

ARIZONA HISTORICAL REVIEW

CONTENTS

George Henderson Kelly	Effie R. Keen
Current Comment	Dan R. Williamson
Tombstone's Semi-Centennial	John P. Clum
Our New Historian	Effie R. Keen
Prehistoric Irrigation	Dr. O. A. Turney
Victorio	John P. Clum
Early Military Posts in Arizona	Frank C. Lockwood
Josephine Brawley Hughes	C. Louise Boehringer

Vol. 2

JANUARY, 1930

No. 4

Published Quarterly by
ARIZONA STATE HISTORIAN
PHOENIX, ARIZONA

Entered as Second Class Mail

United Verde Copper Company

Producers of Copper, Gold and Silver

**Mines
Jerome, Arizona**

**Smelter and Concentrator
Clarkdale, Arizona**

“COPPER, THE EVERLASTING METAL”

Compliments of the

**Inspiration
Consolidated Copper
Company**

Inspiration - - - - - Arizona

“New Cornelia Copper Company

Mines and Plant: Ajo, Arizona

Producers of Electrolytic Copper”

ARIZONA Historical Review

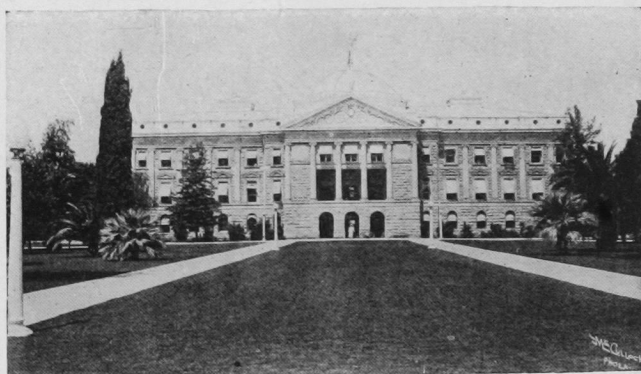
A QUARTERLY

SUBSCRIPTION \$3.00 PER YEAR

Volume 2

JANUARY, 1930

Number 4



STATE CAPITOL BUILDING

ARIZONA HISTORY FOR SALE

In the office of the State Historian, Capitol Building, Phoenix, Arizona, are for sale the following books, published by the State:

Farish History, Volumes 1 and 2

Price \$1.00 per volume

**A limited number of Volumes 5 and 6 of this History
at \$5.00 per volume**

Mormon Settlement of Arizona

Price \$2.50

Legislative History of Arizona—1864 to 1912

Price \$2.50

All Back Numbers of the Arizona Historical Review

with exception of Volume 1, Numbers 1 and 4

Price 75 cents each

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 Apache 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.

DO YOU KNOW—

That ARIZONA with its 113,956 square miles ranks fifth in size of states, nearly as large as New England and New York combined.

That COCONINO County, Arizona is the second largest county in the United States.

That ARIZONA contains the longest unbroken stretch of yellow pine timber in the world.

That ARIZONA contains the greatest variety of plant life, even including ferns, of any other state in the Union.

That ARIZONA's population has shown greatest percentage of increase in United States, since 1910, more than doubling since that time.

That ARIZONA is the world's greatest copper producing section, contributing 22% of the world's supply and 46% of the United States, the 1928 yield being 736,282,000 pounds, worth \$107,497,000.00.

That ARIZONA ranks first in the production of ASBESTOS, third in the production of GOLD, fourth in SILVER, sixth in LEAD, and very high in the production of Quicksilver, Tungsten, Vanadium, and many other metals.

That ARIZONA'S mines employ 18,000 men and their pay rolls amount to \$30,000,000.00 annually.

That in the excellence of her public schools and school buildings ARIZONA ranks among the very highest.

That ARIZONA'S 1928 live stock, cattle, sheep, horses, mules and swine were valued at around \$43,000,000.00.

That ARIZONA'S hay and grain crop was worth approximately \$17,500,000.00.

That ARIZONA'S cotton crop was worth \$15,745,000.00, being the only state that can raise the EGYPTIAN type, long staple cotton.

That ARIZONA'S Indian population, 32,989, is second largest in United States.

That ARIZONA ships more than 9,000 carloads lettuce annually.

That ARIZONA ships more than 5,800 carloads cantaloupes annually.

That ARIZONA lumber produced in 1928 amounted to about \$5,000,000.00.

That ARIZONA'S agricultural products for 1928 was more than \$50,000,000.00 from only 600,000 acres, and many more acres will soon be in cultivation.

That ARIZONA is fast becoming famous for the excellence of its PECANS, DATES, FIGS, ORANGES, LEMONS, GRAPE FRUIT, GRAPES AND MANY OTHER FRUITS.

That in the Grand Canyon of the Colorado River, ARIZONA possesses one of the seven great natural wonders of the world.

That in the SAN XAVIER MISSION, near Tucson, ARIZONA has the finest example of early Spanish mission architecture on the North American Continent.

That ARIZONA has within her borders some three hundred miles of sparkling trout streams.

