15 miles this side of Sterling.)

I saw the Fort Logan troops entrained for the last pitched battle with Indians, in the United States, the battle of Wounded Knee, in 1890. I knew Lt. Gatewood, to whom Geronimo, the greatest of the Apache chiefs, surrendered. When I asked Dr. T. A. Hughes why the officer had no finger nor thumbnails—but only ridged scars, Dr. Hughes told me the reason. Lt. Gatewood had been captured by the Apaches and turned over to the gentle Indian squaws for torture before being burned alive. They split his nails and pulled out the separate pieces. I can testify as to the thoroughness of their performance. He was, happily, rescued in the nick of time by a relief party and was in a way compensated for his suffering by being designated to receive the surrender of Geronimo, at the close of the war.

I have spoken of Josie Meeker. The Northern Utes, in 1879, revolted against their Agent N. C. Meeker. Mr. Meeker, an associate of Horace Greeley's upon the *New York Tribune*, was a leader in establishing the Greeley Colony, in 1870. A scholar and an idealist, he longed for an opportunity to put his own ideas into effect in the civilization of the Indians. He applied for and received the appointment as Indian Agent, when the Northern Utes were moved to their new reservation at the site of the present city of Meeker. Josie taught the school for Indian children at the agency.

Mr. Meeker was a fine man, but he totally lacked the experience and the hard-won knowledge and judgment of Indian nature and characteristics that the scouts, trappers, Indian agents and the army men had accumulated in long years of contact with the red men. He thought he could in a few years make farmers of men who for a hundred generations had been roving hunters and

warriors. He utterly failed to win such friendship and respect from his wards, as a multitude of Hudson Bay Company factors and American Fur Company agents had deserved and received from the members of a hundred different tribes of Indians. His utterly tactless insistence upon their degrading themselves, as they thought, by laboring in the fields, and his total disregard of their ideals and traditions brought about the revolt and the massacre.

Meeker failed to note the early signs of the rising discontent, and when he realized the trouble it was too late. He and the eleven other male members of the agency staff were killed, and Mrs. Meeker, Josie and three other female Whites were captured. The Indians dragged Meeker's body by a chain about his neck, at the tail of an Indian pony over the agency grounds and drove an oak barrel stave into his throat. I learned by word of mouth, for written history does not record it, of the unspeakable indignity practiced upon Meeker's body. It was such as the most malignant-hearted warrior could devise against the remains of his most hated foe!

The captives suffered as all women captives have suffered in the Indian wars. It was common knowledge that one of them, when released upon the intervention of the Government, was already infected with syphilis, and she died a few years later.

When hunting elk in 1887, to the eastward of the reservation, I saw mile after mile of burned standing and down timber, the result of the firing of the forests by the Utes, at the time of the revolt eight years before.

Col. Chivington and his Colorado troops were unmercifully criticized by the Government and the whole East for the slaughter at Sand Creek. More Indians are said to have been killed there than in any other Indian battle in the United States. These Indians were good when being fed at Government posts, but they had fresh White scalps in their tepees, and were known to have engaged in certain recent raids on White settlers. The right or wrong of this battle will never be settled, for no two minds agree upon every point.

Capt. Perry Baxter commanded a company of the troops at the battle of Sand Creek. Our friend, Henry A. Dubbs, asked him what was the right answer to the attacks upon Col. Chivington, for his wholesale destruction of the Indians there. Capt. Baxter finally expressed himself by saying, "Well, it was a darned nasty way of killing a lot of Indians that certainly needed killing," meaning that there could be no peace until they were wiped out.

We are told that Napoleon had a firm belief in an overruling Destiny, and that the puny efforts of men were of no avail against it. We must all admit such a belief. I think that all of the Indian troubles were traceable to an ordinance written in the Book of Fate. The great central valley of the United States is said by geographers to be the finest portion of the earth's surface. I cannot believe that

Providence ever intended that such a region, now the habitat of 50 million Whites, living in the most advanced civilization the world has yet known, should remain forever the hunting ground of less than 400,000 breech-clouted savages, with their constant wars, their customs of scalping and torture, and even worse practices, and without the necessary faculties for the attainment of civilization.

In modern forms of government, the city or state can secure land necessary for governmental purposes by condemnation procedures under the right of eminent domain. When the Aborigines of Australia, or the Blacks of South Africa, or the Indians of the United States stood in the way of the spread of the civilizations of stronger peoples, there was no power on earth to stop this spread. It is as if Fate, or Destiny, or Providence, in such cases, assumes for the higher civilization a sort of right of eminent domain. The process is destructive to the less progressive peoples, but talk as we may, it is inevitable. Civilization owes it to the displaced natives to make this process as little painful as possible. When that day comes when every man in the state is guided solely by the highest moral considerations we may hope for less violence in these things, but we shall have to wait a long time.

When you discuss the Indian question with some scholarly, refined individual, especially in the Eastern sections of the country—one guided by high ideals and emotions rather than by rugged facts—you will soon realize that in this matter, "East is East and West is West, and never the twain shall meet."

Federal Project Work at the State Museum

EDGAR C. McMECHEN*

Visitors at the Colorado State Museum, especially during the last year, have been intrigued by the large number of life models placed on exhibition, and by the many oil paintings representing historic scenes and personages. These are the result of various governmental projects operated under sponsorship of the State Historical Society of Colorado for the past four years.

The work visible, however, represents less than fifty per cent of the total accomplishment, the remainder representing library and research work of great value to students of history. Through this means the book, pamphlet and documentary collections of the Society are being made easily accessible for reference. Had the Society been forced to depend upon its usual sources of income it

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would have been impossible to have accomplished results attained for many years.

Several federal government agencies have furnished the money and workers for this work. Beginning with the CWA, the Society has sponsored projects under the FERA and the WPA. The work falls roughly into two general classifications: research and reference development of the valuable collections of the Society gathered during the past fifty years; and, secondly, visual education through the medium of life models on small scale of early Colorado life. It is the purpose of this article to give statistical information that will give the public an idea of the vast amount of work accomplished.

EXHIBITS AND PAINTINGS

The largest individual exhibit case placed on exhibition is that of the City of Denver in 1860. This model, 11 x 12 feet, is on a scale of one-sixteenth of an inch to the foot, contains 350 separate buildings, covered wagons, stage-coaches, farm and delivery wagons, buggies, horses, oxen, people and animals. There have been many town models constructed, but it is doubtful whether any ever went into the detail that this model does. Skilled architects, sculptors and painters of professional ability were employed, the project requiring the employment of an average of eight persons for a year and a half. The tiny figures excite admiration from all who see them. The original types were carved in wood by a sculptor. Jewellers were then interviewed as to the best method of reproducing these in the desired quantity. All reported that reproductions could not be made except by manufacture of steel dies at \$40 each. However, a skilled plaster caster of the project succeeded in making plaster moulds from which lead replicas were cast.

Other notable models include a series of ten cases depicting the history of transportation in Colorado; a series of six models representing early mining methods; a series of eight cases telling the story of the use of water in Colorado; an Indian Life Series, partially completed.

The Transportation Series represents: The Indian Travois; the Red River Cart, first wheeled vehicle on the western plains; the Spanish Caretta, the primitive Mexican cart; the Covered Wagon; the Stage Coach; a Mule Pack-Train used in the mining regions; the Ore Wagon of the eighties; the first passenger train on the Denver and Rio Grande Railroad; the Airplane; the first type Motor Bus of modern times used in Colorado and the first Zephyr Train using Diesel engines.

The Mining Series represents: Panning Gold; Sluice-Box Mining; Hydraulic Mining with the Little Giant nozzles; early Stamp Mill; the Spanish Arrastra and the Gold Dredge.

The Water Series represents: Primitive Irrigation Methods of the Cliff-Dwellers; the Mexican water-run Grist Mill; Bottom Land Farming; the large Irrigation Canal; the Reservoir period; the Reclamation Era period of dam construction; domestic use of water as represented by the Cheesman Dam; and the first Hydro-electric plant, represented by the Public Service plant four miles above Boulder, Colorado. Trans-mountain diversion of water will be shown by a Moffat Water Tunnel model to be constructed.

