

had a couple of young Hoggs, which he gave over for dead, But on the twenty-seventh day after their Burial, they made their way out of a Snow-Bank, at the bottom of which they had found a little Tansy to feed upon. The Poultry as unaccountably survived as these. Hens were found alive after seven days; Turkeys were found alive after five and twenty days, buried in ye Snow, and at a distance from ye ground, and altogether destitute of any thing to feed them. The number of creatures that kept a Rigid Fast, shut up in Snow for diverse weeks together, and were found alive after all, have yielded surprising stories unto us.

"The Wild Creatures of ye Woods, ye outgoings of ye Evening, made their Descent as well as they could in this time of scarcity for them towards ye Sea-side. A vast multitude of Deer, for ye <sup>taking ye same course,</sup> ~~ye~~ cause, & ye Deep Snow Spoiling them of their only Defence, which is to run, they became such a prey to these Devourers, that it is thought not one in twenty escaped. But here again occurred a Curiosity. These carnivorous Sharpers, & especially the Foxes, would make their Nocturnal visits to the Pens, where the people had their sheep defended from them. The poor Ewes big with young, were so terrified with the frequent Approaches of ye Foxes, & the Terror had such Impression on them, that most of ye Lambs brought forth in the Spring following, were of Monsieur Reinard's complexion, when ye Dam, were either White or Black. It is remarkable that immediately after ye Fall of ye Snow an infinite multitude of Sparrows made their Appearance, but then, after a short continuance, all disappeared.

"It is incredible how much damage is done to ye Orchards, For the Snow freezing to a Crust, as high as the boughs of ye trees, anon Split ym to pieces. The Cattel also, walking on ye crusted Snow a dozen foot from ye ground, so fed upon ye Trees as very much to damnify them. The Ocean was in a prodigious Ferment, and after it was over, vast heaps of little shells were driven ashore, where they were never seen before. Mighty shoals of Porpoises also kept a play-day in the disturbed waves of our Harbours. The odd Accidents befalling many poor people, whose Cottages were totally covered with ye Snow & not ye very tops of their chimneys to be seen, would afford a Story. But there not being any Relation to Philosophy in them, I forbear them.

"And now Satis Terris Nivis. And here is enough of my Winter Tale. If it serve to no other purpose, yett it will give me an opportunity to tell you that nine months ago I did a thousand times wish myself with you in Gresham College, which is never so horribly snow'd upon. But instead of so great a Satisfaction, all I can attain to is the pleasure of talking with you in this Epistolary way & subscribing myself

"Syr Yours with an affection

"that knows no Winter,

"Cotton Mather."

The curious survival of sheep, described in the above, was closely duplicated beneath the deep snow of the winter of 1913, in eastern Colorado.

In the early part of the nineteenth century, there were in the Far West a number of

unusual winters; some of the more noteworthy of these were the following. According to Edwards' "Great West," the winter of 1807-8, as experienced by Pierre Chouteau, Jr., in the Osage country, was of unusual severity.

Then there was the winter of 1820-21, in which, as several authorities relate, Galveston Bay was covered with a sheet of ice.

The rigorous winter of 1822-3, is connected with the history of a famous <sup>early</sup> landmark of the Santa Fe Trail: a place called "the Caches." The story is told by Gregg, in his "Commerce of the Prairies." James Baird and Samuel Chambers—two of the St. Louis traders who in 1812 had ventured to Santa Fe, only to be arrested, sent to Chihuahua, and held prisoners for nine years, and who had been released when, in 1821, Mexico became independent of Spain—"induced some small capitalists of St. Louis to join an enterprise," and "with a small party and an assortment of merchandise," started for Santa Fe in the fall of 1822. "Reaching the Arkansas late in the season, they were overtaken by a heavy snow storm, and driven to take shelter on a large island. A rigorous winter ensued, which forced them to remain pent up in that place for three long months. During this time the greater portion of their animals perished; so that, when the spring began to open, they were unable to continue their journey with their goods. In this emergency they made a cache some distance above, on the north side of the river, where they stowed away the most of their merchandise. From thence they proceeded to Taos, where they procured mules, and returned to get their hidden property.

