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THE

SHAMROCK



*"Dedicated to the Progress
of the Great Southwest
and Rocky Mountain Area."*

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*Like a giant reflector shielded by a hood
of majestic mountains, the silvery surface of the water
catches the last rays of the setting sun. An endless sky
is transformed into a giant mural, its beauty transcending
the most noble efforts of the greatest artists.*

GREAT
SALT
LAKE

where lead

Vistas of awe-inspiring beauty and magnificence have become the rule rather than the exception over Utah's Great Salt Lake. Nowhere in the world are sunsets purported to be more beautiful.

But beneath the aesthetic grandeur lies one of the most enigmatic natural phenomena in the western world. Few conventional qualities are to be found in its waters.

So briny are its contents that lead weights serve as life preservers. Many rocks refuse to sink and boats ride on top rather than in the water. And because of the saline density, one diver is known to have broken his neck when he plunged from a pier.

Even a bottle filled with fresh water will float like an egg. Human bodies bob like corks.

Eight times saltier than the ocean, Great Salt Lake surpasses even the Dead Sea in density. Only Red Lake in Crimea boasts a higher salinity.

But the largest body of water west of the Mississippi River hasn't always been salty. Once a fresh water body known as Lake Bonneville, it covered much of western Utah and parts of Nevada and Idaho, inundating an area about the size of Lake Michigan. Ice Age glaciers pushed into the lake and forced the water to overflow through Red Rock Pass in Idaho and into the

15 feet, the lake once reached a record maximum of 49 feet in depth.

The ratio of inflow to evaporation also dictates the degree of salinity in the lake's water. On the average, the brine content is about one part salt for three parts water or about 25 percent. The highest salt content has been measured at 28 percent.

Despite its seemingly worthless qualities, Great Salt Lake is of considerable commercial value. The saline content of the water is made up largely of table salt, but countless other materials are present. Included in these are Glauber's Salt, Epsom Salts, gypsum, calcium chloride, magnesium chloride, potassium chloride, potassium sulphate, boric oxide, phosphorous acid, lithia, bromine, iron oxide, alumina and silica.

Extraction of table salt by solar evaporation and refinement represents a major industry. Still other commercial extractions are the Glauber's Salt, sodium carbonate, caustic soda and sodium hypsulphite.

Oddly enough, many forms of marine life exist in the briny depths. Chief among them is the brine shrimp, about one-third inch in length, and edible though not utilized for food. Larvae of gnats and insects comprise the remainder of animal life in the lake.

weights are life preservers

Portneuf, Snake and Columbia rivers to the Pacific. Receding glaciers subsequently sealed the pass, forming a mammoth natural basin, the largest such depression in the United States.

Several rivers and a number of streams flow into the lake, but none flow out; hence its salinity. The lake level fluctuates, depending upon both the amount of fresh water intake and the degree of evaporation. With an average depth now of



Beautiful and strange, Great Salt Lake is one of the country's most unusual tourist attractions. Swimmers find the water tends to lift their feet above their heads and ankle weights actually serve as life preservers. Boaters are amazed at the way their skiffs skim above the water. Fishermen look on the lake as a giant folly.

But those who have witnessed a salt lake sunset swear there is no equal.

JIM COOK

In large part the frontier West was a land of stark reality, where imaginative stories of exaggerated adventure were zestfully told by "notorious liars" simply to amuse and never to deceive. In remote cow camps, convivial bar-rooms and country stores, exaggeration, myth and legend came to adorn the conversation of the tall tellers-of-tales among men with little means of diversion. With them monumental lying, given the color of credence when tied to historical incident and true geographical setting, sometimes became a proud accomplishment and, in a way, a wholesome art.

The field of fantasy, however, which has contributed so much to literature, was a range ordinarily unknown to their imaginary mounts. This was not so with Jim Cook, a real Texan, a cowboy, a range foreman, and, as something of a fighting gunman, the first sheriff of a Texas county. Yet in gentle but vigorous age, the broad fresh lands reaching from the sunny Rio Grande to the Arctic Circle were simply the vast physical frontiers of his latter-day wanderings and his far-ranging fantasy.

Jim Cook had a real and moving tale which he could have told, and one of which he was in no wise ashamed. But as his imagination ran wild and fancy free, the significant historical past seemed of little moment, while the creations of his imaginative genius—his fertile sense of fantasy—seemed to become the essence of his life, and their completely convincing recountal his mission in this world.

After 50 years of assiduous search for Western lore, this writer has never known another like him. He was a veteran of adventure. He needed no imaginary incident to embellish his conversational charm. But somewhat like the Ancient Mariner, he wandered aimlessly, a derelict cowboy in a rattle-trap

ON THE FRONTIERS OF FANTASY



car, stopping anyone who would listen and holding them, not with his "glittering," but with his twinkling blue eye and his gentle, earnest manner.

His real story is still enmeshed with the myths and legends he so convincingly built about himself. As a matter of history, however, we can be sure that he became a Texas cowboy in his youthful years; that he made his way to the Texas Panhandle as a cowboy before it was fenced with wire; that he worked on the Quitaque range before Goodnight bought and consolidated it with the JA Ranch; and that he changed his name to Lane as a matter of personal convenience, if not of safety. He followed the Quitaque foreman, O. J. Wiren, reputedly something of a fighter himself, to the Two Circle Bar Ranch on the upper Brazos, and worked with Wiren there.

In 1888 he came to that largest of American fenced ranges, the XIT Ranch of Texas, as foreman of its Escarbada Division, along a troublesome sector of the New Mexico line, and became a well-remembered character there.

The general manager of this venture, a noted cowman, A. G. Boyce, as a matter of policy required applicants for such responsible jobs as foreman to submit summaries of their records in writing. In 1928 this writer first cut the authentic trail of Jim Cook among the ranch files, the outline of his career, which he had penciled out and submitted to Boyce. It seems reasonable to believe that what he wrote about himself then, September 4, 1888, was close to the actual truth.