The Indian Life Series, not yet completed, includes the following completed models: Buffalo Hunt by the Pawnee Indians; Arapahoes Making Meat (showing the complete operation of skinning, cutting up and transporting buffalo meat); the Arapaho Sun Dance; Horse Stealing by Comanche Indians; and two sets now under construction—the Ute Scalp Dance and a reproduction of Balcony House in Mesa Verde National Park as it stood in 1066 A. D. In addition, individual models have been completed reproducing Bent's Fort of fur-trapper days; Pike's Stockade on the Conejos; old Fort Garland and a typical Mexican fort of the early fifties.

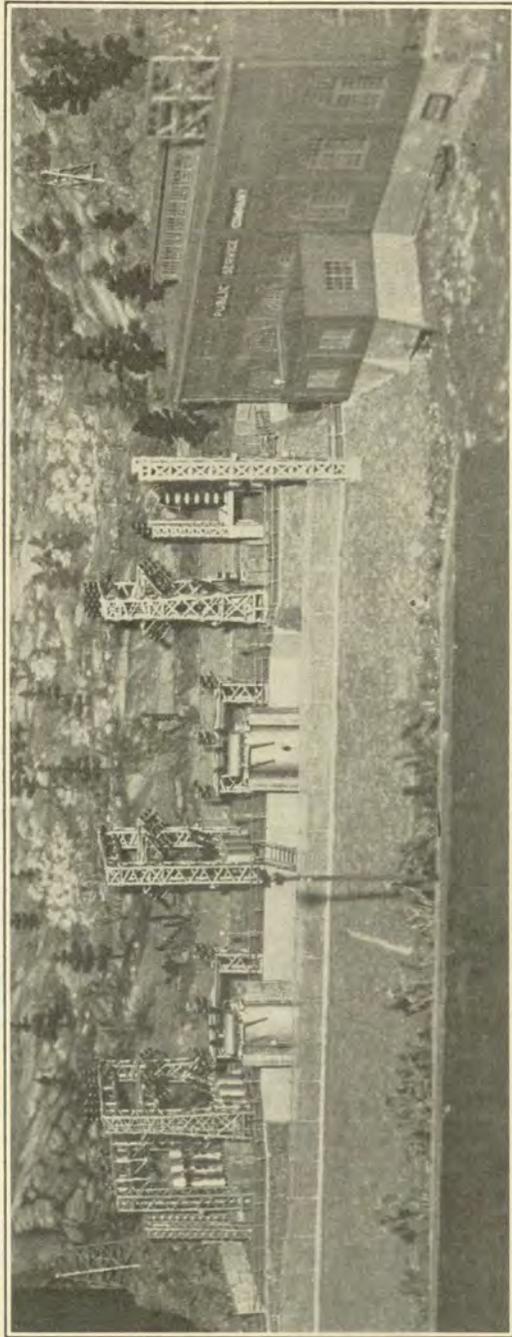
To date, 33 exhibition cases have been completed, including 1,046 sculptured figures, 971 buildings, structures, vehicles or machines, and 29 painted backgrounds.

To illustrate how widely the Historical Society has become known for this work, this incident is related. Recently, the United States Indian Service determined upon construction of an Indian Museum in California. Agents of the Bureau went to the Smithsonian Institution in Washington, D. C., for advice. They were referred to the Colorado State Museum and one representative of the Indian Bureau came to Denver from Washington to secure information from the supervisor upon methods followed and materials used.

Another phase of the work embraces oil paintings, water colors and drawings. Skilled artists have painted 36 historic portraits, eight easel paintings representing Indian battlefields and early forts of the whites, two large murals, 11 Indian pictographs; large numbers of maps, historic costumes, and lantern slides for lecture work; 69 book illustrations in ink; and a dozen crayon portraits. Nearly three thousand hand-lettered display cards have been made.

The oil portraits include:

Fur Traders—Jim Baker, A. G. Boone, William W. Bent, Jim Bridger, Louis Vasquez, Jim Beckwourth, Antoine Robidoux, Lancaster P. Lupton, Ceran St. Vrain, Thomas Fitzpatrick, Uncle Dick Wootton, Kit Carson, Tom Tobin and Charles Autobeas.



MODEL OF THE HYDRO-ELECTRIC PLANT NEAR BOULDER, COLORADO

Military Explorers—Captain Zebulon M. Pike, Major Stephen H. Long, General John C. Fremont, Colonel Henry Dodge, and General Stephen W. Kearny.

Industrialists and Agriculturists—David H. Moffat, Peter Magnes, George W. Swink, John W. Iliff, John Evans, Gov. John L. Routt, General William J. Palmer, Col. Charles Goodnight, John W. Prowers, N. C. Meeker, Charles Boettcher.

Miscellaneous—Baby Doe Tabor, General J. W. Denver, William N. Byers, Governor James H. Peabody.

Indians—Chief Ouray, Chipeta, Little Raven.

Indian Battlefields—Thornburg Battle, Sand Creek Massacre.

Forts—Fort Lyon, Camp Weld.

Trapper Scenes—Bent's Fort, Trappers Signing Contract.

Murals—Escalante Expedition, 1776; Corn Grinders of Mesa Verde.

One of the maps, a pictorial water-color map of Colorado, alone represents \$2,000 worth of work.

RESEARCH AND REFERENCE WORK

In the research and reference field some figures will give a partial idea of the work involved. New library reference and catalogue cards made (involving the handling, accessioning, classification of thousands of books and pamphlets) total 191,407.

Manuscripts prepared and copied in duplicate for reference (ranging from two pages to 25 or 30 pages) total 4,386. More than 20,000 books have been classified, indexed and cards made for same. Over 14,000 books have been accessioned, work for which there was no money available previously. Over 4,600 volumes of daily newspapers have been checked and listed for reference. Four thousand and more newspaper items of historic value have been clipped, indexed and filed. Four hundred valuable scrap books containing reference material have been indexed and filed. Many of these were made by workers on the projects.

A place-name study of Colorado has been made. One worker was sent throughout the Missouri River and Southern states to secure Colorado historical material not on file in this state. He was gone a year, visited 39 cities, copied 1,000 articles, and traveled 8,000 miles.

A project photographer has made 975 new negatives of historic subjects, checked and indexed 2,700 historic photos; copied 950 pioneer portraits in danger of being lost through fading of the originals, and made a complete photographic record of present-day Denver, using 675 35-mm film frames. This record was made block by block.

Included in the work done are 1,259 personal interviews, made in 33 Colorado counties, to record the information in possession of pioneer residents.

A project cabinet-maker has manufactured all exhibit cases, tables, work tables and other articles needed in carrying on the project.

One of the outstanding accomplishments was the work done in securing the now world-famous collection of Baby Doe Tabor. Four hundred individual items, including the Tabor watch-fob and Baby Doe's wedding dress were secured. Project workers renovated, cleaned and placed on exhibition these articles. In addition, 4,526 letters and documents, secured in this collection, were indexed and catalogued.

All told, the federal government, through the various projects at the State Museum, has spent for labor more than \$100,000 within the past three years in this monumental work. In the ordinary course of events this work could not have been accomplished in much less than fifty years.

The Ute Indians in Historical Relation to Proto-Azteco-Tanoan Culture

R. M. ZINGG*

The first white Americans in Colorado and eastern Utah encountered the Ute Indians as a large and strong tribe, well-defined and war-like. They used the tipi and had a culture of the Plains Indian type based on the horse. Indeed, due to their proximity to the Spanish settlements, the Utes, like the Comanche, were early to take over the horse—the priceless boon to the western Indian.

The Utes traveled in large bands across the Continental Divide to kill bison on the Great Plains. Hunting in this distant country, filled with hostile tribes, necessitated an effective war organization and the prowess of large bands. Warfare, especially with the Arapaho and Crow, stimulated the growth of much larger bands than were known elsewhere among the Shoshoneans, except for the comparable Comanche. Effective war leadership and organization was in evidence among all the Ute bands.¹

From their contacts in hunting the bison, these Ute bands, like the Comanche, had developed most of the essential patterns of the culture of the Plains Indians. They had the tipi, the travois for the

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¹Julian Steward, "Linguistic Distributions and Political Groups of the Great Basin Shoshoneans," in *American Anthropologist*, N.S., Vol. 39, pp. 625-34 (1937).

horse, leather garments decorated with quill and beads, elaborate paraphernalia for the horse, etc. Some were even familiar with the Plains Indians' Sun-dance.²

But unlike the Comanche, the Utes did not so greatly emphasize war as to become a scourge of the plains,³ even though they did fight effectively enough to have stopped United States troops on occasion.⁴ In these Plains Indian characteristics, the Utes, the Comanche, and a few of the Shoshone were unique among the Indians of the Rocky Mountain region.

