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ARIZONA HISTORICAL REVIEW

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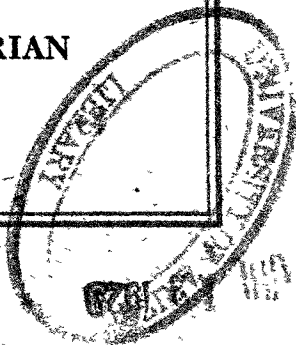
Vol. 2.

JULY, 1929

No. 2.

Published Quarterly by
ARIZONA STATE HISTORIAN
PHOENIX, ARIZONA

Entered as Second Class Mail



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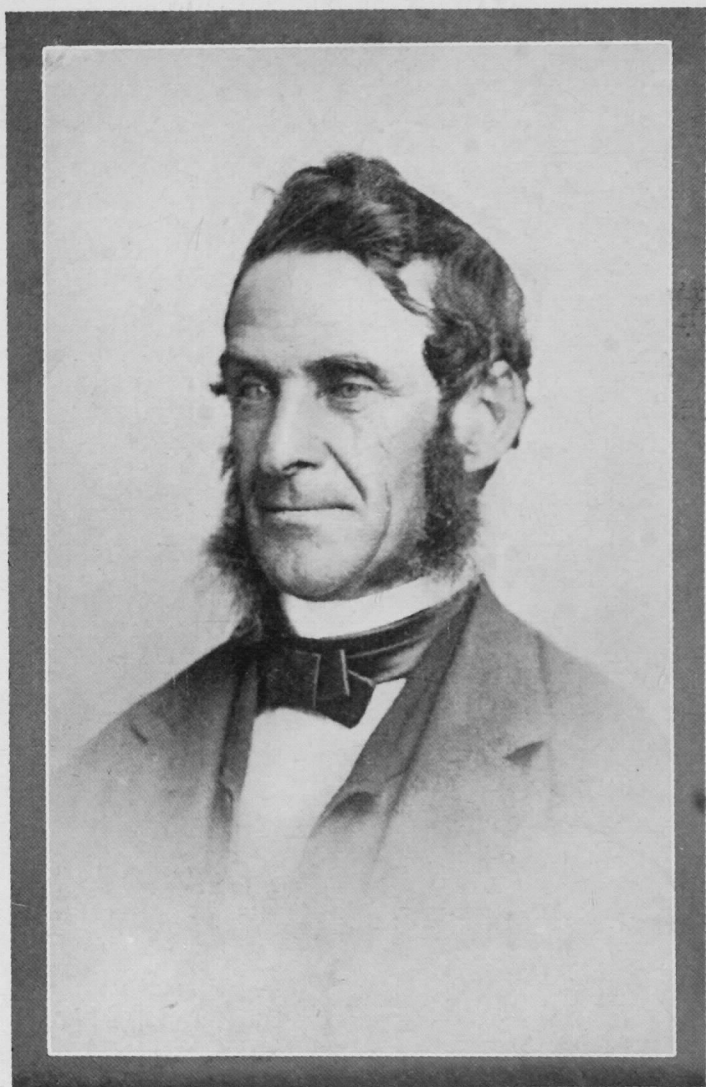
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Associate Justice of the Supreme Court of Arizona—1863. Judge Howell prepared the first code of Arizona laws, known as the "Howell Code."

ARIZONA Historical Review

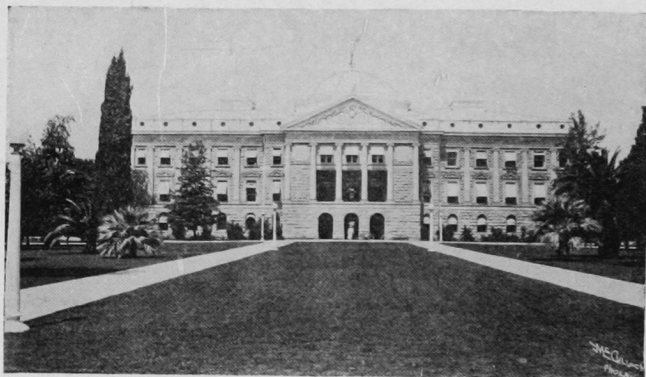
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Volume 2

JULY, 1929

Number 2



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Arizona Historical Data

The territory now included within the limits of Arizona was acquired by virtue of treaties concluded with Mexico in 1848 and in 1854. Previous to that time this country belonged to Mexico as a part of Sonora.

The act cutting Arizona away from the territory of New Mexico was passed by the United States congress and signed by President Abraham Lincoln on February 24, 1863.

Governor John N. Goodwin and other territorial officials reached Navajo Springs, now in Navajo County, on December 29, 1863, where, on that date, the governor issued a proclamation inaugurating the territorial government.

The first Arizona territorial legislature was convened in Prescott, the temporary capital, September 26, 1864. Territorial capital located in Tucson, November 1, 1867, under an act of the legislature. The territorial capital was relocated at Prescott the first Monday in May, 1877. On February 4, 1889, the territorial capital was permanently located at Phoenix, where it has remained since.

Arizona became a state on February 14, 1912, by virtue of a congressional act passed in 1911.

The officers appointed by President Lincoln, who were responsible for the first Arizona territorial government were: John N. Goodwin, of Maine, Governor; Richard C. McCormick, of New York, Secretary of the Territory; William F. Turner, of Iowa, Chief Justice; William T. Howell, of Michigan and Joseph P. Allyn, of Connecticut, associate justices; Almon Gage, of New York, attorney general; Levi Bashford, of Wisconsin, Surveyor General; Milton B. Duffield, of New York, U. S. Marshal; Charles D. Poston, of Kentucky, Superintendent Indian affairs.

The first Arizona State officials, elected in 1911, included the following: George W. P. Hunt, Governor; Sidney P. Osborn, Secretary of State; J. C. Callaghan, State auditor; D. F. Johnson, State treasurer; C. O. Case, Superintendent of Public instruction; W. P. Geary, F. A. Jones and A. W. Cole, Corporation Commissioners; Alfred Franklin, Chief Justice; D. L. Cunningham and H. D. Ross, Associate Justices of the Supreme Court.

From Savagery to to Civilization

Not so many years ago, Arizona was an undeveloped section, a hunting ground for the Apache, a tremendous expanse of rolling prairie and forbidding mountain ranges. A journey across the territory was undertaken with many forebodings, and only by the most fearless.

Then came the prospector with his burro. He spent years and traveled hundreds of miles exploring mountains, valleys and deserts in his search for ore deposits. The war whoop of the Apache and the possibility of starvation did not deter him. When a promising outcrop was discovered, he began developing his claim, sometimes with success, but more often to find that his paystreak pinched out.

But when his labors were attended with success he enlisted the aid of other men who furnished the money for labor, supplies and transportation to points where his ores could be treated and their values released for use in the commerce of the World.

With continued growth, the need for cheaper and more rapid transportation became urgent, and railroads were built to the mining properties, telephone and telegraph lines followed the railroads, and the surrounding country was opened for settlement. Markets were established for the produce of the farms and ranches, stores and schools and churches and the other evidences of modern civilization were provided.

To the Prospector Arizona owes a debt of gratitude. His vision, his fearlessness, his labor made possible the conveniences and the luxuries we now enjoy. He began the development of a vast empire, he brought Arizona from savagery to civilization.



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Current Comment

Great Gathering of Pioneers

The annual reunion of the Arizona Pioneers Association on April 9 and 10 this year brought together the largest number of pioneer residents of the state that have ever been assembled. It was estimated that two thousand pioneers, who arrived in Arizona prior to the year 1890, were present at Riverside Park on Tuesday, the first day of the reunion.

There was a splendid program for the entertainment of the old timers, including songs and music. Chas. A. Stauffer acted as toast-master during the program, introducing Governor John C. Phillips and Mayor F. J. Paddock, both of whom extended hearty welcome; other prominent Arizonans were introduced and spoke to the pioneers, including Chas. M. Clark, Col. Jas. H. McClintock, John Orme and Sharlot M. Hall. All the speakers expressed sincere regret because of the recent demise of Hon. Dwight B. Heard, promoter and patron of the organization, and Col. McClintock read a fitting memorial resolution in which was recited the high regard for Mr. Heard entertained by all pioneers. This memorial was adopted at one of the business sessions of the association.

The barbecue dinner followed the ending of the speaking program, and it was thoroughly enjoyed by those present. Old acquaintances, men and women, gathered in the shade of spreading trees, in groups, and ate the delicious beef, beans and other good things prepared for the occasion, and recounted many early-day incidents which featured their Arizona experiences during the pioneer days. There was a dance in the big pavilion, following the barbecue dinner, when familiar old-time tunes were rendered on violins as reminder of the past generation. Some of the pioneers who long ago entered the decline of life, demonstrated that while old in years they were yet young in spirit.

Chas. M. Clark was re-elected as president of the association, and W. W. Brookner was re-elected as secretary and treasurer.

To the Pioneers of Arizona

An address of welcome delivered by Gov. John C. Phillips at the annual meeting of the Arizona Pioneer Association, Phoenix, April 9, 1929:

It gives me great pleasure to welcome you here today, and speak a word about the great debt our state owes to the men and women among those whom we class as Pioneers. Many who sit here today actually participated in the first work of making this state the progressive commonwealth which it is today. They lived on the soil and earned it for their own by establishing homes and by the performance of honest labor.

In the early days when you came here, settling in Arizona and earning a home meant not so much an expenditure of money as it meant real courage, the courage that it takes to win wars and build empires. Pioneering means forethought and vision plus courage, with a love of adventure thrown in to give spice to what would otherwise be only drudgery and hardship. Each acre now settled and brought to rich production shows the imprint of a courageous and adventurous soul.

Recently a banquet was held at the new Arizona Biltmore Hotel in honor of certain distinguished men, who were at that time called empire builders. These men had all contributed greatly, each in his particular line of work, to the making of the Salt River Valley, but your work goes further back into the history of the state—the actual acquiring of the soil upon which all these later improvements have been made.

In order that we may have a better understanding of what this country was before you came here, I wish to quote from Farish's History of Arizona. W. T. Sherman, who as a lieutenant accompanied Kearny's Expedition to California, made the statement that we had had one war with Mexico to take Arizona, and we should have another one to compel her to receive it back again. Colonel James Collier, Collector of the Port at San Francisco, who reached that place November, 1849, declared that he would not accept the entire Gila Valley as a gift. Colonel Sumner, who was in command of the Military Department of New Mexico, in one of his official reports to the War Department, called attention to the fact that the holding of New Mexico, which then included Arizona, was costing the government four millions of dollars a year, and advised that the government buy out all of the holders of property in that territory, remove them elsewhere, and then turn the entire country over to the Indians.

In contrast to this report of early days, I call your attention to a crop report of the Salt River Valley project for the years 1927-28. This gives the value of our alfalfa crop alone as \$4,288,335.00; our cantaloupe crop is valued at \$2,549,232.00;

our lettuce crop at \$3,618,650.00, and so on, or a total valuation of crops grown under this project for one year of \$26,082,055.31. If the noted gentlemen whose remarks I have just quoted were alive today, it would afford me great pleasure to call this report to their attention.

Of course it was not given to you in those early days of hardship to foresee just how far we would progress from that time to this, nor is it given to us who are here today to foretell our measure of progress in the next forty years, but we do know that in the face of all that Sherman saw at the time he made his comment, you had the bravery and foresight to persevere in your efforts to build homes and bring the land to a state of production whereby you were enabled to live and rear your families, until your children's children have reached the place where they may well say, "This is the land of corn and wine" or more literally "the land of lettuce and cantaloupes."

The hardships of the farm have almost entirely been eliminated. The valley is now being electrified and electricity is within the reach of all farms. This has lightened the labors of both the farmer's wife and the farmer, and has taken from the lives of the women that drudgery which made them prematurely old and kept them within the confines of the home so that their perspective narrowed and their diversions were few. We now have paved streets, schools, churches, hotels and all that go to make a community a happy one. We hope we may be able to repay in part the debt we owe to you, our Pioneers, and our first step toward this is the setting aside of these two days in commemoration of your efforts. The man who is responsible for this annual event in your honor has been taken from us, but to the late Mr. Dwight B. Heard, builder and man of progress, and generous, public-spirited citizen, we are indebted for this observance of Pioneers' Day.

On behalf of the State of Arizona, I welcome you here today, and hope you may live to see many more reunions in commemoration of the Pioneers of Arizona.

Death of Frank L. Proctor

Frank L. Proctor, who became a resident of Arizona more than fifty years ago, died at the home of his sister in Santa Monica, California, April 8, this year, at the age of 77. For more than fifty years Mr. Proctor had resided in Arizona and the southwest. He arrived in Tucson from Southern California

fifty years ago, then a young man of great energy, and filled with the spirit of adventure. He was soon engaged in the cattle industry, and first acquired a ranch and range in Pima County; later he bought cattle and ranches in Graham County. He had not resided in Arizona long until he was appointed as a deputy-sheriff in Pima County, and afterwards was put in charge of the sheriff's office as under-sheriff by Sheriff M. F. Shaw. The cattle industry in those days depended on the sufficient rainfall to produce grass on the range. There being no available pasturage in those days, Mr. Proctor experienced alternative years of prosperity and lack of prosperity until about the year 1900 when he went to Cananea, Mexico, where he succeeded in getting concessions for carrying on a wholesale meat market and a wholesale liquor and tobacco business. He moved his wife and daughter to Cananea where the latter, Marie, became the wife of the late Col. W. C. Greene, president of the Cananea Consolidated Copper Company. Proctor was prosperous in Cananea both in his business enterprises and in the development of the Central group of copper mines which he sold to the Cananea Company. Twenty years ago he went with Mrs. Proctor to Los Angeles where he built a good home at Hollywood and later bought an extensive walnut grove at El Monte. Mrs. Proctor died several years ago. Mr. Proctor suffered a paralytic stroke a short time before he left Cananea which made him a cripple for the remainder of his life. Pioneers of Pima, Graham and Cochise counties remember Frank L. Proctor as one of the most popular men in Southern Arizona during the days of his activity at Tucson and Cananea.

Death Takes Prominent Pioneer

George H. N. Luhrs, prominent Arizona pioneer and state builder, died at his home in Phoenix at 8 o'clock in the evening on May 4. Mr. Luhrs was 82 years old, and for sixty years had been a resident of Arizona, and for fifty-one years a resident of Phoenix. He was a native of Germany, and as a young man learned the trade of wheelwright and wagon-maker. Arriving at Wickenburg in 1869, his first employment was at the Vulture Mine, where he worked at his trade. He first visited Phoenix in 1874, when he got his first vision of the future of Phoenix and the Salt River Valley. He located permanently in Phoenix in 1878, buying the corner at Central and Jefferson, now occupied by the Luhrs Hotel. Here he had a blacksmith and wagon-

GROUP OF FIRST OFFICERS—TERRITORY OF ARIZONA—1863



H. W. Fleury
J. B. Allyn

Milton B. Duffield
John N. Goodwin

Almond Gage
R. C. McCormick

maker's shop. He built the first hotel, the Commercial, in 1888. When it was burned down in the latter nineties, he built the present building, now known as the Luhrs Hotel. Many years ago he purchased the entire block on which the Luhrs ten-story building was erected six years ago. Two months ago he began the erection of another office building at the corner of Jefferson Street and First Avenue, designed to be fifteen stories high, and the tallest building in Phoenix. Another substantial building in this block is the Industrial Congress Building, so designed that it will sustain eight additional stories.

Mr. Luhrs ranked among the most prominent Masons in the state, having received all the higher degrees in that order. He was always interested in providing anything that promised greater growth for Phoenix, and a better condition for those who lived in his home city. His acquaintance extended to every nook and corner of Arizona, and his hotel has ever been the favorite of old-timers coming to Phoenix from any of the Arizona counties.

Mr. Luhrs is survived by two sons, two daughters and a sister, and he has left to his state and home city the memory of a pioneer who accomplished much by his energy and faith in the future of his adopted state.

Copies of the "The Life of Tom Horn, Written by Himself," about whom H. E. Dunlop wrote an interesting article for the last number of the ARIZONA HISTORICAL REVIEW, may be had at \$5.00 the copy from Mrs. John C. Coble, 2020 Evans Street, Cheyenne, Wyoming. Only a few copies of this thrilling book remain unsold.

Group of First Arizona Officials

In this issue of the ARIZONA HISTORICAL REVIEW is printed a group picture of some of the first officials of the Territory of Arizona, and who participated in establishing the territorial government in 1863. In this picture group were those whose names follow:

John N. Goodwin—First Governor of the Territory of Arizona—1863. A native of the State of Maine where he was educated as a lawyer. When the bill was passed by Congress creating the Territory of Arizona, Goodwin, who had just completed a term in Congress from his native state, was appointed

by President Abraham Lincoln as chief justice of the new territory. John A. Gurley was appointed as Governor of Arizona, but died a short time afterward, when Goodwin was commissioned and became Arizona's first governor. Goodwin was elected to Congress at the first regular election after his arrival in Arizona, and left the territory in 1895, never returning.

Richard C. McCormick—First Secretary of Arizona Territory, was a native of the State of New York. He was appointed as Governor of Arizona to succeed John N. Goodwin. Later he was twice elected to Congress from Arizona. McCormick was with the Arizona official party when it made the trip to the new territory to institute the new government. He brought a printing press with him, and at once began the publication of the ARIZONA MINER.

Milton B. Duffield—First United States Marshal in Arizona—1863. He came west with the territory's official party. Later, after his term as U. S. Marshal had ended, Duffield went to Tucson where he held the position of post office inspector. He was a man without fear, and of powerful strength and physique, and was often engaged in fights and quarrels. He was finally killed in Tombstone by a man with whom he had a controversy over a mining claim.

Joseph P. Allyn—A native of the State of Connecticut, was one of the first associate justices of the supreme court to serve Arizona Territory. In 1886 he was a candidate for Congress. Being defeated, he resigned his judgeship.

Almon Gage—First United States District Attorney of the Territory of Arizona—1863. In the organization of the First Arizona Territorial Legislature Mr. Gage was elected as secretary of the council; Judge E. W. Wells, now a resident of Phoenix, was chosen as assistant to Mr. Gage.

Henry W. Fleury—Private secretary to Gov. John N. Goodwin, 1864, also chaplain of both the council and house of the First Arizona Territorial Legislature in the same year. Judge Fleury resided in the building known as Governor's Mansion, in Prescott, continuously from 1864 to the time of his death in 1896. It is related that during all these years Judge Fleury slept every night in the old building.

Prehistoric Irrigation

DR. OMAR A. TURNEY

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II

The digging of the prehistoric canals in the Salt River Valley was done with stone hoes, always held in the hand; never was one mounted on a handle. We ridicule a race which could not make a shovel, but how long would it take us to carve out a spade from an ironwood tree with a fragment of stone. Dirt was carried away in baskets; let the man who thinks this an easy job ask himself how much mud he can pick up on a stone. But it was not all mud; in places there was indurated caliche, yielding only to hammering, or to fracturing with bonfires and water.

At that time the ranges at the headwaters of the river had not been eaten bare by the sheep and cattle of civilized life; the thick protection of cottonwoods and willows, bordering every water-course, had not been cut; floods may have been rare, life-time events; the rock-and-brush dam was well nigh permanent. From a knowledge of Indian character it may be concluded that this first colony was not augmented in numbers from outside nomadic sources; no chamber of commerce was maintained to solicit settlers from alien communities, but the settlements grew from within through their own slow increase.

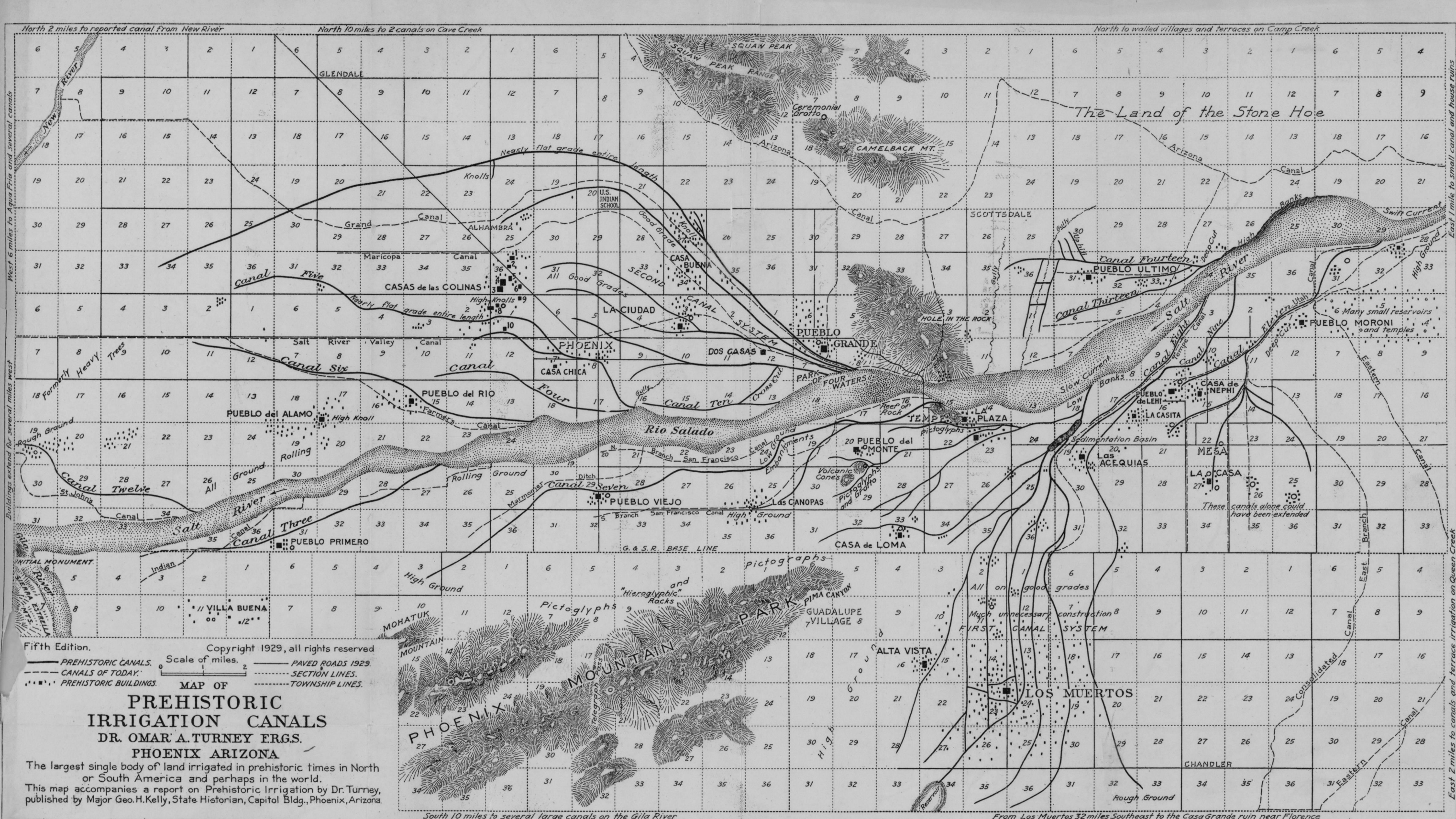
We wonder how long it would take to construct System One, along with growing food supplies and fighting prowling enemies. If determined by the rate of birth increase, then centuries were required. Several factors combine to indicate that the first large canal was constructed at Tempe. At this point the river channel was broad, the current slow, the banks were low, the cutting was easy and there was plenty of material to build a rock-and-bush dam; for a dam of some kind was necessary. The first canal was short and narrow; with the demand for more land, it was lengthened which necessitated widening. It can not be known how far it was extended before a parallel canal was started, taken out from the enlarged head; but in time a whole set of parallel canals led down to Los Muertos, all of them but a quarter to a half a mile apart, when the whole district might have been irrigated by one canal with a system of laterals. That such a system of lateral branches was devised

can be seen by an inspection of the system on the north side, the Second System.

Long continued irrigation brings to the land the soluble salts from all the headwaters tributary to the river, and these canals south of Tempe, having been the first built, and used all the while the latter ones were in use, received a greater amount of these salts and alkalis, and such was proven to be the case when the lands were first settled upon forty years ago. We remember when the ground adjoining the State Teachers College and the Tempe High School had not been cleared of alkali weed for the reason that it was considered unfit for farming. After working with Cushing, Jas. Goodwin and his brothers cleared the brush and leached out these salts by flooding, and changed this alkali ground into choice farms. Owing to an impervious stratum to the west of these lands, they became waterlogged after thirty years of use, and a drainage ditch was constructed.

Waterlogging began on the north side in the area south of the U. S. Indian school about fifty years after modern irrigation was begun; the situation was relieved by electric pumping and the lifted water has again been used to raise crops. The ancient people had no lumber nor other material for building tight headgates and it would seem that their lands must have been moist much of the time. But they raised only summer crops and may not have irrigated their lands at all during the winter, thus greatly increasing the time before waterlogging began to take effect since the subsurface water-table has a fall varying from fifteen to twenty-five feet to the mile. Sir William Willocks has expressed the belief that waterlogging was the cause of the abandonment of Mesopotamia; yet we know that irrigation was practiced there for hundreds of years before the end came.