"Few travellers pass this way without visiting these mossy pits, many of which remain partly unfilled to the present day. In the vicinity, or a few miles to the eastward perhaps, passes the hundredth degree of longitude west from Greenwich, which, from the Arkansas to Red River, forms the boundary between the United States and the Mexican, or rather the Texan territory."

The Caches were a few miles west of present Dodge City.

It is this rigorous winter of 1822-3 that is referred to by Rev. Timothy Flint in his "Recollections of the Last Ten Years in the Valley of the Mississippi," where, referring to orange culture in the region of Alexandria, Louisiana, he says, "The winter of 1823, the coldest that had been known in this country for twenty years, killed the trees generally, with few exceptions."

According to <sup>Mr.</sup> Flint's statement, the winter of 1802-3 also would appear to have been a severe one in Louisiana.

The winter of 1824-5 in the Mississippi Valley, was noted for its exceptional mildness. "From December until March, 1825," says Albach, there was "mostly warm sunshine weather at Cincinnati."

But in ~~1827-8~~ 1827-8 again, a winter of exceptional inclemency and precipitation arrived. In the country east of the Mississippi, this precipitation took the form of rain. "From December," 1827, according to Albach, "until March, 1828, rain fell nearly every day." But ~~in the western parts~~ <sup>in the western parts</sup> of the Missouri Valley, according to the Dakota winter counts, it was a winter of very deep snow. As such it is described in the counts of the Uglala chief, American Horse, and in that of the Brulé chief and historian, Battiste Good; while the latter chart, and that of White-Cow-Killer, allude to it as the "Wore-snowshoes winter," and "Snowshoe-making winter."

In parts of the Great West the winter of 1831-2 seems to have been one of great rigor; especially the earlier months of it. The Ohio Valley flood of February, 1832, is ascribed in part to the character of the winter that preceded it. Says Albach:

"A winter of excessive cold was suddenly closed, by long continued and very heavy rains, which, unable to penetrate the frozen ground, soon raised every stream emptying into [the] Ohio to an unusual height. The main trunk, unable to discharge the water which poured into it, overflowed its banks, and laid the whole valley, in many places several miles in width, under water. The towns and villages along the river banks, were flooded in some instances so deeply as to force the inhabitants to take refuge on the neighboring hills;—and the value of the property injured and destroyed must have been very great, though its amount could not, of course, be ascertained. The water continued to rise from the 7th to the 19th of February, when it had attained the height of sixty-three feet above low water mark at Cincinnati."

In the Rocky Mountain region, ~~it was~~ it was ~~also~~ a winter of ~~deep~~ deep snows upon the mountains themselves, as shown by the distressing experiences of <sup>the Stephens brigade of</sup> ~~the Stephens brigade of~~ <sup>trappers</sup> ~~and Blackwelder~~ in the Laramie region; ~~as narrated by Zenas Leonard.~~ <sup>narrated by Zenas Leonard.</sup> Almost daily snows began falling about the middle of October, and by the 28th of that month the brigade found it impossible to recross the Laramie Mountains, owing to the depth of snow. They were compelled to build cabins on the upper Laramie, and winter on the Laramie Plains. During the winter, excursions made to the elevated tract at the head of the Laramie and Cache à la Poudre rivers, witnessed almost continuous ~~and~~ storms, and revealed the same deep and impassable snow-fall upon those heights, from which the adventurers, with the aid of ~~improvised~~ improvised snowshoes, barely returned with their lives. In the valleys, the snow was not excessively deep—not deep enough to destroy

the buffalo and other large game that then made Laramie Plain a ~~hunted~~ hunters' paradise. ~~Yet it was~~ <sup>Yet it was</sup> ~~deep~~ <sup>enough</sup> to cover the grade so effectively that these trappers lost, as did Gantt's Timber Park and Sweetwater brigades, nearly all their horses; the cottonwood grove in which they had built their winter quarters, and from which, had it been sweet cottonwood, they could have foraged their animals, proved to be bitter cottonwood, which Stephens' entire cavallada, save two mules, refused to eat.