Due to early contacts with the Spaniards these tribes, together with the Apache, were probably the ones that brought to the Great Plains the horse, which has completely revolutionized aboriginal American culture as the car has revolutionized latter-day American culture.

In a recent paper,⁵ Haines argues that the American Indians could not have taken over the use of the horse as a domesticated animal until they had been taught by the Spaniards. From my experience with primitive non-horse tribes of Indians in Mexico, I thoroughly agree with the plausibility of this argument. The Tarahumara and Huichol Indians in Mexico, still living largely in a pre-Spanish culture, have no use for the horse and regard it and anyone that can ride it with a respect that reminds one of the reverence that the Aztecs first paid to the horse and the mounted Spaniards.

Haines places the date for the first Indian use of the horse as a domesticated animal at not earlier than 1630-50.⁶ The situation of the Utes, so close to Spanish contacts, suggests strongly that they might have been one of the groups that spread the use of the horse to the Indians of the plains.

Mention of the Ute Indians in the Spanish archives appears first in 1680 in the letters of two Spaniards returning "from the Yuta country,"⁷ who barely succeeded in escaping with their lives from Taos, where the Indians were leading in the great Indian revolt of that year. According to the first historian of the Utes, Fray Sylvestre Velez de Escalante, the Utes probably had begun contact with the Spaniards before that time, though the destruction of the archives in Santa Fe in that revolt had destroyed the historical evidence.⁸ Later than that date it is recorded that a party of Utes attacked the re-conqueror of New Mexico, Don Diego de Vargas, in

²Isabel Kelley, "Southern Paiute Bands," *American Anthropologist*, N.S., Vol. 36, p. 548 (1934).

³R. N. Richardson, *The Comanche Barrier to South Plains Settlement* (The Arthur H. Clark Company, Glendale, California, 1933).

⁴Thomas F. Dawson and F. J. V. Skiff, *The Ute War* (Tribune Publishing Co., Denver, 1879).

⁵Francis Haines, "Where Did the Plains Indians Get Their Horses?" *American Anthropologist*, N.S., Vol. 40, pp. 112-117.

⁶*Ibid.*, p. 117.

⁷Eleanor L. Richie, "Spanish Relations with the Yuta Indians," MS. 1932. M.A. thesis, Univ. of Denver Library, pp. 13-14.

⁸*Ibid.*, page 12.

1694,⁹ possibly within the boundaries of the present state of Colorado. This record does not say that the Utes were mounted, which however seems probable. A careful search of records of New Mexico other than those deposited in Santa Fe prior to 1680 should throw definitive light on the date that the Utes took over the horse. That it was early seems certain.

Prior to any written documents, historical relationships may be shown between the Utes and the widespread tribes which spoke genetically related languages. The language of the Utes is one of the great Azteco-Tanoan stock. This stock shows almost unbroken distribution from southern Montana to the Aztecs of Mexico. It includes the pueblo peoples of Hopi and the Tanoan Pueblos of New Mexico.

A group of languages of this sort, which are genetically related, are of the greatest significance for revealing ancient historical relationships. Such historically related languages are like the Indo-European languages, one of which, English, we speak. Even without recorded history we would know from similarities in structure and vocabulary that English and German are closely related. We would have to deduce that a group of Germanic peoples separated from the other Germans and moved to England. From historic records we know that these were the Anglo-Saxons. Prior to that separation they spoke a German language and participated in a German culture. In wider vista, from the structure of all Indo-European languages we know that there was once a time when the peoples of north India and Persia and most of those of Europe spoke the same language and participated in a common culture.

Azteco-Tanoan is as fertile in revealing ancient historical relationships as Indo-European. From linguistic evidence alone we may be sure that Tanoan branched off first from the common mother tongue. Tanoan is spoken today by the following New Mexican Pueblos, the cultural descendants of that first division: Belonging to the Tewa group of the Tanoan languages are the Pueblos of San Ildefonso, San Juan, Santa Clara, Nambe, Tesuque and Hano village among the Hopi. The Tano branch of the Tanoan languages has become extinct, since the Spanish conquest. The Tigua branch includes Taos, Picturis, and Isleta. To be included are the colonies of Pueblo Indians that escaped with the Spaniards to Mexico at the time of the great Indian revolt of 1680. These include Isleta del Sur, near El Paso, and Senecu del Sur in Chihuahua. Both these villages are now completely Mexicanized. In addition to these Mexicanized Pueblos, mention should be made of Piro, which was a separate branch of Tanoan, though the language is now extinct.¹⁰ The remaining Tanoan language is Jemez, which was spoken also at

⁹*Ibid.*, pp. 14-17.

¹⁰F. W. Hodge, *Handbook of the American Indian* (B.A.E. Bulletin 30).

Pecos until the last survivors moved to Jemez in the nineteenth century (1838).

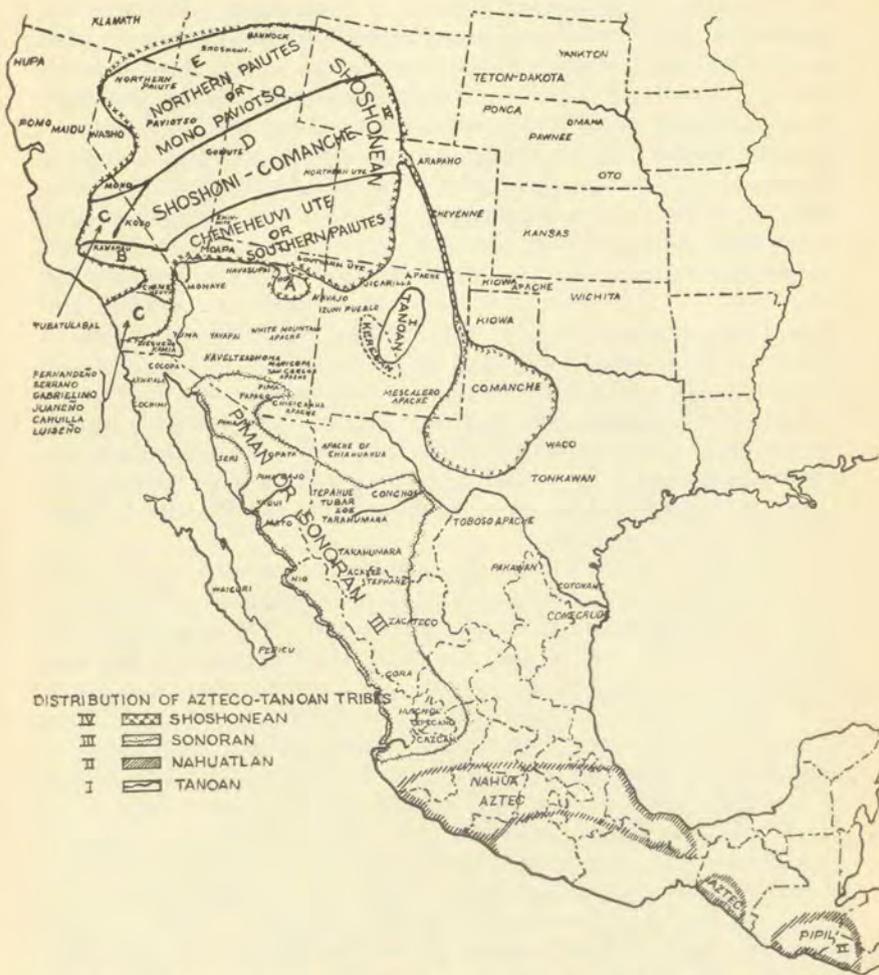
This list of Pueblos includes all of them except Zuni and the Shoshonean Hopi, and the Keresan Pueblos. The Keresan Pueblos are divided into a western division of Acoma and Laguna, and an eastern division of the Rio Grande Pueblos of Santo Domingo, Santa Ana, Sia, San Felipe, and Cochiti. They are not Tanoan.

Besides the Tanoan branch I (see map) at greatest linguistic remove, Azteco-Tanoan has three other great divisions: II. Farthest south, the Aztecs, belonging to the Nahua branch, are wedged transversely across Mexico near the capital. The branch drops off into small isolated members in south Mexico and in Central America (see map) II. The next group are the Sonoran (or Piman) languages in a solid distribution down the Sierra Madre from southern Arizona (the Pima and Papago) to Jalisco, Mexico (the Cora and Huichols) III. The last group, of closest relationship to the Ute Indians, is the Shoshonean branch of Azteco-Tanoan. This branch can be traced from southern California to follow the northern drainage of the Colorado (to include the Hopi, a little south of the Colorado), into the Great Basin of Utah and into the Plateau of Montana and eastern Oregon, IV.