When the writer first began gathering up metates and manos, those lower and upper millstones, they were found in just as plentiful numbers in these two areas which have been waterlogged in modern times as in any other part of the valley. Now these stones were made of basalt (called malapi); it was a thirty to forty mile walk to the northwest to find that volcanic rock from which to make them. Articles of constant utility, which had been placed in the graves of the dead, might be respected, or may have been permitted to remain on account of superstition, but we can imagine no superstition to bar the appropriation of abandoned metate sand manos in lands deserted on account of waterlog, or can see no reason why the



former occupants would not have taken them along to new homes where they must be wanted. Therefore it seems doubtful if much or any of the land was abandoned on account of alkali or waterlog, or if deserted, then but temporarily.

At the head of System Two is a Reef of Rock bringing the underflow to the surface; an important matter in dry years. The lower branch canal was first constructed on an easy grade and later the others, each with a flatter gradient until a limit was reached in the outermost canal with corresponding slow velocity of flow. The head of this canal was very large; as water was used along the way, the size decreased; at eighteen miles from the river it was fifteen feet wide on the bottom, twenty-five on top and ten feet deep below its banks and five below the general surface of the ground.

The bold engineering shown in the outermost canal in this system, its long, straight lines and the uniformity of grade, and the fact that it reclaimed all the land possible, proves it a masterpiece of construction. The ancient engineering of dam location was as good as the modern; judgment was needed rather than scientific instruments. Their engineering of operation was crude through inability to build a headgate. Our improvements over their methods are due to the engineer's level and the carpenter's saw.

With the passing centuries, additional canals were made, each encountering different problems; sometimes little knolls along the way confused the eye, which made attempts in various directions necessary, until a course was found where the water would follow the workers; when it did, perhaps the terrain sloping the wrong way, refused to receive it. The construction of a canal by digging, as the water softens the soil, is unpleasant work. No pride was taken in fashioning the stone hoe; it was about the size and shape of a modern hoe blade, but with no perforation, notch or groove for a handle, simply a spall from a boulder, shaped thick at the back and thin in front. When dulled by scraping gravel, it was sharpened on a basalt boulder. These volcanic "grind-stones" were scattered along the banks and the hoe edges show the striations. Modern man takes a trowel and plates it over with silver and gives his fraternal lodge its name. He but copies the code of the earlier workman, for some stone hoes have been found, all symmetrically shaped and sharpened and rubbed and polished with a skill which vies with the artisan in the modern Masonic Lodge of the Silver Trowel.

While the canals to Los Muertos were being constructed, other channels were under way; in time the whole valley was reclaimed. Each acequia was carried to its physical limit, except number Eleven, for it headed where the river was narrow, the current swift, and with every flood water the rock-and-brush dam was destroyed. When the town of Mesa was started, the Mormon settlers discovered the ancient water way. On account of the river channel erosion which had occurred during the ages, they were compelled to make a new heading three miles up the river. There they also built a rock-and-brush dam, but for much of the rest of the way, they cleaned out the conduit of the ancient builders and used it. Encountering the same problems in topography, the Mormons solved them by dividing the water in three branches, just as the ancient people had done at that same place; and for some years later they were unable to extend these branches to farther lands through the same troubles of swift current at the river diversion. The modern system, even to its details, is a counterpart of the old; and the difficulties and their solutions have been the same.

The first canals were crooked, winding about every irregularity in the surface; being close together, little land was served; sometimes a later and larger canal rendered an earlier one unnecessary. The land under Canal Eight could have been better served by Canal Nine, but in the latter construction, the engineering skill and the labor involved for the amount of land reclaimed, shows a great advance over the earlier attempts. In the City of Phoenix, mesquite trees formerly grew as thickly as half a dozen to the city lot; in ancient times, with greater rainfall, they may have been more numerous.

In prehistoric times, the construction of the subsequent canals was governed by the ease of maintaining dams, by the height and nature of the river banks, the amount of land to be reclaimed, and its smoothness. Few canals were made in the western part of the valley; there modern settlers found a very dense growth of large, slow growing mesquite and ironwood trees. The canals antedate the living trees, but the habit of trees to grow there tended to discourage the ancient colonists from farming in that locality.

The earlier canals were on easier grades, and probably were used for a longer time, since under them are found the greater quantity of the solvents carried by Salt River. Few straight lines are found in the earlier construction, even where the contour of the land permitted, but the later canals were on a better alignment. Generally the grades were as good as circumstances

permitted, all of them being on a fall which would be practicable in standard construction today, although in modern practice a more rapid flow is desired. Some had useless branches, as in that two miles south of Tempe, but this was due to their pioneering methods before they had discovered that they must reclaim the entire valley: probably the canal passing through the center of the City of Phoenix was one of the first on the north side.

A typical cross-section has been found 200 feet south of the intersection of Culver and Fourteenth Streets. The surrounding earth is light in color and contains many caliche nodules, while the earth which fills the ancient canal is dark, friable and contains no nodules, but is composed of sedimentary silts containing organic matter, probably due to the lack of cleaning during the time of gradual relinquishment of the valley. This canal had irrigated lands all the way from its heading, five miles distant, yet at this point it was ninety three feet wide.

Its cross section was as follows; at 21 feet from the south berme the depth was 2.1 feet, at 41 feet distant 3.1; 46 feet 3.7; 51 feet 2.9; 63 feet 2.2; 93 feet zero. Probably it had been wider and correspondingly deeper, but the march of city improvement had removed its upper level, yet even in that condition it revealed the typical and logical form of cross-section to be expected when people dig a canal with a cumberson hoe of stone. Owing to its shallow depth, a row of stakes set across to hold a pile of brush would divert an irrigating head which would spread out evenly over the land. The cross-section was 166.5 square feet; a modern canal with one-to-one side slopes would measure 45 feet wide on top and 5 feet deep; in the modern practice the width is half as great and the depth double, an improvement only permitted by the use of timber checks and head-gates.

Agges are required for a river channel to scour when its bed is boulders: remembering the flood of 1891, we think how it dug in spots, but we forget how it piled up. Through the centuries the river has thrown its current against the Tempe Butte where it has been deflected across to the granite cliffs at the Reef of Rock and kept them washed bare of sand. The four mouths of System Two could never have passed around these bare cliffs to a point farther up the river; the sixteen feet difference in grade between canal and river is alone due to erosion. Here the Canal Builders found it advantageous to make the heading for their second largest system, and here modern engineers have built the only Portland cement dam within the limits of the map.

All canals at that point could have been extended upstream 600 feet to the granite which would have given them only one foot increased grade, an amount too trifling to have materially increased their period of usefulness. All the canals start out nearly at right angles to the river, and run directly to the lands to be served; they give no evidence of having been run up the river bottom to a higher grade. System Two leaves the river at the best point to take advantage of a considerable underflow forced to the surface by the Reef of Rock. Had this group of canals been taken out several miles up the river they would have lost this extra supply and been in a locality where it would have been difficult to maintain a rock-and-brush dam. The extra supply at the Reef of Rock would then have been below them and that large supply thus untouched would have gone on down the river through a locality where it was easy to divert water, but where only few and small canals were constructed, thereby proving that the upraised supply was not allowed to escape at the Reef. Those who argue that the four canal heads were filled with silt must remember that if cross-section were lost by silt then a sufficient stream could not have been diverted onto the land for the acreage covered.

If the four canals at the Park of Four Waters had been carried beyond the Granite Reef, then the water at the reef would have passed on down the river and the people below would have constructed large canals to capture the flow, but inspection of the map will show that the canals there are short and small; Number Ten was a trivial affair which even then could not supply its limited land and so a cross cut was carried over to its head, absolutely proving that water was not being permitted to pass the Reef of Rock. Farther on down Number Four and Number Six headed in points where water rose in the channel. Forty years ago these places were summer time swimming pools, but for the last dozen years the only physiographic features in that locality are drifting sands and whirlwinds of dust. Lower Salt River is a river wrong side up, a dusty river with a surface of sand and boulders; its water, if there be any, lies concealed below human observation.

The conclusion is definite that System Two headed at the Reef and in the only location to divert all the reef flow and that it did divert water for its forty-six miles of main line canals with a surface which was sixteen feet above the present river surface and that this sixteen feet of river erosion has occurred since its abandonment. Erosion was slow before the advent of the white man with his range cattle eating out the galleta and

grama grass and his sheep destroying the sapling pine trees; the white man who denudes the streams of their thick fringe of willows and cottonwoods!

When such despairing attempts were being made as the construction of Canal Fourteen, it is unbelievable that water would have been permitted to go to waste at the Reef of Rock. If the heading of System Two could have been passed around the granites and have been run up the river the necessary three miles to recover the sixteen feet loss of grade, and if floods had treated it kindly as it passed the granite and permitted its sandy banks to remain untouched, then the canal would have been heading at a point where there was not enough water in the river to supply this large system; for the volume of surface flow in this strange river varies materially from place to place, due to the varying depth of boulders and sand. If the canal had headed up stream, then by no trick of hydraulics could the water brought to the surface by the Reef of Rock have also been taken into any of the four canals. Then that valuable supply, large enough to have filled this system, must have been permitted to pass on untouched: if the diversion were at the Reef then an extension up the river would have been useless.

The first of the canals constructed in System Two, the southern one, was given the broadest and largest head, while the last, the northern, had the smallest, although it supplied twice the acreage: but all these heads were cross connected. General Rusling first discovered these cross connections, and H. R. Patrick confirmed them, yet he was unable to remember their position; probably our map is incomplete at this point; no trace of cross connections remains on the ground.

In Canal Nine, at the Base Line, the alignment swung over on high ground and a long 14-foot cut was made, where a straight course would have followed an easy grade. Canal Fourteen is called the last, for at this point the river was swift, a fourteen foot cut in caliche gravel and boulders was necessary in rolling ground. Several miles from the head a gully was met; three attempts were made to get around it by digging branches to the north, all of which were attempts to run water up hill; then a long branch to the south was put in; there the water would flow beautifully, but the irrigation was backward and uphill. Then the gully was filled on the original alignment and a "burro" ditch carried over on the fill. One such ditch upon a dyke was sufficient for all the land ahead but they built three across at distances of half a mile apart. A mile beyond the gully, a deeper gully was met; so a long lateral to the south was made, but it gained them little land.

Clearly they were unable to determine where water would flow except by digging a channel and from such inability they could know little about the land to be reclaimed until completing the work. Let cease the boasting about ancient engineering skill; in few points only was it developed; a maximum velocity with the least earth removal was obtained by making the wetted perimeter bear a minimum ratio to the cross-sectional area. Long practice may produce results equal to technical skill.

The land which could have been irrigated under Canal Fourteen was limited, not over a couple of thousand acres, but all of it was needed and for a long time. Slowly the river channel was eroding, and little by little the canal head was extended up stream; with each extension a new rock-and-brush dam was required. Small arroyos were met, and the canal was carried in and around and out again to hold it on grade; every one of these "washes" making endless work in rebuilding the canal banks after rains. During the passing life-times, the canal was extended upstream three miles to a point where it met an arroyo so broad and strong that even the modern Arizona Canal was carried on a detour to hold it on grade. This arroyo they could not pass, and when for this people it was no longer possible to divert water into that extended head, then there was nothing to do but to migrate or starve!

During the ages, erosion has continued its remorseless cutting in the river channel; today the surface of the water in the river is twenty-six feet below the water surface which they must have maintained in that canal head. At this point the channel is a mile wide, the fall is slight, and the channel is a bed of heavy boulders. Salt River is not a stream of aggradation and degradation, nor is it anastomosing as is the Gila, but during the greater part of the year there is a small deposition and then for a few hours, or a few days, erosion and transportation occur, but the net change is small and slow.

A lesser erosion has been found directly north of Mesa; here Frank Mitvalski measured from the bottom of the ancient canal down to the general river surface and found a drop of sixteen feet, due wholly to channel erosion. The river flow could have been raised four or five feet by a rock and brush dam, but a depth of flow in the canal of a similar amount was necessary, so that the erosion figures are unchanged. That a mile-long dam was built at every canal head is pure assumption; there has never been a shred of evidence found on the ground at a single canal intake to support it. If no dams were built, then the depth of water needed in the canals must be added to all

erosion figures herein given to show the total deepening of the channel. When we come to describe the prehistoric canals of Peru, it will be shown that dams were not built to divert the water, but that the diversion was by gravity alone.

Other villagers to saw troubles; under Canal Seven, after reaching the lands wanted, it became necessary to go back and bank-up both sides six feet above the surface for a mile or more in order to hold the water within; all this labor when by shifting the alignment a quarter of a mile to the south they could have kept on grade. Any farmer knows what gophers would do to those six-foot embankments. Nevertheless today, and perhaps forever, people will continue to say that the work of the ancient engineers could not be improved upon.

But jeer not their hydraulics: neither is the white man infallible. The owner of the land crossed by the headings in the Park of Four Waters tried to convey water from one cotton field to another by cutting a ditch across the ancient intakes, only to find that water would not run uphill. Cooperative farmers farther down the river attempted to increase the water which would flow down their canal by digging double heads to the one common source of supply with both on the same static level.

Under Canal Twelve a long occupation was evident; for miles the surface was strewn with potsherds, yet this was one of the last. In time the ancient passageways were constructed to cover the whole valley, each excavated with some increasing skill, and in about the order numbered on the map. In determining this order, we have been guided by our own experience as an irrigation engineer and through a knowledge of the river and its banks, its current, and the nature of the cutting required at the various heads, the smoothness of the ground and the probable amount of timber removal necessary.

Ten modern canals follow the alignment of the ancient; three only of their headings remain unused today; and in no case has it been found feasible to divert water at any point which they had not utilized. Their system Number One is duplicated by the Tempe canal; their System Two by the Grand and Maricopa. Number Seven is now the Hayden and San Francisco, Number Nine has its counterpart in the Utah. They may have used their Number Six but a short time; its ground today has been watered by the Farmer's; in some places banks touched banks, until it too was abandoned and both leveled. Four miles west of town a short section of the Farmer's remains and is pointed out as prehistoric, but it was 300 feet to the north. Num-

ber Three is now the ditch to the Maricopa Reservation; in places the old and new were but a very few steps apart. Sixty-five miles of the ancient water-ways are either closely parallel or actually occupied.

During the thirteen years that the writer was City Engineer of Phoenix, a partially filled canal, the ancient Number Five, could still be traced passing a few yards south of the Union Depot and on across town. Now let no pioneer shout "Dutch Ditch"; we are not confused; that ditch was farther to the south. The ancient ditch crossed Eleventh Avenue at the railroad, and Nineteenth Avenue just south of Van Buren Street, its very crooked channel passing about 300 feet south of the Capitol Building; not until 1914 were its dim outlines wholly erased. The terraces on lots from No. 1736 to No. 1743 West Madison Street are due to its banks which were never fully graded down. In 1902, Canal Twelve remained just as it had been abandoned a thousand years or more, its head coming to the river bank and looking down eighteen feet to the sparkling surface below; a canal left high and dry on account of erosion. This canal is now paralleled by the modern St. Johns which equals it in length.

Canals constructed by pioneer settlers, remade and some of them abandoned even before 1885, have taken on the appearance of ancient canals during the brief lapse of years. One such canal was begun on the south side, a half mile east of Center Street bridge, and carried in a winding course a few miles to the southwest. Another, the Champion Ditch, was farther to the west, while one, heading in damp ground, was in effect both a drainage and an irrigation ditch. Still farther to the west is a network of ditches on both sides of the river, which have remained only a few years to be replaced by others; all of these drawing their water from sloughs and seepages in sand bars and from underflow returning from irrigated lands. From time to time some of these canals are declared to be ancient; with the passage of years and the perfection of the present system, more and more of these historic canals will pass over into the prehistoric claim, as has been the case with the Farmer's. Along the north berme of the Grand Canal, for a distance of six miles from Pueblo Grande, may be seen the dim spoil banks of a partly refilled canal; this too has been called ancient, but it is the remains of the Appropriator's Canal, built as the result of litigation.

Credit has been given to those pioneers whose work contributed in the preparation of the canal map; the remaining

work was done by the writer subsequent to 1887. At that time if a balloon could have passed over the valley, the ancient canals would have been as conspicuous as the highway roads. The only difference between the ancient and modern was the absence of running water. They could be traced and mapped as fast as the observer could pass over the ground. At that time in determining the sale price of land, the acreage of prehistoric canals thereon was customarily computed and deducted, since the cost per acre of grading in the canal was as much and in most cases more than the selling price. As lands close to the towns increased in value, the old waterways were filled until all disappeared, except where they crossed the highways, and in time they too were graded.

The map has been compiled with care; ruins existing wherever shown, and likely they exist in a number of places where none are shown, but we can say that none did exist at several places where they appear on the Cushing map, and attention is called to his omission of the five largest in the valley. A copy of the Turney map was placed in the hands of the Mormon Church at Mesa and a group of the oldest members was detailed to go about and test it. This was done with the sincerity of purpose which only religious zeal can inspire, for with the Mormon the history of the Indian is a part of religion.

A nation whose engineering two thousand years ago was so good that modern engineers can utilize its works, should be honored with a name. In government publications they have been called the Hohokam, a modern Pima Indian name meaning The Dead Ones. Hokam means a dead man; the plural is formed by duplication; hence hohokam, many dead men.

This is a poor name for a race who fought and conquered the forces of unfriendly nature, a race whose engineering accomplishments surpass any work constructed by neolithic man in English speaking America. Theirs was a prowess which rose to zenith and sank to nadir with no written line to record their name or age. Let them be known as the Canal Builders; no race in America can deny their right.

Our interest is in the subject of ancient irrigation; these articles will review the art as practiced in every land world wide. But in the endeavor to understand the attainments of these master irrigators in the Salt River Valley it is necessary to consider their customs along other lines. The review becomes helpful when attempting to analyse the work of ancient irrigators in other places. Every review must be psychocentric; the writer must consider with the greater thoroughness those factors

which he is more familiar with at home. We find material here at hand which tells of their religious feelings.

The beginning of religion may root in an observation of the severity and ruthlessness of nature, this results in attempts to placate these powers; by primitive peoples the forces of nature have been believed to be endowed with personality; the early Greeks held that objects which moved without human causation were imbued by spirits. Later in the development of human thought, the forces of nature became recognized as beneficent, a belief which resulted in adoration. Among the Canal Builders apparently both occurred, placation and adoration.

The placing of food and utensils beside the dead is accepted as evidence in the belief in a spirit world, although not necessarily in immortality. In the forms of burial are seen the ceremonies that marked the passing of leaders; the body bedecked with shell bracelets and strings of fine beads, all-surrounded with implements and treasures, was buried beneath the floor. Earth was brought in and the floor raised to a new level, and the round of life went on just as before, until another interment encroached upon the living space. When the living found their heads hitting the ceiling, then the door was walled up, and a new room built above. Yet we moderns thought we had invented the family vault!

In general throughout the Southwest, mortuary ollas were pierced or "killed," but so far as our personal observation goes, this was not done in the Lower Salt, neither was there wanton destruction of individual property at the grave among the ancient race, although it did occur among some later Indian tribes; and on the other extreme the remains of the dead were not scorned and treated as objects of contempt, as in some other localities. The utilitarian declares the funerary olla was pierced to destroy its value and so prevent theft; perhaps so, but better solutions are offered. The pithos, filled with food, typified another existence into which the spirit passed. And again, savage races in Europe erected stone slabs over graves and perforated them with a single hole, at a time when they possessed no metals, and when the work involved great effort: the need must have been urgent. The early Egyptians made such a hole and explained its purpose; through it the spirit passed forth, and when tired in its wanderings, reentered the body for rest.

In this valley the dead were given food bowls, but never a metate in which to prepare the food, although sometimes a mano, useless in itself without a metate. We fail to recall the finding of weapons; bows and arrows would decay, but arrow heads would

remain: nevertheless we must remember that most of the searcher have been made by pot hunters unequipped with intelligence. A stone axe would seem needed in a future life, yet in but three instances has one been reported; we speculate that perhaps it was to vitally needed at home. In shallow burials, which seem to have been the last made, mismatched scraps of pots were dropped in the grave: we wonder if this is an indication that the belief in a spirit world where they would be needed was gradually fading away and passing into a mere ceremonial, preserved for its symbolism alone.

The only articles found in house ruins are those of utility or religious fetishes; while utilitarian articles come from the graves, no fetishes are found with the dead, although present in the rooms above the burials. Perhaps the gods were still needed by the living and the dead could shift for themselves.

The mind of the native has been called illogical; it were better to say prelogical. The religion of the Canal Builders was a reverence, a veneration for the beneficent forces of nature, coupled with a belief in mystic powers in uncommon objects; such beliefs result in fetish worship. In the ruin of La Ciudad, a couple of tons of oddly colored cyclopean conglomerates, brought from the river bottom, have been found in room corners. Never a one had been marred by fracturing or hammering. Cushing found some of these used as water tamers. Geologically they originated a short distance west of the Roosevelt Dam and were transported in a sparing way during river floods. The early Egyptians beheld immortality in a certain beetle and carved scarabs in its form; the Canal Builders seeing frogs appear with the rain, believed they had power over the water, and venerated and perhaps worshipped them. We arrive at a better understanding of the Canal Builders by considering the logic of the latter peoples. The Hopi argue thus: that which has life has power over that which does not have life; the dragon fly has life, therefore the water pool lies in the crevice of the rocks because the dragon fly is flitting over its surface.

The present age boasts of science, but the scientist is oft-times puzzled to know which is cause and which is effect; the metaphysician bridges the problem by calling them an empirical sequence; the poor Aborigine, seeing the butterflies come, declares they bring with them the summer; he finds stones rolling in the flood and says they make the water run, and so he gathers them up and places them in his fields to make water flow along his corn rows: this is present-day pueblo logic.

In all parts of the valley, at the ends of canals and laterals, were single slabs of shale or shist, a yard long, all hammered to straight sides and squared ends; perhaps monuments to show the water where to stop; all these had been brought long miles from the hills or river. At all clan-castles and at every large group of the smaller buildings was that peculiar structure which it has been agreed to call a temple for the worship of the sun and fire. The first pioneer settlers, duly puzzled, called them borrow pits, but for that use they could furnish only a fragment of the building material needed, and why build an eight-foot embankment around a borrow pit; then they said threshing floors, but who would thresh pumpkins and squashes; then they declared them water reservoirs, but we have proven that nearly all were placed on the highest part of the village grounds, as though to keep water out of them, and in most cases water would run out of them if put in.

These temples are shown by small circles on the map but only at those places where their former existence is definitely proven. Elliptical in shape, they consist of a bowl-shaped floor, apparently hardened by much dancing, and in some rare instances with a fire hole in the center and the floor surrounded by a row of large boulders. All were enclosed by an embankment and had door-ways at the ends, which, in some cases, we can still see led into a small circular room or perhaps it was only a low platform. Shards are rare within and around the temples, even though plentiful in the dwellings nearby; temples were usually near to the clan-castle. The pioneer settlers at Mesa report that several sun temples were 200 feet long and six feet deep, and in some cases there was an opening toward the river. In these cases we believe that the structure was not a temple, but that it was a reservoir where some down rush of water had cut an opening. It is not always easy to decide which were temples and which reservoirs. Two miles east of Pueblo Moroni, many of both kinds are found scattered all over two square miles. But let no person say that all belong to either the one class or the other; we definitely declare there are two distinct structures and used for different purposes; we only limit our statement by an ignorance of the rites performed.

The sun temple at Villa Buena, in Sec. 11 T. 1 N. R. 1 E., three miles west of Laveen, consists of an elliptical embankment 220 feet long and 65 feet wide, inside measurements, the embankments 25 feet wide, and 8 feet high at the middle of the sides, which gradually slope down to the ends of the ellipse, where doorways 20 feet wide open out on circular platforms of

earth which rise only slightly above the general surface. The eastern platform is 60 feet in diameter and the western 75 feet and both show a slight ring of elevation surrounding the platform. This ring may have been a wall and the platform an aeolian deposit accumulated during the ages, but if so, then a greater wind borne deposit would be expected within the ellipse, where there is none. This temple stands exactly east and west, the area within is slightly bowl-shaped and is above the surface level outside, a condition which would result from wind action and wash from the embankments.

There are no borrow pits, and the earth must have been taken from the general surface from some distance away. Two very large mesquite trees formerly grew in the center. Surface water could never have entered this structure as the gradient runs to the northeast. Thirty small pits were sunk in a search for pottery but with scanty results, the sherds were all of the typical undecorated Lower Salt ware. A short trench five feet deep was made in the bottom which cut through eroded desert soil on the surface into compacted earth and then into hard earth carrying many nodules of solid clay. No level was found which could be called a dancing floor, but the general hardness below the washed-in fill would have made a good floor at any level. The absence of a defined clay bed and the utter lack of shards, together with its large size, seem to utterly preclude the theory of a pottery kiln. No trace was found of walls or wood built hurdles or anything whatever suggesting the side walls and roof described by Cushing as a part of the sun temples, and furthermore this statement applies to every other sun temple found in this part of Arizona. For the ancient race to have put a roof over a structure having a total length of 355 feet and a width of 90 feet between centers of embankments would have called for a small forest of interior posts and a knowledge of roof supports which traces of their work already found in buildings prove they did not possess.

Due west of this temple 450 feet is a pit 103 feet north and south and 75 feet wide with a depth of 5 feet; a second-growth mesquite stands within. The embankments, 2 feet high, surround it entirely, there being no doors or platforms. Water could not enter; there is the same absence of pottery. To the north is a natural reservoir in the undulating ground and well filled with mesquite stumps. To the southwest is a large trash mound 5 feet high, while pottery shards and stone chips and worked stones are scattered over several square miles surrounding and in this area are several dozen small, one story ruins. The

nearest Maricopa Indian houses are two miles west on ground low enough to receive irrigation water from both the Salt and Gila. Only a rank novice could confound the prehistoric pottery shards with even the most weathered fragments of Maricopa Indian make.