That within the borders of ARIZONA there are undoubtedly 100,000 old ruins, the largest and most important being that of the "CASA GRANDE" near Florence. Many well preserved Cliff Dwellings are tucked away in the mountains and canyons away from the haunts of man.

That the present day great canal system of the SALT RIVER VALLEY and the Casa Grande Valley as well, are built on the ruins of prehistoric canals built by a vanished people whose population exceeded the present population of Arizona.

That these same prehistoric people domesticated the wild turkey and possibly the deer.

ARIZONA leads in irrigation and contains the most comprehensive dam system for irrigation and power purposes in the world. With the Roosevelt Dam and Roosevelt Lake,

Horse Mesa Dam and Apache Lake,

Mormon Flat Dam and Canyon Lake,

Granite Reef Diversion Dam and Reservoir,

Cave Creek Dam and Reservoir, all pertaining to the Salt River system, and the Coolidge Dam and San Carlos Lake, on the Gila River, ARIZONA contains many gems of crystal water of rare beauty, which constitute the largest acreage of artificial reservoirs or lakes extant, and more dams are to be built in the near future.

Do you know that ARIZONA is full of beautiful wonders, Lakes, Mountains, Canyons, Valleys, Streams, Deserts, Cactus, Cliff Dwellings, Ruins, Highways, Sunsets, Colorings as well as being blessed with the most invigorating and salubrious climate in the world.

ANNOUNCEMENT

To Our Subscribers:

The second year of the publication of the ARIZONA HISTORICAL REVIEW will be completed with this issue, January, 1930.

Practically all subscribers to the Review begin with the initial number—April.

If you desire to continue as a subscriber, please send check for \$3.00 to

ARIZONA HISTORICAL REVIEW
Room 402 Capitol Building
Phoenix, Arizona.

GEORGE HENDERSON KELLY

1854-1929

Founder of Arizona Historical Review

passes

Effie R. Keen

Major George H. Kelly, dean of Arizona newspapermen and state historian, died in Phoenix on November 10, 1929. He had been a resident of this state for more than forty years, having arrived in Tucson on the day after Thanksgiving, 1887, where he entered the service of the ARIZONA DAILY STAR, published by Mr. and Mrs. L. C. Hughes, as a printer, at the weekly wage of \$21. His family came in 1888, and at about that time he was taken out of the STAR'S mechanical department and given a job which included reporting, soliciting and collecting, and he and Mr. and Mrs. Hughes did practically all the front office work. Kelly remained with the STAR until October 1, 1888, when he was engaged by the late John T. Fitzgerald to go to Clifton and assist in the publication of the CLIFTON CLARION during the campaign of that year. The election, which was held in November, resulted in routing a democratic power which had been in complete control of Graham County since its organization in 1881, featured by Geo. H. Stevens (Little Steve), Dan Ming, J. T. Fitzgerald, Gilbert Webb and others.

On January 1, 1889, Kelly returned to Tucson to become assistant editor and local reporter of the TUCSON CITIZEN, then under the ownership and management of Herbert Brown and H. B. Tenney. He remained with the CITIZEN until he purchased the VALLEY BULLETIN, which had succeeded the CLIFTON CLARION when that paper was sold by Fitzgerald to some prominent republicans of Graham County, who moved the paper from Clifton to Solomonville, changing its name. The money required for the initial payment for a controlling number of shares in the BULLETIN PUBLISHING COMPANY was loaned by Mrs. Kelly to Geo. H. Kelly and A. D. Webb, who had been in charge of the BULLETIN as publisher. At that time Graham County was indebted to the BULLETIN, something like \$1,800 on a contract. Mrs. Kelly was teacher in the Tucson Public Schools for two years, and the sum she loaned on the BULLETIN stock was \$600, half the purchase price.

On receiving the majority of the stock in the company, Kelly and Webb elected themselves and Mrs. Kelly as officers and directors. In less than sixty days the money due from the county was collected, besides other substantial amounts due on accounts. On May 1, 1890, a dividend of fifty per cent was regularly declared and paid. This enabled Kelly and Webb to repay Mrs. Kelly her loan and the balance due on their stock. Both Kelly and Webb were practical printers, and with the aid of an office "devil" were able to produce the BULLETIN weekly without additional help.

For thirteen years the BULLETIN PUBLISHING COMPANY proved to be profitable. Mr. Webb sold his stock in 1891. It was the only paper in Graham County for five years after Kelly got possession, and public printing with job printing, secured in Clifton, Morenci, Willcox, Globe and other towns kept everyone busy.