This Shoshonean branch of these languages is in turn divided into five rather more closely related subdivisions: A. The first of these is the Shoshonean language of Hopi. B. The language of the tribe of greatest interest for this paper, that of the Ute Indians, belongs to the second of this group. Ute is a member of a group of languages called Chemehuevi-Ute or Southern Paiute. These languages are no more than slight dialectic variations of the same language, which merge into each other so closely that a Ute Indian of Colorado could readily understand any of them with a little practice. These languages extend from the Ute Indians of Colorado, New Mexico and Utah west through the so-called Southern Paiutes of northern Arizona and southern Nevada, ending in southern California among the Chemehuevi and the Kawaiisu a little farther west (see map). All the peoples of this B group of languages, save the Utes, did not use the horse or hunt the bison, but were desert dwellers, leading a miserable existence by digging for roots and roasting grass and other seeds and nuts. In this they did not differ from most of the other great divisions of the Shoshonean peoples.

C. Farther southwest in California there is a distant linguistic group of the Serrano dialects and most of the famous "Mission Indians" of California: the San Luiseno-Cahuila branch, and the Gabriellino dialects. Of this same group, but quite distinct and unintelligible to these, is the Kern River language of the Tutatula-bal. These were all desert-dwellers, like the before-mentioned Southern Paiute.

TRIBAL MAP OF THE SOUTHWEST AND NORTHWEST MEXICO



D. Of much wider distribution is the Shoshoni-Comanche division of the Shoshonean languages. This may be traced in California from the Koso and Panamint and extends northward across the eastern half of Nevada into northern Utah, southern and eastern Idaho and a little of adjoining Montana as well as western Wyoming. Most of these bands were called the Shoshone Indians. Not all of them were influenced by the horse culture of the plains; and most of them retained the basic plateau culture mentioned for the Southern Paiutes and about to be described. The other group of these Shoshoni-Comanche tribes were the well-known Comanche.

With the coming of the Spaniards in the 17th century they took over the horse and made contact with the culture of the plains. They then left the plateau completely and debouching into the plains, they out-fought and out-stole the Plains Indians at their own game. They were found by the first American settlers as far south as Oklahoma and Texas. Having cut a wide swath of rapine and bloodshed through the Plains Indians to the north, they continued warfare against the Whites until they were completely defeated and disheartened.¹¹

The remaining group of Shoshonean peoples retained largely the pre-horse culture of the Shoshone, Southern Paiutes, and California tribes already mentioned. E. This last division is the Mono-Paviotso or Northern Paiute branch of the Shoshonean division. These may also be traced from California beginning with the Mono. They sweep northward through western Nevada, where the Northern Paiutes and Paviotso lived; into southern Oregon, the home of the "Snake" Indians (probably Northern Paiute); and into southern Idaho, where the Bannock Indians lived.¹²

With such a wide sweep of Azteco-Tanoan peoples from the Aztecs of southern Mexico to the Bannocks in Idaho, the cultural picture might be represented as a bimodal curve, as low as that of any recorded groups among the "Digger" Shoshoneans at the extreme north and mounting to the first high among the Hopi and Tanoan Pueblos. The culture curve falls to another low valley with the California Shoshoneans and the desert-dwelling Papago. It rises slowly with the Pima, the Cahita and the Tarahumara to approximate the Pueblo level with the Cora and the Huichol. The Aztecs, as parvenues, borrowed from the high aboriginal civilizations indigenous in southern Mexico and Central Mexico to end the southern distribution of the group in a blaze of glory.

Is there an historical perspective that will trace back to a common culture this most diversified of all native American linguistic groups, which has already been shown to trace back to a common language? Can we reduce to a cultural common denominator the miserable "Digger" Indians of the Great Basin, the Pueblos, the Aztecs, and the horse-using Utes of Colorado and Utah?

Our data is admittedly meager and unsatisfactory due to the late arrival of the Whites, the scarcity of the aboriginal population and the cultural poverty in the Great Basin and Plateau regions. From such accounts as we have there is apparent a considerable degree of local variation in the culture due to environmental difference. But in the main, the outlines of the basic sub-stratum of western native culture obtrude.

¹¹R. N. Richardson, *op. cit.*

¹²Julian Steward, *op. cit.*, p. 625, 634.

On the assumption that the aboriginal population of the Americas came via Behring Strait, we are led to think of this distribution as a slow southern thrust of related peoples, finally wedging themselves into Mexico and spattering into Central America as small fragments. A time perspective of two thousand years is not too much for attaining this distribution of two thousand miles along the backbone of North America.

The homeland of proto-Azteco-Tanoan culture is to be sought toward the north of this distribution, and it is there that we have the earliest and best worked-out archaeology. Is the oldest of this archaeological material, i. e., Basket-Maker, a remnant of proto-Azteco-Tanoan culture? A southern migration, which goes directly through this widespread Basket-Maker archaeological horizon, indicates such a hypothesis. The hypothesis of Azteco-Tanoan participation in ancient Basket-Maker culture is substantiated by the survival of the essential patterns of this ancient culture among the Shoshoneans of the Great Basin and southern California until the coming of the Whites.

In a dissertation, "A Reconstruction of Uto-Aztekan History,"¹³ not yet published, the present writer gives the documentation for the high correlation of ancient Basket-Maker culture with that of the marginal Shoshoneans. Also the main outlines of the development of the Pueblo culture of the Shoshonean Hopi is traced from this Basket-Maker sub-stratum. Now with the new synthesis of Azteco-Tanoan, the present paper conceives a parallel development of Tanoan culture from the same cultural sub-stratum which can now be called proto-Azteco-Tanoan. Also, since the present writer found a generalized Basket-Maker culture¹⁴ in the Tarahumara country of the Sonoran Azteco-Tanoans, there is a suggestion that the "Sonoran" and Nahuatlan cultures may trace back to the same proto-Azteco-Tanoan culture.

PROTO-AZTECO-TANOAN CULTURE

Knowledge of the earliest Azteco-Tanoan culture comes from the archaeological material of the northernmost region of the linguistic distribution. Lovelock Cave in northern Nevada gives archaeological evidence for considerable antiquity of a generalized Basket-Maker culture still functioning among the "Digger" Shoshoneans in the desert environment of the Great Basin, the northern edge of the Southwest proper, and southern California.

The ancient culture appears, like the modern, to have been based on a food-gathering subsistence enabled by a careful utilization of almost every food resource yielded by a stingy nature. In-

¹³R. M. Zingg, "A Reconstruction of the Uto-Aztekan History." Private Edition, distribution by the University of Chicago Libraries.

¹⁴R. M. Zingg, "Report on the Archaeology of Southern Chihuahua," MS.

sects and seeds bulked large as food resources. Until recently seeds were still characteristically gathered by beating the bushes with a seed-beater, and collecting the seeds in a coiled basketry tray. Transported by the women in the carrying basket on a tumpline, the seeds were carried to a crude brush shelter, broken on a mortar, and cooked by parching with live coals in a coiled basketry tray. The introduction from Mexico of the corn complex affected most of this marginal area only by the adoption of the grinding slab (metate) for mulling seeds.

In ancient times, as in modern culture, roots were probably esteemed and the digging-stick was universally used for gathering them. The crude digging-stick of the archaeological Basket-Maker furnished the pattern for the principal agricultural tool of these tribes which later took over the cultivation of corn. In most of the area, however, the digging-stick remained until historic times in its original function as a tool for gathering roots. It was from the characteristic use of this tool that so many of these tribes gained the opprobrious name of "Digger Indians" from the first Whites to see them.

Probably throughout the area, since Basket-Maker times, the earth oven has been used for the preparation as food of roots and tough fibrous plants which need prolonged cooking. For other food preparation the archaeological evidence is abundant that coiled basketry provided the principal utensil for cooking as well as for the collection, transportation, and storing of food. The antiquity of coiled basketry in the Basket-Maker horizon is significant in view of its modern distribution as far north as the northern Athabaskans and the Eskimo.

The archaeological horizon yields the following forms of the coiled basket: bowls; coiled trays for parching and other purposes; carrying baskets for transportation and storage of food; and those with a lining of pitch for storage of water. In a desert country the storage of water is an important function to entrust to coiled basketry, since loss might mean serious inconvenience or death.