At Snake Town, a Pima Village about midway between Chandler and San Tan, (the latter the Indian name for the settlement on the north side of the Gila, across from Sacaton), the ancient mounds are well strewn with Lower Salt shards; the observer may see ten thousand of them for every Central Gila or New Mexico made fragment; apparently the ratio of intrusives is lower there than around Phoenix or Tempe. No traces of building walls are seen here, although trash mounds are extensive and deep showing that the sites had been long occupied. Since there is an absence of adobe on this first river-terrace above the channel of the Gila, the people may have made homes from posts and brush, as do the modern Pimas living there among the ancient ruins.

The sun temple at Snake Town exactly duplicates that at Villa Buena; the ellipse is 225 feet long, and embanked 9 feet high; at the two ends are the slight platforms surrounded by a dim elevation suggesting an eroded wall; the platform of the east 75 feet in diameter and that on the west 90 feet, making the total length 390 feet: the structure stands exactly east and west.

Across the Gila, six miles south from Snake Town, is the ruin of Casa Blanca: the sun temple is a duplicate of that at Snake Town, size the same, with the same end openings and dim platforms, the long axis also east and west. In all the large sun temples the axis is east and west, but in the small ones the axis is north and south and they lack the end platforms, but in general the testimony concerning the small temples is uncertain as nearly all have disappeared.

The limits of the area in which these temples occur is not known. One at Fort McDowell, not far from the prehistoric canal there, is used by the Apaches as a gambling place. Temples similar to these are found at ancient sites along the Gila; on Clear Creek, a tributary of the Verde, there are two; the form of one is uncommon, but the other is similar to those in this valley. It is oval in form with longer axis north and south, the rim six feet above the bottom, while surrounding are the so-called sitting stones. These on Clear Creek are not reservoirs, since the slope of the ground is away from them in all directions. At Puye, New Mexico, on top of the mesa is a structure similar to

these local sun temples, with the only exception that it lacks the end platforms: the earlier archaeologists called the structure at Puye a reservoir, regardless of its location on top of a high bluff.

The believer in revealed religion with difficulty can see the reasonableness of natural religion with its worship of Fire and Sun. The highest American civilizations were attained in Central America and Peru; in the evolution of religious ideas, phallicism had been general. Most races, during their period of juvenescence, pass through this worship; in India it was the Dravidian cult, in Greece the mysteries of Dionysius; an idealized form occurred in the May-pole festivals of the Romans. All races have believed in fetishes; in this locality water was the great need; no animal more nearly typifies the coming of the rain than the frog. They carved frogs in turquoise probably obtained from a quarry north of Globe near Salt River where hundreds of tons of rock were broken with ponderous hammers in quest of the stone whose color resembles the frog. In arid countries religious worship is largely a supplication for rain.

After the Cushing expedition left Los Muertos, a rancher, Geo. H. Clayson, sent a freighter to the ruin who shovelled stone rings, those of the size and shape of a dough-nut, into his freight wagon until they began to slip over the sides, and left the remainder in the heap which had accumulated during the excavations. There were between two and three tons in the pile in Clayson's front yard and every passer-by who expressed curiosity was invited to "take a few". No part of this tale is romance, the writer examined the pile and observed that about one in a hundred was not made of the usual basalt but of a smooth river stone and that occasionally one had two holes and with a groove between, while some had an encircling groove suggesting an attachment for a handle.

The presence of so many rings may be explained by assuming this the site of a wholesale manufactory: a more difficult question is to explain their use. Since the sex worship was present and may have been their principal form of religion, these are usually considered as belonging to that form of religious expression, and connected with a petition for the fertility of the fields. The seed being planted, the petitioners were not able to address the powers of the earth and sky directly, but only through a symbolic ceremonial: so a little water was poured through the ring above the planted seed and the husbandman knelt down and whispered through his prayer for an abundant harvest. Such a ceremony parallels the modern Hopi explana-

tion of a male sky fertilizing a female earth, (through the function of rain.)

A utilitarian explanation of the rings holds that they were used in making bows and arrows. Near Los Muertos was the large reservoir where arrow weed grew, the watamote, a tough woody perennial which can quickly be stripped and shaped into an arrow by working back and forth through the rough basalt ring, while bows could be shaped in the rings with larger holes. Some rings with the encircling ring suggest a handle which would be especially convenient for the purpose.

The prayer theory does not explain those with two holes and the arrow-maker those of smooth texture: however the anthropologist never invents a theory which answers all his puzzles. Objection may be made to the bow and arrow theory from the few arrow points found here, so few as to strongly suggest that this rather late invention did not come into general use before the abandonment of the valley.

At this point we hear loud dissent from many directions, since the stone ring has been found all over the two Americas and the islands of the Pacific, and a multitude of explanations for their use have been given. We hasten to answer that similar forms may have different uses in different localities, and we remind the critics that the stone ring with a wooden penis captivus has frequently been found in ancient ruins in the Pacific. Some claim that the ring was mounted on a digging stick and became a foothold and weight combined; we answer that the rings in this valley are too small and too light. Again, that they were mounted on a stick and used in crushing clods of dirt, and we answer that they are made from malpais, a light stone which would break if subjected to such use. Then they have been called weights for spindle whorls, but we have no trace of the use of the pump drill, and the holes are far too large for whorls, and furthermore we find no objects which had been drilled with a pump drill, and none of the arrow heads are shaped like drill points.

In making the ring, a piece of malpais (basalt) was shaped to the finished form of a ring, then a hard pebble was pounded against the two faces alternately until a hole was worn through the brittle and porous lava; or the ring was broken, more commonly the case. Perhaps in time as a people they did learn some elementary ideas of the weakening of materials by the fashioning of the outside first, for in some cases a ring had been started in the half of a broken and discarded mano and the hole was being made before the outside walls were weakened.

In fairness to all the critics we will admit that the incompleting ring may have been a completed instrument just as it stood and was used in making fire with a stick hard pressed into the depression and rapidly rotated, as the modern Pueblo Indians do today when seeking the admiration and largess of the tourist.

It becomes impossible to deny any theory based on games or ceremonials, since in the nature of the case, nothing can be known of their games or ceremonies. Easier is the answer to Cushing's suggested use as a bola, for there were no animals to catch; the bola was not devised in South America until after the introduction of the horse by the Spaniards. Some suggest a mortuary emblem through which the spirit passed; the answer is that they are not found in graves. The claim that they were used in spinning yarn seems doubtful upon examination of their cloth, and furthermore the amount of cotton grown was limited, and mountain sheep were scarce, while rings were made in vast quantities. At Los Muertos were many fetishes of red, blue and green stone: of the marine shells more than twenty species have been identified: in Tonto Basin a half dozen large marine shells, drilled like trumpets, were taken from one building. These were identified by the Smithsonian as the *melongena patula* Broderip which occurs from Panama to the coast of Lower California but not farther north.

In the valley which had long been their home, when they left they abandoned dry fields, alkali above and waterlogged beneath. As a people they may not have attained to higher norms of inter clan amity than imbue the hearts of modern races; they may have engaged in civil war and decimated their own nation. Physicians agree that small pox and the hook worm were not present in America, but they disagree on pelagra, yellow fever, syphilis and malaria. Some declare that malaria could not have been a contributing cause for reduction in population, neither here nor among the Mayas, but questions of the dissemination of bacterial diseases before the coming of the European with his private scourges lie within the province of the technicians; the archaeologist may only timidly suggest that swampy conditions surrounded the clan-castles, where borrow pits became open water reservoirs on two or three sides of every communal house. Mosquitoes would have found them perfect breeding places, and in the one ruin where thought has been given, the writer has found that many floors of La Ciudad had been carpeted with a thin matting of the *aurundo donax*, a rushy grass six feet tall which grows only in grounds constantly wet. Every corner of the valley was searched to find if the rushes still

grew which had been used for floor mattings and agam by later Indians for the prayer offerings buried in mountain caves. In a swampy half acre across the river from Tempe, they were found and identified by the State University and the Smithsonian, but in 1928 on account of drought, none remained, although the seed in the ground may have only awaited the return of swampy conditions.

The observer who visits the present day pueblos on high table lands of New Mexico constantly notices the spare, muscular development of both the Indian men and women; such development alone could produce dancers who prolong the yebeshi dance for four days and nights with intermissions of but a few minutes now and then. But let the observer come down into the low altitude lands of southern Arizona and see the heavy fat, logy natives of this warmer climate, peoples too indolent to engage in a dance, with scarce animation enough to hunt rabbits. Now arises the question as to how long a period of time is required for a changed environment to produce a change in custom. The answer to this question may indicate a deterioration in a race whose ancestors had cleared forests and dug canals and built sun temples and then found a life of ease in a climate genial all the year around and where, without the spoils of the chase, food was always produced easily. But if these conditions did occur among those ancestors, and it is not certain that they did, in the end all was changed; for hardship returned with tenfold severity.

Eventually the population outgrew the supporting resources of the country, then emigration began; disease may have retarded the increase in numbers, the change from a semi-moist to a dessicated climate may have had an effect. Indian lungs are very sensitive to atmospheric conditions; among them tuberculosis of the general system is more frequent than the pulmonary type. Pre-Columbian skeletal remains in Peru show unmistakable evidences of bone-deforming scourges now unknown. In the Lower Salt, the carefully conducted inhumations not only disprove the theory of epidemics, but also discredit the idea that the farms and canals were deserted in a panic either on account of disease or earthquake superstition. The instability of the native and his proneness to migrate have been given as causes for abandonment. But if they merely wandered away, what could they do but starve.

Year by year as the rains decreased, seekers for new homes were attracted from the outside. In the hills bounding the valley on every side were the fields of the Terrace Irrigators, all

their water gathered from sloping hillsides. From those gardens peaceful farmers were marching forth as water-hunting warriors. With stone-headed spears they may have argued the case of Water Rights vs. Riparian Rights. With lessening rainfall showers changed to infrequent storms, with floods bearing mountain talus, which deposited silt in those conduits now only partially used; wherefrom the later day inference, so generally published, of an artificial adobe lining to prevent seepage.

In time there was nothing for Canals Four, Five, Six and Ten; but a flow rising at the Reef of Rock, a Cross-Cut was made to supply Number Ten. Canal Three headed in a slough fed by an underflow from the Salt River Mountains, its fields though were only sand; later the head diminishing at the Reef of Rock, the farms nearest the heads of the canals alone could be irrigated. All this would have been the case had no water been diverted farther up the river, but there were other canals there and also on the tributaries, which farther complicated the situation.

We are unalterably opposed to the idea that any people after building dams, clearing away hard-wood trees, digging twenty to forty miles of canal, with no implements but a fragment of stone held in the hand, would leave their canals, abandon their homes and forsake a certain food supply, just in order to go out and spend two or three lifetimes digging another canal and support themselves, where there was nothing to exist upon, and during the while fight ever watchful enemies. Does history anywhere tell of a nation gone panic stricken? But if such had occurred, then there were plenty of others ready to accept the deserted heritage, and so far as the discussion is concerned, the ancient valley was still occupied.

We definitely conclude that all of the land reclaimed was occupied while it remained fitted for food production. Many migrations did occur in America due to exhausted soil; that is the most reasonable theory to account for the migrations of the Maya people in Central America, but no man who has cultivated the soil of the Salt River Valley can be induced to believe that a race abandoned it on account of its infertility.

If the land cultivated at such great labor had been abandoned, and other canals constructed, then there must have been causes adequate. To account for the passing of the Canal Builders, people usually say they simply got tired of living here and so went away and tried another country; but the man who thus talks of wanderlust and the instability of the native never tried to dig a canal with a piece of stone held in his fingers. Or again,

if they had been driven out by enemies, then where are the potshards of the victors? Only one type of ostrakon is here, and no burial rites of a race sufficiently strong to have driven them out. Where in the Southwest was a tribe which could confront a body of warriors drawn from fifty thousand workers trained in community labor.

Religion is given as a cause. If so, then show us its emblems in carved stones and painted potteries; it is suggested that they fled through superstition, but we reply that it is seldom that all of a race go insane at one time. They did not flee from epidemics; all inhumations were orderly and unhastened; but no grave shows trace of anything which could not withstand decay for a thousand years. Disease, warfare, superstition, none of these suggestions are adequate. Polished stone axes are not quickly and easily made: if found in graves the solution is simple, but they come from within dwellings, the room corners and the fire places, as though gaunt necessity had stalked in, and empty handed they marched forth.

Frequent floods may have destroyed their dams, while the supply of brush and loose rock for dam building had limitations, as we ourselves found out in 1890 in building similar dams to save our own fields. Decrease in population has occurred in communities of limited numbers through long intermarriage; while this was not a limited population, it seemingly consisted of many clans.

In seeking the fate of this people and in concluding that as a result of unfavorable conditions due to drought, to waterlog and to loss of water through channel erosion, a migration resulted, the conclusion is logical, but after migration, what then? Tribal wanderings have frequently resulted in famine; either similar or worse conditions existed throughout the whole Southwest. A people deprived of one hundred and sixty square miles of cultivated fields could not have gone out amid game hunting tribes and supported themselves by hunting game also. Nothing grows on the desert which could support life except mesquite beans. To what point could they have traveled for food without beasts of burden? To no greater distance than they could wage successful warfare and carry their worldly possessions in their hands, while the whole arid southwest was equally suffering for food, and equally anxious to husband their failing resources.

When drought succeeded drought, the first to suffer was the wild game in the desert and mountains; this brought hardships to the nomads dependent upon game; for both man and animals

lost the crop of mesquite beans. Their only recourse was to attack the dwellers under the canals, who were the last to suffer from drought: warfare was first brought to the valley dwellers rather than taken by them to the mountain people. If a general migration occurred, then it may yet be traced by archaeologists. If this civilization rose to zenith, only to close in catastrophe, then no trace may be found. Waterlogging, being slow in effect, would cause migration; but erosion would terminate in catastrophe. Considering the petty warfare between the other pueblos at the beginning of the historic period, it is within the realm of possibility that warfare and plundering may have been common among the various canal building clans. If migration occurred, then they who had lived for generations upon irrigated lands would seek lands elsewhere to irrigate. The only lands available were those on the headwaters of the Salt, the Verde and their tributaries. And on these headwaters are found canals and homes, even the Sun Temples, all in the same general type as those in the Lower Salt, changed only as the change in building materials necessitated, but apparently revealing a later form. Evidence there shows a congested population and more warfare. On account of its defensive strength, the cliff dwelling withstands a brief attack; it cannot be entered, but it fails to withstand siege due to the lack of water supply. Neither are a large number of ollas, nor their shards, found in them, showing that their use as places of refuge were confined to brief periods only.

None of the Salt River Valley canals appear recent; all look as though abandoned for centuries; all show headings of generally similar character; none indicate any degree of recency of location or of use as do those on the Upper Verde. When erosion cut down the river channel, it would have been easier to migrate to any unoccupied lands on the heads of tributaries where new work could have been undertaken. But the ultimate abandonment of large quantities of easily transportable domestic utensils is a riddle. Why forsake the household goods, when lares and penates would be worshipped in the new home; had they failed in their powers? If the owners were unsuccessful in defensive warfare, the victors would have appropriated the trophies. In the stone age, all utensils had their full value to some one; why were they left in homes and in fields throughout the whole valley.

The dwellers under the less favored canals and those out near their ends first exchange their household treasures for food at the more fortunate towns; wealth flowed into Pueblo

Viejo and Pueblo Grande. Steadily the water supply dropping, the first exiles, with no beasts of burden, taking the things they could carry on their backs, abandoned their homes; as they left, the people of the more favored communities plundered the deserted villages. Riches accumulated in Los Muertos; implements traded beyond the uses of inhabitants; stone rings in great heaps were now trophies of barter, booty and spoil. But the end came for rich as well as poor: the water supply failed. Once there had been a large population; a remnant now lived in a few villages. Reduction in rainfall was calamitous, but erosion in the river channel which came when gentle and regular showers were changed into periods of drought broken by the flood-like rains common to arid countries; this was the crowning catastrophe. With only hand hoes for implements, the canal heads could not be extended up stream and a new dam built in time to save the food supply.

Leaving this valley and its dusty rivers they migrated where water is found last in arid countries, at the headwaters. Votive offerings were left, for it were sacrilege to carry away the consecrations to the powers of earth and sky, even though the rain-god could not be propitiated to bring back the showers. The carefully pecked stone cups of the medicine man, even those bearing the phallic emblem, were left at his grave. The ceremonials, cut from tough diorite, all polished to glossy lusture, were it a double-edged axe or a miniature single axe or an adz, or a perfect cylinder, whatever the form, all were left in walled-up, mortuary rooms.

When they forsook their last cities and left empty food chambers, all remained untouched; ollas and axes, bracelets and beads, votive and funerary offerings, the placatory and supplicatory dedications to the ruling forces of nature; all left in vacant rooms, and all there to remain until time in slow passage had rotted roofing logs and covered them. There had been enemies in plenty in the surrounding mountains, their artifacts prove it, but they had fled long before the fortress homes of the Canal Builders had been bared of food. All suffered and all became fugitives alike; the barren mountains and drought-stricken valley again became a long silent wilderness.

The end was catastrophe!

Theirs had been a drab life, digging canals, toiling in wet fields; there was no way to make a tight tapon or an effectual headgate; nature imposed the penalty of spinal rheumatism. Yet life held amusements; there were stone balls so perfectly carved the eye can see no irregularity; fancy also suggests a game for

the discoids and ovals and hour-glass shapes. Life also held adventure; endless bartering with wild tribes, or many days of travel in going to the Gulf of California to gather ocean shells, or a long trip again to the east where float copper and topaz rewarded them. Life held love; in death the precious ornaments were left on the throat of her who had worn them.

During happier years, their honored dead, had been buried with beads of turquoise, with musical bells beaten from native copper; their amphorae filled for the last journey. The time came when all was resigned; the farming inheritance of ancestors, created through centuries of toil; the graves of children marked with shiny asbestos and red cinnabar ores; their homes with ceramic gems and loved fetishes; all their treasures; the stern pilgrimage permitted no keepsakes; all left to uncomprehending and unsympathetic archaeologists; those vandals of tombs and pilferers of shrines!

Beyond distant mountain they hoped to find food in plenty, but drought was everywhere and drought continued for generations. A millennium of industrial accomplishment was closed, never to return. They had constructed 230 miles of main trunk acequias, an engineering triumph which dwarfed the neolithic mounds in Ohio and Missouri and of New York and Minnesota.

In all the continent wherein is now English speaking America, in all that land, the greatest exploit of Ancient Man has ended!

In cities last relinquished, treasures have been found, glossy with the patina of age; Pueblo Viejo and Los Muertos were rich. Pueblo Grande awaits examination; inside its massive parapet its central building covers an area equal to eight city lots; surrounding were mortuary tumule and estufas and house walls, the soil scattered with metates and manos and stone hammers. In Egypt, the mummy cases are so well preserved that the year marks in the wood are readily counted and measured; in this dry climate wood decays slowly; a shovel of ironwood ought to resist decay for centuries, but no wooden implement, no bow, no arrow, no handle for a stone axe has been found in the dwellings of the Canal Builders. The few fragments of wood are too decayed to reveal their purpose.

The testimony of the great redwoods declares that probably two thousand years have passed. If the tale seems too great, then go to the head of System Two, stand in the bottom of the river a mile wide, see its bed of boulders, observe up-stream the Tempe Butte throwing the full current across to the jutting cliffs at the Reef of Rock, know these canals could never have

passed around these washed cliffs to a higher point, then look up at the mouths of the ancient canals sixteen feet above, consider that at the heads of Canals Eleven, Fourteen and Twelve that from sixteen to twenty six feet of erosion has also occurred, remember that the fall in the bed is but two inches to the hundred feet, then say if two thousand years is time enough.

Standing in the boulder bed in the river, looking upward to the open channels of System Two above on the bluff, Dean Cummings, Professor of Anthropology of our State University, said, "It seems as though two thousand years were two brief an estimate of the time needed to create this change," and then thoughtfully added, "It is not enough." The Dean of our College of Mines and Engineering, Dr. Butler, a geologist, examined them and said, "The estimate is reasonable, very reasonable." The Professor of Astronomy, Dr. Douglass, the world authority on the record of tree rings, by using their testimony states that the abandonment might have occurred at the time of the later drop in rainfall between 500 A. D. and 600 A. D. or that it may have been before the beginning of the Christian Era. The Professor of Geography of Northwestern University, Dr. Haas, has said, "This river aggrades nearly all the year and degrades only during the short time of high water, the net degradation is small; probably more than two thousand years have required for such channel erosion. The Dean of our College of Agriculture, Professor Thornber, confirmed their estimates. The Professor of Irrigation Engineering, G. E. P. Smith, visited this intake and said, "The ancient canals are indeed very ancient." The President of Hiram College, Dr. Miner Lee Bates, examined the river bed and expressed his full satisfaction with the proofs.

Rolt-Wheeler's book, "In the Days before Columbus," describes the various civilizations in America and attempts to establish an ordered chronology; he refers to the canals in this valley and the Verde and assigns to them a date of 500 B. C. That French trained specialist on paleolithic man, Dr. Renaud, of the University of Denver, standing in the eroded river bottom and looking up at the mouths of System Two, summed up all the conflicting lines of evidence and stated his opinion that these canals could not have been used for fifteen hundred years. After all came Dr. Marvin, then President of the University of Arizona, and said, "All these estimates are far, far too recent, these canals came nearer being coeval with the power of the Pharaohs of Egypt."

Professor Thornber, standing on the high canal bank, observed a nearby bush, to us only brush, but to him *Lycium Torreyi*, a shrub that grows in profusion around the ruins in the low warm altitudes; its tender leaves may have been used for food, as our spinach today; but in the high, cold Walnut Canon, at Flagstaff, along the front of cliff dwellings, it struggles along in a stunted existence. Nowhere else in the plateau country of northern and eastern Arizona does it grow: perhaps one more clue to the wanderings of the pueblo builders and the continuance of their food habits.

Pioneer settlers point out the filling of the channel below Joint Head and Granite Reef since the building of the Roosevelt Dam and the storing of the floods; in some far future time the grades may again be up to the level of the ancient waterways.

Was this valley long the home of the Canal Builders? Here is a clue. In Egypt middens have been studied where the duration of dynasties is known, where climate and soil and earthen buildings were the same as in Phoenix. The average rate of accumulation of house litter about the dwellings in that country was one and one half feet per hundred years. (1) At La Ciudad and at Pueblo Grande similar middens are from nine to eleven feet thick. We may or we may not be bound by astonishing inference.

In 1926-7, the U. S. Dept of Agriculture sent two young engineers from Washington to measure and test the depth to which river silts occur in the soil (in every part of the valley) and to map their thickness and intensity with a system of contour lines. As a preliminary, they were directed to obtain a copy of the Turney map of prehistoric canals. At the end of the season's work their map and its contours was a counterpart of the map of ancient canals and substantiated the order of construction as thereon shown. The order of buildings in the archaeological map had been determined wholly from a study of the river; the silt map deviated from it in the case of Canal Three which is tended to show was the first, but even this conclusion may have been due to a greater amount of silt in that portion of the river bed. In another case the silt record indicated a seeming error of two square miles in the location of the central part of Canal Eight; there were no other differences.

Each new discovery emphasizes antiquity. In the construction of the Gila Bend Canal, the chief engineer reports finding

(1) Pumpelly, R.; Explorations in Turkestan, expedition of 1904. Carnegie Institution, 1908.

an ancient water way with its bottom sixteen feet below the present general surface; a shallow affair, only three feet deep and six feet wide, the bed and sides white with caliche-lime deposition. It was uncovered at a mile from the river but in a place possibly subject to overflow as well as to alluvial hillside wash. On the higher ground nearby are numerous ruins and pictured rocks. Arizona abounds with unexamined sites, enough to busy all the American field parties for years.

In the eastern states, when drought comes, the supply first fails at the sources of the stream: in arid countries all is reversed: when the river fails the last water is found at the head, hence the migration to the Verde. Here they built homes of a later type, and here channel erosion has been less, indicating a later occupation, erosion being from three to five feet only. The whole district of Chaco Canon, in New Mexico, was once densely populated; the searchers of the National Geographic Magazine believe that its pueblos were abandoned a thousand years ago; yet its roof beams still show year-rings which can be measured. Compare these with the ancient walls of the Salt River Valley where every trace of wood has disappeared and then correlate its chronology. That this valley was reclaimed and abandoned three times is stated in an English History of Irrigation. Possibly so; the English are keen observers; after a fortnight's residence insights may have been revealed to some globe trotter which have been denied to the rest of us.

At various points in America are unmistakable evidences of prehistoric battlefields; stone weapons scattered among skeletons, some with broken arms, and beaten-in skulls, but no orderly inhumation or cairn. Here no trace of battlefield exists, for modern farming would have revealed it; only few cases have been found of death through violence, and none through torture as in some prehistoric ruins in New Mexico. Weapons were few, for this was a farm loving race occupying a fertile valley, with homes like citadels and with fields undefended; the surrounding mountains were occupied by tribes dependent upon hunting; what could have been more tempting to the high-land raider.