Of the winter of 1833-4, in present Oklahoma, Captain Cooke's journal records, "The winter at Fort Gibson has been one of <sup>unexampled</sup> ~~unprecedented~~ severity." His observation is extended in a manner to the Rocky Mountain region by the amusing tale which, in "Life in the Far West," Ruxton makes the veteran trapper, Black Harris, tell in the tavern at Liberty, of the finding of a "putrified forest" in the winter following the meteoric shower of November 12, 1833; in which truthful fable, with the usual hyperbole of mountain men's stories, the ~~old~~ old rover said, "I was out on the Black Hills, Bill Sublette knows the time—the year it rained fire—and everybody knows when that was. If thar wasn't cold doins about that time, this child wouldn't say so. The snow was about fifty foot deep, and the bufler lay dead on the ground like bees after a beein'; not whar we was tho', for thar was no bufler, and no meat, and me and my band had been livin' on our moccasins (leastwise the parfllesh) for six weeks; and poor doins that feedin' is, marn, as you'll never know."

The character of the winter of '33-4 on the middle and upper Missouri River, is recorded in his great work, "Reise in das Innere Nord-America," by the German scientific explorer, Prince Maximilian zu Wied, who spent that winter at Fort Clark, in the country of the Mandans.

At Fort Clark, the winter set in early, as it was reported to have done also on the Kansas River. The cold was not at first very severe; but it slowly became, on the average, more so through the months of November and December. In January and February especially, there were very many cold days. On the first two days of January, the temperature went from 8 to 24 degrees below zero, Fahrenheit. On the 3d, the mercury sank into the bulb of the thermometer and was frozen, and it remained so on the 4th; that meant a minimum temperature probably a few degrees colder than 40° below zero. In the remainder of that month and in February, the mercury not infrequently ranged <sup>the night of the 21st of January</sup> and again in the early morning of from a few to twenty and more degrees below zero. On the 27th of it was 30° below zero;

February, it was 26° below.

In the coldest part of the winter, provisions were very scarce at Fort Clark and at forts higher on the Missouri. The engagés sometimes subsisted for weeks at a time on boiled corn and mush, as the buffalo remained for the most part farther down the river, and game of any sort was often unobtainable. On the coldest days, not even the wolves and ravens came about the fort to pick up food, as was their wont. On several occasions the colors and pencils of Bodmer, the prince's artist, froze in the prince's quarters and became useless, or only usable with the help of hot water. Engagés who had wood to chop or errands to perform outside the fort, frequently had ~~the~~ ears, noses, cheeks, or other members frozen. Indians came in with "their hair, and even their eyelashes, covered with frost and icicles." On the last day of December, many Indians were brought to the fort nearly frozen to death. "At night," wrote the prince, of the coldest part of January, "the cold was so intense that we could not venture to put our hands from our bodies, lest they should be frozen." And again, "In our own room, the boots and shoes were frozen so hard in the morning, that we could hardly get them on; ink, colors, and pencils were ~~wholly~~ <sup>wholly</sup> useless."

From Fort Pierre, in February, came word that "the cold had been more intense than had been known for many years, the Mercury having remained for a considerable time between 30° and 40° below zero." In late January, word was brought to Fort Clark, that at Fort Union, "the Mercury of ~~Fahrenheit's~~ <sup>Fahrenheit's</sup> thermometer had been for a whole fortnight at 45° below zero."\*

Elbridge Gerry, a grandson of the like-named signer of the Declaration of Independence, was a well-known mountain man, resident in Colorado in his later years. He told Mr. Arthur B. Hardin, as the latter once wrote, all about the awful winter of 1836-7.