Additional suggestion that all ancient basketry was coiled, without the twined work that was prominent in recent times, comes from evidence that the twined technique entered the region by diffusion from the Northwest. Both the modern and the archaeological horizons yield a correlation in the frequency of twining toward the Northwest, which argues for the diffusion of this technique from the Northwest Coast, where twining is characteristic. In the Great Basin, the twining technique seems then to have been given a specific Shoshonean elaboration into twilled twining, seen only in "diagonal" twined basketry from this region. This involves a very different technological principle from coiling, but nowhere in the region

did twill twining completely displace the more ancient method of coil work.

The fauna was as important to the ancient proto-Azteco-Tanoans for food as it is to their modern descendants, according to the picture given by Basket-Maker archaeology. The large mammals appear to have furnished only a casual source of subsistence. Probably insects and reptiles provided a large proportion of animal food. From the larger game-animals material was gained for tanned buckskin, as well as horn and bone to use for implements.

The faunal resource *par excellence* of the region now is the ever-present and common jack-rabbit. The meat is cooked by hot stone boiling or by roasting the meat over the fire. Rabbit skin furnishes a soft, warm blanket, a trait the distribution of which is practically identical with coiled basketry and which is found throughout Basket-Maker archaeology.

Other archaeological evidence attests to the ancient importance of the jack-rabbit. Just as the importance of the rabbit is evidenced among the present-day Shoshoneans by communal hunts with an authorized leader, so communal hunts are indicated in the archaeology by the presence of rabbit-nets of a type still used in Shoshonean communal hunting. The curved rabbit-stick, of ancient archaeological and modern ethnographic occurrence and reminiscent of the Australian boomerang, served as a weapon of the individual hunter.

The ancient weapon for larger game, and possibly for war, was a special form of the palaeolithic dart-thrower and a characteristic fore-shafted dart. The fore-shafted dart furnished the pattern for the arrow when the use of the bow was introduced in early Pueblo times. The Azteco-Tanoan retention of the dart-thrower pattern is so strong that the southernmost representatives, the Aztecs, met the conquest of the Spaniards with the *atl-atl*. Also the westernmost Azteco-Tanoans, the Channel Islanders, off the coast of southern California, retained the spear-thrower, at least until Vancouver visited them. The pattern of the fore-shafted dart also was carried over into the modern arrow with a distribution practically co-terminous with the Azteco-Tanoans. The retention of this pattern is so strong among the Paiutes at the extreme north of the area that they provided a wooden arrow shaft with a foreshaft, which thus lacks the usual function of preventing splitting in the shaft proper of the arrow elsewhere made of reed.

Trapping must have augmented the catch of the ancient Azteco-Tanoan hunter no less than that of his modern representatives. A perfect rabbit net snare from Utah gives archaeological depth to a method of rabbit-hunting still used. There is also some archaeological evidence of the antiquity of the figure-4 string and stick trap. The modern distribution of this form of trap from the Tarahumara

to the northernmost Paiutes suggests this as a proto-Azteco-Tanoan trait. Even more certain archaeological evidence is forthcoming for deer-noose snares, still retained by the Azteco-Tanoans of California and among the Huichol of Jalisco (Mexico).

Several archaeological traits of Basket-Maker clothing persisted among the Shoshoneans. A diagnostic clothing trait for the archaeological horizon is the string fiber apron skirt for women, characteristic until historic times, of the Indians of California. It was probably distributed throughout the modern tribes of the Great Basin, although our fragmentary data reveals it only for the Northern Paiute and the Ute near the Grand Canon. Rabbit-fur blankets and clothing are ubiquitous in both the Basket-Maker and the modern Shoshonean phases. Rabbit-fur rope, made by several techniques of twisting ribbons of skin, with or without a basic cord, is still characteristically twined on a primitive horizontal loom-like arrangement. This may be the prototype for the true loom, whenever and however the idea arose to set up the warp fiber into two separate shed sets. Indications are that this idea diffused into the Southwest from Mexico in late Basket-Maker II times.

A third diagnostic trait of clothing for the archaeological horizon of Basket-Maker is seen in sandals involving the technological principle of warp fibers formed to fit the foot, about which the weft fibers were woven or twined. This trait also links the archaeological Basket-Maker, the Shoshoneans, and the Azteco-Tanoan Californians.

Some head or hair ornaments of modern use have archaeological perspective in ancient Basket-Maker. Use of bone or wood hairpins as head ornaments provide a link between the southern Utes and the classical Basket-Maker sites of the same region, as well as some of the marginal sites. Hair-nets in Lovelock Cave and material from the ancient Basket-Maker caves of southern Chihuahua carry the suggestion of a proto-Aztecan-Tanoan trait, since they are still used in California, and, in an elaborated form, among the Huichol of Jalisco. The basketry cap, characteristic for Southern California and the Great Basin, is found in Basket-Maker archaeology.

Archaeological evidence of the proto-Aztecan-Tanoan house is lacking in the Basket-Maker I. This is not surprising, since the light structures of the modern Shoshoneans suggest that an impermanent dwelling was used. Ancient cave-dwelling is suggested as well by the present-day use of caves for dwellings by the Tarahumara.¹⁵

Evidences of storage structures are so common throughout the Basket-Maker horizon that the general "pot-hole" excavation may

¹⁵It is interesting, but probably not significant, that the Aztec legends recall emergence from caves at the start of their southern migration from mythical Aztlan.

be considered as a proto-Aztecan-Tanoan trait in the same area. These ancient storage cists were so often given secondary use for burial in a flexed position as to carry a similar suggestion for early Azteco-Tanoan.

Of archaeological implements for household use, bone awls, stone mauls, etc., are, no doubt, of general as well as of proto-Azteco-Tanoan use. However, proto-Azteco-Tanoan fire-making must have utilized the drill-hearth method, which is the only one with archaeological occurrence. Flexible twined bags connect the entire Basket-Maker horizon with the modern Californian Shoshoneans, suggesting a proto-Azteco-Tanoan trait of more general distribution.

Some archaeological perspective can be given to ceremonial traits of Shoshonean culture, which are suggestive of proto-Azteco-Tanoan prototypes. In ancient times, as well as modern, tobacco must have been regarded as a sacred plant of strong power, especially useful to shamans, by whom, until recently, it was smoked in tubular pipe "cloud blowers." These appear as proto-Azteco-Tanoan traits, since they are found throughout the archaeological horizon and their presence is recorded in the Aztec codices.

Another plant with even a stronger spirit, or power, than tobacco is *Datura*, which has attracted less attention though it may have been no less commonly or generally used. This plant, jimson weed, is widely used for ceremony in America. It was apparently universally given shamanistic power for good or, more generally, for ill among the Azteco-Tanoans, from the Aztec to the Paiute. In southern California a local but well defined religious cult based on jimson weed is specifically Azteco-Tanoan. No archaeological evidence of use of *Datura* has appeared.

Another source of shamanistic or ceremonial power appears among the modern tribes in the form of feather fans, wands or plumes, prominent in California and the Southwest. Such feathered artifacts are found in the Basket-Maker horizon.

The medicine bag of bird or prairie-dog skin, filled with curious odds and ends, is found in the Basket-Maker horizon. It is tempting to relate these ancient specimens with similar bags used by the Winnebago and Plains Indians as well as among tribes in California. The trait is not characteristically Azteco-Tanoan. The "telescope" type of covered shaman's basket is more prominent among the "Sonorans"; from Chihuahua archaeology, the modern Yaqui and Pima to the Huichol.

In the light of modern Shoshonean games, the archaeological evidence of the cap-and-ball game from Lovelock Cave gives some notion of ancient pastimes. Also, it seems safe to assume an antiquity for Shoshonean dice basket games, since stiek and bone dice are found at Lovelock Cave and in the classical Basket-Maker II sites. No archaeological evidence is forthcoming to prove the an-

tiquity of the Aztec dice game of *patolli*, the present distribution of which embraces the Sonoran Azteco-Tanoans, the Diegueno, the Pueblos, and the Kiowa. But the game is likely pre-hispanic, having been recorded in the first Spanish account of the isolated Tarahumara, as early as 1794. The game involves the system of play and counting of the East Indian game of *parchesi*. Since no forms of the game are reported intermediate between the simple basketry dice of the Shoshoneans and the complex *parchesi* game to the south, the possibility of prehistoric diffusion of the East Indian game to America cannot conclusively be denied.