According to his account, he was born February 25, 1861, in Washington County, Arkansas—the son of a Confederate veteran who had fought under General Price. At the end of the war his father came to Texas "and went into the stock business, though not successful." At the age of nine, Cook continued, "I was left an orphan," and then went to live with a cousin and uncle

J. Evetts Haley

who were likewise ranchmen. There he worked until 1876, "when I got a situation" he wrote, "on the trail to Kansas. It was on this trip that the name Lane was given me . . . which name I was never allowed to drop in camp among the boys until, in 1888, I put a notice in the *Fisher County Call* refusing to answer to Lane any more to any one."

"As I was put in charge of a herd of 1,000 steers to float over the prairies of western Kansas and fatten them in the fall of 1876, I was called Jim Lane the Kid Boss. In the fall of 1876 I returned to Texas . . . we started a cow ranch on the Head of South Fork of the Llano River in Kimball Co., Texas. There we built up a good bunch of cattle. In 1880 I sold my interest to my partner and went to work for O. J. Wiren . . ."

At this time Wiren was foreman for Baker Brothers, founders of the F Ranch on the Quitaque, which, soon after, was bought by Charles Goodnight. Prior to its delivery, however, three New Mexican sheepherders drifted in on the unfenced Quitaque, and Wiren was at pains to get them out. He came to Cook and his brother, who was likewise a hand on the ranch, and said he was giving them the job of getting the herders, who always went armed, off the Quitaque range.

"After all peaceful means had failed," Cook wrote me many years later, "we made our medicine to move these sheepmen . . . and we made our medicine strong . . . it would not be wise to say any more here than to say that the first dose we administered to our patients stoped [*sic*] all trouble and forever after peace and harmony reigned . . . Not a sheep ever bleated on our Range after that."

"My brother and I then took a vacation and returned . . . in the fall of 1880. I was still Jim Lane, my brother was Taylor Williams. The obnoxious odors were all gone. The trade winds were pure and sweet again."

From the Quitaque Jim Lane followed Wiren to the Two Circle Bar Ranch, a big outfit on the upper Brazos, to work there for five years as foreman. Then leaving Wiren "for reasons of my own," he said, he got the job with the XIT, and was sent to the giant Escarbada, a division suffering depredations of the lawless from across the line in New Mexico. Here, again under his proper name, Jim Cook, he was aggressive and truculent, and not only had trouble with the New Mexican thieves but with his own men.

During this time the village of La Plata sprang up in Deaf Smith County, east of the XIT fence-line. When Cook met a visiting young lady from Kansas City there, she immediately became the apple of his keen blue eye. When she left they fell into correspondence, and Cook, a man of ingenuity,

succeeded, according to the old cowboys, in getting the Escarbada headquarters designated as a post-office, so that the young lady's letters would be delivered slap-dab at the ranch house door.

Meanwhile too, Deaf Smith County's 1500 square miles of land were being crowded with a hundred and seventy-odd people—by generous range count. Such congestion always poses its political problems. With the leaven of change at work, an election was called at La Plata, October 3, 1890, to organize Deaf Smith into an independent Texas entity and elect its own officials. Quite often then, cowboys, with nothing better or more exciting to do, ran for office, and Jim Cook gravitated, as smooth as cream gravy on a hot tilted skillet, right into the sheriff's office.

La Plata, though a tiny town, had a number of modern advantages, according to one old cowboy, except for a graveyard. Obviously, to be up to snuff, "it needed one," and, he said, Jim Cook "had to kill a man to start one." Whatever the civic need, Cook himself once said quite casually to me: "I had to kill a man there." The State of Texas doubted his claim of official compulsion, and after some judicial wrangling over "the law," and change of venue to the village of Amarillo, Jim Cook left this life of harsh reality and began to roam the West.

From South Dakota, five unhappy years later, he wrote George Findlay, the business manager of the XIT Ranch, in Chicago, to relate that his tragedies and troubles had been more than "any mortal man can stand . . ."

Through the years his wanderings grew wider; though somehow he managed to rear a daughter, after his "poor wife fell by the wayside." He dreamed of a ranch in Canada, and by 1910, he "had the fever pretty bad." With his daughter he left New Mexico for the West Coast, made his way by rail to Calgary and to Edmonton, Alberta. There he organized a party with wagons, drawn principally by cows, which he not only worked but milked along the trail. He worked his way to Peace River Landing. When, months later and far beyond, the party broke up, Cook sold his work cows and supplies, but kept a tent, a buckboard, his steel traps, and his daughter and kept going. Next he sold the buckboard and pushed on with horses and pack-outfit because, he wrote:

"We want a country where there is grass, water, fish and game. We don't want any sign of a wagon road going into our prairie—only a pack trail. Then we hope never again to set our eyes on a silk hat man, a cock-eyed society dude, or a hobble skirt wearer; where we can do away with a double lock on the door, reinforced with a prop. Instead we will have a latch with a string hanging on the outside."

FRONTIERS OF FANTASY

FAN

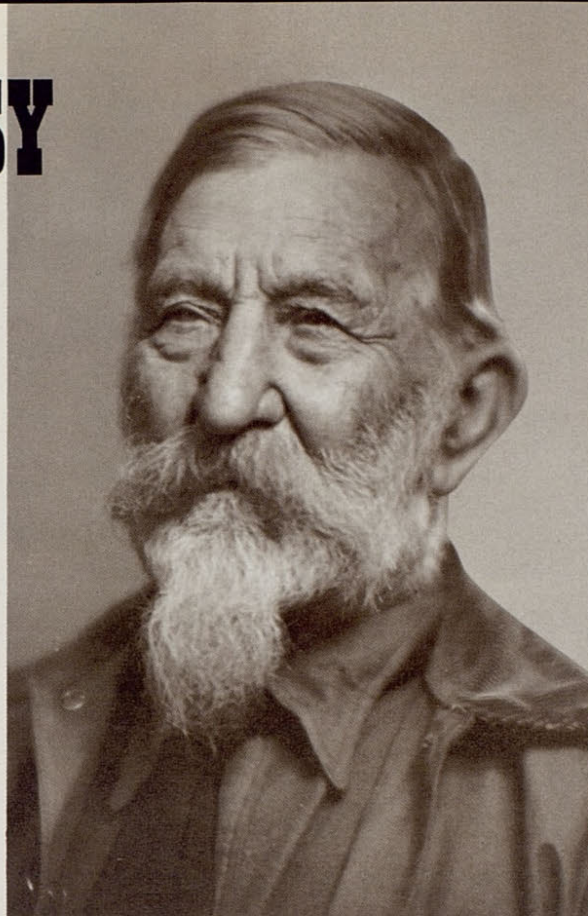
After two years and hundreds of miles of adventure by pack, canoe, and on foot in the Peace, the Athabaska and Great Slave Lake country, he was somehow back in the United States, and by March, 1912, had written a little book, "The Canadian Northwest As It Is Today," published by himself in Los Angeles.