According also to the story given by Kit Carson to Doctor Peters, the winter of '36-7 in the Yellowstone country was of extreme character. Says Peters, in describing the life in Fraeb's camp that winter:

"The trapping season being nearly over, as the streams began to freeze, the party commenced looking out for a camping site. In conjunction with the main body of the Crow nation they proceeded to a well protected valley, and erected their lodges, making themselves as comfortable as possible under the circumstances. As the season advanced, the cold became more severe, until at last, it was more intense than ever before experienced by the trappers or Indians. Fuel, however, was abundant, and, excepting the inconvenience of keeping unusually large fires, they suffered but little. Not so with their

\*This must have been a guess, as mercury freezes at 40° below zero.

Fahrenheit's

Fahrenheit's thermometer

~~the Mercury of Fahrenheit's thermometer had been for a whole fortnight at 45° below zero.~~

animals. It was with the greatest difficulty that they preserved them from starvation. By the most unwearied exertions, however, they succeeded in obtaining food enough barely to keep them alive until the weather became more mild and auspicious. At one time the crisis was so imminent, that the trappers were compelled to resort to cotton-wood trees, thawing the bark and small branches, after gathering them, by their fires. This bark was torn from the trees in shreds sufficiently small for the animals to masticate. The Indians of the Rocky Mountains, when suffering from hunger, are often driven to the extremity of eating this material. For miles, not unfrequently, the traveler discovers these trees denuded of their bark, after a party has passed through on their way to find the buffalo. The rough, outside cuticle is discarded, and the tender texture, next to the body of the tree, is the part selected for food. It will act in staying the appetite, but cannot, for any great length of time, support life. It is dangerous to allow starving animals to eat freely of it; the trappers, therefore, fed it to them but sparingly.

"The intense cold operated to bring upon them another serious annoyance, in the shape of immense herds of starving buffalo, which, goaded on by the pangs of hunger, would watch for an opportunity to gore the animals and steal their scanty allowance of provender. It was only by building large fires in the valleys and constantly standing guard, that the trappers succeeded in keeping them off."

*for it resulted in the virtual extinction of the buffalo of that region.*

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In Great Salt Lake Basin, the winter of 1836-7 marked an epoch; there is evidence that at an early ~~date~~ day, ~~before the trappers had~~ ~~had invaded that country,~~ the buffalo ranged westward <sup>to the Blue and Sierra Nevada Mountains.</sup> ~~to the Blue and Sierra Nevada Mountains.~~ In his "American Bisons, Living and Extinct," J. A. Allen ~~quotes Professor~~ quotes Professor Marsh as having found the much decomposed <sup>(skeletal)</sup> remains of buffalo <sup>in 1873</sup> on Willow Creek, ~~in the eastern foothills of the Blue Mountains;~~ and he relates, "I was informed by several persons whom I met in the Salt Lake Valley, that they had seen skulls of buffaloes as far west as the eastern slope of the Sierra Nevada Mountains. These persons were unknown to each other, and their accounts were wholly distinct in respect to date and locality, and hence seem all the more entitled to credence." ~~There were immense numbers of buffalo on Snake River at~~ ~~least as late as 1834; for in the fall of that year Bonnevill~~ ~~found that "the people on Snake River" had "chased off the buffalo~~ ~~before the snow had become deep," and that these animals were~~ <sup>thence</sup> ~~troop-~~ ~~ing over the mountains,"~~ ~~by way of~~ ~~in~~ ~~"countless throngs."~~ Mr. Allen, referring to one of his Salt Lake

Valley informants in particular, relates, in connection with ~~the~~ an alleged "tradition among the Indians of this region that the buffaloes were almost entirely exterminated by deep snows many years since" the following:

"Mr. E. D. Mecham, of North Ogden, a reliable and intelligent hunter and trapper of nearly forty years' experience in the Rocky Mountains, and at one time a partner of the celebrated....Bridger, informed me that few had been seen west of the great Wahsatch range of mountains for the last thirty years, but that he had seen their weathered skulls as far west as the Sierra Nevada Mountains. In 1836, according to Mr. Mecham, there were ~~many~~ many buffaloes in Salt Lake Valley, which were nearly all destroyed by deep snow about 1837, when, according to the reports of mountaineers and Indians, the snow fell to the depth of ten feet on a level. The few buffaloes that escaped starvation during this severe winter are said to have soon after disappeared. Mr. Henry Gannett, astronomer of Dr. Hayden's Survey, informs me that the Mormon Danite, 'Bill' Hickman, claims to have killed the last buffalo in Salt Lake Valley about 1838."