A characteristic game of the Azteco-Tanoans is the foot-ball kicking race, run by almost all tribes of this entire group. Archaeological finds of wood and stone balls, prototypes of the modern balls used in the race, give additional suggestion of this as proto-Azteco-Tanoan.

The archaeological material gives significant evidence of trade relationships between the early Azteco-Tanoans. There is much evidence that the modern Great Basin Shoshonean use of California olivella shell and abalone goes back to Basket-Maker trade relationships between the two regions. The modern Pueblo turquoise ear-pendant appears to be a transfer to a new material of the southern California shell form of pendant. Steatite pipes and ceremonial cylinders also entered this ancient Azteco-Tanoan trade.

Nor is evidence from California completely lacking as to the goods and services returned from the Southwest as a result of this trade. As far north in California as the San Joaquin valley a typical Basket-Maker twined bag and a Pueblo cotton blanket appear. Services as well as goods may have been exchanged along this ancient trade route. Shamanistic services might be indicated by the presence of a simplified form of the Pueblo sand-painting altar among the southern Californians. At least, this striking cross-tie indicates a considerable possibility that priests from the Southwest may have traveled this prehistoric trade route to California, offering their priestly services. Such services might be much in demand among tribes with a less developed ritual, just as the Huichol shamans today are widely known and esteemed by neighboring tribes for their sacerdotal services.

CONCLUSIONS REGARDING PROTO-AZTECO-TANOAN CULTURE

In conclusion regarding proto-Azteco-Tanoan culture, close correspondences are seen between the modern "Digger" Shoshoneans and the ancient Basket-Makers in fundamental patterns of food gathering and subsistence, clothing and personal decoration, household appurtenances, weapons and implements of hunting and trapping, ceremonial artifacts and paraphernalia for games and pastimes. Such correspondences project modern Shoshonean culture

back to Basket-Maker I antecedents. Nor is it improbable to conclude that under conditions of a severe desert environment and extreme isolation, aboriginal Shoshonean culture has retained the essential patterns of this ancient sub-stratum. Indeed, the culture of these tribes is so simple as to be little more than the irreducible minimum of human culture.

In so unfavorable an environment the Shoshoneans still retain: subsistence by the gathering of seeds, insects, etc.; the dart and dart-thrower; stone tools; the curved throwing stick (reminiscent of the boomerang); brush shelters; coil without foundation basketry; and the digging stick which harken back to the "Palaeolithic" culture still surviving in Australia. Added to this minimal sort of Palaeolithic culture, which was probably brought by the immigrants to America, the proto-Uto-Aztekan have added the traits going back to the archaeological Basket-Maker culture. Since the Shoshoneans have retained a Palaeolithic culture for millenia, it would not be surprising that Basket-Maker culture has been preserved in its main outlines for the two thousand years that separate the earliest archaeology from modern times.

The writer's conception of this stage of Azteco-Tanoan history is that the proto-Azteco-Tanoans, entering America with a "Palaeolithic" culture comparable to that of the Australians, penetrated a widespread area of already existing Basket-Maker culture. They took over the patterns of Basket-Maker I culture and the archaeological remains of it are the earliest proto-Azteco-Tanoan culture of which there is evidence. The Shoshonean rear guard of the movement retained many of the essential patterns of this culture until found by the Whites. Of the Shoshoneans, only the Hopi participated in the cultural development to Pueblo culture, at the hands of the related Tanoans and non-related Keresan and Zuni peoples.

Meanwhile the main body of the movement toward the south passed into northern Mexico, bringing with it a generalized Basket-Maker culture which the present writer found in Tarahumara country of southern Chihuahua, at present the southern limit of the Basket-Maker horizon. The spearhead of the movement, the Nahuas, reached the southern end of the *Mesa Central* of Mexico. Even north of the valley of Mexico their course appears to have been met by a northern diffusion of Middle American culture as far as Sinaloa. The Nahuas could have entered the valley of Mexico with simplified patterns of "Toltec" culture already assimilated.

THE DEVELOPMENT OF PUEBLOAN-TANOAN CULTURE IN THE SOUTHWEST

The most epochal event in the history of the rear guard of the Azteco-Tanoans in the Southwest was the introduction of corn from Mexico. The Basket-Maker II horizon, and especially the classical

phase of the Four Corners Region,¹⁶ is considered as an elaboration and sophistication of the fundamental technological patterns already seen in the archaeology of Basket-Maker I (Lovelock Cave) as well as still surviving among the marginal Shoshonean tribes of the Great Basin and southern California. The elaborations of Basket-Maker II culture were in a large measure enabled by a shift in the cultures from an ecological base of food gathering to a controlled food supply based on corn and squash. Though there is abundant evidence in caches of wild seeds to prove that Basket-Maker II agriculture was at first imperfectly mastered, and a considerable dependence on the simplest food gathering is indicated.

In techniques of food preparation, Basket-Maker II gives ample evidence of a fundamental change. The experimental beginning of pottery, which, while possibly stimulated by Mexican conceptions, seems to be an independent cultural growth in Puebloan history. Besides pottery, there is sporadic evidence of the use of gourds for utensils in Basket-Maker II and III. Gourds are apparently nowhere wild in the New World.¹⁷ They must have been cultivated or traded in Basket-Maker times, which suggests historic relationships with Mexico, where the dipper gourd is extensively cultivated for common household use. The suggestion of southern affiliations is also borne out by the greater frequency of evidences of the gourd in the archaeological horizon toward the south. There is strong typological suggestion that the early forms of the pottery ladles of the Southwest represent a carry-over of the gourd dipper pattern into the new material of fired clay.

Developments in textiles are also in evidence in this period. While in Basket-Maker II turkey feathers were used for minor elements in twisted rabbit-fur cloth, there is no evidence of the domestication of the turkey for use of their feathers in cloth until later phases. However, Basket-Maker II gives conclusive evidence of the typical Puebloan technique of true weaving. The material was the wild plant fiber *apocynum*, though cotton appears to have been known and spun in Basket-Maker times. This early horizon yields precise data to prove that Basket-Maker spinning was done with a cruciform stick spindle, identical with the modern Pima trait and technique. This suggests that the small, unfired, funnel-shaped artifacts, found in the archaeology with the cruciform spindle, were used for inserting between the toes for holding the butt end of the spindle, as is still done by the Pima with similar artifacts.

We have argued that Basket-Maker I saw the diffusion of twinning into the northern segments of the archaeological horizon from

¹⁶A convenient term for the only place in the United States where four states meet: New Mexico, Arizona, Colorado, and Utah.

¹⁷The problem of the gourd in America would reward ethnobotanical study.

the Northwest. In the Basket-Maker II horizon farther south twining was less important.

But here the strong emphasis on coiled basketry did not inhibit the merest beginning of a new technique in basketry. Basket-Maker II shows the ring-top twill plaited basket. Plaited work, which becomes increasingly important in later Puebloan phases, finally nearly displaced coil ware in Pueblo III. Considerations of technology, typology, and frequency of plaited work in the archaeological horizon indicate its derivation from northwest Mexico, where plaiting is characteristic and now the only type used, though coiled work was found in the Basket-Maker phase of southern Chihuahua.

Another Mexicanism of wide distribution in Basket-Maker II and still preserved among modern Azteco-Tanoan is the double-fiber brush used for hair dressing. It is still used by the Pima and southern Californians. Among the Huichol it is used for the ceremonial hair-dressing at the end of the fasts of the peyote pilgrims.

In Basket-Maker II, the first ancient dwelling is found. It appears as a development from the "pot-hole" storage cists of Basket-Maker I. By the following period these had developed into semi-subterranean storage structures of slabs, round in floor-plan and provided with a truncate roof of cut saplings. Made larger and provided with a fire-place, these storage structures were converted into dwellings in Basket-Maker II.

Later, both the San Juan and Little Colorado drainages show a specialized Basket-Maker III dwelling which appears clearly to have been the prototype for the development of the Pueblo kiva. Roberts discovered a Chaco village (in the San Juan drainage) showing such houses with an anteroom and a passageway entrance. From this form, the development of the Pueblo can clearly be shown. The Chaco dwelling shows at the entrance a slab to prevent drafts from the door blowing on the fire, the deflector slab still seen in modern Pueblo kivas. More striking, however, is the invariable hole near the fireplace identical with the *sipapu* of the modern Pueblo kiva, the sacred place of the emergence of the ancestral spirits. The suggestion is clear that in Basket-Maker III, this hole represented the place of emergence of the ancestors of the household rather than the larger group. This idea is strengthened by the fact that the round communal structure for ceremonies in this ancient Chaco village does not have the *sipapu*.