Thousands of miles and ten years later, he stopped on November 4, 1922, in Austin, with another booklet he had written, proposing an organization to be called "The Universal Information, Protective, Cooperative and Detective Association." He hoped to set up a central agency in which the cattle brands of all states in the union were on file, and to which news of all lost, strayed or stolen animals would be reported. Then his agents, "scattered everywhere," would be notified, and the cattle recovered at reasonable cost, because his business would be so great, his coverage of the field so effective.

As if this were not enough, his printed literature described "Captain Jim Cook's Great Wild West Information Bureau." Herein he offered his services in locating "free homesteads" on millions of acres of government land — and glowingly set forth his prize location, "A beautiful prairie valley on the Big Colorado." He even planned a home for old and stove-up cowboys, where they would live out their days in ease, and die in peace in a lovely setting, away out in their beloved West!

But most interesting of all were the changed aspects of Cook's "historical" career: his story now of being born in Llano County, Texas, in 1858; his capture by the Indians as a boy; his life as a pliant youth with the tribe; his love affair with an Indian girl; their wanderings throughout the Indian country from the head of the Conchos to their winter camps in the Palo Duro; and the sad death of his sweetheart — with the detail of the arid land and its scattered water holes, the native growth, the nature of horses, wild animals and hostile men, accurately, carefully and convincingly in place.

Four years later, in the summer of 1926, just as I began work as field collector for the fledgling Panhandle-Plains Historical Society, he showed up in a battered "Model T" at Canyon, Texas. He camped on the grass at the edge of town and hunted me up. From early evening until late that night, he held me and my two companions entranced with his utterly plausible story of his captivity among the Comanches. He dreamed of a book and solicited my help. But his fantastic tale — like the saga of Trader Horn in Africa and Will Drannan's book of fabricated adventure on the Plains with Kit Carson — was simply too good to be true.



Jim Cook in 1932 — at the age of 71

Next morning I rushed to Amarillo to check his identity with a pioneer banker, Tol Ware, whom he had casually mentioned. When I got back to the grassy plot on the edge of Canyon where he had camped, Jim Cook was up and gone. Without a word, without leaving a trace, he disappeared completely.

Six years later, while I was pursuing historical work with the University of Texas, he drove into Austin dreaming that he might pick up a pension on the basis of his fanciful adventures as an old Indian fighter and a Texas Ranger. He camped his "Model T," with his daughter and her two children in Austin's only vestige of a wagonyard, and called at the Capitol. An official check convinced him that his name was not on the records; no pension could be granted.

Nothing abashed, he headed down Congress Avenue, shortly passing Gammel's Book Store. Having heard of a history of the XIT Ranch, he turned inside and wanted to know if the store had a copy. John Gammel admitted they had, under lock and key, and at Cook's request went upstairs and brought it down.

"What's the price?" Cook asked, unaware of its rarity, as his hand moved toward his greasy khaki jacket.

"One hundred dollars," Gammel answered, and then explained the cause to his incredulous customer.

"I ought to be in that book," the old man said. Gammel fingered the index, turned to page 113 and to my frank appraisal of Jim Cook as foreman of the Escarbada Division of the XIT Ranch. "Read it to me," requested Cook. And this is what John Gammel read:

A reputed gun-fighter was named as one of the first foremen of the Escarbada. Jim Cook, wearing his two six-shooters and his ill-boding reputation with equal grace, rode in to do battle with the cow thieves of the West. Aggressive and over-bearing, it is said, he was eternally at odds with the riders across the line. Not only that, but he had trouble with one of his own men, and when Cook started to draw, the man protested that he was unarmed. Pulling, his gun on his left, Cook pitched it across to the cowboy and told him to pick it up and defend himself. Had he made a move to follow the suggestion, Cook would have killed him before his hand reached the gun . . .

Gammel read to the end of the page and, a little uneasily, looked at "Captain" Cook.

"That's right," he softly said, and turned and walked out of Gammel's Book Store.

When I reached home that night, Mrs. Haley told me that an old-timer named Cook had called from a drugstore on lower Congress Avenue, saying that he knew me, and that he really wanted to see me. I left wondering "what Cook this could be?" When I drove up and saw him pacing back and forth in his big white hat, my wondering turned to apprehension. I stepped out and took his hand, while he fixed me with those unforgettable blue eyes, saying:

"And you are Evetts Haley?" I admitted my identity.

"Well, I'm that notorious Jim Cook you wrote about in your history of the XIT Ranch." I countered, saying:

"You had some pretty tough men to deal with!"

"Yes, I had to kill one of 'em," he replied, hardly by way of reassurance. Yet there was no rancor; no trace of resentment. Thirty minutes later we were with the late historian, Walter Prescott Webb, in our apartment above Webb's home. For two hours thereafter Jim Cook held Walter Webb spell-bound with his story of having been a Comanche captive, which he wanted to turn into a book. When he left I was still skeptical, but Webb brushed my doubts aside, saying:

"Why that old man *couldn't* be lying."

For days thereafter Cook talked to our University friends over the coffee cups; enthralled for an hour J. Frank Dobie's class in Texas literature; appeared at the Newman Club; and was honored by Dean Parlin with dinner at one of the best hotels, where he held a select group of young University men entranced for two hours with his story.

Between-times for a month, I had been taking his tales verbatim, and sustaining him on the side. I had him scribbling his recollections of the Quitaque and Two Circle Bar Ranches. His writings, usually lean in style, were literate, interesting, and I think largely true. Yet his fanciful horizons extended on and on.