In 1903 Kelly sold the BULLETIN to J. F. Cleveland, and became interested with his son, W. B. Kelly, in the ownership of the CONSOLIDATED PRINTING AND PUBLISHING COMPANY, owner of the BISBEE DAILY REVIEW. He then went to Douglas and started an afternoon paper, the DAILY INTERNATIONAL, with C. E. Bull, who had established the AMERICAN, a weekly, there. Afterwards, with his son, Kelly organized the STATE CONSOLIDATED PUBLISHING COMPANY, this company in 1907 purchasing the ARIZONA DAILY STAR and afterwards the PHOENIX DEMOCRAT. The DEMOCRAT was sold by the company in 1909, and in the latter part of 1910 the stock of this company was sold to the Phelps Dodge Company, that company assuming the STAR at Tucson and the REVIEW at Bisbee. Kelly then became the owner of two-thirds of the DAILY INTERNATIONAL at Douglas, and continued the publication of this paper until April, 1925, when the plant was sold to the DISPATCH PUBLISHING COMPANY.

* * * * *

Major Kelly—as he was known in later years, the title being an honorary one on account of his many years in public life—was appointed to the office of Arizona State Historian by Gov. Geo. W. P. Hunt on January 1, 1923. He served continuously in that office with honor and distinction until his death. In 1926, he published a volume of Arizona history entitled "Legislative History of Arizona—1864-1912." He published the first number of the ARIZONA HISTORICAL REVIEW, a quarter-



MAJOR GEO. H. KELLY

ly magazine, a state publication from the office of the Arizona State Historian, on April 1, 1928. This publication will, with this issue, finish its second successful year. It has met with such hearty support and approval that it will be continued.

Early Life

Major Kelly early showed the characteristics which made him so valuable a citizen. He was born in Butler County, Missouri, on February 5, 1854, the son of John Garland and Rebecca Cash Kelly. The father died shortly after the Civil War, and young Kelly, with only a common school education, secured his first employment at the age of 13, to help in the support of his mother. This work was in a sawmill, a mile from his home, and consisted in taking slabs from the saw and cutting them in suitable lengths for feeding into the boiler furnace. In July, 1869, his mother secured employment for him as "devil" in the printing office of the BLACK RIVER NEWS, the first newspaper established in Butler County. The printing plant was a crude one which had been bought in Northern Arkansas, where it had been used in publishing a paper prior to the Civil War. It was an old "Cincinnati" press and had been exposed to the weather before it was brought to Missouri. Young Kelly's first job as "devil" was to scour the accumulated rust from the bed of this old hand-press, using a brick for the purpose, much as a carpenter uses a jack-plane. It took him more than a week to clean the press. Then he began "learning the case," and was soon setting type. Shortly afterward his mother secured the contract for bringing the weekly mail to Poplar Bluff from the old military road, ten miles away, over which a daily mail route went from St. Louis to Little Rock, Arkansas. He had a good horse on which he rode with the mail sacks on Saturday mornings, and his return about one o'clock in the afternoons was always eagerly looked forward to by a goodly portion of the town's population, waiting for letters and papers. When this mail service was increased to a daily service, he dropped out and continued as printer on the BLACK RIVER NEWS. The paper had few subscribers, its principal support coming from county and court advertising. When young Kelly had been working on the paper about two years his mother died, and within a short time his sister passed away, and he was left without a home. Dr. Poplin, then sole owner of the BLACK RIVER NEWS, took the boy into his home. About 1873 Dr. Poplin became so involved financially that he lost everything he had, including the BLACK RIVER NEWS. Before the crash, however, he put a bill of sale

to one-half interest in the newspaper on record in favor of young Kelly, "for wages due." A bright young lawyer, named Andrew Gibboney, had arrived in Poplar Bluff about that time to engage in the practice of law, and Kelly went to him and proposed that he, Gibboney, buy the other half interest in the NEWS and edit the paper while Kelly did the mechanical work. Gibboney agreed, and at a public sale he bought the newspaper half interest for \$250. At the succeeding election Gibboney, elected county attorney, made Kelly a present of his half-interest in the newspaper, the name having been changed to the POPLAR BLUFF CITIZEN.

On March 4, 1875, George H. Kelly and Alice Valera Beatty, of Carrollton, Missouri, were married, and to them a son and daughter were born, both of whom survive.

Kelly continued the publication of the POPLAR BLUFF CITIZEN until about 1883, when he sold out and went with his family to Texas, where for several years prior to his coming to Arizona, he published the ROCKDALE MESSENGER, under contract with Enoch Breedin, the owner and a practicing attorney.

Death Ends Honorable and Honored Career

In company with his son-in-law and daughter, Mr. and Mrs. Charles L. Rawlins, of Globe, Major Kelly had gone to Douglas and Tombstone on October 23, expecting to attend the big Tombstone Helldorado celebration, of which his grandson, W. H. Kelly, editor of the TOMBSTONE EPITAPH, was a moving spirit. The Major became ill while on this trip, but was able to return to Phoenix where he entered a local hospital for rest and observation. An attack of pneumonia about five years ago left him with an organic heart trouble, and during recent months heart attacks had been occurring with greater frequency, each one leaving him just a bit feebler. Owing to his advanced years, and the severity of these attacks, his condition soon became alarming, and while he rallied several times, there was little hope of his ultimate recovery, and he passed away after a valiant two weeks' fight against the disease from which he had been a sufferer for years. His son and daughter were in constant attendance on their father since he was stricken, and they, with other relatives, were at his bedside when the end came.