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the story of

We turn now to an historic battle of the great winter of '36-7 in the North Platte country: an event that could not have taken place just as it did, but for the unusual severity of that winter.

On the 17th of September, 1834, immediately after William Sublette and Robert Campbell had built their stockade post, Fort William, in the North Platte Valley, Lucien Fontenelle, then lately back from the mountains with the annual returns for the American Fur Company, wrote from Bellevue a letter which has within recent years been published in Chittenden's History of the American Fur Trade, and which contained the following:

"William Sublette has built such a fort as Fort Clark (Mandans) on Laramie's Fork of the River Platte and can make it a central place for the Sioux and Cheyenne trade. He has now men running after these Indians to bring them to the River Platte. Buffalo is in abundance on that river during all seasons of the year, and the situation may turn out to be an advantageous one for the trade."

It is probable that the success of these messengers was but partial; for the Uglála calendars show that the western Sioux and the Cheyennes were at war with each other in the winter of 1834-5. But Fort William having been sold to Thomas Fitzpatrick, Milton Sublette, and James Bridger in 1835, and having from these, through Fontenelle, passed virtually and almost immediately into the possession of the

American Fur Company, and been rebuilt a year later, and become known to the traders and trappers formally as "Fort John" and popularly as "Fort Laramie," that company succeeded in persuading the Ūglálas and Brulé to take up their residence, to a considerable extent, on the North Platte, so as to trade with Fort Laramie.

This brought those particular Sioux into direct proximity and conflict with ~~the latter~~ one of the bands of the Arikaras—Indians of the Pawnee stock—a band that, led by Elk Tongue, had fled westward in 1823 and dwelt chiefly on the North Platte, in bitter hostility to the trappers, since Colonel Leavenworth's campaign of that year against their Missouri River stronghold, in which their village chief, Gray Eyes, had been killed and their village had been burned. The other band of Arikaras, which ~~with some shifting~~ had remained on the Missouri after that campaign, had at length come west in 1832, and ~~may~~ <sup>may</sup> have been the one that villaged on the Arickaree Fork of the Republican. The winters of 1835-6 and '36-7, therefore, are recorded in the Ūglála and Brulé winter counts as seasons of conflict between the western Sioux and the Arikaras; the latter being called in those counts, according to Sioux custom, by their generic name, "Pawnees."

In the winter of '36-7, owing to the severity of the cold, the rivers were solidly frozen over. Thus it transpired, that winter, that in a battle between western Sioux and Arikaras, on the North Platte at Ash Creek, the contest having begun as a long-range affair, the Ūglálas on the north bank and the Arikaras on the south shooting across the river at each other with alternate advances and retreats until bullets and arrows were all expended, it then became a hand-to-hand fight—fierce, sanguinary, and memorable—on the ice.

The Ūglála and Brulé calendars all date the winter of 1836-7 by this event. Battiste Good designates it as the "Fight-on-the-ice winter"; and the interpretation reads: "They fought with the Pawnees on the ice, on the Platte river, and killed seven <sup>[seventy?]</sup> of them. The two vertical marks, which are for the banks of the river, and the two opposed arrows, signify that the tribes were on opposite sides of the river."

White-Cow-Killer's name for this winter is like Battiste Good's.

American Horse has quite a graphic and detailed plan of the battle; showing the banks of the river, and symbols for numerous horsemen and footmen on the banks and on the ice, and for bullets and arrows flying across the river. It is interpreted: "The Dakotas and the Pawnees fought on the ice on the North Platte River. The former were on the north side, the right-hand side in the figure, the latter on the south side, the left in the figure. Horsemen and footmen on the right are opposed to footmen on the left. Both sides have guns and