Finally, as a critical historian, I broke the barrier between fantasy and fact through chronology alone. Even Jim Cook could not be at two places, taking part in two proven historical incidents, at the same time. I approached our dilemma gently, and pointed out the obvious problem for a historian. He answered in that gentle, ingenuous way that was now a part of his own nature:

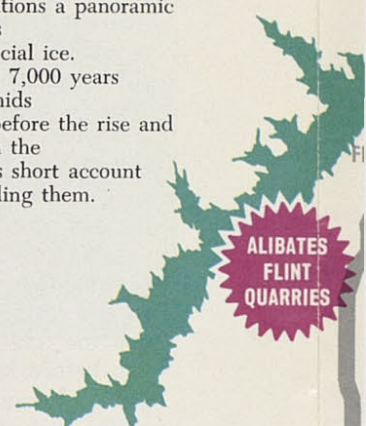
"Why, Mr. Haley, I don't want to cause you any trouble. Let's just forget it." Sadly on the part of both, I am sure, we parted company. He cranked up his car, loaded his daughter and grandchildren and wandered on, with my promise to send him a copy of his voluminous recollections when typed.

He left Austin late in February, 1932. He called back from Livingston, Texas, and I expressed the manuscript to him at Houston. I made further inquiry, and a wire came back that Cook was gone. Yet for months newspaper clippings reached me about this "Indian fighter and friend of Billy the Kid," as he stopped to tell his story to anyone who would listen. Clippings came from Houston, Fort Worth, Mineral Wells and elsewhere as he headed west. But never again did I have the ineffable experience of watching Jim Cook's blue and merrily twinkling eyes as he told his fanciful story, always without a trace of guile.

In 1936, another writer, a professor at the University of New Mexico, T. M. Pearce, likewise fell victim to his magic. Dr. Pearce reduced his wondrous tale to writing, and it was brought out in book form as *Lane of the Llano* by one of America's major publishers. At last Cook's story was in permanent, dignified form, preserved for the world in print. Meanwhile Jim Cook had drifted on.

Philosophically, perhaps we should accept the peculiar compulsions of genius wherever found. But as a historian I have often thrilled at the thought of what a stirring story the real Jim Cook could have told had he not ventured so far upon the frontiers of fantasy.

In 1950 the 81st Congress approved the Canadian River Project to build a giant aqueduct dam northeast of Amarillo, Texas. When it is completed in 1965, it will represent one of man's more recent efforts to cope with his environment. As one watches engineers directing mammoth machinery moving tons of earth for the fill, he marvels at man's progress. But by taking a few steps from the reservoir site, he is confronted with the progress of another man of another age as he worked to survive in his environment. Prehistoric North American Man lived and worked in these same surroundings. But instead of water, he needed a substance with which to make weapon points and knives. He found it in abundance some 15,000 years ago in a material now known as Alibates flint. The quarries and associated pueblo ruins, 30 miles northeast of Amarillo, are on ground designated as recreation areas along the 25,000-acre Lake Meredith to be created by the dam. Under private ownership for years, the land will be open to the public when the dam is completed. Unless the area can be preserved as a National Monument, this archaeologist's priceless treasure will surely be destroyed. On April 24, 1963, Senator Ralph W. Yarborough introduced before the 88th Congress a bill "To create a National Monument preserving the historic Alibates Flint Quarries and the pueblo ruins near Amarillo, Texas." A similar bill was introduced to the House by Congressman Walter Rogers. Both bills are in committee at this time. We believe every effort should be made to assure passage of these bills. If they are passed, we will have preserved for present and future generations a panoramic display of this continent's earliest and latest cultures. For at the time the Clovis hunters were trimming this variegated flint into weapon points and tools, the northern region of the continent was covered by glacial ice. This was 6,000 years before the wheel was invented or the first writing appeared on the earth; 7,000 years before the Biblical floods in the Tigris-Euphrates valley or construction of the Great Pyramids of Giza in Egypt; 8,500 years before King Tutankhamen was born in Egypt; and 9,000 years before the rise and fall of Greece and the rise of Rome. This was 10,000 years before the birth of Christ. In cooperation with the local, state, and national organizations sponsoring the preservation of this historic site, we present this short account of the formation and use of the Alibates Flint Quarries and the associated pueblo cultures surrounding them.