That the modern Pueblo kiva detail of the ventilator shaft is also a transference from the Basket-Maker III dwelling is indicated by lack of the ventilator shaft in the Basket-Maker III communal structure. The most convincing argument for the development of the ventilator shaft of the modern kiva from the passageway entrance of the Basket-Maker III domicile is a "proto-kiva" house in this Chaco village. Here it would seem that the lucky archaeologist

found the place where the kiva was "invented." In this house, the ordinary passageway had been walled up to produce a ventilator shaft and opening, in front of which the ordinary deflector and the *sipapu* stood as in modern kivas.

In the Basket-Maker III dwellings of the Little Colorado River the entrance passageway has been completely supplanted by the typical Pueblo kiva-like ventilator shaft. As in modern kivas, entrance to the house was apparently gained through a hole in the roof, since the abutments for the ends of the ladder are always found in the floor.

The ventilator-deflector-*sipapu* complex is completed by roof entrance. By field work Roberts has strikingly verified the theories of earlier workers like Prudden and Fewkes, that the modern Pueblo kiva represents an ancient elaboration on the house-type, conservatively retained in a ceremonial context; presumably when the socio-religious solidarity of the clans had transcended the household groups into clan integrations, thus necessitating a communal structure for the magico-religious rites of the larger social unit. Specifically, the shift in the *sipapu* (as a place of emergence of ancestral spirits) from the dwelling to the communal house has been cited by Stewart¹⁸ in a recent reconstruction of the history of social organization in the Southwest as evidence of inner growth rather than diffusion from without as a factor in the development of Pueblo society.

CONCLUSIONS ON BASKET-MAKER II AND III

In the present paper it is argued that the classical phase of Basket-Maker II in the Four Corners region represents, in part at least, the remains of Azteco-Tanoans ancestral to the Hopi and Tanoan peoples nearby. Basket-Maker II seems to be an elaboration and specialization of the widespread food-gathering culture of Basket-Maker I. The sophistication of the classical phase is considered as resultant from a shift in ecological basis from food gathering to agriculture. The increased control of the natural environment envisaged in this shift enabled the development of all aspects of culture due to the release of human thought and energy from mere subsistence, as well as permitting an increased population. These seem the most important factors in cultural advance.

Basket-Maker III is a developmental segment in an unbroken but complicated record of gradual change, shift, and experimentation from within as well as an adaptation to introductions from without. This historical process seems to have led from one of the lowest of human cultures, still preserved among the Shoshoneans of the Great Basin and southern California, to one of the highest

¹⁸Julian H. Stewart, "Ecological Aspects of Southwest Society," *Anthropos*, Jan.-April, 1937, XXXII, pp. 87-104.

cultural developments in the primitive realm, that of the modern Pueblos.

On the cultural side the archaeological record is unbroken. From it we are forced to conclude that a new short-headed people did not come into the Southwest bringing a Pueblo culture with them and wiping out the long-headed Basket-Makers. The culture of Basket-Maker II sees the secure beginnings of almost all the patterns of material culture which are characteristically Puebloan. The archaeology also gives evidence of a shift in social organization from household groupings to clan life and communal ceremonies. The Basket-Maker beginnings of Pueblo culture are summarized in what follows.

In Basket-Maker III fired coiled pottery shows a crude form of the characteristic black-on-white decoration that extends unbroken, but improved, into much later Pueblo phases of Southwest history. Plaited basketry, probably from the south, and twined basketry likewise from the north have already appeared. In the next phases they slowly displace the characteristic coiled work of Basket-Maker culture—from which, indeed, Basket-Maker gained its name.

The turkey had not been domesticated in Basket-Maker II, but it was used both for food and for providing the feathers necessary for the Basket-Maker beginnings of the feather-work technique, then used in ornaments in the blankets of rabbit-fur. In early Pueblo times robes from the feathers of the domesticated turkey displaced robes of rabbit fur. Apparently the domestication of the turkey fitted into the general sedentary patterns of the culture more conveniently to provide turkey feathers instead of hunting rabbits to provide the skins from which the earlier blankets had been made. By Pueblo II twisted fur was completely displaced by feathers, still made by twining.

Even as early as Basket-Maker II, the more striking textile advance of true weaving is seen in the Southwest, a sophisticated technique which never became general among other Indians of the United States. There is seriation evidence that true weaving represents a diffusion from Mexico. With the introduction of true weaving in Basket-Maker II, the more characteristic Basket-Maker twined bags suddenly die out, apparently in Basket-Maker III.

There is evidence from projectile points to indicate that the bow and arrow made its appearance in Basket-Maker III. This and possibly the thrusting spear, displaced the dart and *atl-atl* of Basket-Maker I and II. So apparently superior weapons of the incoming short-headed peoples did not exterminate the Basket-Makers.

Most striking evidence of the synthesis of Basket-Maker and Pueblo antecedents is the development of the modern communal apartment structures of the Pueblos—the most striking of all primitive architecture—from the puny corn storage cists of the Basket-

Makers. This is not an improbable development, since primitive peoples are of necessity prone to give much attention, thought and experimentation to the vital function of food storage. Food offers the most powerful motivation in all human behavior and development.

Basket-Maker II shows a development beyond the "pot-hole" storage cists of Basket-Maker I. This is apparent in the round semi-subterranean storage structures with truncate roofs. Dr. Paul Martin for his doctorate defended the thesis of the evolution, principally in roof structure, from storage pit to dwelling in Basket-Maker II. Later field work by Roberts fills in the picture by showing the Basket-Maker III house as the connecting link between Basket-Maker dwellings and the Pueblo kiva. Recent field work by both men, not yet published, should clear up the picture of the development of the square dwelling structure into "unit-house" discovered long ago by Prudden. The modern Pueblo is a natural development from the combination of these "unit-houses."

In summary we see that Basket-Maker culture reveals in agriculture, pottery, plaited and twined basketry, true weaving, use of turkey feathers and in dwelling structures the beginnings of the essential technological patterns on which modern Pueblo culture rests. From these Basket-Maker beginnings, the history of modern Pueblo culture appears as a story of inter-stimulated development with but little direct and fundamental influence except for the gift of corn, beans, the gourd, and squash; plaited and twined basketry; and true weaving.

The conclusion which emerges from such considerations is that the break in physical type between the long-headed Basket-Makers and the short-headed Pueblo types has very little to do with the development of the basic patterns of modern Pueblo culture. Recent intensive studies by Woodbury seem to indicate that the break in physical type is not so sharp nor so complete as has been thought. It is entirely possible that short-headed immigrants mixed with the Basket-Maker population, changing it in type while taking over its culture without offering much that is new.

From the time of Montgomery, the first writer on Basket-Maker culture, the break in physical type has been an obstacle to the acceptance of the Basket-Makers as the cultural ancestors of the modern Pueblo tribes. The researches and interpretations of Kidder, Guernsey, Morris, Roberts, and many others, have closed the cultural hiatus between Basket-Maker and early Pueblo remains.

The present interpretation goes beyond a synthesis of Basket-Maker and Pueblo culture. It links the marginal Azteco-Tanoan "Digger" tribes of the Great Basin and southern California with ancient Basket-Maker culture as cultural survivors of the earliest Azteco-Tanoan culture of which we have any material evidence.

Finally the argument is also advanced that from this proto-Azteco-Tanoan sub-stratum, regardless of what other stocks may have participated in the widespread Basket-Maker horizon, the Hopi and Tanoan peoples represent a phase of Azteco-Tanoan history in having a part in the development of modern Pueblo culture from its Basket-Maker antecedents. And finally, after the Spaniards introduced the horse, the Ute Indians, like the Comanche, deserted their miserable "Digger" "proto-Azteco-Tanoan" culture, took over the horse to hunt the bison. They were probably in the fore-front of the post-horse developments of Plains Indian culture, into one of the most romantic and widely known of all primitive cultures.

My First Winter in Estes Park

ABNER E. SPRAGUE*

My first winter in Estes Park was that of 1875-76. After spending the summer of 1875 with me in my peat-covered claim cabin in Willow Park, my mother returned to our valley home, not far from where the town of Loveland is now located. My brother Fred and I spent the most of our time that winter at the cabin, as we had stock to look after that we wished to keep on the place, if possible, during the winter.