Prof. Hiram Bingham, (1) with a party from Yale, spent three summers exploring the refuge city of Machu Picchu, built on a sharp crest of the Peruvian Andes: they sought to solve the problem of its antiquity; it had been the home of several thousand people, whose every drop of water had been led in channels, pecked into the rock with flints, and taken from springs

(1) "In the Wonderland of Peru," National Geographic, Apr. 1913.

which failed to supply the modern party of three dozen people. They concluded that it had been abandoned since the early part of the Christian Era; these observations agree with the evidence as to the time when Arizona received greater moisture. Growing within house and fortress walls, they found large, hardwood trees of great age; these were removed before work was begun. No report appears of measuring and platting tree rings; as has occurred before, scientists were perchance overlooking the very answer they sought.

To go back to the beginning and summarize the story: when fixed places of abode supplanted the nomadic life, the irrigators first attacked the easiest opportunities, the deltas, such as the Santa Cruz wash: next they reclaimed by terraces. Then more difficult work followed, such as the small streams and creeks, as New River northwest of Phoenix. With the coming of drought, they were compelled to abandon deltas, terraces and small streams and attack the river channels.

Then in time followed waterlogging in some places, with erosion in all the channels, and troublesome raids from less fortunate clans and tribes. The passing of the culture of the Lower Salt may be attributed to migration caused by an unknown proportion of starvation; about 200 B. C., cultivation must have ceased on all deltas, arroyos and terraces, yet in the valley irrigation may have continued for several hundred years longer.

Conclusions from stratified deposits must be drawn with care. When the white man came in, little wind borne material had gathered in some of the canals, while others were mostly filled. For the reason that irrigation is necessary, this valley in its natural state is called desert; the word conjures visions of winds and drifting sands; but after the disappearance of the first civilization the valley again became thickly timbered. The site of the city of Phoenix, and most of the valley, was covered with heavy mesquite and palo verde trees. Under such conditions wind transportation of soil is slow.

Instances are common elsewhere: in the Island of Crete a highly civilized race built palaces and then disappeared 3400 years ago. The palaces of Knossos was built of wood, and had been burned, yet its foundation walls were discovered a few inches below the surface. The surrounding fields have been cultivated since the beginning of the Christian era; the ever blowing Mediterranean winds found plenty of loose soil; but the wind aggrades may also degrade. Ruins in Malta, which

were a thousand years old when the apostle Paul was shipwrecked, when found in 1922 were but barely covered. The Courts of Tiryns, the Lion Gate at Mycenae, all lay just below the husbandman's spade for four thousand years. The irrigation systems in Mesopotamia have not become drifted full of sand in the three thousand years since they were used, even though the desert winds are constant, and farthermore, they were so sharply clear that during the war and English aviator discovered an unknown system of canals and photographed them.

Father Kino visited the ruin of Casa Grande in 1694 and his minute description shows that only trifling change has taken place until the modern tourist began his work of vandalism. The canals leading to Los Muertos must have been kept fairly clean for they were used until the end; the blow-in desert soil was about three feet deep, while buried urn-graves along its course had been exposed by wind action.

The world-wide tourist beholds a summer sand-storm on the denuded desert and chatters about buried cities and the impossibility of a canal excavation remaining through a long period of time. If added words could give emphasis to our repeated statements, we would pour them forth. When the Canal Builders forsook their homes and fields, a thick growth of timber reappeared, with here and there glades and parks of tangled catclaw, greasewood (creosote bush), and agarita. Let the reader say what he will, we still declare that in years agone we climbed to the top of the now barren Camel Back Mountain and sat in the shade of a palo verde tree on its topmost point!

On the south side of Salt River 135 miles of main line canals in the valley supplied 42,200 acres, and on the north side 95 miles supplied 56,560 acres: on the basis of canal mileage the southside system was far less efficient, due to less perfect design. The total acreage positively known to have been irrigated is 98,760, but some of the canals were a little longer than the proven length as shown, so that the net area, after deducting rough ground, is somewhat in excess of 100,000 acres. The amount of earth removed was enormous considering that it was all done with stone hoes, never mounted on a handle, but held in the hand, water being kept along with the workers to show the grade, and the dirt and mud then scraped into baskets and carried out. In the construction of the main line canals, based on a series of average measurements, seven million cubic yards of material were removed. In modern canal practice, in the construction of the laterals and distribution system, as much

earth is removed as in the construction of the main line canals, but in the ancient system the laterals and distributaries were not dug in parallel lines but lay like a series of branching veins, branching and rebranching into a network. With these crude methods, the amount of earth removed in the distribution system was much larger than that in the main line canals, making the total exceed 15,000,000 yards.

With the best farming machinery, and when growing both summer and winter crops, two acres of ground are required for the support of each person. The ancient peoples lacked iron tools for thoroughly working the ground, they had no beasts of burden; they could not have secured a high soil efficiency. They raised only summer crops; and foods that contained little nourishment and kinds producing but a small net weight of product per acre. We can safely say that they did not eat to a state of satiety three times a day. On account of the labor in constructing canals with hand hoes, the cultivation probably was intensive and the population as crowded as food resources would permit. A safe estimate of their population allows two acres to the person, making 50,000: there were no domestic animals to consume forage and little ground was used for cotton growing. Published accounts have given them a census requiring a million acres to support. So persistent is the habit of the people of the Salt River Valley to state the population of the ancient people in terms of six figures that the error may never cease.

Modern settlers, using nothing but rock-and-bush dams, constructed twelve canals in the same area and irrigated 102,411 acres, as found by the writer when engineer to the Board of Water Storage Commissioners in 1902. Our acreage was practically the same as theirs.

Every article of Indian make found in this valley is insistently claimed to belong to an ancient and unknown past. Sheafs of arrows have been taken from caves in the Estrella Mountains which were made from a hollow reed in which was pocketed a short shaft of wood holding a stone head. Such an advanced type of weapon, and made of friable materials, cannot be called pre-Columbian when found in exposed places. All events in this valley prior to 1865 belong to its pre-history. Several discoveries were early made in mountain caves of decorated reeds; these were attributed to unknown and mystic ceremonies of the Canal Builders. Other cave caches have been credited to them regardless of the fact that such reeds could not withstand decay during the time that six-inch timbers

imbedded in dry pueblo adobe walls have disappeared through decay.

Search has been made in these grottos under mountain cliffs which has unearthed many thousands of these reeds. The sections are short, cut at each side of a joint, and every one loaded with bits of herbs or bark: some are variously notched, grooved or painted; some are belted with a little square of hand-made cotton cloth in basket-weave pattern and decorated with turquoise beads. A handkerchief buried in the driest dirt shortly becomes discolored, but some of these belts are white as the heart of a cotton boll; nevertheless missionaries of the nearby Pimas insist that the tribe no longer make offerings to pagan gods. Hundreds of these reeds are not over a few seasons old, some seem loaded with last year's delicate panicles of grass. The Pimas were accustomed to deposit them as a dedication to deity before sending war parties against the Apache. The belted decoration, through the effort involved, made them more worthy of the god: all were male or female according to certain markings.

On the north side of the Head of Camelback, underneath the Rock Figure climbing the mountain, from a distance is seen an amphitheater arched in the rock: the sun does not penetrate and the rain does not enter; here the untutored mind would discover mysterious echoes; here a few could hold the fastness against a tribe. Overhead the disintegrating rock is a metamorphosed cyclopean conglomerate, the floor composed of several feet of the fallen, dust-like fragments. For two feet deep the ground is filled with these reeds; searchers have plundered the site, curio-mad, and broken up thousands in quest of fancied trophies. The local tribes loved gaming more than religion, but this hidden shrine was not a gambling house, but rather a church. These reeds belong to no archaic rites of departed races; they are mentioned for the reason of the persistent story of their great antiquity.

In Hieroglyphic Canyon in Phoenix Mountain Park, a thousand of these reeds, some notched, some belted with cotton and gems, and some bound and tied in bundles of four, were exposed through the industrious archaeologic work of a badger digging his home. Professor Thornber states that in caves in the mountains at Sacaton, where all the Pimas have been Presbyterians for a generation, modern articles of treasured value to an Indian have been discovered, carefully cached, only to be shipped away to museums by their finders. The prayer reeds have also been found in late pueblo ruins in northern Arizona, and the Hopi,

with slight changes, still offer similar petitions. They load both ends with aromatics, and to make them especially efficacious, the belting must contain pollen, of the more varieties the better. The rite is an ancient one, and may date back to the time of the Canal Builders, but the specimens found here belong to a late period.

In the Lost City of Nevada these prayer reeds have been found, identical in form to those in this valley and apparently as recent: they lay in adjoining trays and we see no difference. Perhaps the Lost City belongs to the Late Prehistoric.

In every nook and corner within the state, the seeker for the prehistoric hears the tale of a cave which certainly must be filled with antiquities, but which has never yet been visited by a white man. Trips into the most difficult mountain fastness, trips encumbered with ropes and scaling tools, usually have resulted in finding those cave walls inscribed with the names and dates of earlier visitors.

Long years ago, Ernest Ford killed a mountain sheep on a mountain overlooking the Salt River Valley. Near the spot he found a cave with the traditional cramped and narrow opening which led into a cavern with high roof and branched recesses. There were tons of bat guano and pack-rats had brought up hundreds of prayer reeds, all belted with cotton and closely tied with woolen string. The number of reeds in each bundle was four or multiples of four up to thirty-two. Some very heavy bows were found with arrows with stone heads mounted on a 6-inch shaft pocketed in a hollow reed.

This cave has been visited twice since that day and each trip has been well rewarded, although no attempt was made to remove the great burden of guano. Only two men can lead a party to the cave, Harry Diehl and Ernest Ford. Its location may best remain unrevealed until it can be fully explored by competent people.

In all America, the work of the archaeologist is fraught with hardship; in all except one. On any evening the resident of Phoenix can take his choice to visit a score of ruins. Ruins whose antiquity make the cities of Chaco Canon and the Mimbres Valley as of yesteryear. Would you handle the woman's grinding mill that was old when Ruth winnowed in the field of Boaz? You can handle it, you can own it, all for the labor of picking it up.

The deeds of an Archaic Culture should constitute an imperishable heritage; the achievements wrought with the stone

axe and the stone hoe demanded as lofty purpose and high courage as those formed with later day devices.

After the Canal Builders came another race, too few in numbers to have been victors in warfare; true nomads which popularly have been conceived to have been seeking to perpetuate the events of their own passing history by incising ideographs on rock and cliff and mountain wall; squares, spirals, animals, men and mysteries; forms not resembling the earlier pottery designs; but generally called victory emblems, hunting trophies, danger signs, trail and water and food signals. We do not know this people, but finding changed burial customs and a different skull shape as we expose their few and shallow graves, we know it a newer race and call this a Columbian Culture. Perhaps these sojourners were ancestors of the present Pimas and Maricopas.

Four culture zones; in order (running backward), the Piman, the Columbian, the Canal Building, and before them a race with beetling brows, prognathous jaws, and massive bones, typified by the *Homo Humboldtensis* and of whom representatives at separated points have been found. The toilers, those tenacious plodders in beaten paths, the Piman and the Canal Building races, had brachycephalic skulls and they only. Slowly the pages of Arizona history are being turned backward.

In the valley of the Salado was a culture by an unknown race, a people who conceived and developed a great irrigation project, a nation whose origin we know not and whose fate we only surmise, whose homes are unlike any other homes yet found in prehistoric America, and we, the proud white race, who boast our intellectual superiority among all the races, we, the white race, without attempting to learn the secrets of the culture of this ancient people, have destroyed their homes, their clan-castles, their canals, their every achievement, and have used unreplaceable scientific material to fill up our highway mudpuddles. We flaunt our disdain for the poor Peruvians who have searched the homes of their unknown forefathers seeking their ornaments of gold, and who have denied the Yankee permission to dig and carry away their remains. Is our record, ours of the white race, any whit better than theirs, they whose blood has not been elevated to ethnical equality with the Caucasian?

Of what single thing have we of the Salado valley done of which we can boast? Just two things: we have accepted as a gift from the financial enterprise of one citizen the ruin of Pueblo Grande, and we have preserved one little tract of land where the heads of ancient canals can be seen, but we have failed

even to put a fence around the Park of Four Waters to prevent colored cotton pickers from dragging down its banks with ploughs, and we have provided no road by which it can be approached by the people who seek to see the greatest irrigation achievement of primitive man in North America.

And now it becomes the sad duty of the historian to give to the scientific reader the farther story of the ingratitude of one race for the priceless anthropologic heritage of another race; the future can judge whether we of the Salt River Valley are fit to have been heirs of the past.

The south side of the river having been developed first, we give it attention first. No trace remains of Pueblo Primero, First Village, which some have thought to have been the first settlement, on account of the greater depth of river borne silt deposited on the lands and which could only have become intermingled through the soil by a long period of irrigation with muddy water, or by the less probable cause of frequent overflows from the river. The sun temple was on the east of the clancastle, of the usual elliptical form, its long axis east and west, and with low openings at the ends. Nothing else is known concerning this area; and in the descriptions which follow, silence is not to be construed as oversight, but due to lack of knowledge.

Pueblo Viejo, Old Village, is reported to have been oriented. Should any person question its size, since no surplus earth is in evidence in its vicinity, we bid him go look at the quantity of earth used in building the south approach to Center Streen bridge and behold the use we make of the edifices of the past! From this ruin Prof. W. K. Moorehead obtained many articles. The cemetery has not been found, but in placing a gasoline tank at the northwest corner of Central and Southern Avenues, two skeletons of old people were found with heads to the west, a man and a woman, the woman being buried a few inches above the man. In youth the woman had suffered a fracture of the right femur; the ends were lapped five inches and smoothly united. Artifacts have been found on all the sections 29, 30, 31 and 32.

Villages have been found scattered for several miles to the west, but with no large adobe building. Among the artifacts was a large axe, highly polished and with a truly conical point, there being no blade whatever. Another was a circular plate of densely burned pottery eleven inches in diameter and two inches thick, with one side covered with impressions of a matting of woven rushes. Shards from similar plates have been found at

Sonoqui Ranch and at Casa Grande, but in these later there was an erect flange about the edge opposite the rush impress. The inference may be drawn that the matting formed a base, upon which the clay was moulded, and then lifted over a fire where the clay was baked with the impress of the burned matting still remaining. Such a plate when set on several stones would make a "waffle iron."

We speculate as to how foods were protected from rats and mice, or whatever were the household pests of those days, but in this ruin have been found pottery covers with a two-inch flange, nicely fitting the mouth of an olla. Few of these olla covers have been found, but there are many stones carefully hammered to form an eccentric groove which would fit the mouth of an olla perfectly, and for which no other reasonable use has been suggested. Some pitchers, five inches high, are modern in every detail of form, but lack decoration. Some of the metates and manos, which have been assumed to have only been used for grinding corn and mesquite beans, had been used in grinding red pigment. Many discoidal stones occur, wholly unworked, stones gathered from the river on account of shape, while others of similar form have a flattened edge and holes pecked in the opposite faces. These are not to be called incompleated rings, since rings were made from malpais. There are stones with pecked faces which include all the simple geometric forms, cubes, parallelopipedons, spheres, spheroids, all in a variety of forms, with an occasional representation of the cotton boll perfect in size and form.

Other shapes are identical in form with those used by the modern Maricopas as a series of moulds upon which the tlower part of an olla is shaped before the coiling process begins. Among the asymetric forms are stones a foot long with a natural flattened base and with a groove deeply cut transversely across the top; these grooves seem hardly deep enough for arrow shapers, but as better adapted to working raw hide into cordage. Some stones may have been collected simply as curios, such as fossils, concretions, and stalactites which must have been brought a long distance. Others had fancied resemblances; wetherings shaped like a foot or hand, or strange in color or shape, such as fragments of petrified wood and metallic ores. The line of demarkation is difficult to draw between stones of this class and those which had been used as fetishes. Opinions will vary; but we have a phallic form three feet long and fully detailed, an object weighing 300 pounds, which testifies to the serious thought of the artisan.

We deny that they used as pestles the stones two feet long, shaped like a rolling pin and with a polished end, and those of similar form running up to a hundred pounds in weight: we call them phalli. The metate had a long life and it is uncommon to see one with the bottom worn through, but the mortar received steady pounding, and the holes are deep, frequently driven entirely through a malpais boulder 12 to 18 inches thick.

Las Canopas, (so named by Cushing), has nearly disappeared, its central ruin has been found convenient for a hay stacking yard. The building apparently was oriented. Shards and artifacts have been found on the four surrounding sections, 25, 26, 35 and 36.

Pueblo del Monte, Village of the Mountain, is reached by entering section 20 from the east. It once was a source of good axes, but today so little remains of the building that it is impossible to determine its size, yet it seems to have been 280 feet north and south and 150 feet wide, and well oriented. Test pits sunk by Mitvalski prove that the wall foundations go down five feet below the present surface and apparently run deeper, but wind action may account for a part of this depth of footing. The sun temple is well preserved, barring the absurd pits which have been sunk in it by idiotic treasure hunters. It stands 105 feet north and south and 75 feet wide, with embankments of boulder gravel two feet above the general surface, and with its center five feet below the banks. There is but one opening, that on the north toward the river, and no traces of platforms. The labor of excavating this temple, in heavy boulder gravel, proves that its use was of serious consequence to the people. Certainly this was not a pottery kiln, and if there was a dancing surface on those boulders, the rains have removed it as the bottom slopes sharply to the north. Within the temple are no shards, although 200 feet to the south the ground, as revealed by an irrigating ditch, is filled with them to a depth of at least two feet. The temple is 200 feet east of the central building, while at a point midway between them is a large midden.

In section 29 are two volcanic cones, probably of Cretaceous age; the east one contains a cave in which may still be found a few of the ceremonial joints of reeds filled with the dried blossoms of aromatic plants, and belted with little squares of cotton cloth; the prayer offerings found buried in the deep end of caves throughout the Southwest. These are usually called sacred cigarettes, but the sceptic can test that theory by cutting one open, for he will find its unperforated septum in place. Thirty years ago this cave was cleaned of a great load of bat guano

and then several of the choicest artifacts ever found in the Southwest were obtained by Mexican laborers. Among them was a large pectunculus shell on the concave side of which marcasite, the crystals of iron pyrites, had been mounted, after which the entire surface was polished to a uniform smoothness, making a hand-mirror. Experts have pronounced this mirror to be of Aztec origin and its wrappings to be early fabric of the Canal Builders. Dr. Parker of Glendale, Cal., owns the mirror and also from this cave a steatite disc bearing on both sides the half revealed form of a flying bat; in beauty of workmanship this medallion far surpasses any article of prehistoric art ever seen by the writer.

There still remains a part of Casa de Loma, House of the Hill, a rectangular, oriented ruin, 120 feet north and south and 110 feet wide, standing ten feet high. After a rain the tops of the walls can be discerned by the difference in the color of the earth; showing the rooms to be of the usual small size. At the northwest corner a trench has been run in for 20 feet, disclosing several walls, the outer walls appearing to be much cruder than the inner. This is the only case in this valley of a later building wall showing deterioration in workmanship. From comparisons of architectural quality archaeologists have usually drawn inferences of race reversion. It might be remembered, however, that we moderns are prone to add sheds and stables to our own homes without inviting a verdict of degeneracy.

Furthermore we call attention to the constant claims of cultural change seen by archaeologists as they discover minute points of difference between the shards from the top and the bottom of a midden. Perhaps they do see a difference, but what logical conclusion is justified: is not the pottery in our own cellars different from the dishes we place before our guests, different enough to cause some future digger into our homes to say there have been waves of occupation during periods a thousand years apart.

Let us repeat the assertion: in some district in Phoenix, a future archaeologist may find one-room dwellings, with dirt floors, with clay-lined fireplaces, with stone implements for preparing food; while in another part of the city he may find electric devices for human comfort, and for wireless communication, and perchance in a basement he may find a copper receptacle with a long coiled pipe, and many bottles with tied-in corks. Will he not again say, "waves of occupation through unknown ages have liven in that city of many rebirths." He will truly

have found more social differences among us who live today and which the scientist calls cultural, than have been found in the extreme limits of the neolithic age in America.

And so we advise the reader not to look too seriously upon the little points which the archaeologist delights to hold before his audience: the ancient peoples were not the only fetish worshippers.

But we must retain some of the dicta of the pottery experts. In general among the later pueblo tribes, each clan used its own forms of decoration, and there was no copying; but with the advent of commercial buyers, Indian women have copied from all the clans and from surrounding tribes. But in the ancient work the restriction of designs to clans seems more dominant, with differences in quality of work and artistry: in fact we prove the existence of clans by such means. Among the rarer forms are pottery cups with hour-glass shaped sides, with a flat base and flat lip; that flat lip is an anomaly, but it is nicely covered with the thin, circular stone with a small hole through the center. These cups were slipped, proving that they had never been subjected to any hard use. These we accept as lamps, and also those of stone in similar shape: we say they were filled with animal fats and had a cotton wick.

But to return to our digging at Casa de Loma. A cotton picker's shack dominates the top of this ruin and precludes excavation. A hundred feet to the southwest is a Mexican Catholic cemetery where the original surface of the ground has not been leveled. In the north of the cemetery, there remains a part of an excavation which we have called the borrow-pit and which other archaeologists have called reservoirs. Perhaps both are correct; in this case for 300 feet is seen the so-called exit which Cushing said led from the reservoirs; here the grade is in the right direction for his conclusion to be correct. This borrow-pit is 50 feet wide at the northern end where it passes into the recently leveled field.

Small ruins cover the square mile surrounding, and just to the north of the main building was discovered the only cemetery to be explored by any rancher when engaged in clearing his land. Credit without measure is due to Mr. and Mrs. J. H. Henness who worked side by side in taking out burial ollas in the first ploughing of the land; the only large collection in the valley which is kept at the site where found. Their investigations did not go deeper than the plough point, but certainly they were working over the cemetery of the clan-castle and the

surrounding village. Since ninety percent of the graves lie deeper, a rich field is awaiting future exploration. In the graves were found the usual worked shells, and mystery carvings. The point of especial interest is the low ratio of Central Gila ware, although so near to Los Muertos where such a high percentage was claimed by Cushing. Among the nearly two hundred pieces of perfect pottery, only four were decorated; three in the black on white over red, the Central Gila polychrome, and one red on buff of the Lower Salt.

Cushing's testimony concerning the ratio found by him in Los Muertos, only three miles away, should receive such credence as his other statements warrant. In his defense we will say that the presence of captured women has upset a pottery ratio for a whole village, all to the discomfiture of archaeologists. But we cannot escape a degree of scepticism concerning Cushing; he was obsessed with Zuni ideas. In the Henness collection, not a suggestion of Zuni shapes and decorations exists: as scattered farm houses throughout the valley, others have been examined with the same conclusion.

We believe that the high ratio of Central Gila ware in the Los Muertos exhibit at Harvard is due to a selection of the more showy examples from the large number on hand, while the less decorative Lower Salt ollas still repose in their forty-one year sleep in the Harvard museum basement. The dwellers in clan-castles were not the only people to maintain a burying ground!

Within the ruin of Casa de Loma was found a three-foot slab of shale bearing deep scratches which may have been produced in finishing an arrow head, while a similar slab of harder stone bore deep groovings in parallel lines which seem to have been made in polishing the blade of a stone axe. These two cases are the only instances of marked stones found within a ruin in the entire Lower Salt which in anywise suggest the picture rocks in the surrounding hills. A rare dish came from this ruin; made in the form of a circular, tubular ring, like a huge, hollow doughnut; from the opposite sides arose a hollow tubular handle, uniting and terminating in a tubular neck. When water was poured in, it filled all of the interior. This as with other unusual forms was without decoration. In no case in this collection had a mortuary bowl been "killed," and a similar statement, after careful search, can be made for the entire Lower Salt area, despite the constant statements heretofore quoted in these pages from other workers. To this can be added a denial of the willful breaking of artifacts placed in graves.

The customary articles were present; a hundred stone axes and hammers, several dozen 4-inch stone balls, artificially rounded, with accompanying stone cups, perhaps pigment grinders, perhaps belonging to games. The balls are so perfect the eye detects no irregularity. Similar stone balls have been found in every part of the valley in a sparing way. Some have only been pecked to perfect their roundness while others were also polished. Balls and cups were not found together, inference alone connects them in use; some were not over $1\frac{1}{2}$ inches in diameter. Some specialists have called them sling shot stones; but why spend days of time cutting and grinding a stone to a true sphere only to throw it away; any stone could serve for that purpose. There were shell frogs, bracelets and squared slates. Among the problematic artifacts are several 10-pound stones with a hole near the edge, affording a perfect handle; when found in California where pottery was not made, these are called cooking stones.

The Henness people have a walk paved with manos, metates, mortars, pestles and rounded discs; the latter seem to belong to the sun worship on account of their form; there are hundreds of these articles in the stone walk. They also found a stone lined pit; its only worked stone had been hammered to circular form and placed in the bottom of a hole three feet deep and on its edge, (set in flaring form), a wall of slabs rising level with the surface, while surrounding all was a collar of flat stones. We have found many of these pits among the ruins; the only worked stone is that on the bottom; the Henness people have four of the bottom stones all of granite, two feet across and five inches thick. One of these pits was located northwest of the central building at Pueblo Grande and two on the north side of La Ciudad. The usual theory runs as follows: The medicine man knew that some fellow would get sick and so built the pit, then when the sick man was brought in, a fire was built in the pit until the stones were well heated, then the coals were quenched with ollas of water, steam arose and the sick man, stripped of clothing was put in the pit, covered with hides and given a steam bath.