alibates flint

THE PANHANDLE'S PREHISTO

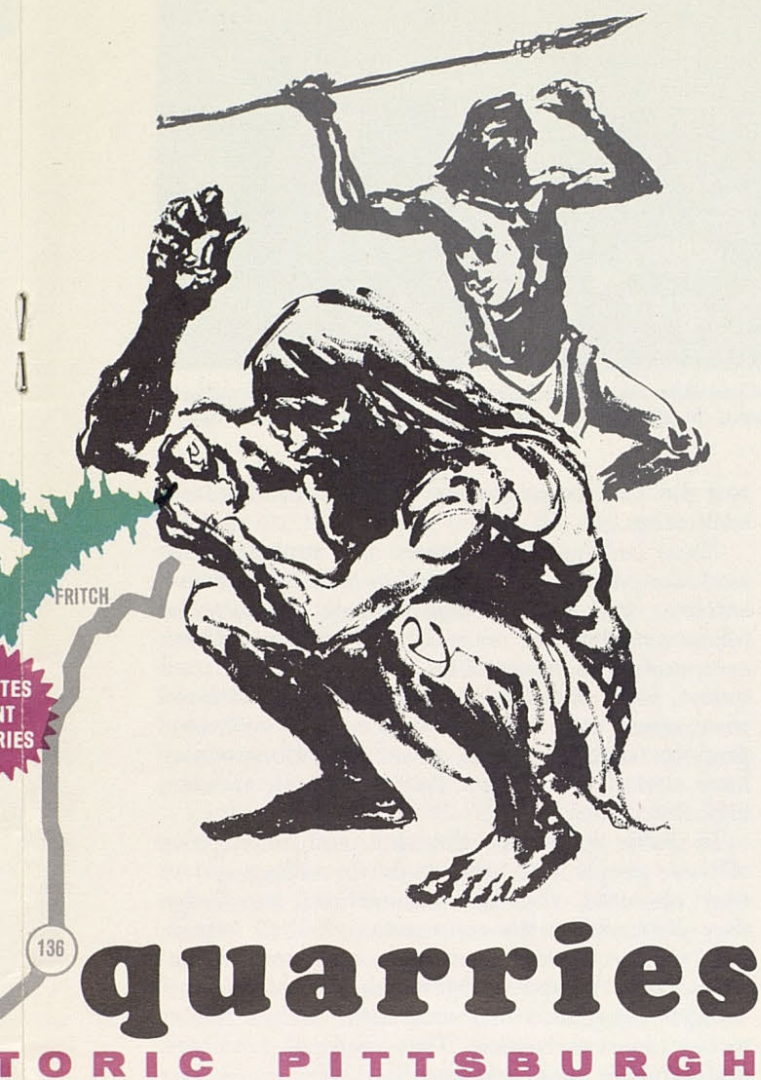
AMARILLO



In a pre-history time beyond the comprehension of modern man, some 250 million years ago, the land known as the Texas Panhandle-Great Plains was covered by a shallow and ancient sea that deposited a massive layer of dolomite, a sediment rock consisting mainly of magnesium and calcium carbonate. As the earth aged and wrinkled, the Great Plains area was uplifted far above the sea. Streams and rivers, seeking their level, stripped off the covering sediment and left a 15-foot layer of the hard, resistant rock capping a large area of the Texas Panhandle, the picturesque white rim running along the Canadian River Valley.

The drama continued as this white rock, known as Alibates Dolomite, weathered and developed a master system of joints and cracks causing it to break up and be strewn over the lower hillsides of the valleys in large rectangular blocks. Highly mineralized waters gushed out of the earth and continued to drain off the high plains through the joints and cracks. This caused the dolomite to be slowly replaced with a siliceous mineral matter called chert or flint.

For millions of years this exposed Alibates flint stratum lay waiting for discovery. Tons of the finest quality and most variable-colored flint in the world glistened like jeweled fingers gripping the hillsides, waiting to provide man with the raw material from which he could form the tools and weapons necessary



cerned with function, and the multi-hued flint appealed to their aesthetic sense as well. The flint displays every color of the rainbow, but the craftsmen seemed to prefer the reds, whites, and blues for their tools and weapons — each culture and tribe having its own preference.

PALEO-INDIAN PERIOD

It is difficult for most contemporary Plainsmen to visualize these flint quarries as they must have appeared when worked by primitive man. Available anthropological and geological evidence dates the first use of the flint 12 to 15 thousand years ago by a culture of the oldest known man in North America — the Sandia Man. He ranged from New Mexico to Canada and used the Alibates flint to hunt the ice age mammoth and the giant bison.

When the Sandia Man quarried the flint, much of the area now covered by the Great Lakes and the St. Lawrence River was under glacial ice. This glaciation caused the climate in the Plains area to be temperate and humid with an abundance of water vapor forming as dew on the lush vegetation and thick forests during the cooling of the night air. Giant beasts such as the mammoth, giant bison, tapir, and the sloth roamed the forests and plains along with more contemporary animals such as the horse, camel, deer, rabbit, wolf, fox and ground squirrel.

By 10,000 B.C. the Clovis culture from Southern New Mexico and West Texas is known to have used the flint, traveling over 150 miles by foot from their hunting sites to gather and carefully work it into spear points and implements. This was about the time of the last great ice age. From 40 to 50 percent of the stone utilized by the Clovis Man in the manufacture of his implements came from the Alibates quarry, according to Dr. James J. Hester, Curator, Museum of New Mexico, who excavated a 12,000-year-old Clovis culture mammoth kill site near Portales in 1963.

In 1925, a group of archaeologists in New Mexico uncovered an Alibates flint point in the vertebra of a now-extinct giant bison killed by a Folsom Man, providing the first substantiated proof that the quarries were worked at least 11,000 years ago.

The Folsom Man is the most famous and common of the Paleo-Indian who roamed throughout the Mid-Continent area. His finely-worked projectile points are among the most beautiful and delicate ever found. His points were fluted or indented along the body to allow the life blood of a wounded animal to flow out, thus shortening the chase by effecting a quicker kill.

Both the Scotts Bluff Man from Nebraska and the Agate Basin Man from Wyoming used Alibates flint 10,000 years ago. The Eden Man from Western Wyoming developed his points from the flint 9,000 years ago, and the Angostura Man from

in his harrowing struggle for survival.

During some millennium the three-square-mile deposit of flint was discovered, and somehow man learned to work the hard material into instruments of work and war. And since this formative episode in geological history known as the Permian Period when the dolomite was deposited, Paleo-Indian and the American Indian tore the flint from its ancient bed and formed from it articles for survival.

Without knowledge of metal or iron, primitive man saw in this natural material a substance well suited for cutting instruments, hammering and chopping tools, and points for hunting weapons. But these ancient men did not appear totally con-



Floyd Studer, chairman of the Potter County Historical Survey Committee, stands in the ruins of a pueblo near the Alibates Flint Quarries northeast of Amarillo. This pueblo was excavated in the 1930's. Despite fill-in, its outline is visible.

South Dakota, who lived 8,000 years ago, worked his long, slender, bullet-shaped points from the Alibates flint. Near Plainview, Texas, the Plainview Man hunted the giant bison with a short broad point, like the Clovis Point, some 7,000 years ago.

So the use and influence of the Alibates flint was varied and widespread. Without this ready substitute for metal, ancient man's fight for survival might have been much more difficult — or perhaps even impossible.

PUEBLO CULTURE

Interest in the Alibates Flint Quarries is not wholly upon the quarries and flint, but also on evidences of the people and cultures that followed the Paleo-Indian. These ancient men established a complex economy based on agriculture, hunting and trading flint with other peoples from the Great Lakes to the Gulf of Mexico and the Yellowstone to the Pacific Ocean.

While the Crusades were being fought, the Norman Invasion was being initiated by William the Conqueror, and the Vikings were visiting America, this entirely new civilization moved into the Canadian River Valley to farm and hunt, construct permanent homes and eventually control an extensive mining and trading business.

From 10 to 20 thousand people once lived in scattered communities in the Canadian River Valley of Texas and New Mexico. One of their larger and best preserved pueblos is located near the Alibates flint outcrops. The Texas Panhandle Pueblo Culture flourished 9,000 years after the Folsom Man roamed the area, and by comparison, these were highly civilized and intelligent people.

The word "pueblo" means building and should not be used to connect the Texas culture with the more familiar tribes of New Mexico, Arizona, and Colorado. It is believed that the Panhandle Pueblos were related to tribes to the east. Evidence indicates that the Texas culture and those to the west had contact, but were not related.