The body, under honor guard by order of Gov. John C. Phillips, lay in state in the rotunda of the capitol building from 10 to 11 o'clock Tuesday morning, November 12. Flags on state

buildings flew at half-mast until after the funeral which was held in Douglas, the home of the Kellys for many years, on Wednesday afternoon at 3 o'clock.

Honorary pall-bearers at the services in Phoenix were Gov. John C. Phillips, H. S. Van Gorder, H. R. Tritle, James Bark, George Short, E. A. Tovrea, B. A. Packard, Col. W. C. Breakenridge, J. W. Spear, Scott White, Judge A. G. McAlister, Congressman Lewis W. Douglas, Tom C. Foster and Con P. Cronin. Active pall-bearers were M. C. Hankins, secretary Arizona Highway Commission; E. A. Hughes, chairman State Tax Commission; R. B. Sims, chairman Arizona Industrial Commission, Mike Cassidy, assistant Secretary of State; Loren Vaughn, chairman Corporation Commission, M. J. Hannon, speaker house of representatives. Honorary pall-bearers at the services in Douglas were Dr. F. T. Wright, S. P. Applewhite, J. W. Hunt and former Mayor William Adamson, all of Douglas, and M. J. Cunningham of Bisbee. Active pall-bearers were Judge Albert M. Sames, of the Superior Court; Mayor A. C. Karger, James Logie, of the DOUGLAS DAILY DISPATCH, and personal representative of Governor Phillips at the funeral; Charles A. Stauffer, General Manager of the ARIZONA REPUBLICAN, of Phoenix; Folsom Moore, manager of the BISBEE DAILY REVIEW, and William Hattich, now a resident of Los Angeles, a former newspaper publisher of Tombstone and pioneer friend of Major Kelly. The funeral service was in charge of the officers and members of the Mt. Moriah Lodge of Masons, with whom Major Kelly had been identified over a long period. The services at the chapel of Porter and Ames were brief but impressive. There were two songs, "Jesus, Lover of My Soul," and "Nearer My God to Thee," by a mixed quartet. At the request of the Masonic lodge, Rev. Herbert E. Hays, pastor of the Presbyterian Church, gave a scripture reading and prayer. The body was laid beside that of his wife, who died in September, 1924.

The surviving relatives are the daughter, Jennie Valine Rawlins (Mrs. Charles L.), of Globe; the son, William Beatty Kelly, owner and publisher of the Kelly chain of newspapers with headquarters in Safford; five grandchildren: George H. Rawlins, associated with his father in the practice of law at Globe; William H. Kelly, Tombstone, editor of the TOMBSTONE EPITAPH; Mrs. Mildred Kelly Stevens, South Gate, California; Lt. Samuel Guernsey Kelly, U. S. N., stationed at San Diego, and Alice Jane Kelly, Phoenix. Five great-grandchildren also survive.

Tributes From the Press

From all over the state the press and many private citizens paid glowing tribute to Major Kelly.

The *BISBEE DAILY REVIEW* says: "Some years ago Major Kelly retired, marked 'thirty' on his last piece of newspaper copy, closed his desk and quit the newspaper business. For four decades his pen had wielded a mighty influence in the State of Arizona. A pioneer among the pioneers, to him was given vision of the future things in Arizona. Consorting with the greatest builders that the territory has known, he saw the growth of the territory and of the state, long before it became a reality. His faith never faltered; his vision was never blurred. To him Arizona was a commonwealth of unbounded possibilities. And—true pioneer that he was—he put his shoulder solidly to the wheel; he pointed a versatile pen with confidence and truth, and made things happen in Arizona—made dreams come true."

From the *DOUGLAS DAILY DISPATCH*: "The acknowledged dean of newspapermen of Arizona, Major Kelly had been active in helping develop the history of territory and state and through that experience he had built up one of the largest and happiest acquaintances of any man in the state. Both politics and civic affairs engaged his attention and effort, and the only question that Major Kelly asked about any project was to determine that it was clean, meritorious, and that it offered possible benefits for the community. He insisted that those projects to which he gave his support should be clean in their objectives and methods of attaining it. Zealous, he was always modest. Of flexible faith when he was convinced of the worth of a cause, he was untiring to attain his ends.

"Major Kelly, from his earliest appearance upon the scene in what is now the State of Arizona, turned to active effort in public matters, yet he never sought public office, and the only office he ever held was that of state historian, to which position he was appointed by former Governor G. W. P. Hunt. A democrat, he neither sought nor gave quarter in political contests, yet he gained the reputation of being a fair and honorable combatant. In politics he was 'patient of toil; serene amidst alarms,' and for those reasons held an influential place in the councils of his party.

"Elevated to the post of state historian by a democratic governor, he was rendered singular tribute by Governor John C. Phillips last January when the state administration changed, Governor Phillips retaining him in that post. It was a position

for which his experience as a pioneer had provided a rare background, and it was regarded as fitting by his friends throughout the state that his intimate and accurate knowledge of the history of Arizona should be thus made an asset to the state by his retention in the historian's office.