Similar practices are followed by present tribes, who make a pit smaller in size and cover it with branches. Pits of the smaller size are found in ancient ruins at various places throughout the state; there are two in the Healy Terrace ruin at Globe, now known as the Gila Pueblo. These structures have been called estufas stones, for roasting squashes and corn, but in this valley an entirely different form was used for community cook-

ing; and furthermore it seems doubtful if a cooking heat could be driven downward four feet into a pit without burning up everything above. The Goodwin map calls attention to a large "estufa" in this village. We are not certain which of the numerous types of construction to which archaeologists have indiscriminately applied the term estufa was intended, but it may refer to one of the large community cooking pits described by Cushing, who had been his teacher.

Some of the artifacts are as follows: One natural size horned toad, with the usual mortar in its back, which Dr. Haas has pronounced to have been made from Catlinite; two human faces of clay with tyes aplique; many shell beads; one copper bell with pebble inside, made of two leaves of metal joined at the top by a copper ring; one 2-inch mortar with pestle; a 4-inch double edged axe and several well finished toy axes; two slates channeled and rimmed, and many pottery eating spoons, the latter shaped for use by a right handed person. In passing we note that nearly all the skulls found in the valley show a pronounced righthandedness: we have seen no skull of a lefthanded person.

They found a small metate made of hard stone which bears two animals, strongly executed in heavy relief, climbing around the opposite sides. These seem to be Gila monsters, and again we are reminded of the rattlesnake cups and wonder if a medicine were prepared as an antidote for the venom of this animal also; if this work were only art then it required genuine labor.

Es-kim-in-zin

BY JOHN P. CLUM

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(Concluded)

In the varying conditions which prevailed during my administration, Es-kim-in-zin had numerous opportunities to demonstrate his loyalty, force and courage. During the week in March, 1875, when the newly arrived Indians from the Rio Verde Reservation seemed determined to resist my authority, I found that Es-kim-in-zin had not only been counseling these Indians in a wise and diplomatic manner, but that he had appointed himself as chief detective, and had organized a sort of secret service force which, on two or three occasions, he had stationed as my special body-guard where they could render instant assistance in the event of an attack by the rebellious Rio Verdes. Later, when I questioned him regarding the matter, he confessed and defended his action by saying there were bad men among the Rio Verdes, and he did not want to take any chances on having me killed—or even injured. I shall never forget that Es-kim-in-zin voluntarily faced the same danger he feared for me—and only a true friend will do that.

A little later in that same year I took Es-kim-in-zin with me to Camp Apache, when I assumed charge of that agency, and in the serious and trying complications which developed there he proved himself a loyal and capable aide at all times and under all circumstances. These instances will serve to indicate the general character of this Apache chief as displayed within my personal observation and experience, and will help others to understand the ever increasing friendship that existed between us.

From a retrospective viewpoint, the plan for taking a score or more Apaches on a tour of the east during the latter part of 1876 seems to me a very bold undertaking, but at the time the only feature that gave me pause was the question of finances. The story is worth the telling and will be entered later in a separate chapter. The taking of the Indians was absolutely unauthorized, and I departed from the reservation without leave. But the feature that astounds me now is my confident plan to take these "wild Indians" fresh from their (then) remote Arizona mountain trails and within a month transform them into effective actors on the American stage. And yet that plan was actually carried out with fair success, in so far as the merits of our wild west stunts were concerned.

In making up my party for this trip, Es-kim-in-zin was the first Indian invited to go. He was greatly pleased and entered into the project with his usual enthusiasm. Throughout the trip he exerted a most helpful influence in maintaining harmony and good cheer, which was a matter of no small importance. Moreover, he proved himself an actor of no mean ability.

On our return trip we went from Philadelphia direct to the end of the railroad at El Moro, Colorado. One evening as we were passing through a middle western state a robust conductor entered the car in which the Indians were traveling. I chanced to be in the car at the time and was standing with two or three other passengers near the door through which the conductor entered. He glanced savagely at the Indians and exclaimed: "The ———, I'd like to have every scalp hanging to my belt." "Why so?" I ventured to inquire. "Have these Indians harmed you, or your family or friends?" "No," he said, "they have not, but they are a bunch of bloodthirsty savages, etc." After he had emitted a little more of his rough stuff, I pointed to Es-kim-in-zin, mentioned the cruel murder of his family and friends, his imprisonment at hard labor in chains, etc., and then I added: "That man is an Indian, an Apache—you call him a savage, and yet he has no desire for revenge; he only wants to forget the past and live a good and useful life. HE'S THAT KIND OF A SAVAGE, and has always lived in the Arizona mountains, while you have enjoyed the advantages of a Christian civilization. What do you mean by 'blood-thirsty?' WHAT KIND OF A SAVAGE ARE YOU?" The menacing glance he flashed at me bespoke the hot blood of cruel barbarian forebears that surged in his veins. "Who has the tickets?" he snarled. I handed him the tickets and the incident was closed.

AN APACHE DIPLOMAT

Soon after our return to the reservation from the visit to the east, an extraordinary situation developed which afforded Es-kim-in-zin an opportunity to demonstrate his loyal friendship, as well as his rare tact and effective diplomacy. The episode had to do with a **good will visit** to the camp of the Chiricahuas. It will be remembered that Cochise—the noted war-chief of this sub-division of the Apache tribe—died in 1874, leaving two sons, Tah-zay and Nah-chee—then in the full strength and vigor of young manhood. Although brothers, these two young hereditary Apache Chieftians differed widely in

build, disposition and personal appearance. Both were tall, but Tah-zay's broad and manly frame was well draped with solid flesh, and he was consistently even-tempered and genial—in fact, he was an all-around "good mixer," while Nah-chee—slim and angular—was stern and taciturn, with a serious cast of countenance and an inclination to haughty reserve. Included among those who accompanied me on the eastern trip was the young Chiricahua chief, Tah-zay—the older of the Cochise boys. While our party was visiting in the City of Washington, Tah-zay developed a severe case of pneumonia which resulted in his death. He was buried in the Congressional Cemetery.

It is important now to recall the fact that about two months prior to starting on the trip to the east I supervised the removal of the Chiricahuas from Apache Pass to the San Carlos Reservation, and that these Indians selected a location for themselves along the Gila River about twenty miles east from the main agency—where I established a sub-agency for their convenience. This was in June, 1876.

I returned from the eastern trip just in time to celebrate the first of the new year (1877) at the agency. Whenever called away from the reservation for any considerable time it was by habit, upon returning, to visit the several Indian camps in order to maintain personal contact and acquaintance with the different bands; to observe their general condition and attitude; to discuss any complaints or petitions that might arise, as well as to offer suggestions for their permanent betterment.

And so it happened that one bright morning in January, 1877, having invited Es-kim-in-zin and a half-a-dozen other Apache friends at San Carlos to accompany me, I gathered up the reins of a fairly good four-in-hand team and drove up to the sub-agency for a little heart-to-heart talk with the Chiricahuas. We discussed their affairs in most friendly fashion, and I was congratulating myself upon the satisfactory conditions which evidently had prevailed during my absence, when Nah-chee suddenly gave a very serious trend to the conference. Until that moment he had said very little, but I attributed his comparative silence to the habitual reserve of his nature.

His startling inquiry was in regard to the death of his brother, Tah-zay. He said I had taken his brother away in good health and had returned without him; that he had been told his brother was dead; that he could not understand why he had died unless someone who had influence with evil spirits had caused his sickness and death, for all of which he wanted explanation and

satisfaction—and he distinctly intimated that he suspected I was responsible for the pain he felt in his heart, because I had taken his brother away when he was young and strong and well—and had not brought him back.

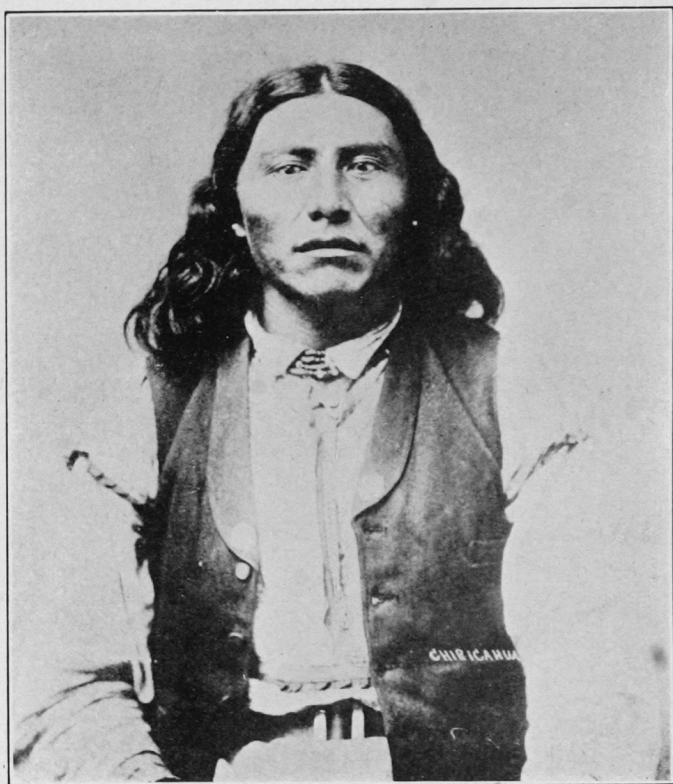
It was a serious moment. These Indians entertained dire superstitions. They feared evil spirits that could cause sickness and death. Their medicine-men were employed chiefly to drive away these unseen spirits and they might kill, without fear of penalty, anyone suspected of being in league with such unwelcomed visitors from another world.

Nah-chee had me at a great disadvantage. His audience was in full sympathy with him—both in his bereavement and in his uncanny superstitions. Furthermore, he had about him a goodly company of stalwart warriors ready and willing to do his bidding, while I was alone with my half-dozen Apache friends from San Carlos.

There was a brief period of ominous silence during which I was making a frantic mental search for some reply that would appease—if not satisfy—the dangerous mood of Nah-chee. But that reply was never uttered. All necessity for a defense on my part vanished in an instant. The crisis had developed a genuine diplomat in the person of my staunch and capable friend—Es-kim-in-zin.

Abruptly he began speaking, and in a very grave and quiet manner he related the details of the illness and death of Tah-zay. Es-kim-in-zin's natural inclination to stutter lent an added impressiveness to his address. He told of the wise and serious pale-face medicine-men, and the neatly clad nurses who had attended and watched over the sick Indian; of our anxiety because of his illness, and of our great sorrow when he died; of the manner in which the body was prepared for burial, and of the coffin of polished wood with its plate and handles of bright silver. When he described the funeral he became eloquent as he spoke of the great men who came as a tribute of respect to the dead Apache. Gen. Howard, who made the treaty of peace with Cochise—the father of the dead man—was there, and so was the Commissioner of Indian Affairs, who represented the Great White Father at Washington.

There were other great men present whose names he did not know, but he would always remember the very good man (Dr. J. E. Rankin, pastor of the First Congregational Church, Washington, D. C.) who talked about the "Great Spirit," and read about Him from a book, and told us that He was the God of the Apache as well as of the white man.



TAH-ZAY

Oldest Son of Cochise and hereditary chief of the Chiracahua Apaches. Went on trip east with Agent Clum in 1876. Stricken with pneumonia and died at Washington, D. C., October, 1876. He was buried in the Congressional Cemetery.

Then he described the wonderful "glass wagon" in which the coffin was placed, and the many grand "coach wagons," with glass windows and little doors and soft cushions—all drawn by beautiful black horses—and how Gen. Howard and Commissioner Smith, and the good man who talked to the Great Spirit, and the other great men and all of us Apaches got into the coach-wagons and rode to a beautiful place on the bank of a river (the Congressional Cemetery on the East Branch of the Potomac) where there were many trees, and all about were hundreds of stones of different shapes with writing on them, and there was a great fence all around the place.

Here, the Chiricahuas were told, many of the great chiefs and warriors of the white men were buried, and the stones had been placed there to mark their graves, and the writing on the stones told the names of the dead heroes, and what great things they had done. And now, a grave had been prepared for Tah-zay in this beautiful place, and there we buried him—and we were all very sad—but we had done everything that was right and good for Tah-zay while he was sick and after he died.

Having uttered this graphic recital, my diplomatic friend paused and allowed a moment of absolute silence to precede his climax. Then, looking intently into the faces of the group of Chiricahaus about him, he declared with marked emphasis that he was glad and proud because he had been privileged to witness the very remarkable things of which he had spoken; that he was sure his words had seemed good to Nah-chee and to his friends; that Tah-zay had been a good and a brave man—the son of a great and famous chief; that he had lived well and had died in that wonderful city where the Great White Father lives—and his grave was there amid the tombs and monuments of those who had been great chiefs among the white men.

Again Es-kim-in-zin paused briefly, and then with dignified poise, his voice vibrant with suppressed emotion, and his eyes beaming with a spirit of subdued exultation, he concluded his masterful address with the following resistless appeal to the reason, pride and honor of the relatives and friends of the deceased: "My friends, I have spoken long, and you have been very patient, but I had to speak because the story is good and true. And now I know you all feel as I do. A good man, a friend, a great chief is no longer with us. We are sad, and yet any family or tribe must esteem it a great honor and feel very proud to have had one of their members cared for in the grand city of the Great White Father as Tah-zay was while ill, and then buried amid the graves of pale-face heroes with the pomp

and circumstance that marked the obsequies of the youthful Chiricahua chieftain."

The magical effect of this tragic recital was at once apparent. In a few words I corroborated the facts as related by my friend. Nah-chee's countenance was still serious, but when he spoke his voice was calm. He said he believed we had spoken the truth; that our words had sounded pleasant in his ears, and that they had softened the pain in his heart. Soon after this the conference was concluded, and Nah-chee never again referred to the subject of his brother's death.

Es-kim-in-zin told his story in the Apache language—the only language he knew—and while I have given it a liberal translation, I have endeavored to record a literal presentation of the facts and sentiments expressed by my Apache friend.

The details of this narrative indicate that the illness and death of Tah-zay were not devoid of beneficial results, for they afforded the Indians with our party an opportunity to observe the civilized methods and customs of caring for the sick and preparing the dead for burial, well as our funeral rites and ceremonies—all of which, under ordinary circumstances, were about the last things I would have thought of bringing to their particular attention.

In June, 1877, when I told Es-kin-in-zin that I was about to abandon my position as agent for the Apaches, he was greatly depressed and pleaded with me to remain. "Nan-tan," he said, "we want you to stay and take care of all the Indians here on the San Carlos Reservation, and then when you are very old we will take care of you." At that time Es-kim-in-zin held the clearer vision. He realized much better than I did what an orderly and sympathetic direction of their affairs meant to the Apaches. In after years, when I have reflected upon the evil days which fell to the lot of the Apaches, always, unbidden, there has loomed a vision of what "might have been," and always I have regretted that I did not share that vision with Es-kim-in-zin in 1877, for, assuredly, if I had remained at San Carlos the subsequent life-story of this loyal but ill-fated Ari-vaipa chief would have followed fairer lines, while the mass of the Apaches, as I confidently believe, would have been led up gradually to a condition of reasonable comfort and substantial independence.

But fate decreed otherwise, and on July 1, 1877, I took my official departure from San Carlos. Just before I left I had an interview with Es-kim-in-zin during which he said: "This

is a sad day for me and for all the Apaches. We have had a good time since you have been with us. No one knows what will happen when you are gone. Many bad things happened to us before you came, and we had much trouble and sorrow. When some of these things happened I was blamed. You know all about these things. If there should be trouble here again I will be blamed. I have not made trouble and do not want to make trouble for anyone. I want to live at peace and make my own living and raise things for my family to eat. I can do this and I will do it. I will leave the reservation and then no one can blame me for what happens here. I will go down to the Rio San Pedro and take some land where no one lives now, and I will make a ditch to bring water to irrigate that land. I will make a home there for myself and my family and we will live like the other ranchers do—like the American ranchers and the Mexican ranchers live. Then I will be happy and contented, and no one will blame me for what others do.”

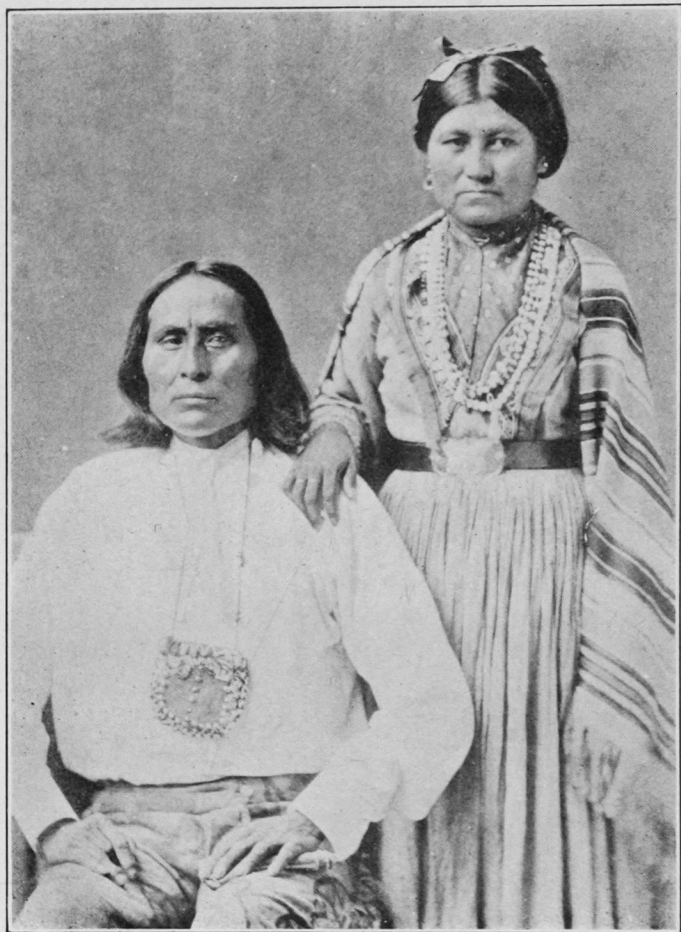
This was a brave step for Es-kim-in-zin to take, and the idea originated with himself. When he told me his plans I encouraged him, and I could think of no better way to avoid a repetition of his former difficulties. And so it happened that Es-kim-in-zin and I left the reservation about the same time—I for Tucson, and he for the San Pedro Valley about 60 miles north of Tucson. During the next two years Es-kim-in-zin visited Tucson several times. I was glad of these opportunities to talk with him, and was greatly pleased to learn that he was both contented and fairly prosperous. But these visits from this friendly Apache soon came to an end, for in 1880 I established myself in Tombstone, and our Indian rancher was too busy with his crops and herds to make such a long journey. And so it happened that since he could not conveniently come to see me, I finally went to see him. But that was years later—in 1894—and I found this same Es-kim-in-zin away down in Alabama, at Mount Vernon Barracks, where he was then being held as “a prisoner of war.”

As I approached this prisoner of war in his Alabama exile, I was not surprised to observe that he was not only well-armed but that he was engaged in a strenuous and aggressive combat. Neither was I surprised to learn that this situation met with the hearty approval of the commanding officer, for, as a matter of fact, the prisoner was armed with a pitchfork and was battling with natural elements for the common welfare. When I first caught sight of Es-kim-in-zin I thought he was stacking hay, but upon a little nearer approach I discovered that, with the as-

sistance of a couple of squaws, he was arranging a huge pile of leaves and straw as a basis of a compost with which to enrich the soil of the garden, for, be it known, he had voluntarily assumed the role of head gradener for the Alabama Apache community—which then consisted of upwards of 400 Indians.

Absolutely unaware of my identity, Es-kim-in-zin gave a hasty glance in my direction and continued with his work. Evidently he was interested in his job, and not in casual visitors to the camp. We had not met for about 15 years, but he must have observed something familiar in my form or stride, for his second glance was more prolonged. Nevertheless, he was still on his job as head gardener. By this time I was near enough for him to recognize my features, and when he turned toward me the third time he stopped with a jerk. I met his eager gaze for an instant and then hailed him with a cheerful, "Hello, Skimmy!" Instantly he forgot all about his job. Flinging his fork aside he abandoned the compost and hastened to meet me. I had seen Es-kim-in-zin excited before—but never demonstrative. He fairly hugged me. Whenever excited he stuttered, but finally he managed to say: "Nan-tan Clum, high-u lah non-dah?" (Nan-tan Clum, where did you come from?) I repeated the same query to him: "Skimmy, high-u lah non-dah nee?" As soon as he could control his speech, he replied with a prolonged "en-zah-a-a-a-t," while, with a wave of his hand, he indicated that the "great distance" was to the westward. When I asked him why he was in Alabama he stuttered furiously as he exclaimed: "Cle-el-chew en-chy, Nee bu-kin-see." (Great lies. You know.) And after these informal greetings we commandeered some tobacco and sat down for a "nosh-tee" and a "yosh-tee"—meaning a sociable smoke and a heart-to-heart talk.

Es-kim-in-zin erred in thinking that if he established himself on the San Pedro he would not be blamed for what happened on the reservation. Whenever there was any sort of an "outbreak" indulged in by any of the numerous bands of Apaches then assembled on the San Carlos Reservation, it was easy for someone to allege that the ex-chief of the Arivaipas was in sympathy with the offending Indians, and that he was aiding and abetting the renegades. While in Tucson I published the CITIZEN, and at Tombstone I established the EPITAPH. In both of these publications I persisted in the defense of Es-kim-in-zin in the absence of competent evidence substantiating the charges against him. Threats to attack him at his ranch were



CASADORA

Was a sub Chief of the Arivaipa Apaches. It was he who insisted upon the surrender of his band to Capt. Hamilton when pursued following the "outbreak" of January 31, 1874, although he knew Capt Hamilton had orders to kill all Apaches on sight. Casadora and his wife accompanied Agent Clum to Washington, D. C., 1876, where this photograph was taken.

frequent. But in spite of many handicaps this friendly Indian lived and labored and prospered on his San Pedro ranch for ten years—and then came the attack. A friendly and timely warning enabled him to escape with his life.

Presently Es-kim-in-zin will tell his own story, and I have sought to avoid unnecessary duplication of details. In fact, I have no personal knowledge of these details from the time of his last visit to Tucson in 1879 until I met him again in Alabama in 1894, but during this period I was always eager to learn all facts affecting the conduct and experiences of my ill-fated friend.

After my interview with Es-kim-in-zin at Mount Vernon Barracks I determined to make a vigorous plea in the name of simple justice in his behalf, but before filing this plea I made a final effort to learn the nature of any crimes he might have committed, or had been charged with. I desired particularly to know the specific charges which had resulted in his exile to the renegade camp as a prisoner of war. I had not been able to obtain this information at the latter camp. On the contrary, Capt. Wotherspoon, the commanding officer, and others in authority apparently regarded this prisoner in a most friendly fashion.

In my struggle to obtain a show of tardy justice for Es-kim-in-zin, I had confidently expected that the Indian Rights Association would extend a helping hand, and with this end in view I addressed a communication on the subject to Mr. Herbert Welsh—the corresponding secretary. My dismay can readily be imagined when I read the following paragraph contained in a letter from Mr. Welsh under date of Philadelphia, February 1, 1894.

“I remember meeting Es-kim-in-zin, the Apache Indian of whom you speak, some years since at San Carlos. From what the military officers told me at that point, he had been guilty of many crimes. They seemed to regard him as a particularly cruel and treacherous man, although I suppose his history was not very different from that of many other Chiricahua Apaches.”

In the first place, Es-kim-in-zin was not a Chiricahua Apache, and, secondly, while Mr. Welsh quoted hearsay charges, he did not submit any evidence in support of those charges. I was seeking evidence, and so I sent the following reply to the corresponding secretary of the Indian Rights Association:

POST OFFICE DEPARTMENT

Washington, D. C., February 7, 1894.

Herbert Welsh, Esq.,

Philadelphia, Pa.

I am in receipt of your letter of the 1st instant, and am disappointed to learn that you entertain a very poor opinion of Es-kim-in-sin. I know him well and like him well. To me he has a very sad history. I am anxious however, to learn the whole truth concerning this Indian before I enter any plea for him at this time, and if you have any evidence showing that he has "been guilty of many crimes," or that he is "a particularly cruel and treacherous man," I wish you would give me the benefit of the same. I have been a friend of Es-kim-in-zin for 20 years, but have been willing at all times to hear evidence of his faults—such evidence has been wanting in competency or wanting altogether. The Indian is not perfect, but he is better than those who persecute him. He may have done wrong, but the wrongs done him have been infinitely greater—or else a knowledge of his misdeeds has been kept from me in a most extraordinary manner. I only ask you what his crimes are?

Very truly yours,

JOHN P. CLUM.

The only probable crime named by Mr. Welsh was the alleged killing of a man by Es-kim-in-zin soon after his family had been massacred at Old Camp Grant in 1871, and the survivors had been attacked a second time and fired upon by troops. That charge had been considered in connection with the story of the massacre.

At this time I was located in Washington as an official in the Post Office Department, and this position afforded me special facilities for obtaining information from other departments of the government. Having failed to secure satisfactory evidence from other sources, I addressed a communication to the Hon. Secretary of War requesting information as to the crimes for which Es-kim-in-zin was being punished. In reply the secretary suggested that I come to his office and talk the matter over with Captain Davis, who had charge of all details connected with the Indian prisoners in Alabama. It was the latter part of February, 1894, when I called upon Captain Davis. The captain was exceedingly courteous and the interview very satisfactory—excepting that I was not advised of any specific charges. Captain Davis did say that the action against Es-kim-in-zin had been taken as "a military precaution," but that the War Department was not desirous of retaining the custody of this prisoner.