Nor did they borrow many traits or customs from each other.

These Indians were farmers and hunters — with evidence pointing to great skill in both fields. Bison, antelope, and deer remains indicate a substantial reliance on hunting for meat and clothing. However, numerous storage bins, not unlike those used today, yield thousands of grains of carbonized corn, cobs, and maize. Other typical cultivated products such as squash, beans and tobacco may have existed but are not known through archaeological evidence.

To fully appreciate the skill and intelligence of these people, one must study the village system they operated and the architectural knowledge they displayed in the construction of their houses. The villages were generally located on promontories along the upper ridges of the Canadian River Valley — many of which were large villages similar to our towns and cities. They featured dwellings, grain storage bins, and usually a kiva or circular ceremonial room in the center of the apartment-type buildings.

A 66-room pueblo ruin in the quarry area, excavated by a Works Progress Administration crew in the 1930's, produced 16,000 identifiable artifacts — 11,000 of them not native to this region. They are now in the Panhandle-Plains Historical Museum at West Texas State University, Canyon, Texas, and represent a period of culture from 900 to 1300 A.D.

A 100-room pueblo ruin in excellent condition has been located in the area, but has not yet been excavated. These unexplored pueblos may reveal an older or more recent culture than those excavated in the 30's.

The construction of the pueblo buildings was of limestone and adobe. Walls were constructed of double rows of vertically placed stones three or four feet high, the inter-space filled with rubble and adobe for insulation. On top of the wall or foundation, another row of stones was placed one upon the other to the roof line, usually about six



Random chips of Alibates flint litter the ground near the ruins of the Texas Panhandle pueblos, indicating the inhabitants manufactured many of their weapon points at the site of their homes located on promontories along the Canadian River.

feet high. Thus the walls tapered from three feet thick at the base to one foot at the top, giving the walls strength and lateral stability.

Crossbeams supported by the outside walls and four upright posts inside the dwelling formed the ceiling. Atop the roof were two openings—one for entrance, the other a smoke vent. The entire interior—walls, floor, fire pit, altar, and tunnel buttresses—were plastered with thin coatings of evenly applied adobe, an outstanding trait of these ruins.

Each dwelling was efficiently air-conditioned by a 30-inch-square ventilation tunnel extending from the main room to the outside. This system was designed so a large flat stone could be placed in front of the inside opening to control the draft for heating or cooling.

Dateable evidence within the ruins shows occupancy to about 1400 A.D. with abandonment probably occurring in the 15th century. Several theories have been advanced as to the cause of this abandonment, the most accepted one being a prolonged period of drought. Little doubt remains that extreme competition once existed for control of the quarries. Future probing by archaeologists may show signs of war and battle over these ancient quarries.

The most important natural resource of the pueblo dwellers was the Alibates flint. From 900 to 1300 A.D. they used it to trade for red pipestone from Minnesota, shells from the Gulf of Mexico and the Pacific Ocean, obsidian, turquoise and painted pottery from New Mexico, painted pottery from Arizona and obsidian from the Yellowstone area of Wyoming. Artifacts made from these trade items were found during excavation of the pueblo complexes.

Not only were these people keen tradesmen, they obviously were adept at making hide scrapers, awls, hammerstones, axes, double bladed knives, and a peculiar four bladed, diamond shaped knife with four oppositely beveled edges. These knives were believed to be one of the "hottest sale" items

of the day. Their spear and arrow heads are expertly shaped and the bird points are unbelievably delicate.

The flint also was quarried in blocks called "blanks" and used with the finished tools as trade items and mediums of exchange with other tribes. They often were carried long distances and cached (buried to preserve the workability of the stones) for later trade purposes. The ownership and control of the flint quarries made this culture the proprietors of the first commercial industry in Texas, and possibly the United States.

When viewed from a distance, the quarries give the hillsides an appearance of having been peppered with artillery fire. But at close hand, they are difficult to distinguish as most have filled in with soil. The pits are from five to 20 feet across and one to two feet deep.

The most striking observation, besides the vivid, natural colors of the flint, is the enormous amount of flint chips and flakes littering the ground—several feet thick in places.

Thousands of tons of this extremely hard stone have been quarried, a formidable task when using even modern equipment and explosives. Experts have expressed amazement at how the Indians, using their primitive tools, accomplished such feats.

Use of the Alibates flint continued into the modern age as Plains Indians utilized it for weapons until metal was obtained from the white man. These nomadic Indians left no permanent structures as evidence of their passing. Tepee rings—large stones placed in a circle—are numerous and indicate their camp sites.

Much work is yet to be done in researching this area. Scores of untouched pueblos exist and archaeological findings, still covered, could more completely tell the story of the quarries and the cultures surrounding them.

It would be a severe loss to the history of this area—and the history of the nation—if these treasures were to be vitiated by a careless society that didn't provide for their preservation.

Salt Lake City, Utah, is a city unique. Nowhere else in the nation can one find a metropolis with such wide streets and large blocks. Angling streets and slums are practically nonexistent. Recreation facilities and breath-stealing scenery from both mountain and lake abound in endless splendor.

Thirty miles to the north lies Ogden, a wide-awake city of 75,000 built on deltas formed by a once-rampaging Ogden River. Between the cities are dozens of smaller municipalities, each contributing toward a booming metropolitan population that numbers just under half a million.

Like many other American cities, Ogden derived its name from an early explorer — Peter Skene Ogden, a trapper with the Hudson Bay Fur Company. Salt Lake City, on the other hand, has only its proximity to the Great Salt Lake to which it can attribute its name.