"In the passing of Major Kelly, one of the delightful personages of the state has gone, yet that he had been granted his full measure of three score and ten years takes something of the sting of sorrow because he had made them fruitful years in helping to build a better and brighter community in which to live."

From the lips of William "Bill" Hattich, pioneer Arizona newspaper man and long-time friend of Major Kelly's, and who came from his home in Los Angeles upon receipt of news of the Major's death, comes this: "The pen that labored so influentially and continuously to the end is no longer guided by the hand of our venerated and beloved pioneer. He spent himself bountifully in loyal and faithful service, but the citizenry of Arizona will ever cherish his memory and work in profound regard and appreciative esteem."

The PRESCOTT COURIER says, in part: "In his long newspaper career, most of which was spent as a publisher, Major Kelly never knowingly allowed a publication under his direction to contain an untrue statement, or to stain the printed page with scandal or sordid truth wherein the pangs of grief for some unfortunate person were carried. At Solomonville, Tucson, Bisbee and Douglas, where he was in the 'newspaper game,' he left no enemies, but was enriched by numerous friendships that never waned."

The TUCSON CITIZEN, upon which Major Kelly worked just forty years ago, has this to say: "In the death of Major Kelly, Arizona loses its most distinguished journalist and publicist. He was essentially a publicist. Although he held, at the time of his death, the office of state historian, the attraction of the office—the only one he ever held—for him was the opportunity it gave him to continue writing, and the theme was one which he loved—Arizona and its people. When he vacated the editorial tripod from which he had reviewed the passing scene and disposed of his newspaper interests, he was offered and accepted the congenial post of historian of the state, where he was able to authoritatively summate the history of his time. Under his editorship, the ARIZONA HISTORICAL REVIEW was established. To him it was an evangel to perpetuate the brave story of the early days and to the task he brought the editorial

skill of a lifetime of work in the profession of writing. The result was that the Historical Review became an archive of winnowed treasure famed beyond the borders of the state, a reliable source to which the story-makers and the saga-singers of the future may confidently turn.

“Newspaper men are the cup-bearers of life, in the service of their fellows, and the sophistication is a bitter brew. They are brought into contact with life’s seamy side, and to them are revealed more than to others its hypocrisies and vanities, its false faces and its masquerades. It is a revelation which is embittering to those who have not derived from experience a sweetening, saving philosophy. That Major Kelly had that invisible armor of faith in human nature and love for his fellow mortals was glowingly evident to all who came into contact with them, for it was reflected in a visage which, whatever the vicissitudes, was ever lighted by that inner illumination which we call faith. He walked among men as a radiant spirit, and his passing leaves an after-glow of cherished memories for his fellows.”

The ARIZONA BLADE-TRIBUNE at Florence, says: “In the death of Major George H. Kelly, veteran newspaperman and state historian, the State of Arizona has lost one of its best and most highly respected citizens. A man of courage to express his convictions on questions of the day, he wielded a powerful influence through his editorial sayings for better in civil and political life.”

The ARIZONA SILVER BELT says that “it was for the qualities of the heart, rather than of the mind, that those who knew Major Kelly best, loved him most. His gentleness, invariable kindness, and unflinching consideration for others, were distinguished characteristics.”

From the PHOENIX GAZETTE: “Journalism in Arizona is better for George H. Kelly’s association with it. His newspapers reflected the character of their editor.

“Major Kelly politically was a democrat and firmly believed in the ethics of that party. But he was too big a man to be unalterably committed to party lines, and it is not recorded that he ever criticized unjustly a member of another political faith.

“Arizona has lost a builder and the newspaper profession has lost an exemplar.”

The WINSLOW DAILY MAIL, of which the Giragi Brothers, former owners of the TOMBSTONE EPITAPH, now owned by William H. Kelly, the Major’s grandson, are the pub-

lishers, has this to say: "George Kelly, Arizona's beloved chronicler, both made and recorded the history of this state. He made it, as founder, publisher and editor of some of Arizona's sturdiest newspapers, which have helped shape the political destinies of this new commonwealth. He recorded it as state historian and publisher of the ARIZONA HISTORICAL REVIEW.

"What Arizona newspaperman has not been cheered when old Major Kelly breezed into the office, always with some good story or another for the paper! He was a member of the guild—and he never tried to foist a 'bum story' upon a fellow-craftsman! When he cast his sharp eye over the front page of a sheet, his criticism was in the kindly spirit of Correggio—"I, too, am a painter!" "

The COCONINO SUN says that "in the passing of Major George H. Kelly, state historian, Arizona loses a sturdy old pioneer and a most lovable man. Few men were better informed on the early struggles of Arizona. It was the great aim of his life that the state he loved and the state that loved him should have its history recorded in order that generations to follow might know of the handicaps encountered by the great-hearted, stalwart, early-day men and women.

"The friendships he made grew with each succeeding year and held fast until the end."