Having been unable to discover any competent evidence of cruelty, treachery and crime on the part of Es-kim-in-zin after this long period of asking and seeking, I decided to submit plea for justice through the office of the Commission of Indian Af-

fairs, and the same was set forth in the following communication:

POST OFFICE DEPARTMENT

Washington, D. C., May 31, 1894.

Hon. Daniel M. Browning,
Commissioner of Indian Affairs,
Washington, D. C.

Dear Sir: I have the honor, herewith, to return to you my letter of March 24, 1890, (File No. 10830), and also four other papers which I have marked as exhibits "A," "B," "C" and "D," respectively, relative to the history and character of Es-kim-in-zin, an Apache Indian chief now held as a prisoner of war at Mt. Vernon Barracks, Alabama.

My letter referred to above was written more than four years ago, and gives a brief history of Es-kim-in-zin—as I knew him up to that time. He is now a prisoner of war—I think unjustly so. It is alleged that he is a treacherous, cruel, bad Indian. I have sought for proof of these charges, but find that the unfortunate Indian has been condemned, sentenced and exiled, not only without trial, but without the filing of specific charges. The order exiling him from Arizona was "a military precaution"—it certainly could not be regarded as a military necessity. There are those who believe in Es-kim-in-zin as fully as I do, among whom are some officers of the army. Gen. O. O. Howard, who knew this Indian before I did, still has confidence in him, and Capt. Wotherspoon, who has had charge of him during his confinement at Mt. Vernon Barracks, has only good words to speak for him.

Let us consider, briefly, some of the details in the history of this Indian. Hon. Vincent Colyer says in exhibit "C" that Es-kim-in-zin was the first Indian chief who came into the military post at Old Camp Grant, Arizona, in the spring of 1871, "and asked to be allowed to live at peace." While there under the protection of our flag and troops—and assured by our officers that he and his people could sleep at night in their camp "in as perfect security" as the officers could in theirs; he and his people—in the grey dawn of the morning, while yet asleep—were set upon by a band of assassins, under the leadership of Americans, and one hundred and twenty-eight of his tribe—his family, relatives and friends—old men, women and children, were brutally murdered and their remains savagely mutilated. Es-kim-in-zin saved only one member of his family from this horrible slaughter, and this was a little girl, two and a half years of age, whom he caught up and carried away in his arms as he fled from his terrible assailants.

If the conditions had been reversed and this had been a massacre of Americans by these Indians, how many pages of history would have recorded the bloody deed, and what chaste monument of purest marble would have marked the spot where defenseless women and helpless children had met such cruel death—and how the memory of that crime would have steeled our hearts against mercy for Apaches!

But not so with Es-kim-in-zin. The very next day we find him back in the military camp (see exhibit "A") where he is assured by the officer in command that no soldier had any part in, or sympathy with, this horrible butchery. No one can read exhibits "A," "B" and "C" and they say that Indians have not hearts to feel as well as bodies to suffer.

Es-kim-in-zin still had faith in Lieut. Whitman—and I may add that he still has to this day—and so he returned with the survivors of his band

and once more placed themselves under the protection of the troops. Within six weeks his camp was charged by a troop of white soldiers—mark the fact that these were soldiers—his people assaulted, fired upon, driven out and scattered among the mountains. What excuse is it to say that this was a “very unfortunate blunder” (see exhibit “C”) ? What wonder is it that Es-kim-in-zin “became enraged,” or, as he said himself, “it made him mad;” that his heart and his hand were stirred to seek revenge, and that a white man was killed either by himself or by his band? Is it not more wonderful that he stopped at the death of only one of a race with whom he had formerly maintained relations of perpetual war, and who, since a truce had been declared, had exercised so much treachery and cruelty toward him and his people?

The enemies of Es-kim-in-zin emphasize his crime by saying that the man he killed had befriended him. They appear to lose sight of the fact that all this treachery, cruelty and murder toward the Apaches was enacted after the most solemn assurances of friendship and protection had been made to the Indians by the commissioned officers of the American Government. Is it not strange that we can pass lightly over the one hundred and twenty-eight treacherous and cowardly murders instigated by white men, while we carefully treasure the memory of a single killing by an Indian, and after a lapse of twenty-three years point to him and say: “This man murdered his friend”—without even giving him the benefit of the circumstances which instigated the crime?

Within the two years which followed the massacre at Old Camp Grant, Special Commissioners Vincent Colyer and Gen. O. O. Howard visited Arizona. They did not find Es-kim-in-zin “treacherous, cruel and bad,” but on the contrary they had great confidence in him, and when I was made his agent Gen. Howard gave me a letter to him, and the general believes in the old chief to this day.

When I went to Arizona in 1874, I found Es-kim-in-zin at New Camp Grant in irons, engaged in making adobes for the soldiers, and then, as now, there were “no specific charges against him;” I was told by the officers at the post that he was confined “because Major Randall did not like him,” and regarded him as a “bad Indian” (see my letter of March 24, 1890, herewith.)

Soon after this I made an official request for the release of Es-kim-in-zin, and this request was complied with without opposition on the part of the military, from which I inferred that the Indian’s offenses—whatever they might have been—were not of a serious nature. From the time of his release (as stated in my letter herewith) until the day I left San Carlos no man was more faithful to the best interests of the reservation than this same Indian, Es-kim-in-zin. We had many trying times at San Carlos from 1874 to 1877, and not once in all those years was Es-kim-in-zin found wanting in action or advice. I frequently depended upon his support when I felt my life was in danger, and he never failed to do his duty well.

When I left San Carlos Es-kim-in-zin expressed a fear that there might again be trouble on the reservation, and so he said to me: “I will go down on the San Pedro and take up some land and live like a white man—then they will not blame me for what happens on the reservation.” I may state in this connection that Es-kim-in-zin had been industrious on the reservation, and before he left with me on the trip to Washington in 1876, he sold about \$65 worth of barley which he had raised that year.

It was under these circumstances that this Indian took up a ranch on the San Pedro in 1877, improved it with irrigation ditches and stocked it

with horses, cattle and farming implements. I was then living in Tucson, Arizona. As soon as Victorio and his outfit left the reservation it was at once rumored that Es-kim-in-zin was "in sympathy with the renegades." At every fresh rumor of trouble with the Indians at San Carlos fresh charges were made against the ex-chief on the San Pedro—accompanied by frequent demands that he should be imprisoned or killed. I was then publishing the ARIZONA CITIZEN, and several times defended the Indian in its columns.

The subsequent story of Es-kim-in-zin is best told by himself in a statement made to Capt. Wotherspoon under date of March, 1892, and which is now on file at the War Department. His statement is substantially as follows: "Seventeen years ago I took up a ranch on the San Pedro, cleared the brush, and took out water in a ditch which I made. I plowed the land and made a fence around it like the Mexicans. When I started I had three horses and 25 head of cattle. I was on the San Pedro ten years; then I had 17 horses, 38 cattle, a large yellow wagon, for which I paid \$150; four sets of harness, for which I paid \$40, and another wagon which cost \$90, but which I had given to some relatives. I also had many tools.

For about three years I drew rations from the agent. After that I did not draw any more till I was sent to the agency by Lieut. Watson (seven years later.) I bought all my family clothing and supplies with the money I made. About four years ago (1888), Lieut. Watson came to my ranch and gave me a paper from Capt. Pierce, the agent, and told me I had better go to San Carlos Reservation; that citizens would kill me if I did not; that there were about 150 citizens coming with pistols. They came the next day after I left my ranch, and they shot at my women, putting bullets through their skirts, and drove them off.

"They took 513 sacks of corn, wheat and barley, destroyed 523 pumpkins, and took away 32 head of cattle. I took my horses, wagons and harness with me to San Carlos. I am not sure that the citizens took the 32 head of cattle at this time; I only know that when I went back to my ranch the next time they were gone.

"After that I went to Washington, and when I returned they asked me if I did not want to go back to my ranch on the San Pedro, and I said 'no.' I would not be safe there and would feel like a man sitting on a chair with some one scratching the sand out from under the legs. Then Capt. Pierce said that I could select a farm on the reservation. So I went with Lieut. Watson and selected a piece of land on the Gila just above the sub-agency. Lieut. Watson surveyed it for me. I made a ditch for irrigating, and had water flowing in it, and had nearly finished fencing the farm when I was arrested.

"When I was arrested I had 21 horses and six head of cattle, and these have since increased to 38 horses and 68 cattle. Since I have been away one wife and some of my children have looked after the farm for me."

Such is a part of the story of Es-kim-in-zin as told by himself. But the drama does not end here. In 1871 his people were attacked and massacred by citizens, and in 1874 I found him a prisoner of war, in irons—disliked by some in authority, and regarded by them as "a bad Indian." In 1888 (if we accept his own story as true—and it has not been denied) he was again compelled to flee from a company of armed citizens who were coming to take his life; his family were assaulted and fired upon and finally driven away, and his ranch looted. Although compelled to abandon the lands which he had improved and occupied for ten years on the San Pedro, he was still

undismayed, and once more set himself to work to make a new home on lands within the limits of the reservation, which had been set apart by the government for the sole use and benefit of the Indians.

He has just completed important improvements when some of his relatives commit a crime, and it is deemed judicious, once more, to make Es-kim-in-zin a prisoner of war, and a little later—without trial, without giving the accused the benefit of a single witness—the old Indian is taken from the reservation guardhouse at midnight and sent away into exile—as a military precaution. He is again “disliked” by some in authority, and it is once more alleged that he is “a bad Indian,” and that he “was liable to aid and abet the renegades,”—but the proof of these allegations does not appear to have been filed with the papers in his case.

And so it happened that when I visited Mt. Vernon Barracks last January I found there this Indian who has suffered and endured so much; who, through so many years has striven against a cruel fate for the betterment of his own condition and that of his people; who has been accused so many times—justly in some instances, but falsely in more; who has been persecuted, humiliated, imprisoned, ironed and finally exiled—not only without trial, but “without specific charges.” I found him sharing the same fate with Geronimo, who was always a renegade while in Arizona. Though broken-hearted over his many misfortunes, I found him not only orderly but industrious—for he has charge of the Indians’ garden, and true to his character **HE IS GIVING THE COMMUNITY THE BENEFIT OF HIS LABOR AND INTELLIGENCE**, while Geronimo only makes little bows and arrows to sell—**FOR HIS OWN BENEFIT**—to travelers he meets at the railway station.

In conclusion I will quote from the final plea made by Es-kim-in-zin in the statement before referred to. He says: “Since I put down a stone with Gen. Howard many years ago, and promised that I would never do anything wrong, I have not broken my promise. I ask to be sent back with my family to San Carlos, and given the land surveyed by Lieut. Watson; that it may be given to me forever, and I will never ask for rations, or anything else for myself or my family from the government. I want to work like a white man and support my family. I can do it and I will always be a good man.”

The Secretary of War has referred the consideration of matters pertaining to the Apache prisoners of war to Capt. Davis, and I have been advised by that officer that the War Department is willing, and even anxious, to transfer the custody of Es-kim-in-zin—as well as the other prisoners—to the Indian Office—or to any responsible parties (with the consent of your office), who may have in view a plan looking to the improvement of their condition, and the permanent settlement of such Indians.

I regret that I am not in a position to make any recommendation in the matter of the future of Es-kim-in-zin. I have presented the facts in a story of his life as I believe them, and I trust that you will feel, as I do, that the plea of this Indian is entitled to prompt consideration. I have felt it an obligation which I owed to Es-kim-in-zin to present this statement in his behalf. It is my conviction that something should be done, and that speedily—to the end that Es-kim-in-zin and his family be permanently settled upon lands which shall be his during the remainder of his days, and—if he is not to be returned to Arizona—that stock and implements be furnished him at his new home, in just compensation for those he was compelled to abandon in Arizona. Very respectfully,

JOHN P. CLUM.

It will be remembered that the corresponding secretary of the Indian Rights Association states that the military officers at San Carlos told him that Es-kim-in-zin had been guilty of many crimes and that they regarded him as a particularly cruel and treacherous man. Es-kim-in-zin tells us that about 1888 Capt. Pierce, acting agent at San Carlos, sent Lieut. Watson to his ranch on the San Pedro to warn him that about 150 "citizens" were coming to kill him, and would kill him if he did not flee to the agency at once.

These "citizens" had made various charges against Es-kim-in-zin, and had repeatedly threatened his life during the ten years he had been living and laboring on his San Pedro ranch, and if the military officers at San Carlos believed that he had been guilty of many crimes and regarded him as a particularly cruel and treacherous man, it is not quite clear to me why Capt. Pierce would take the trouble to send Lieut. Watson fifty miles over a rough mountain trail to warn this criminal that he would be killed unless he, forthwith, fled for protection to these same military officers at San Carlos. In 1877 Es-kim-in-zin had voluntarily abandoned the reservation and the protection it afforded, and in 1888 the acting-agent was under no official obligation to renew that protection, and assuredly not to a particularly cruel and treacherous criminal.

Had Capt. Pierce felt convinced that Es-kim-in-zin was a criminal and merely desired to save him from assassination, he would have sent Lieut. Watson with a squad of soldiers to arrest him and bring him to the agency as a prisoner. Instead of such action he warned him in a friendly and humane manner of the impending murderous assault. Later, when it was decided that it would be unsafe for Es-kim-in-zin to return to his San Pedro ranch, Capt. Pierce told him he might select a new farm within the limits of the reservation. This permission greatly pleased Es-kim-in-zin, EVEN THOUGH HE HAD TO BEGIN THE WORK OR RECLAMATION ALL OVER AGAIN. Lieut. Watson went with this friendly Indian and together they selected a piece of land along the Gila River, just above the sub-agency, and Lieut. Watson TOOK THE TROUBLE TO SURVEY THE LAND. This action would indicate that both Capt. Pierce and Lieut. Watson felt that Es-kim-in-zin had been deeply wronged, and that they desired to do all in their power—not only to express their sympathy, but to protect him in the possession of this land for the remainder of his life. As soon as the survey was completed Es-kim-in-zin set himself industriously at work digging an irrigation ditch and clearing, leveling, and fencing the land.

Judging from the friendly and timely warning sent to the San Pedro ranch, and the kindly and sympathetic assistance rendered in connection with the locating of the new ranch on the Gila, it is obvious that there were some military officers at San Carlos who did not hold Es-kim-in-zin guilty of many crimes, and regard him as a particularly cruel and treacherous man.

After my plea in behalf of Es-kim-in-zin had been duly considered by the Commissioner of Indian Affairs, I was advised by that official that he was in a quandary as to what action to take in his case, alleging that he feared that if the unfortunate Indian was returned to San Carlos he would be killed by some of the "citizens" who had formerly threatened his life, and had finally attacked his ranch on the San Pedro.

Feeling that I had done all I could—all that was practicable in the circumstances to obtain a show of justice for my oppressed Apache friend, I waited. My official duties with the Post Office Department involved frequent trips to the Pacific Coast. While glancing through a San Francisco paper on one of these tours I was startled by the following headlines: "NOTED APACHE CHIEF DEAD." "Es-kim-in-zin, Ex-chief of Arivaipa Apaches, Dies at San Carlos."

Later, at Washington, I was informed that the return of Es-kim-in-zin to Arizona had been accomplished with the utmost secrecy, as a precaution against violence on the part of certain "citizens;" that only the officials directly concerned with his removal had any knowledge of the plan, and for this reason I had not been advised of the action decided upon by the Indian Office.

Doubtless the officials at Washington were justified in maintaining such profound secrecy, but I felt they might at least have taken me into their confidence. I would like to have visited Es-kim-in-zin before his departure from the east. It would have been an inspiration to witness the renewal of his fine spirit in anticipation of his return; to observe his expressions of unfeigned joy; to watch his beaming eyes; to hear him stutter; to have him tell me he knew I had pleaded for his delivery from prison; to grasp his hand in a final farewell, and hear him say once more: "She-gee. She kizzen." (My friend. My Brother.)

Es-kim-in-zin's last wish was realized—his wish to return to San Carlos, where he might spend his last days amid the mountains and mesas and valleys that were his before the pale-face came, and that his last breath might be drawn from the

free air of his Arizona homeland. This happy realization must have flowed like a grateful balm to many cruel memories, soothing his chastened soul and making him—on the rim of the Great Divide—still capable of forgiving those who had wronged him.

American Hunters and Trappers in Arizona

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By FRANK C. LOCKWOOD

When the territory west of the Mississippi River came into the possession of the United States in 1804 the extent and resources of the region were almost wholly unknown. The expedition of Lewis and Clark in 1804-6 revealed the savage character and vast extent of this new empire, but as yet scarcely any conception of its potential wealth and its fitness for future homes dawned upon the minds of the American people. One source of wealth, and one alone, was taken into consideration during the first third of the century, namely, the fur trade. Furtraders and trappers had gone far up the Missouri River and its tributaries even before the explorations of Lewis and Clark; and now for a generation—from about 1806 to 1843—a chapter of American life was unfolded as romantic and stirring as anything in modern history.

During the first third of the century bands of hardy young trappers and traders invaded these remote fastnesses in quest of fame, fortune, and adventure. Some of these men were outlaws and did not dare to return to the settlements; some were mere adventurers; but not a few were men of character, ambition, and intelligence; all were men of iron—men of invincible courage and resolution. These men were the first and real pathfinders of the west—mountain men, men of the uncharted plains and savage deserts. They knew every river from the Mississippi to the Pacific Ocean and from the northern boundary of the United States to the Southern Gulf. They had traced them and trapped along them from the mountains to the sea. Long before scientific and detailed exploration was undertaken or any settlement attempted they had located every lake, discovered every available pass, and scaled every mountain barrier.

The toils, perils, sufferings, and fatalities endured by these men beggars description and taxes belief to the limit. No American war was one half as costly in its list of casualties—taking into account the number of men involved. Deeds more daring than romance can invent were almost the commonplaces of these primitive men. Interpid, resolute, inured to toil, hunger, thirst,

and the sight of sudden and violent death, nothing daunted them. One out of a hundred grew suddenly rich from the fur trade; ten out of a hundred made a living, survived, and continued to hunt and trap and trade until middle life—possibly to old age; but more met disappointment and failure, and a vast majority sudden or tragic death.

So far as Arizona is concerned these hardy pathfinders are like "ships that pass in the night". It so happens, however, that some of the most knightly and picturesque members of this immortal band of trappers and pathfinders touched upon Arizona soil, and in passing left more or less enduring records in geography, literature, and patriotic achievement. First and last, between 1824 and 1832, there were hundreds of trappers who came and went along the streams of Arizona. The records of these trapping expeditions are scant, and hard to come at; and do doubt a good many expeditions into the Colorado and Gila river region have gone entirely unrecorded.

Most of these trappers were obscure; few had any dealings with pen and paper; there were no newspapers in the Southwest to report their doings; and, most important of all, these trips into Sonora were secret and illegal. Only Mexicans could secure a license to trap on these Mexican streams. But the Mexicans had neither the enterprise nor the desire to pursue this industry; so if any trapping was to be done in this region it must be engaged in by aliens. The Americans were usually carrying on their trapping illegally, or by means of some subterfuge, so they were naturally reticent concerning their doings. Indeed, it is only recently and by dint of much research that any considerable light has been thrown upon the fur trade here in the Southwest; yet undoubtedly many beaver skins were taken on the Gila, the Verde, the Salt, and the Colorado rivers. Among the men famous in the fur trade who trapped the streams, or traversed the soil of Arizona are Miguel Robidoux, Sylvester and James Pattie, Ewing Young, Jedediah Smith, "Peg-leg" Smith, "Old Bill" Williams, David E. Jackson, Milton Sublette, Kit Carson, and Pauline Weaver.

The Fortunes of Sylvester and James O. Pattie

July 30, 1824, Sylvester Pattie, forty-two years of age, and his son James, a youth of twenty, set out with a party of one hundred and fourteen other men from Council Bluffs to trap and hunt, and to trade with the inhabitants of New Mexico.

Taking a southwesterly course as far as the Platte River they ascended this stream for a short time, and then continuing constantly in a southwesterly direction crossed the state of Kansas, encountering hostile Indians, grisley bears, and countless buffalo. They crossed the Arkansas River and still traveling steadily to the southwest reached Taos on October 26, and Sante Fe on November 5. After exciting experiences in this region, they secured a license to trap throughout the Southwest. Upon leaving Sante Fe the expedition broke up into small parties, there being only seven men in the company to which the Patties were attached. On November 22 this little party set out for the headwaters of the Gila. They trapped up and down its various branches with great success, but suffered almost unendurable hunger and cold much of the time. They caught many beaver on the San Pedro, but here the Indians attacked them and stole their horses. The trappers were obliged to cache their furs, and turn back in search of the Santa Rita Copper Mines, in southwestern New Mexico, where they had made a brief stop on their way to the Gila. After sufferings more terrible, even, than any they had hitherto experienced, they reached the mines, April 29, 1825. Young Pattie traveled to Santa Fe for a new supply of horses and goods; and upon his return went in search of their buried furs. But the Indians had discovered the hiding place and had stolen them.

Both father and son remained for some months now in the employ of the Copper Mines. Young Pattie had a strong desire to resume his trapping, and, joining a company of French trappers who had came that way he left his father, now so successful that he was in charge of the mines, and went down the Gila with the Frenchmen. The party was betrayed and attacked by the Papago Indians and all killed but Pattie and two others. These three very soon fell in with another strong band of trappers under an American leader—probably the veteran trapper Ewing Young. Joining forces, they all returned to the Indian Village, killed one hundred of the Indians in a surprise attack, routed the rest, and recovered the horses stolen from the Frenchmen. Young Pattie now trapped with his new party, down the Gila, and up the Salt River and the Verde, and, then, going down to the Colorado, up that stream. They skirted the Grand Canyon; worked the San Juan and Grand rivers; and there crossing the mountains, they struck the Platte. From the Platte they went southward and crossed the Arkansas River; reached the headwaters of the Rio Grande, and followed this river down to Sante Fe. They arrived in this town August 11, 1826, with a fine supply of furs.

But now, as usual, Pattie was met by disaster. The Governor, asserting that they had trapped without a license, took all their furs. Daunted, but still thirsting for travel and adventure, after visiting his father, who had continued to prosper at the mines, James set out on a trading trip to Sonora late in August. He took a southwesterly course, visiting various cities in Sonora, and going as far as the Gulf of California. He returned by Chihuahua, reaching the Copper Mines again, November 11, 1826. Meantime, the elder Pattie had made a mint of money by his steady and skillful operation of the mines. Young Pattie made two or three short but eventful trips during the next few months, returning always to the mines. In April, 1827, Mr. Pattie wanted his son to go to the United States to purchase goods for the mines; but James could not tear himself away from the fascination of his roving and adventurous life. So a Spanish clerk, who had long served faithfully under Mr. Pattie, was sent East, with \$30,000 in gold to secure the desired supplies. He ran away with this money; and, though James Pattie hurried, first to Santa Fe, and then to El Paso, and, finally, to Chihuahua in search of him, the money was never recovered.

It became necessary for Mr. Pattie either to purchase the mines or give them up. He could not buy them outright after his loss; and, not being willing to return to the United States poorer than when he left, he decided that his only hope lay in another trapping expedition. Putting their all into equipment for the venture, the Patties went to Santa Fe to join the first company of trappers that should set out from there. In September, 1827, they started with thirty other men to trap on the Colorado River. By October 6 they were on the Gila. From the first they had hard luck. They caught a good many beaver but at times they were on the verge of starvation. All but eight withdrew from Mr. Pattie's company. These eight reached the Colorado, but here the Indians stole all of their horses. Believing that they would find a Spanish settlement down the river, they made dugouts, and floated toward the Gulf of California, taking many beaver as they went. They had repeated encounters with the Indians during the next five or six weeks, but they were successful with their trapping.

By the middle of February, the season being now about over, they left their canoes near the head of the Gulf, buried their furs, and struck westward for the coast, hoping to find a Spanish settlement at no great distance. The extremity of their suffering on the waterless, parching desert between the Colorado River and San Diego cannot adequately be described. At last, about the mid-

dle of March, 1928, they reached the mission of Catalina. They were treated with suspicion and hostility; taken to the commanding officer at San Diego, and thrown into prison; and here the elder Pattie died in solitary confinement, denied, even in his dying hours, the presence and consolation of his son. After long imprisonment, much bitterness of spirit, and many strange experiences, James was at last released and permitted to go on board an American brig that chanced to put in at Monterey. He disembarked at San Blas, went overland to the City of Mexico, and after laying his complaint before the President of Mexico, went by coach to Vera Cruz. At Vera Cruz he took ship to New Orleans; and, finally, ascending the Mississippi and the Ohio, by steamboat, arrived at Cincinnati, August 30, 1830. Here he landed and returned to the Kentucky home of his grandparents, broken in health, spirit, and fortune.

The above sketch gives a very pale conception of what these men went through. Searching the narrative from beginning to end, I find that James Pattie reports eighteen distant engagements with hostile Indians in which he mentions the death of a score of his companions and of more than two hundred Indians. These engagements are sprinkled through the story as freely and casually as a hunter might allude to the experience of a day's duck-hunting; and there was little more hesitation or compunction on the part of the trappers at taking the life of a redman than an Arizona boy would feel at shooting into a flock of quail. It was not a question of live and let live, but rather of kill or be killed. We get in this narrative fresh, rough pictures of the buffalo, the bear, and the Indian in their grim, primeval habitat and setting. Myriads of buffalo!

"We endeavored to prevent their running among our pack mules, but it was in vain. They scattered them in every direction over the plain; and though we rode in among the herd, firing on them, we were obliged to follow them an hour before we could separate them sufficiently to regain our mules. After much labor we collected all, with the exception of one packed with dry-goods, which the crowd drove before them. The remainder of the day, half our company were employed as a guard, to prevent a similar occurrence. When we encamped for the night, some time was spent in driving the buffaloes a considerable distance from our camp".