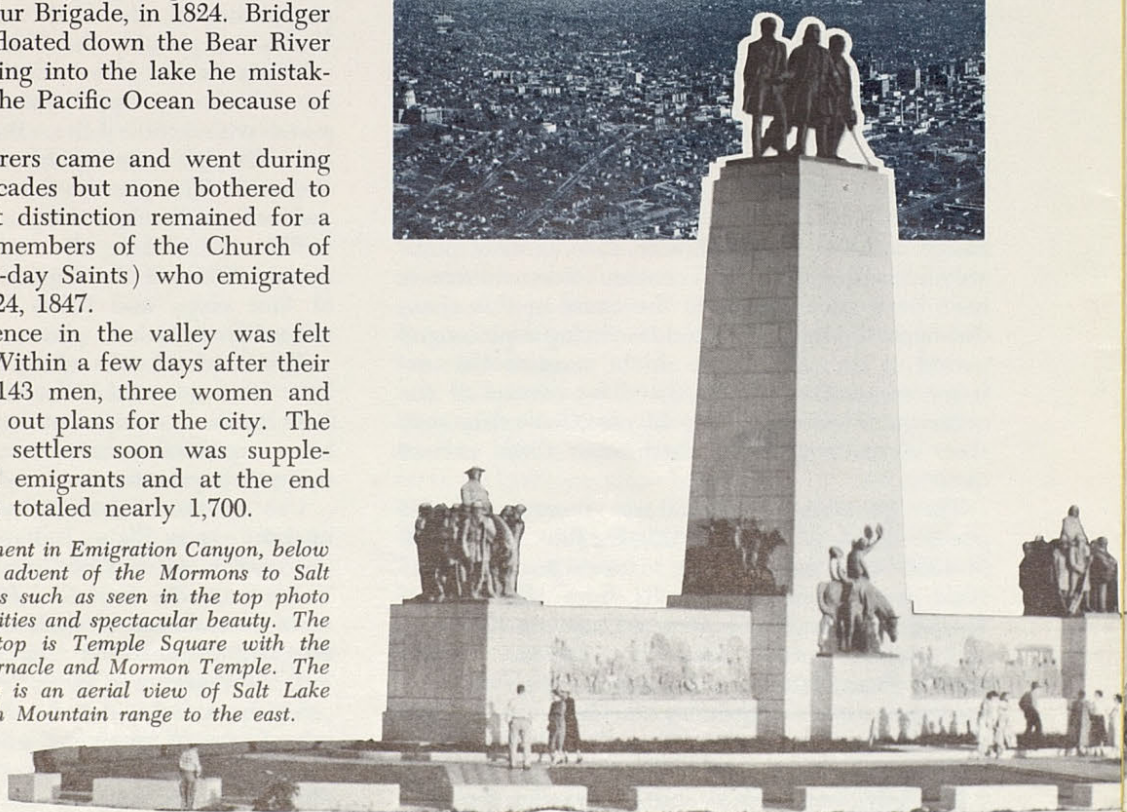
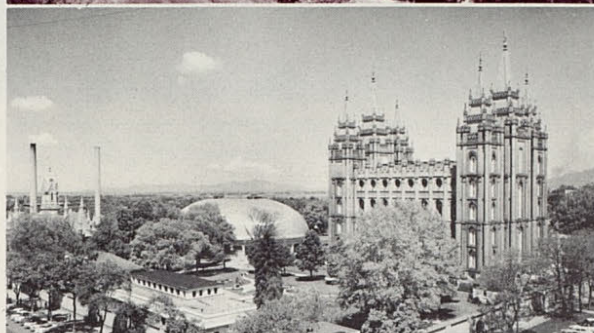
Still, the cities have a common denominator — both were laid out by Mormon pioneer settlers near the middle of the nineteenth century.

So far as is known, the first white man to see the Great Salt Lake — and thus that area that is now Salt Lake City — was Jim Bridger, a famous scout for the Ashley Fur Brigade, in 1824. Bridger is purported to have floated down the Bear River in a skin boat, emerging into the lake he mistakenly believed to be the Pacific Ocean because of its salty taste.

Trappers and explorers came and went during the following two decades but none bothered to establish a city. That distinction remained for a band of Mormons (members of the Church of Jesus Christ of Latter-day Saints) who emigrated to the valley on July 24, 1847.

The Mormon influence in the valley was felt almost immediately. Within a few days after their arrival, the band of 143 men, three women and two children had laid out plans for the city. The original company of settlers soon was supplemented by additional emigrants and at the end of 1847, their number totaled nearly 1,700.

"This Is the Place" monument in Emigration Canyon, below right, commemorates the advent of the Mormons to Salt Lake City. Other canyons such as seen in the top photo offer ideal picnicking facilities and spectacular beauty. The second photo from the top is Temple Square with the famous dome-roofed Tabernacle and Mormon Temple. The third photo from the top is an aerial view of Salt Lake City showing the Wasatch Mountain range to the east.



THE BEE HIVE'S

The Mormon city fathers seemingly planned with twentieth-century Salt Lake City in mind. After first setting aside a central 10-acre tract for a temple and other pertinent church structures, the group engineered plans for city blocks of 10 acres each. More importantly, they designated thoroughfares to be 132 feet wide.

If over-adequate for the ox-cart conveyances of that day, they have become the envy of many an urban settlement with 1964 traffic dilemmas.

The new area continued to flourish under the influence of the Mormon church. From 1848 through 1850, what is now Utah, Nevada and portions of Colorado, Wyoming, Idaho, Oregon, California, Arizona and New Mexico was known as the "Provisional State of Deseret." A request for statehood under the name of "Deseret" was denied in September, 1850. Instead Congress granted a territorial charter under the name "Territory of Utah," and statehood for Utah was granted January 4, 1896, with Salt Lake City as capitol.

Population growth of the capitol city progressed rapidly with the continuous influx of settlers. By 1850, the census in and around the city was established at 11,380. By 1950, it numbered in excess of 182,000 and reached 200,000 three years ago.

Growth was not restricted to population figures, however. Industry also established itself as a vital part of the area's economy, pursuing a pattern of diversification in attaining its present status.

Food processing enterprises, started as a necessity in the area's self-sustaining economy, have been expanded into prosperous industries. A primitive process of making sun-dried adobe has been developed into an extensive burned clay industry. Small sawmills vital to the existence of the early settlers have been enlarged into furniture factories, utilizing the vast wealth of mountain timber in the area.

In 1863 soldiers from nearby Fort Douglas, prospecting in their leisure time, discovered valuable mineral deposits near the city. Properties were first developed for silver, lead and gold with low-grade copper ore discarded as waste. But subse-

quent mining developments parlayed that "waste" into a lucrative enterprise, resulting in the largest open pit copper mine in the world. Today the mine produces about 22 percent of the nation's newly-mined copper.