*Mr. Sprague came to Colorado at the age of fourteen in 1864. The family settled in the Big Thompson Valley. For many years Mr. Sprague has been identified with the development of Estes Park.—Ed.

As I remember that winter, it was as bad or worse than any of the many I have spent in the Park since that time. The snowy season began on the 20th of September, and came to an end on the 22nd day of May, 1876.

Our first snow storm, I well remember, began on September 22nd, and snow fell two feet deep. That was the first day I had sat up for any length of time after being in bed a month with mountain fever, a type of typhoid; my mother still my nurse.

We were milking one or two cows and my mother had managed the chores when my brother had to be away helping his father do the harvesting on the valley ranch, and at the time of this storm Fred was below, so my mother had to wade through the deep snow to do the milking.

Toward the middle of the day it was warm, and the snow began melting fast. I knew that our peat roof would not hold all the water from so much melting snow, and we would be drowned out if it were not removed. The cabin was low, and the logs stuck out at the corners, making a very good ladder. I insisted, and with my mother's help, climbed on the roof and managed, after about two hours' work, to shovel and push off the snow. The condition I was in, it was a wonder it did not kill me, but I was so mad I think it made me immune to any relapse. The snow soon melted, and the ground was bare of it. So ended the first storm of that long winter. We soon made a trip to our valley home, mother and father to stay the winter; Fred and myself to return to the cabin in the Park as soon as I was strong enough to do so.

We had agreed to do a certain amount of work on the Bald Mountain, Pole Hill, and Estes Park road, then being built to give us a free wagon road. We finished this work and reached the cabin a day or two before the big storm of that winter began, which was in the first week of November.

One afternoon, dark clouds formed over the range, the wind changed to the east, and about dark it began to snow in large feathery flakes. It snowed for two nights and a day.

The second day the sun came out bright and shone on more than two feet of snow on a level. The boulders, both large and small, had disappeared; the trees were covered; and the mountain sides were one dazzling white sheet. We could not stir out to look after the stock. Early in the evening, after one day of quiet, it began to blow, increased into a gale and kept it up for thirty-six hours. Most of this time you could not see twenty-five feet. The snow drifted to the eaves of the house on the east side, where the only door was, and we had to shovel every time we wished to go outside.

The second morning after it began to blow, it quieted down; the sun came up clear and bright. After digging ourselves out, and

a late breakfast, Fred and I started on a trip to see if we could find any of the stock alive. There was no snow left on anything like level ground; it was all packed on the east side of the rocks, in the aspen groves, and in the willows of the low ground. We found the cows and the livestock feeding on bare ground as if starved, but they were all right. Toward evening of this nice day, the clouds began to bank over the range as in the beginning of the storm.

Henry (Hank) Farrar, the hunter and guide, bringing the "Old Man," his hunting greyhound dog, came up in the afternoon in time to go out on the moraine north of the cabin and kill us some meat. It took him only a short time to do this—he killed two deer at one shot—and brought one to the cabin. This proved to be a good thing, as we were to be shut in for some time. At dark it began to snow again and was a repetition of the last one, over two feet of snow falling in two nights and a day, followed with a wind that drove the snow into the corners and quiet places on the east side of the mountains and in the timber.

After that it would snow from six to eight inches every night and blow it away the following day. It kept it up for about two weeks, and we were practically confined to the house all the time.

"Hank" was quite a "sourdough" cook, and he and Fred spent much of their time looking through my mother's cook-books and recipes that she had cut from some domestic column of a newspaper for some kind of a change of food. They could find no recipe that did not require milk or eggs, neither of which they had. They did fix up some combination "messes" that I hardly think any cook tried. Some were fairly good, and others far from that.

Fred and "Hank" slept together, and I remember one night they could not go to sleep, having slept most of the day, and in their restlessness thought up something to eat that they had not tried; so up they got, made a fire, fixed up their new dish (I have forgotten what it was), together with a meal, and made me get up about midnight and eat with them. Whatever it was they cooked, I know it was not worth the sleep I lost.

We estimated the snowfall in that two weeks to be at least eight feet. Finally it cleared up about the 20th of November, and until Christmas we had nice warm weather; then it turned cold. The hunters could kill elk for the market, as the carcasses would freeze and so be marketed in Denver. The elk came down that year from their high feeding grounds during the big storm, or just after it. They came in droves of a hundred or more, so the hills in the west side of the Park were covered with them. It was only a matter of business.

Mr. Ferguson and "Hank" Farrar were expecting to hunt together, and Hunter Ferguson, a son, was to haul the game to Denver and market it. As the elk, after coming down, ranged in our part

of the Park, "Hank" stayed with us the most of the time until the hunt began, and much of the time during the winter.

A few days before Christmas, "Hank" and Mr. Ferguson located a large band of elk on the mountain at the head of Beaver Creek, and killed four large ones in Windy Gulch. Fred and I helped pack them out, being obliged to cut down timber to do so, and in this way we started Windy Gulch trail, which has since been used to cross to the other side by hunters first, then by prospectors, and now by tourists.

Fred and I did not have a good rifle, or money on hand to buy one, so we put in a few days fishing through the ice. We caught more than a hundred pounds of trout, which we kept frozen until I took them to Denver and sold them to the hotels for fifty cents per pound.

I bought a Remington rifle, paying fifty dollars for it. It was a killer. After that we did not have to depend on anyone for our meat.

It was a crime the way our big game was slaughtered in those days for market, and with only slight returns to the hunter for his trouble. In fact, the meat of our wild animals became so cheap in the valley markets, that it did not pay for the haul.

We had cold, windy weather during January and the most of February, but as I remember well, we had several big snow storms in March—one about the middle of the month. It came warm and remained warm with a fall of about eighteen inches. Just after this storm a big bear came out of his den somewhere in the Fern Lake region and plowed his way through the new and old snow in the canyon, and through the new snow in the open ground, going in a direct line to the carcass of a big steer that had died in the aspen grove east of our cabin. He moved about a hundred yards from a direct line to miss our cabin. We found his track early in the morning and decided we wanted his hide. The tracks were fresh, and the largest I ever saw. We followed them about a half mile to the grove of aspens, and there found that he had not touched the carcass to eat any of it, but had dragged it about twenty-five feet and covered it with leaves, sticks, and snow. The dead animal was a large bull that must have weighed more than a thousand pounds.

After fixing it in this way for further use, he returned, paralleling his tracks, keeping to the north of them until he reached the mouth of the canyon, then taking his down track for the return. The snow was four or five feet deep in this canyon at that time, and his tracks were so far apart that it was hard work to follow the trail, so after about a mile we gave it up, deciding to get his hide in the spring when he came back to his cache. As far as we know, he never came back. The bear must have scented that carcass during the

storm, as the wind was in the east and would carry it directly up the canyon.

But why the bear would make that hard trip just to smell of, and to cover up that carcass, I will leave for some naturalist to guess at.

The last of March, that first winter, we had one of the worst storms of its kind I have ever seen in the Park. We had more than a foot of wet snow fall; then it turned very cold and froze a hard crust, over which stock could walk without breaking it. One day and night of very cold weather, then the wind began to blow from the west. It blew hard for several hours before it made any impression on the crust; then hard crystals of snow began to slide over the surface, soon wearing holes through on the points of the hills. The wind would get under the crust and tear it up in great chunks, whirl it over the surface of the hard snow, which soon broke it up, and so cleaned the open spaces once more.

Just after this snow, the three of us, "Hank," Fred and myself, decided to go to the valley for a few days. We had two saddle ponies for the three, so we made the down trip "ride and tie"—that is, two started out on the horses and one on foot. After riding about two miles, one would tie his horse. As the one on foot came to a tied horse he would ride, passing one on foot, a tied horse, and the other one walking; ride about two miles beyond the tied horse, hitch his mount and go on afoot. We made the trip this way almost as easily and as quickly as we would with a horse apiece.

We had a blizzard in the valley the fore part of April and a deep snow in the Park.

To wind up that long winter it began to thunder and snow the 20th day of May, and kept it up for about thirty-six hours, three feet or more of heavy snow falling. The weight of the snow stripped many of the limbs from the large yellow pine trees.

We lost only one cow that winter, and she broke through the ice into a spring and could not get out. Strange to say, the stock lived through without feed, only what they got on the range, as well as through many milder winters since then.