The ARIZONA REPUBLICAN says in part: "Though advanced in years, he preserved to the last a youthful spirit. One of his outstanding characteristics, one which especially endeared him to those with whom he was brought into contact, was his unremitting cheerfulness and his heartfelt geniality.

"Though a few years ago he disposed of his newspaper interests and retired from the profession, he was still regarded as a fellow-craftsman. Moreover, he created a journalistic tradition which has extended through two generations of his family.

"Though a retired newspaper man, he died in harness—as state historian, a position for which his training had admirably fitted him and whose duties he discharged with credit to himself and with advantage to the state."

An Appreciation

In the death of Major George H. Kelly, State Historian, Arizona has lost one of its most valued and best loved citizens.

In many respects Major Kelly typified that Spirit of the West to which Arizona owes so much. Kindly and unassuming, yet courageous and devoted, his life was an example of unselfish effort for public service and the welfare of those about him.

As Dean of Arizona newspapermen, Major Kelly had an influence which was ever exerted for the progress of the State he had helped to make, and for the happiness of its people. As State Historian, he did much to preserve all that was fine in Arizona's colorful past.

The Arizona Press Club takes this means of paying a last tribute to an outstanding leader and beloved comrade whose memory will always be enshrined in the hearts of all who knew him.

JACK LYNCH, President.

E. O. WHITMAN, Secretary.

* * * * *

Judge Albert M. Sames, of the Cochise County Superior Court, delivered the eulogy, a beautiful and eloquent tribute, at the funeral of his long-time friend. Judge Sames said:

“Wadsworth has said:

‘But when the great and good depart
what is it more than this—
That man who is from God sent forth
Doth yet again to God return?
Such ebb and flow must ever be
Then wherefore should we mourn?’

“The sudden passing of a friend and neighbor has summoned us to gather here today to bow to his memory and for a word of parting.

“Perhaps our departed friend was endeared to most, if not all of us because, in the main, his experiences and aims in life were those which most appeal to us and which we are wont to extol.

“It was my good fortune to meet this kindly gentleman nearly thirty years ago. With his friendly commendations I was encouraged to do some work in spare hours on his publication in an adjoining county, at the time. I value the friendship that grew out of and has continued ever since that meeting. I never knew of a malignant or ignoble utterance to fall from his lips or emanate from his facile pen. He struggled upward with high aims and purposes of life and calling and attained the heights.

“George H. Kelly was an exemplary and public-spirited public citizen; he was an ornament to his profession and a valued contributor to the historical records and literature of the

state. He was a patient, affectionate and devoted husband and father; a warm and loyal friend, a man of education and refinement whose word was as good as his bond—one proud and active in the affairs of his city, county and state—one whose kindly personality in all his relationships endeared him to all with whom he came in contact.

“To those who have known him long and well—his unflinching pleasantness of manner and congeniality—his happiness with life and interest in affairs, perhaps his words of parting might not be unlike those of another of gentle like and pleasant philosophies,

‘Life, we’ve been long together
 Through pleasant and through cloudy weather
 ’Tis hard to part when friends are dear
 ’Twill cause a sigh, perhaps a tear
 Then steal away, give little warning
 Choose thine own time, say not goodbye
 But in some brighter clime, bid me good morning.’ ”

* * * * *

Tribute From Governor Phillips

Governor John C. Phillips says: “The passing of Major George H. Kelly leaves not only his friends but the entire state bereft. Others may speak of his ability as a newspaperman and writer, and I know this was great, but I want to speak about the nobility of his soul; the dignity and grace of his character.

“His was a cheerful and lovable nature; his presence was always welcome. His visits to my office were bright spots in the course of the day, and I thoroughly enjoyed his fine sense of humor. He possessed one of God’s greatest gifts—the gift of making friends, which after all means only the power of forgetting self and appreciating whatever is fine and noble in others.

“In the face of infirmities which overtook him of late years, he was courageous and cheerful. I believe he knew that the end was not far off, but he carried on with his usual smile, and his sense of humor never failed him.

“Major Kelly was not a reformer; he accepted men as they were and found the best in them ultimately. I miss him, but I feel that the world is a better place because he sojourned here for a time.”

* * * * *

Intimate tributes are paid in the many personal letters received in this office. Former Governor Geo. W. P. Hunt,

who is touring the Orient, writes from Honolulu: "I learned with great regret and much sorrow of the death of Major George H. Kelly, who passed away shortly after my departure for the Orient. I have known the Major for many years, and his passing is a distinct loss to our state.

"In late years I had been very closely associated with Major Kelly, and the friendship that existed as a result of my intimate association with him had grown into an affectionate comradeship—for to know him as I knew him was to love, respect and admire him.

"His unselfish devotion to his friends, his state and his profession exemplified that great Christian principle 'Love thy neighbor as thyself.' He had charity for all, and harbored ill-will toward none. His friendships were deep-seated and lasting, and he was truly a Christian by precept and example."