And grizzly bears! I should not have believed that the whole world contained so many as this band of pathfinders ran into, and they were fierce and cruel. In a day's travel Pattie counted two hundred and twenty of these grizzly bears.

The civilized mind almost refuses to believe that men could meet and endure deprivation and suffering such as was the common experience of these early American trappers and pathfinders. With them it was either a feast or famine. One day loaded with savory viands and rich in beaver skins, with sunny skies above them, the next, freezing in snow and ice at lofty altitudes, compelled to kill and devour their gaunt horses or dogs to save their own lives, and, again, staggering with bleeding feet, protuding tongue, and crazed brain in search of water. Pattie graphically relates the fearful experience of his party as they returned from their first trapping expedition on the Gila. Their horses had been stolen by the Indians, so leaving a rich cache of furs at the junction of the Gila and the San Pedro, they ascended the last named river three days, and on March 29, with no food except two beaver and no drink except some water, they carried the skins of these beaver. Then they struck off northeast through the mountains to reach the Gila, high up. Their moccasins were worn out and their feet were sore and tender. By March 31, their beaver meat was all gone, and there was no game of any description to be had. It took them two days to descend from the snow-covered mountains to the warm plain. During this time they had neither food nor drink. But in the plain they killed an antelope and eagerly drank its warm blood. Within a few hours they found water. From this time antelope were abundant. But from the 8th to the 12th of April they were again destitute of food. On the 13th (lucky day!) they killed a raven upon which seven men feasted. They were now barefooted and emaciated. Late on the evening of the 13th, young Pattie killed a buzzard. This was cooked and eaten for supper. An otter caught in one of the traps provided breakfast and supper on the fourteenth. Then they killed one of their dogs and for four days lived on that. After this came water and deer and wild turkeys in abundance, and on April 29th they reached the Copper Mines.

By January 1, 1827, there were alive only sixteen of the one hundred and sixteen men who originally set out from Council Bluffs.

Pattie's Personal Narrative is a classic of early American adventure in the Southwest. For the most part, the events recorded, unbelievable as much as the story seems, are trustworthy. The author did not keep a daily journal, so a good many inaccuracies occur. He made no pretense, of course, to scientific knowledge or geographic skill. He was very young, was only fairly well educated, was absorbed in the hand-to-hand, life-

and-death events of each day, and what he wrote he had to recall from memory, but the very nature of the scenes and events that enter into the account precludes the possibility of deception with respect to the main features of the narrative. The experiences of many other trappers of his day bear corroborative testimony, too. Aside from the vivid interest of the narrative, bringing to us, as it does, with a sort of rude, primitive power these startling pictures of life at the dawn of civilization in places now so highly civilized, there is much valuable description and comment in this book. It is curious that Pattie gives the names of almost none of the companions who shared in his trapping expeditions. No doubt several of them are men famous in pioneer annals. This deficiency may be due partly to extreme youth and inexperience in the art of writing, but, no doubt, it is partly the result of a sort of bumptious and egotistical personality, for, notwithstanding the extraordinary courage, hardihood, and filial devotion of the writer, the personality revealed is not an attractive one. The querulous and self-assertive spirit displayed so often in the story gives the reader the impression that this young American was vain and unduly self-centered. The story was written out at the request of Rev. Timothy Flint, a literary man of some distinction in that day, soon after Pattie returned to his native Kentucky at the close of his strange and terrible exploits, and was published the following year, 1831. We have no certain knowledge of the future experiences of this far-wandering and storm-tossed adventurer in the great Southwest.

Jedediah S. Smith—"A Knight Errant in Buckskin"

Early in September, 1826, Jedediah S. Smith, only twenty-eight years of age, but already one of the most famous and successful trappers and traders, came down the Virgin River to its junction with the Colorado crossed over into Arizona, and followed the east bank of the river southward for four days. He was then in the neighborhood of modern Needles. He was, then, the second leader of an American trapping expedition to set foot on Arizona soil, the Patties having been the first. His party of fifteen had been short of food, and had suffered great hardships, so, as the Indians were friendly and had abundance of food, he remained here on the Colorado fifteen days waiting for his men to rest and recover their strength. He also secured more horses

from the Indians. He crossed the river and pushed over the desert to mission San Gabriel, which he reached November 27, 1826. His party was arrested, and he was taken before the Governor of California.

During the next five months he traveled three hundred miles to the northward through California where he struck the Stanislaus River (Possibly, the Merced or the Sacramento). In the spring he attempted to lead his men over the lofty mountains back to Salt Lake. But the snow was too deep; five of the horses starved to death and the company all but perished. Returning to the valley, and leaving all of his party but two men, with these two, and seven horses and two mules, he crossed the Sierras in eight days, over snow from four to eight feet deep. Twenty days more across the Nevada deserts brought him to Great Salt Lake. Only one horse and one mule were left—the rest having furnished food for the men as one after the other the animals gave out. Smith was the first man to cross the continent by the central route, as Lewis and Clark had been the first to find the northwest route, and the Patties the first to cross the southern route.

Smith arrived at the Summer Rocky Mountain rendezvous in June, met his partners, left what few furs he had been able to bring across the mountains, and on July 13th, 1827, set out with nineteen men to return by the same course he had taken the previous year, with the purpose of rejoining his men in California. The Indians in Arizona, with whom he had stayed fifteen days the previous year, seemed as friendly as before; but after three day's stop, as Smith's party was crossing the Colorado on a raft, the Indians treacherously attacked them when they were at the greatest disadvantage and killed ten men. Smith made all haste across the desert with the surviving members of the expedition suffering terrible hardship and privation before they reached San Gabriel. Here he secured some provisions, and leaving two of his band, either unable or unwilling to go on, with the seven who remained, proceeded to find his men on the Stanislaus. When he reached them, they were as destitute as he was. They had, moreover, been treated badly by the Mexican authorities. Smith was now taken before the governor of the Upper Province. After delays and indignities, which he overcame in a very different spirit from that displayed by James Pattie under similar circumstances, he was allowed to get the necessary supplies for his expedition, and was permitted to leave California.

It was now winter, and to cross the mountains and return to the Salt Lake region was impossible. There were twenty-one men in the combined party. Moving slowly up to the northwest during the winter and spring, they crossed the Oregon border, and by July 13, were on the Umpqua River, only about fifteen miles from the Willamette. Here fearful disaster fell upon them. Monday morning, July 16, Smith had set out from camp early, as he often did, to look for a good road for the day's advance. Up to this time, the Umpquas had been friendly, but Smith had been away from camp only a short time when the entire band of Indians with whom they had been dealing for some days fell suddenly upon the trappers and slaughtered all but two—Turner and Black—and carried off all the horses and furs. Smith and his two men escaped northward, reaching Fort Vancouver in August, 1828. Vigorous measures were taken by Dr. McLaughlin, of the Hudson Bay Company, to recover Smith's horses, furs and effects, and the effort was successful. This just and generous man bought the recovered furs for \$20,000, paying with a draft on London. So, notwithstanding this grim massacre, and in spite of the fact that from August, 1826, to August, 1828, indescribable misfortunes and sufferings had dogged their footsteps—for those who survived the expedition was profitable.

I cannot follow in detail the fortunes of this noble and resourceful young pathfinder. I have recounted with some particularity this typical fragment from his crowded and perilous life because it has to do with his deeds in Arizona. But Jedediah Smith is so completely a hero, so adequately the type of man that America delights to honor, is so truly a figure of national importance, that I may be pardoned if I attempt to sketch his portrait. As his name indicates, he came of New England and Puritan Stock. The boy had secured a fairly good education, and, being one of a family of fourteen children, had early learned to look to himself for support. At about the time he came of age, he was seized with a strong desire to try his fortunes in the new and adventurous regions beyond the Mississippi. Just how early he began his life as a trader and trapper is left in some obscurity. But we have very definite accounts of his career after the spring of 1822, when he was twenty-four years of age.

In June, 1822, William Ashley, one of the greatest and most successful of the American fur-traders, was taking a company of one hundred trappers up to the sources of the Missouri River, there to engage in trapping for a period of three years. Young

Smith was a member of this party, and he won immediate distinction. Ashley's forces were suddenly attacked by a band of Arikara Warriors. In this battle Ashley lost thirteen men killed, and ten wounded. It became necessary for the leader to get word of the disaster to his partner, Henry, who was awaiting him at the mouth of the Yellowstone. Ashley called for volunteers to carry the message through the hundreds of miles of Indian-infested country, and Smith was the first to present himself. With one companion, an experienced French Canadian, he made the long, perilous trip in good time, and brought the needed re-enforcements down the river past the hostile Indians who had halted Ashley's advance. Young as he was, the commander made him captain of one of the companies that was now organized to carry on the war with the Arikaras. From this time Smith's bravery, energy, intelligence, and superior character marked him as one of the great leaders in the fur industry. In the extreme northwest early in his career as a trapper, he was attacked and so terribly injured by a grizzly bear that he had to be left behind alone; but he recovered rapidly and was able to rejoin his party. Meantime, he had become one of General Ashley's most able and trusted associates; and Ashley, having made a fortune in three years, sold out to Smith and two of his partners, Sublette and Jackson.

Smith was, truly, a "Knight in buckskin". All of his associates unite in praise of his extraordinary character, a character in which courtesy and courage, honesty and energy, justice and generosity were commingled. His leadership was everywhere acknowledged and accepted. He was unique among his associates in that he was an outspoken Christian. And he was a Christian in deed as well as in word. He had joined the Methodist Church in boyhood. In all the dangers and hardships of his mountain life his Bible was as dear to him, and as near to his hand as his rifle. He was as constant and faithful in the use of the one as he was instant and deadly in the use of the other. He had the complete respect and goodwill of his profane and vice-ridden associates. When in civilized communities he attended church regularly; and he was liberal in his gifts to Christian benevolence. He was eager to avoid giving offence to the Indians; and was diligent in cultivating a spirit reciprocal goodwill between the Indians and the whites wherever possible. He never shirked responsibility or spared himself. He was always in advance, and bore the brunt of every hardship and danger. Nothing could daunt or discourage him. He had confidence in himself, and his cool, intrepid energy, and indefatigable spirit brought success out of every disaster.

Not only was Jedediah Smith a great explorer—covering a wider range of Western America than any other traveler of his time, but he was an accurate observer. He made valuable notes, which he transmitted to proper authorities in the East; and was preparing to publish an atlas of the regions that he knew at first hand, and that he had mapped. His notes and journals were replete with valuable information gathered from the regions that he had traversed. It was his intention to collate and publish this material. His death made this impossible, and, unfortunately, though the material was arranged and prepared for publication after his death, it was burned in a St. Louis fire.

This great trapper, traveler, and Christian gentleman was not permitted long to enjoy the rewards of the little fortune that he had acquired through such toil and tribulation. At thirty-three years of age, he was killed by Comanche Indians on the Cimarron River. He was conducting a great caravan across the plains to Sante Fe to take advantage of the fine opportunity then open for trade. In was Summer; the weather was very hot, and there was a terrible drouth. For days his company could find no water-hole or stream. The animals were perishing; and the men were becoming delirious. When hope was almost at an end, Smith detached himself from his party and rode off in a last desperate search for water. He came to the Cimarron and saw that water could be had by scooping out the sand; but just as he was kneeling to drink, the Indians who had been waiting their chance attacked. He mounted his horse and rode toward them. The Indians succeeded in frightening Smith's horse so that it turned, and, having him now at a disadvantage, they shot him in the shoulder. He turned and shot, killing the chief, but the Indians closed in on him and killed him with their spears. The rest of the caravan survived.

At Sante Fe, they learned how their leader had met his end. "As it happened, a company of Mexican traders came in just at the same time, having in their possession a rifle and a brace of silver-mounted pistols, which Peter Smith at once recognized as the property of his brother. The traders had purchased them of a war party of Comanches, who related how they had seen a solitary horseman approach the Cimarron, how he had first watered his horse and then slaked his own thirst, how they had watched closely for a time and then rushed upon him and killed him."

"Old Bill" Williams

Notwithstanding that "Old Bill" Williams' name will flow on forever down the Bill Williams Fork and that it is planted for eternity in Bill Williams Mountain, and that it will be kept warm on the lips of old men and children for many generations in the attractive mountain village of Williams, William Williams, the trapper, is a being half myth, half mystery. Like Melchisedek, he seems to be "without father, without mother, without descent, having neither beginning of days, nor end of life." It is commonly held that he was born in Missouri, and that he was killed by the Indians while alone and afar in the mountains. He had been adopted into the Ute tribe, and was no doubt married to a squaw of this tribe. But once in a drunken spree he had betrayed his people to the whites. As a result of this, he expected death at their hands, and admitted that this retaliation would be just.

He was a Methodist, it is believed—a Methodist preacher in Missouri in his youth. If the report that he was a Methodist is true, he was a perfect example of the Methodist doctrine of falling from grace; for his career in the wild West, unlike Jedediah Smith's was far from a saintly one. He seems to have come to his death in the spring of 1849, somewhere in the mountains between Taos and Pueblo, Colorado. In George Frederick Ruxton's *Life in the Far West*, there is a graphic description of the finding, by a band of hunters, of the old trapper's dead body, high up in a dismal canyon of the Rocky Mountains. They "came upon an old camp, before which lay, protuding from the snow, the blackened remains of pine logs. Before these, which had been the fire, and leaning with his back against a pine trunk, and his legs crossed under him, half covered with snow, reclined the figure of the old mountaineer, his snow-capped head bent over his breast. His well-known hunting-coat of fringed elk-skin hung stiff and weather-stained about him; and his rifle, packs, and traps, were strewed around."

"Awe-struck, the trappers approached the body, and found it frozen hard as stone, in which state it had probably lain there for many days or weeks. A jagged rent in the breast of his leather coat, and dark stains about it, showed he had received a wound before his death; but it was impossible to say, whether to his hurt, or to sickness, or to the natural decay of age, was to be attributed the wretched and solitary end of poor Bill Williams."

Securely as he has implanted his name in Arizona, it seems impossible to trace his footsteps, or identify his activities so far as they had to do with this state. I find no particular account of any of his trapping experiences in Arizona, though he undoubtedly trapped its streams and roamed its mountains many times. Bill Williams was an eccentric figure—a "lone wolf." Bands of trappers would meet him everywhere from British America to the Colorado and the Gila, and he rarely remained long in the company of other trappers. His success as a trapper was phenomenal, and his skill in either evading or fighting the Indians the marvel of the West. For months at a time he would hide himself away in mountain fastnesses from white men, but periodically would return to Taos, or some mountain rendezvous with a fortune in furs. His packs being disposed of, and the fortune lost in gambling, reckless sprees, and openhanded, spectacular generosity, he would borrow enough money to secure new pack animals, and with knife, rifle, and traps, would again take his solitary way to his unknown haunts. He was sure to reappear again, and always loaded with peltry.

Almost every hunter or trapper of that time who kept a journal or left a record of any kind had something to say about "Old" Bill Williams. These snap-shots are about all that has come down to us. One of the most frightful and disastrous experiences in all the terrible history of the West was that of Fremont's Fourth Expedition in 1848. Bill Williams was Fremont's guide on this occasion, and well would it have been for all concerned if Fremont had heeded the old mountaineer, instead of persisting in his own course and ignoring the wishes of his guide. One of the surviving members of that expedition left a diary in which is this etching of his companion:

"Bill Williams was the most successful trapper in the mountains, and the best acquainted with the ways and habits of the wild tribes among and near whom he spent his adventurous life. He first came to the West as a sort of missionary to the Osages. But "Old Bill" laid aside his christianity and took up his rifle and came to the mountains. He had ingratiated himself into the favor of several tribes; he had two or three squaws among the Utahs, and spoke their language and also that of several other tribes."

"He was a dead shot with a rifle, though he always shot with a 'double wabble'; he never could hold his gun still, yet his ball went always to the spot on a single shot. Though a most indefatigable walker, he never could walk on a straight line, but went staggering along, first on one side and then on the

other. He was an expert horseman; scarce a horse or mule could unseat him. He rode leaning forward upon the pommel, with his rifle before him, his stirrups ridiculously short, and his breeches rubbed up to his knees, leaving his legs bare even in freezing cold weather. He wore a loose monkey-jacket or a buckskin hunting-shirt, and for his head-covering a blanket-cap, the two corners drawn up into two wolfish, satyr-like ears, giving him somewhat the appearance of the representations we generally meet with of his Satanic Majesty, at the same time rendering his *tout ensemble* exceedingly ludicrous."

Kit Carson First Wins His Spurs in Arizona

Kit Carson was the beau ideal of the hunters and trappers of the West. His name stands highest and his fame shines farthest among all the men of the mountains and plains. He was born in Kentucky, December 24, 1809. It was the ambition of his life to be a trapper and hunter. At seventeen years of age he ran away from the saddler to whom he was apprenticed and joined a trading caravan to Santa Fe. For the next three years the boy was employed in various menial occupations in the great Southwest. He served as cook, teamster at the Santa Rita Copper Mines, and interpreter to a trader who was bound for Chihuahua; for Kit early learned to speak Spanish. There was little cash reward for these employments; and he still earnestly yearned for the career of a hunter and trapper. By this time he had become an expert rifleman, but he was undersized and far from impressive in appearance. Indeed, neither then nor afterward, either in feature or physique, did Kit Carson possess any of the outward qualities of the hero or the beau.

But when he was twenty, his time came; and, once having found his true element, he rose rapidly to fame and honor. Within a few years he became the most feared, the most respected, and most admired trapper, Indian fighter, and scout in America. He was fearless, resourceful, indomitable. His skill with fire-arms, his cool daring, his dash, and endurance, his kindness of heart and trustworthiness of character, made him a national figure before he reached middle life. In the spring of 1829 Carson had the good fortune to be admitted to the famous party of forty trappers that the veteran leader Ewing Young organized to go to the beaver streams of Arizona; first, to take vengeance on a band of Apache Indians who had a short time

before attacked a party of young men on their way to the Colorado River, and, second, to conduct a profitable trapping expedition on the Arizona streams.

As it would not do to let the Mexican authorities know his destination, Young led his party northward, as if he were bound for the United States; but, as soon as he dared, he turned to the Southwest, passed through Zuni, and coming to the headwaters of the Salt River, came upon the Apaches and led them into a trap, killing fifteen, wounding many, and routing the rest. The party now proceeded to trap down the Salt River, then up the Verde when they came to that stream. The Apaches hung upon their flanks, sneaking into their camp now and then, and making away with horses, mules, and traps whenever they could. When the head of the Verde was reached, the company divided, about half of them returning to Taos or Sante Fe to sell the accumulated furs and secure new traps to replace those the Indians had stolen, and the other half setting out for the Sacramento Valley in California. Kit Carson was a member of the party headed for California, as was Ewing Young, the leader of the entire expedition.

Game was scarce, and water still more scarce. Having killed three deer and made water-bags of their skins, for four days they marched to the northwest without other food or water than what they carried with them. At the end of four days they came to water and here rested two days. Four days more of hunger and thirst brought them to the Grand Canyon and the Mohave Indians. They bought an old mare from the Mohaves, killed and ate her; and a little later secured a small supply of corn and beans from another band of Mohaves. They now made their way over much the same route that Smith had previously followed to San Gabriel, and finally to the Sacramento River. In Indian fights, and in hunting and trapping adventures, Kit Carson gave ample evidence of his valor, energy, and intelligence.

After a successful season, the party started on the return trip to New Mexico, going southward by the little pueblo of Los Angeles. At this place they had serious trouble with the Mexican authorities, and the entire company narrowly escaped destruction at the hands of their treacherous enemies. Making their escape through the prompt action of Mr. Young and the sobriety and steadiness of Kit Carson, they marched straight for the Colorado River. They trapped down to the Gulf; and then, retracing their course as far as the Gila, they trapped all the way up that stream to the San Pedro. Here, as usual, on

these Arizona expeditions, they encountered hostile Apaches, and this time it was to the great discomfiture of the savages, for the trappers intercepted them as they were dashing northward with a herd of two hundred stampeded horses that they had stolen in Sonora. The Indians were put to flight, and Young appropriated as many of the horses as he needed to replace his own jaded animals, killed two of them for food, and turned the rest loose to roam the country. They continued their trapping to the neighborhood of the Copper Mines. As they had been at work all this time without a license from the Mexican governor—an illegal procedure—Mr. Young left his furs hidden at the copper mines and went to Santa Fe to get a license to trade among the Indians about the Copper Mines. Having secured the desired license, he returned to the mines, got his furs, worth twenty-four thousand dollars, and proceeded to Taos, reaching that place in April, 1830, almost exactly one year from the time the expedition had left there.

So far as I know, Kit Carson never trapped in Arizona again after this, though during the next seven years he did hunt, and trap, and fight Indians all through the Rocky Mountains. By 1840 he was a national figure, and his deeds belong to the Nation rather than to any particular region.

Later Famous, Infamous, and Tragic Expeditions

In August, 1831, David E. Jackson left Santa Fe with eleven men, and eighteen mules—five of the seven pack-mules being loaded with Mexican silver dollars—to purchase mules in California for the eastern market. He went by the Copper Mines, the presidio of Tucson, the Pima villages on the Gila, and down the Gila to the Colorado. He did not get as large a number of animals as he had planned to buy, but he secured six hundred mules and one hundred horses and arrived with them at the Colorado River without serious mishap in June, 1832. But, as the river was running bank high, he lost a number of the animals in crossing. The party returned to New Mexico by the same route that was taken on the trip West.

Lieutenant Charles B. Gatewood

Services Ignored

By Anton Mazzanovich,

(Author of "Trailing Geronimo" and other stories.)

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For a number of years there has been much dispute as to whom had the best claim to the honor of bringing about the surrender of Geronimo, chief of the Chiricahua Apaches. Some interesting light is thrown on the subject in my book, "Trailing Geronimo." I am a veteran of the Apache campaigns in the southwest, and served with the Sixth U. S. Cavalry in 1881-1882. I was boss of pack train and scout at Fort Grant, Arizona, Colonel Shafter of the First Infantry commanding. I also served during the Indian raid of 1885, with Captain James F. Black's company of New Mexico rangers.

The credit for bringing Geronimo in for the last time belongs to Lieut. Charles B. Gatewood, notwithstanding the fact that others were cited, or received medals from this government purporting to be for service rendered in connection with the surrender of Geronimo in the fall of 1886, or for inducing Geronimo to meet General Miles at Skeleton Canyon, Arizona, for the purpose of surrendering.

Lieutenant Gatewood, to my knowledge, was never given credit for the part he so courageously played in inducing Geronimo to meet General Miles at Skeleton Canyon. In Miles' "Personal Recollections" the barest mention is made of Lieutenant Gatewood's name, and no credit whatever is given him for his daring and courageous act. Nor does Miles make any mention that Gatewood's influence with Geronimo was the one strong point which prevailed in inducing the Apache chief to surrender.

In July, 1886, General Miles decided to send a message to Geronimo and Natchez, if possible, demanding their surrender and promising removal to some place in the east, together with their families, but stipulating that their final disposition would have to be approved by the President of the United States.

By reason of his long and varied experience with the Chiricahua and Warm Spring tribes of Apaches, and his personal acquaintance with Geronimo, Natchez, and every member of

their band, Lieut. Charles B. Gatewood of the Sixth Cavalry was chosen to conduct the expedition. Two friendly Chiricahua scouts, Martine and Kateah were coached in the contents of the message, and assigned to Gatewood's party. George Wratten was assigned as interpreter and Frank Huston as packer. Later "Tex" Whaley, a rancher, was hired as courier.

Miles instructed Gatewood not to go near the hostiles with less than 25 soldiers as escort. He was also given unlimited authority to call upon any of the several commands then in the field, for his escort. However, in every instance none of the commands encountered could spare 25 men. Gatewood, therefore, continued along without an escort. Nothing definite was known as to the location of the hostiles, so the command headed for Lawton's column. (Captain W. H. Lawton, later a general and killed in the Philippines, to whom Miles gave most of the credit for the capture of Geronimo). Lawton's column was known to be operating several hundred miles down in Old Mexico. The third week in August definite news was received that Geronimo was near Fronteras. Gatewood, with his party, left Lawton's command, and, traveling light, pushed on to Fronteras, making over seventy miles that day over very rough country. At Fronteras, Gatewood had some difficulty with the Mexican commandante, who tried to prevent him from following Geronimo, claiming that he, himself, was entitled to first chance at inducing Geronimo to surrender. By a clever ruse Gatewood eluded him, and continued on at a rapid pace, first having borrowed some soldiers from Lieutenant Wilder's command, which was at Fronteras. As he advanced, the trail continued to grow fresher, and near the big bend of the Bavispe River, Sonora, Mexico, the two Indian scouts, Martine and Kayitah, located Geronimo's camp, which they entered and delivered Miles' message. Geronimo sent back word that he would talk with Gatewood only. Natchez added the assurance that he would be safe in coming to a conference, provided Gatewood's party did not start trouble. It being too late that day to do anything, Gatewood's party made camp. That night Lawton's scouts under Lieut. R. A. Brown, joined the party.

At daylight, Geronimo sent word that Brown and his outfit, as well as any other troops that might have arrived during the night, must stay within the limit of Gatewood's camp, while Gatewood should go ahead several miles to the conference. This was agreed to, and Gatewood entered the hostile camp with his two Indian scouts, the two interpreters, and one or two of Wilder's troopers.