Other industrial enterprises have thrived in Salt Lake City. Electronics plants, petroleum refineries, military installations, and steel mills have sprung up to give added impetus to the area's economic development.

As a tourist center, Salt Lake City folks believe their area is without peer. Nowhere, they point out, can one reach such excellent ski areas only 15 minutes from downtown. And nowhere but in Great Salt Lake, they add, can one swim in such exhilarating water, so buoyant that a human body cannot sink.

There are plenty of attractions in Salt Lake City for the sightseer, too. Usually the first item on the agenda of any tourist is Temple Square, the heart of the city and focal point for most excursions. Here one can see the resplendent Mormon Temple, a truly remarkable edifice used by members of the LDS church for sacred ceremonies.

The Tabernacle, also on Temple Square, stands as one of the most outstanding architectural accomplishments in the country. The dome-shaped roof consists of more than a million feet of lumber and is supported by 44 buttresses, affording an unobstructed view for its audience. Acoustically, the construction is so perfect that a pin dropped on the podium can easily be heard at the rear of the room, something over 200 feet away.

One of the world's most renowned pipe organs graces one end of the Tabernacle's auditorium. Construction was started in 1866 and the organ was used initially in 1874. Subsequent modifications and additions have increased the organ to five manuals with 10,742 pipes, ranging from $\frac{1}{8}$ inch to 32 feet in length.

Two other famous visitation points for out-of-towners are the Lion House and Beehive House, both former residences of Brigham Young, leader



BUSY HUB

salt lake city
ogden



One of Ogden's most famous citizens was John M. Browning, inventor and manufacturer of firearms. This likeness of Browning and a valuable collection of his weapons are housed in a National Guard Armory bearing his name.

of the Mormons at the time Salt Lake City was founded.

Museums, monuments, an outstanding zoo, an imposing state capitol building, golf courses galore, excellent mountain fishing streams and picnicking facilities beckon to the visitor. Each contributes immeasurably toward Salt Lake's image as a tourist mecca — in both winter and summer.

Ogden claims its share of tourist attractions, industry and cultural centers, too. As mentioned earlier, Jim Bridger apparently was the first white man to view the area. Other trappers and explorers who followed him to the present site of Ogden were Peter Skene Ogden in 1826, Miles Goodyear in 1841, and Captain John C. Fremont in 1843.

Goodyear obtained a grant from the Mexican government for "all the land between the mountains and the lake" on which he proposed to establish a permanent trading post. The log house he built near the confluence of the Weber and Ogden Rivers is believed to have been the first

in Utah and is preserved on the grounds of Ogden's Tabernacle Square.

But again it remained the lot of the Mormon pioneers to establish a permanent settlement. Sent out by Brigham Young in 1850, the colonizers planned the city of Ogden much as they had platted Salt Lake City. Legal incorporation came in 1861, opening the way for growth that has been rapid ever since.

One of Ogden's greatest claims to fame after becoming a city occurred on May 10, 1869. The Union Pacific Railway building from the East and the Central Pacific Railway from the West met just north of the city at a settlement known as Promontory. A solid gold spike was driven into the tie, commemorating the historical event.

From that auspicious beginning, Ogden has gained a lofty reputation as a transportation center. Its vast railroad yards annually handle more rail traffic than any other between Chicago and the Pacific Coast.

Agriculturally, Ogden can hold its own with the best, especially as a livestock center. More than two million head of cattle pass annually through the city's sprawling 77-acre stockyards. East meets West at the annual Golden Spike National Livestock Show when grand champions from Eastern expositions meet the Western champions in a Court of Final Appeal. The winners of this competition are understandably acclaimed supreme in the nation.

No tour of Ogden would be complete without a visit to the city's famous Municipal Park. Gaslight-lined walks add a glowing beauty to the floral arrangements and softly illuminate the entire park.

The John M. Browning Museum and Armory is a must for gun enthusiasts. An outstanding collection of firearms — including priceless original inventor's models — are housed in the Utah National Guard Armory building that bears the name of one of the city's most noted citizens. It was in a small workshop in Ogden that Browning designed and manufactured many of the original models on display.

Ogden is somewhat like its sister city of Salt Lake in offering a diversity of recreational outlets. Snow Basin, 15 miles from the city, rates among the finest ski areas and often plays host to some of the world's greatest skiers. The Weber and Ogden Rivers provide unexcelled trout fishing and the swampy approaches to Great Salt Lake provide a duck hunter's delight.

These are but a few of the facts about Salt Lake City and Ogden, two of the largest cities in the Beehive State. Around the cities is a vast frontier, much of it unmapped and little-known. Yet within them is a proud and distinct culture unlike that of any area in the world.



Recognition

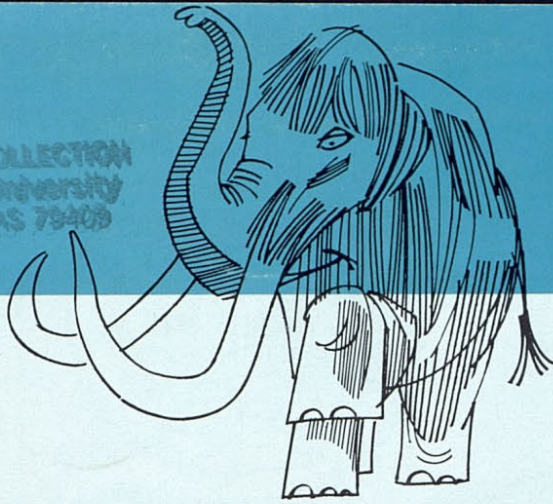
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In keeping with our goal of publishing stories on Southwest history, **The Shamrock** is proud to present in this issue an account of the area's earliest known history. The weapon points and crude tools of survival shown on our front and back covers present archaeological evidence of a prehistoric Southwestern culture. Points on the front, left row, top to bottom, are from the Angostura, Eden, Scotts Bluff and Harrel ages. On the right are points depicting the Clovis, Folsom, Agate Basin and Plainview age cultures. Implements shown above are the double-bladed knife, notched hammer, diamond-shaped knife, hammerstone, awl and hide scraper. All these points are made from a substance found only in the Texas Panhandle — Alibates Flint. For a further account of this miracle material, see our story beginning on Page 8.