Dean Frank C. Lockwood, of the University of Arizona, writes: "I first met Major George H. Kelly in Douglas during the World War, and from that day until the time of his death my admiration and love for him grew. He was a bland, cheerful, kindly and humane man. He was an ornament to his state and a friend to every worthy individual or cause. He was ideally fitted for the position of state historian and through his occupancy of that office he has left his definite impress in the records of the state. The ARIZONA HISTORICAL REVIEW, which he conceived and started, is one of the most important incidents in the literary life of our Commonwealth."

John P. Clum, Indian agent in Arizona during the troublous early days, and now a resident of Los Angeles, writes: "The suggestion that a generous part of the ARIZONA HISTORICAL REVIEW for January, 1930, be devoted to tribute of esteem and respect to the memory of its founder, seems most befitting.

"In the death of Major George H. Kelly, Arizona has lost an outstanding citizen, whose quiet but persistent influence has been a potent factor in the upbuilding of the new state.

"My personal intimate acquaintance with him was all too brief—only about two years—but I am deeply grateful for the memories of that brief friendship. Age and infirmities had already overtaken him, but he met these bravely and smiling—thankful for life and friends and wholesome memories. He took pains to reveal himself to his friends for exactly what he was, and his guileless life kept him friendly with himself. His ster-

ling character combined those noble qualities of justice and gentleness and good-will and self-sacrifice, and his life was replete with deeds that enobled his own soul. That was the secret of his resistless personality; that is why he was so well beloved.

“Life’s evening twilight found him patient, kindly and considerate of others. In those more frequent and serious heart attacks during his last year he surely discerned the beckoning finger of the Grim Reaper, but he remained unperturbed—equally well prepared for life or for death—and he awaited the final summons serene and unafraid.

“We mourn the loss of a worthy, sincere and helpful friend.”

* * * * *

Hail! Farewell! Adieu!

A Tribute

Why are his friends all silent?
 Why are their eyelids red?
 Why are the church bells tolling?
 And the marching with silent tread?
 Why are his friends all grieving
 At the close of his perfect day,
 When he folded his hands at three score ten
 And silently passed away?
 Pioneer of the eighties!
 Dean of newspapermen!
 Friend of all the people,
 Fluent with voice and pen.
 Honored as state historian,
 In our capitol his bier,
 Lying in state 'neath the splendor
 Of our flag at half-mast here.
 Blessed are you, his children,
 For a father so kind and true,
 And we friends who loving are legion—
 Wish him Hail! Farewell! Adieu!

—Dan R. Williamson.

CURRENT COMMENT**DAN R. WILLIAMSON**

O. C. Williams, under sheriff of Navajo County, Arizona, writes to correct a historical statement which has been appearing in the Arizona Historical Review under the heading "Arizona Historical Data." The error regards the location of Navajo Springs, where Governor John N. Goodwin issued the proclamation which set in motion the government of the Territory of Arizona on Dec. 29, 1863. The statement published in the Review locates Navajo Springs in Navajo County. Mr. Williams' letter says in part: "It is my interest in the correct history of the state that prompts me to offer a correction to 'Arizona Historical Data,' contained in each issue of the Review, which states that Gov. John N. Goodwin set up the territorial government of Arizona at Navajo Springs, 'now in Navajo County.' The facts are that Navajo Springs are about five miles or less from the station of Navajo, on the main line of the A., T. & S. F. Railway, in a northeasterly direction, and south of the Rio Puerco. If you will look at a good map of Arizona you will see that this puts Navajo Springs in about the middle of Apache County." We thank Mr. Williams for calling our attention to that error, and we are glad to make the correction.

PIONEERS PASS AWAY

It becomes our painful duty to record in this number, the passing of a large number of our valued pioneers; those who came when Arizona was in the making, and all trails were beset with perils and hardships.

One by one our trailblazers are passing to the Great Beyond; their work well done—so well in fact that those that come after in safety and comfort little realize that almost every acre of this fair state was won by the blood and tears of the vanishing frontiersmen.

Dr. Omar A. Turney.

Dr. O. A. Turney, internationally known archaeologist and engineer, passed away at a local hospital on December 21. He had been in failing health for some months, but an attack of pneumonia was the immediate cause of death. He was sixty-three years of age.

Dr. Turney, a native of Ohio, had been a resident of Phoenix for more than forty years, coming here in 1888 as assistant engineer on the rebuilding of the Arizona canal dam, and later on the location survey of the Santa Fe, Prescott and Phoenix Railway. He also served successively in the United States geological survey and in the United States reclamation service.

Dr. Turney was a graduate of Grove City College, Grove City, Pa., and took his doctor's degree at the University of Southern California. Degrees conferred upon Dr. Turney were master of arts, master of science, civil engineer and doctor of philosophy. He was a member of numerous prominent engineering and educational societies.

During his early days in Arizona, as an employe of the government, he became a champion of irrigation, and was one of the principal sponsors of the Roosevelt Dam, and is largely responsible for the name given the dam. To Dr. Turney also goes the credit of naming Squaw Peak, near Phoenix.