After much handshaking all around and the usual salutations, which included a request from the Indians for smokes and drinks, the council got down to real business. Geronimo gave Gatewood to understand that they certainly would not surrender on any such terms, and give up the whole southwest to a race of intruders, but he and his band would fight to the last ditch.

Things began to assume a very serious aspect, as the Apaches had worked themselves into a state of high excitement, and the least overt act would have precipitated a fight. But Lieutenant Gatewood was a keen, sagacious and diplomatic officer, and thoroughly understood the Apache character. He then "played his trump card" which was the information that all the peaceful Chiricahuas, including all the relatives of Geronimo, Natchez and most of the band, had already been sent to Florida. This was, indeed, a complete surprise, and a most paralyzing blow to Geronimo, and resulted in reopening the entire pow-wow, the matter being discussed pro and con at considerable length. In fact, Geronimo wanted to talk all night, but Gatewood flatly refused. He said that he and his men must have some sleep. At last Geronimo said he would give Gatewood his final decision in the morning, so the lieutenant returned to his own camp.

In the meantime, Lawton had arrived in camp and was informed of that had taken place at the conference. In the morning, the picket passed the word that Lieutenant Gatewood was wanted by Geronimo. The lieutenant went several hundred yards and met Geronimo and Natchez, where he was forced to go over a full and complete description of General Miles. At its conclusion, Geronimo agreed to meet Miles at Skeleton Canyon, Arizona, and surrender, but first stipulated certain conditions to govern their march to United States soil, namely: that the Indians should be allowed to retain their arms, and have the privilege of the soldiers' camps, and that Gatewood should personally accompany them. Gatewood agreed to do this, subject to the approval of Captain Lawton. Lawton agreed to all these arrangements, and the rest of the hostile Apaches came in close to the camp of the soldiers.

The next day the entire outfit started for the border. En route the Indians on several occasions became suspicious of the troops, and were ready at almost any moment to stampede for the hills. Gatewood, however, reassured them, and after considerable difficulty the Apaches were calmed, mainly because of their faith in the integrity of Lieutenant Gatewood.

In about eleven days they arrived at the rendezvous in Skeleton canyon. Miles, however, was slow in making his appearance. Natchez was yet suspicious, and Miles' delay caused great anxiety lest negotiations fall through after all. Natchez made his camp several miles out in the mountains, and refused to come in with the others. Finally Gatewood, at Geronimo's suggestion, went with the chief to Natchez' camp, where together they finally persuaded him to come in and meet General Miles.

Miles reaffirmed the terms of surrender, just as they had been delivered by Gatewood, whereupon Geronimo turned and complimented him highly upon having told the exact truth. The formal surrender was then accomplished and Geronimo and Natchez accompanied General Miles and his ambulance to Fort Bowie. The rest of Geronimo's people traveled to Bowie in one day, a distance of eighty miles, while the command under Lawton occupied three days.

The writer received from O. M. Boggess, superintendent of the Mescalero Indian agency in New Mexico, the following statement made by the two old Indian scouts, Kayitah and Martine, in which they gave their version of the surrender of Geronimo in 1886, which was published in the Associated Press.

The Indian uprisings in the southwest in the early eighties, led by old Chief Geronimo, are well known, yet but few realize that on the Mescalero reservation in southern New Mexico, live the two old scouts, both full blooded Indians, who were most instrumental in securing the surrender of the old chief in 1886. These scouts are Martine and Kayitah, two leading Indians of the Mescalero reservation. The two scouts, now 69 and 70 years of age, were called in to the headquarters of the agency recently and their version of the surrender of Geronimo was made a matter of record by the Indian agent, O. M. Boggess.

After several years of depredations, which had cost the government approximately a thousand lives and forty million dollars, Geronimo with 39 of his followers had escaped into old Mexico.

General Nelson A. Miles, who was in command of the army of the southwest, called Martine and Kayitah into conference, asking them to go into Mexico with Lieutenant Gatewood, find Geronimo and try to persuade him to surrender. They were to tell Geronimo, however, that he must serve a term in prison when he came back to the United States.

Martine and Kayitah agreed to go, and with Lieutenant Gatewood, an interpreter named George Wratten, and a packer

in charge of the trip, they entered Mexico, traveling first to Fronteras, Sonora, where a detachment of United States troops was located. Here they were told that two Indian women had visited the camp, claiming that they brought a message from Geronimo that he would consider surrendering. The troops doubted the truth of their statement, however, and paid no heed to them. It developed later that the two women were Mrs. Hugh Coonie, who is still a resident of Mescalero, and Mrs. De-Jonah, who is dead. The scouts and their party stayed in Fronteras over night, and were joined there by ten soldiers from the army camp. For two days they traveled toward the Bavispe river close on the heels of the Geronimo band.

On the third morning Martine and Kayitah were sent out alone to overtake the band and to attempt to have a conference with Geronimo.

"At 2:00 o'clock that afternoon we sighted their camp," say the two scouts. "Armed men were picketing the outposts of the camp and we learned that they had a heated discussion as to whether we should be shot or not." However, Kayitah had a cousin with the Geronimo party, who recognized him, and without permission from Geronimo, he called to the scouts asking why they had come. When they replied that they were messengers from General Miles and Lieutenant Gatewood, the old chief allowed them to enter the camp.

"We talked over the reasons for which he had come, and Geronimo finally agreed to surrender. He cooked some mescal, and from this he took a lump about the size of a man's heart, squeezed it together, wrapped it up and bade us take it to Lieutenant Gatewood."

This, the scouts declare, was a token of his sincerity, and when Gatewood received the token he divided it among his men, who ate it between slices of bread. The soldiers were very happy, says Martine, for they knew by this token that Geronimo was in earnest in his promise to end the Indian wars.

Martine took the mescal to Gatewood and Kayitah stayed with Geronimo. Next morning Martine led Gatewood to Geronimo's camp, but some distance out they were met by the Geronimo party, led by Kayitah. Geronimo shook hands with the soldiers, and offered his guns to Lieutenant Gatewood, but the latter told him he could keep them and surrender to General Miles. Gatewood gave the Indians provisions and sent out men for a fresh supply.

"From the Bavispe we started for the camp of General Miles. While on the way we looked across a flat and there we saw 600 Mexican soldiers who had come upon us without our noticing their approach. The Mexican officer was very angry. He wanted to take Geronimo from us. The old chief was frightened, and suggested that Gatewood take us scouts and the Geronimo party and slip away. We did this while the soldiers were parleying with the Mexicans, and we had no further trouble."

"Geronimo and Gatewood both sent messages to General Miles to tell him that Geronimo was coming in to give himself up. The messengers were Kayitah, two other Indians and one white man. General Miles started out in a wagon at once and we were still about 50 miles from his camp when he met us. General Miles took Geronimo, Natchez and several other leaders in the wagon with him, and arrived at the army post before the rest of the party."

Geronimo and nine of his chief warriors were imprisoned on an island off the coast of Florida for a year, while many others were kept on a reservation in Florida. A pathetic part of the scouts' story is that after their service and loyalty, they were taken to Florida as a part of the Geronimo tribe. The government, however, will make up for this now to some extent with a pension to each of the old scouts as long as they live.

The Geronimo band was moved to Fort Sill, Oklahoma, in later years, and were returned to the Mescalero reservation in 1912. The old chief died at Fort Sill some years ago but his widow is still a resident of Mescalero and the son, Robert Geronimo, is one of the most prosperous stockmen of the reservation.

For the benefit of survivors of Indian Wars, I wish to state that ex-soldiers of the regular army who fought against Hostile Apaches and Geronimo's band now living in Arizona and New Mexico can get all information regarding the United Indian war veterans of the United States by writing to J. F. Mahony, District Commander for Arizona and New Mexico, 125 South McCormack Street, Prescott, Arizona.

ANTON MAZZANOVICH.

Mary Elizabeth Post --- High Priestess of Americanization

(The Story of a Citizen Yet Very Much Alive.)

(By C. Louise Boehringer.)

Colorful and rich in contact with a community in its evolution through a long period of pioneering to present day progress, serene and contented in contemplation of past decades, and yet ever forward-looking is the life of Mary Elizabeth Post.

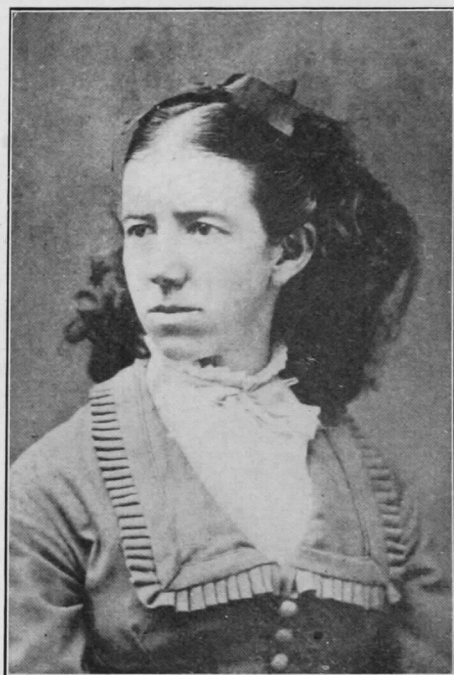
A call for teachers in the newly developing territory of Arizona brought her to Arizona 57 years ago.*

"How did you happen to come to the West—and to Arizona?" is a natural question and one often asked of Miss Post when you learn that she came from a New York home where she had academic advantages and had begun a teaching career in 1856. To this question she always answers, "Nothing ever just happens in this world. I was born and educated for my work and, when the time came for my work here—I was here." With Shakespeare, she believes, "There's a Divinity that shapes our ends, though hew them as we may." She likes, too, to refer to the story of Napoleon in which he unfolded certain of his plans to a lady of his acquaintance, who said, "Man proposes but God disposes." Napoleon answering her said, "I both propose and dispose"—and went to his Waterloo.

However, the life of Mary Elizabeth Post has not been without plan, and high purpose has been her guiding star from her childhood days in New York to her still active life in Arizona, the state of her adoption.

The oldest of nine children, Mary Post was born on the anniversary of the Battle of Bunker Hill, June 17, 1841, on the shore of Lake Champlain in Elizabethtown, New York. Her early education was received in the district school and under private tutors. Later she attended school at Ft. Edward, Col-

*Free schools were established by an Act of the legislature in 1868. This law was repealed and others passed in 1871 and in 1875. In the latter year, Governor Safford, who was an enthusiastic schoolman, was made superintendent of schools. Schools were opened for boys in Tucson in 1867 by August Briehta, and in 1871 by John A. Spring. Two teachers were also at work in Yuma. But in 1872 a call went out from Arizona for teachers.



MARY ELIZABETH POST
At 30 Years of Age

legiate Institute and at Keyesville, N. Y., graduating from a private school in Burlington, Vermont, just across the lake. She had three months' teaching experience in 1856, but wished to graduate from college before seeking a teaching position in the South. State universities would not admit women at that time, so she entered, and graduated from a private school. Then, the Civil War broke out, and the door to teaching in the South was closed. The president of the private school offered her a position in his school, but her father announced that he was going West with his family and did not wish to leave her behind.

In December of 1863, the Post family left northern New York for Iowa. Here Mary Post began teaching in a private Normal in Waukon, and later took a position in the new high school at Lansing, Iowa. Later, when offered a position at Upper Iowa University, she declined to accept it because the salary was inadequate. She had heard rumors of better salaries in California. In July of 1869, the Union Pacific railroad was completed, and in 1870 she said, "Now, there are no lions in the way, and I'll go to California to teach in the rural schools where almost any little school pays a good salary. So after eight years of teaching in Iowa, she was ready in 1872 to go on the journey that she had declined when an uncle offered to take her while she was still a student in New York.

She left Lansing, Iowa, in a covered sleigh, driving in a blinding snow storm thirty miles to McGregor, the northern limit of the river railroad. There she took a train, making changes at Dubuque, Cedar Rapids and Council Bluffs. At the latter point the train crossed the river on a bridge laid on the ice and after one more change at Omaha, the train was on its way to San Francisco. At that time there were no snowsheds, and those on this long trip realized their good fortune in losing only twenty-four hours in the snowdrifts, when they learned that the train leaving Omaha the following day was five weeks in reaching San Francisco.

After spending ten days in San Francisco with a cousin's family, Miss Post took a steamer for New Town, now San Diego, where her uncle, a physician, had established a sanitarium twenty miles out in the mountains. There were no railroads in California at this time except the overland and a short line to Wilmington, the port of Los Angeles. Los Angeles had a population of 8,000 at this time. In New Town (San Diego), Miss Post stayed with friends, Mr. and Mrs. Capron. Mr. Capron was the government contractor of the stage route from New Town to Messilla, New Mexico, a route of 800 miles.

One morning Mr. Capron came in and said, "They have sent word from Arizona that they want a teacher at Ehrenburg, 125 miles up the Colorado river. Will you go?" As Mr. Capron had lived in Arizona for a number of years, where he was said to have made "a barrel of money," and knew Arizona conditions, she asked him, "Is it perfectly safe and proper for a young, unmarried woman to go alone to Arizona?" He laughed and replied, "I assure you that any lady who goes to Arizona and conducts herself as a lady will be treated like a princess." She decided to go, and preparations began for a 250 mile stage trip. There were two stages a week, and after making her decision there were three days in which to get ready. The fare was forty dollars in gold. Greenbacks were the common medium of exchange, but they were reckoned at ninety cents on the dollar. Each passenger was allowed only thirty pounds of baggage. On Mr. Capron's advice, she had the porter at the hotel buy her a small trunk, in which she packed only her thinnest clothing, for Arizona was reported as a warm place, leaving the rest of her baggage at the Horton House in San Diego.

Mr. Capron prepared her for this new experience by explaining the nature of the trip and some of the things to be expected. It would mean a continuous trip of 250 miles, traveling day and night, stopping only every fifteen or twenty miles to change horses, and sometimes, drivers. Stops would be made three times a day, long enough to eat meals. He said that if a stand storm came up and the driver lost his way, not to be alarmed for he would simply turn the back of the stage toward the storm and wait until it was over and then proceed on his way. He advised her to stay in Arizona City (Yuma), with the two teachers there until the steamer was ready to go up to Ehrenburg where her young charges were waiting for a teacher. At that time steamers plied up and down the Colorado on an irregular schedule. When the boat was loaded with freight it was time to go.

The stage, called a "mud wagon," was a canvas covered wagon similar to an ambulance, containing two seats, each of which accommodated two persons. If she should be the only passenger on the back seat, she could recline for a part of the trip. When it drove up, it contained the full quota of passengers and it meant sitting up straight for 48 hours on a continuous trip. The other passengers were a merchant from Florence and an agent for the Sacaton Indian Agency, beside the driver.

The whole trip was a novel experience for this young eastern teacher. The rapid change of horses, each new change of two teams breaking into a dead run the moment the driver had the four in hand and the station men left the horses heads, was most exciting. A short run in the hot, deep sand soon tempered their zeal. Meals enroute were one dollar each. At Mountain Springs (Jacumba), the men of the party announced that she would enjoy some Arizona strawberries for dinner. When the table was spread and the hungry passengers were seated, Mary Post made her first acquaintance with the pink beans that are still such a staple article in the Southwest.

Of course, they lost their way. It occurred toward morning of the last night. The men noticed the driver wavering in an uncertain course and learned he had gotten off the road. They insisted that there be no more driving until the road was located. So every one got out, and soon mesquite from near the Colorado river was piled high and a bright bonfire cheered them until daylight, when the road was readily discovered and all went on their way rejoicing.

On a beautiful spring afternoon, April 13, 1872, they reached Arizona City, (Yuma), so covered with the dust of the California desert that the original color of all clothing was completely concealed. The driver took the young teacher to the place where the other two teachers were living. Here she was given water for her ablutions, that proved the propriety of the name of the river from which it was taken.

To reach her school at Ehrenburg, Miss Post took the steamer up the river when it had its load of freight. Among passengers on her first trip was Captain Polhamus, who became a prominent figure in the early navigation of the Colorado river when boats from the Gulf of California traversed the Colorado.

On reaching her school at Ehrenburg, this venturesome auburn-haired young woman found herself the only American woman in camp. The children spoke no English and the teacher spoke no word of Spanish. One of her trustees in this lively mining camp was a Spanish Californian who spoke both languages. He introduced her pupils to her and helped her in the organization of the first day's program.

Here teacher and pupils bridged the chasm of language, and learning and play proceeded happily for five months, the total of the school year. Then came a call from Yuma.

On the first day of October, 1873, Mary Post began the first year of more than a half century program of Americaniza-

tion in Yuma. At that time, there was only one short street in Yuma, and the little adobe school house stood on this street. It had previously been court house and jail. The railroad had not yet pushed into Yuma, and none came for five years—not until 1877. For one year (1874), Miss Post went to teach in San Diego, where nine teachers were teaching in temporary buildings. An invitation came to return to Yuma, and this time she recognized it as a distinct call to service, and she returned to Yuma to stay.

The Board in Yuma decided to divide the rapidly growing school, and asked Miss Post to select a man to come to teach the boys, asking her to give her entire attention to the girls of the community. To this work she brought her brother, Albert E. Post, the father of Anita C. Post, who teaches in the Romance Language department of our State University. Albert Post was a musician and he brought with him the first organ which is now in the State Museum at the University. Thus was launched the setting for a most effective community Americanization evolution.

At this time all the little girls were wearing long, peculiar dresses, such as little Indian girls still wear on the reservations. The stores were full of attractive goods brought in by steamer from San Francisco. The Butterick patterns had just been patented and were coming into use, but the Spanish mothers of this isolated country did not know what little girls in other places were wearing. Mary Post knew how to use her needle and loved to work with pretty goods. More than this, she loved people and wanted to bring to them the things of life that would make it more attractive and richer. A friend in the East sent her copies of the Delineator, and from them she ordered patterns to fit every little girl in school. Then she went from house to house and cut dresses and showed every mother how to make them.

In the community were about a half dozen American women and numbers of American men with Spanish wives. The Spanish women were eager to know how to make cakes. Cake was not a part of Spanish cookery and the women wanted instruction in the art. Perhaps they recognized the art as an approach to the "hearts" of the American men. So Miss Post again went about from home to home and the aroma of cakes was in the air.

Spanish people are lovers of music, have musical voices and respond readily to musical instruction. Mary Post and her brother, Albert Post, the two teachers, taught their pupils to sing American songs. Often the parents of the children gathered outside the schoolhouse to hear them sing American patri-

otic songs. Every Friday afternoon, as a respite from regular study, the girls in this Americanizing institution spent in sewing, embroidering, and with all sorts of needlework.

The first Christmas in Yuma after the coming of the two American teachers was a happy time, and several now living remember that day. In this early period, when the Yuma gold mines were flourishing, there was plenty of work for everyone. Wages were high for there were not enough workers to do all the development. Money flowed as freely as did the wine of that day. Some weeks before Christmas, preparations were begun for a Christmas tree and a program. Captain Polhamus of the Steamship Navigation Company volunteered to pass the hat for Christmas funds. He went out into the street among the prosperous workers and in one hour had collected \$600 for the Christmas tree.

The tree and all the Christmas supplies were purchased in San Francisco. The leading merchant of Yuma offered the services of his purchasing agent, and the Steamship Navigation Company brought them in free of charge. They came around Cape St. Lucas, up the Gulf of California into the Colorado river and up to the dock in Yuma. Never was there a more heavily laden tree. A case of costly toys, a doll for every little girl, a musical toy for every little boy, and a book for every child who could read.

The Christmas music was a special feature of the program, for it consisted of American Christmas songs. Everyone was thrilled and happy. Every little girl wore a new dress made from a Butterick pattern. A former theatrical sign painter decorated the fireplace and the mayor of the town acted the part of Santa Claus. When he slid down the chimney, many of the children cried with fright and excitement.

At the close of each school year, until the railroad came in 1877, all the children were taken on a steamer excursion and picnic. This was a gala day for the community and dancing and all sorts of games were in order. Dancing was the chief entertainment for the young people at that time.

As other teachers came to this new country, marriages became the fashion. Teachers rarely taught their full term, but married and opened new homes. Numbers of persons only temporarily married, hastened to have a marriage ceremony and an American wedding, as did the teachers. Mary Post was present at most of these weddings, but just as George Washington, though childless, is hailed as the "Father of his country,"

so she has permitted no one to becken her into a life of devotion in a single home, but has remained the "High Priestess" of an ever-growing Spanish-American group. Many times groups of citizens have called upon her to go to some home on a delicate mission. She has been peacemaker, and to hundreds of young people "A Mother Confessor." She has taught the children and grandchildren of her first pupils. Some of her first pupils still living in Yuma include Mrs. Chona Naylor, Mrs. Luz Balsz and Mrs. Dolores Figueroa.

In 1912, Miss Post, having passed seventy years of age, became the inspiration for Arizona's first pension law for teachers, which provides fifty dollars per month (\$600 per year) for retired teachers. Under this law, teachers may retire after thirty years of service, half of which must be in Arizona. Miss Post had taught forty years in Arizona, after teaching eight years in Iowa and several years in New York. She had spent her salary freely to enrich the lives of those among whom she worked, and just as freely did she give her time and effort. By 1912, the year of her retirement from the teaching staff, Yuma had two grade schools and had established a Union High School.

Retirement from the schoolroom did not retire this energetic teacher to a place less useful in the community. For fifteen years after that date her working day was a longer one than any school day. When Miss Post came West, she was more than an ordinary student of English, Latin and French. During her years of work among Spanish speaking people, she added that language to her linguistic accomplishments. After retirement she found herself in constant demand for private tutoring, and as interpreter for the Court, the Reclamation Service and for the Spanish priests. Her private students are a cosmopolitan group. Among them are members of every race and every religion—Pagans and Christians, Jews and Gentiles; Catholics and Protestants; Mohammedans and infidels.

Woman suffrage interested Miss Post, and the year after suffrage was granted to Arizona women, when an opportunity presented itself for Yuma women to express themselves through the ballot, she was as active as any woman in the community. She is as independent in her ballot, as she is in the expression of her views in any other direction.

In 1916 when Miss Post had reached her seventy-fifth birthday, the University of Arizona conferred upon her an honorary degree for her long and useful service to the state of her adoption. No year passes without some proof coming to her of apprecia-

tion of the work she has done. How beautiful to receive one's flowers while yet among the living!

In June of this year (1929), Miss Post passed her eighty-seventh milestone. What sort of person is this "octegenarian plus?" Life to her is an interesting gift and every moment of it must be usefully and pleasurably spent.

When she came to Yuma fifty-seven years ago, she found the Catholic church the only church there. Although a member of the Methodist church in her youthful days in New York, her Catholic spirit and the need for workers, made her at home in this religious body. While a French student in New York she had on numerous occasions attended the Catholic church to listen to French sermons. The ceremonial form of worship interested her then, but there was no thought of becoming a communicant. Not until 1915, over forty years after she began working in the Catholic church, did she finally become a communicant. Church work and worship have always held a significant place in her busy life.

The three recreational activities that fill her life today are reading, light needlework and—cross-word puzzles. All her life Miss Post has been a reader of the best magazines and has built up a good library of books that she cares to own. She is a member of the Yuma Carnegie Library Board. Even when reading for pure entertainment, good style must be evident to hold her interest. When on a quest for information, she will take infinite pains to run down the elusive facts. In the summer time she may be seen in the Los Angeles Public Library consulting reference volumes, or selecting books for reading in her own room. Recently she has been reading Page's "Life and Letters," in three volumes, and "The Training of an American;" "Our Times;" Beveridge's "Life of Lincoln;" Strachey's "Queen Victoria;" Herman Melville's "Disraeli;" "Mother India;" "An Indian Journey;" "Black Valley;" "The Father;" "The Magic Isle;" "Count and Counterpoint" and Galsworthy's "Swan Song." Biography is her special choice. She enjoyed especially Beveridge's "Life of Lincoln," as it was with Lincoln during the Civil War period that she began to take an interest in the public men of her time. Her attitude toward authors is a very personal one. If an author displeases or offends her she does not care to continue his acquaintance. Among those whose acquaintance she has cut are Sinclair Lewis, Christopher Morley, Theodore Dreiser and John Galsworthy. A book that has given her special pleasure is "El Amor de los Amores,"

not yet translated into English. The peculiar quality of Spanish religious devotion it portrays touches a responsive chord in her.

Her interest in languages and in the niceties of words account in part for the entertainment and satisfaction she finds in cross-word puzzles. She likes them best for a certain soothing effect just before going to sleep, at the close of a busy day. She has cultivated the art of letter writing and her close friends are the recipients of interesting letters of her reactions to the books she reads and to the events of the day.

During the past year, the eighty-seventh year of her life, she has taken a quiet satisfaction in setting her house in order. She has gone over her extensive private collection of books and has given collections of 100 books to six different young people of her acquaintance, and has picked out fifty special volumes to send to her most intimate friends with a personal letter which makes the gift even more significant.

Each of the 650 volumes bestowed upon her friends has on its inside cover her bookplate, carefully chosen to express her love of flowers and books.

In many ways Mary Elizabeth Post has left her impress upon Yuma citizens for several decades. To her early pupils, some of whom she meets on the streets and in community gatherings, she is still "La Maestra" (The Teacher). Serene contentment is hers for she found her work, and to it she has given herself. She has lived to enjoy the recognition and appreciation of many friends for a life well spent—beautiful flowers while yet living. With George Sand, in retrospect of a long life well spent, she can say, "The end is a goal—not a catastrophe."



Latest Picture of
MARY ELIZABETH POST