For twelve years after leaving the government service Dr. Turney served the cities of Phoenix, Mesa, Tempe and Glendale as city engineer. For many years he was secretary and managing trustee of the Phoenix Public Library. In this, as well as all other projects with which he was connected, he was a painstaking and indefatigable worker.

The ARIZONA HISTORICAL REVIEW feels keenly the loss of Dr. Turney. This magazine has been privileged to publish during the past year a series of articles submitted by him, entitled "Prehistoric Irrigation." The first of these articles appeared in the April, 1929, issue, and the present number contains the concluding one. Dr. Turney gathered the data for these articles over a period of forty-odd years. His map of the ancient canals, a fac-simile of which appeared in the July, 1929, issue, and an account of their magnitude was presented to the Royal Geographic Society of London, and at the request of Sir William Ramsay he was elected a Fellow of the society.

The body of Dr. Turney lay in state in the A. L. Moore Mortuary, Phoenix, from 10 a. m. to 1:30 p. m. on December 23.

Surviving relatives are the widow, Mrs. Viola Turney, who he married in Phoenix in 1895; two sons, Harold M. Turney, professor of engineering and dramatics at a Los Angeles junior college, and Hubert W. Turney, designer for a Los Angeles lumber company; a brother, Col. Hubert J. Turney, prominent Cleveland lawyer: The latter was judge advocate general of the

Second Army in France. Dr. Turney is also survived by two grandsons, Hubert Turney, Third, and Donald Bruce Turney.

The body of Dr. Turney was cremated and the remains scattered over the city "Park of Four Waters," where the heads of four prehistoric canals are being preserved. This park is one of the many monuments to Dr. Turney, as it was through his efforts that it was established. The spot was chosen many years ago by Dr. Turney as his last resting place.

William Moeur

William Moeur, a resident of the Salt River Valley for thirty-six years, died at his home in Tempe on Christmas day. He had been in failing health for more than a year.

He was a native of Tennessee, having been born in that state on February 23, 1865. He came to Texas when but ten years of age and lived there for eighteen years, coming to Arizona in 1893. During all his years' residence in Maricopa County he was very actively interested in educational, civic and political affairs and held many public offices. He was a member of the first Phoenix Union High School board and of the Tempe school, being one of the organizers of the latter. He was the chairman of the Maricopa County board of supervisors from the time of statehood until 1915 when he was appointed first state land commissioner. He held this office until January 1, 1921, when he retired from active public service, except that for several years subsequent to 1921 he served as justice of the peace in Tempe. Failing health forced him to give up this office more than a year ago.

Mr. Moeur is survived by his wife, who was Miss Mary Wilson, also of a pioneer Salt River Valley family; four sons, Charles K., of Tempe; W. A., Jr., Sidney B. and J. H., all of Phoenix; two daughters, Mrs. Harry A. Stewart, Phoenix, and Mrs. Jule Henness, Jr., Tempe; one brother, Dr. B. B. Moeur, and one sister, Mrs. L. E. Pafford, both of Tempe.

Judge Charles Payne Hicks

Another prominent pioneer to answer the call of the Grim Reaper is Judge C. P. Hicks, who died at his home in Prescott on Christmas Eve, following a short illness of pneumonia. He had lived continuously in Prescott since 1879, having come to that city from Fayette, Missouri, where he was born on June 25, 1858.

Judge Hicks was, during territorial days, probate judge for twenty-three years, until that class of judgeship was abolished. He was a clerk in the state senate during territorial days, and in 1918 was elected as state senator from Yavapai County.

Surviving relatives are the widow, Mrs. Laura A. Hicks; an adopted daughter, Mrs. Violet Binner, of San Francisco, and a stepson, John Rogers, of Los Angeles.

David Babbitt

David H. Babbitt, aged 72, president of the Babbitt Brothers Trading Company, of Flagstaff, passed away on November 8 at his home in that city, where he had lived for more than forty years.

Mr. Babbitt was born in Cincinnati, Ohio, and was the oldest of five brothers. He came to Arizona in 1886 and started the business of which he was the head at the time of his death. He was joined by his brothers, and their business continued to grow and expand until it embraced almost every line of endeavor. The firm of Babbitt Brothers has become widely known for its friendly helpfulness and assistance to many struggling ranchers and stockmen. The founders of this firm are sterling characters; noted for their uprightness.

Mr. Babbitt was a member of the Elks Lodge and Knights of Columbus.

Besides the three brothers, C. J. and William, of Flagstaff, and E. J., of Cincinnati, Mr. Babbitt is survived by three sons, E. D., Ray and Joe, and two daughters, Gertrude and Elaine. All are residents of Flagstaff, the three sons being active members of the great business system of which the father was the head. Mrs. Babbitt died in 1899. One son, David, Jr., president of the Babbitt Motor Company, passed away in Phoenix last July.

William Johnson LeBaron

William Johnson LeBaron, pioneer resident of Mesa, where he had lived for forty-five years, passed away in that city on November 19. He had been an invalid for the past ten years, nevertheless, he always maintained an active leadership in all civic and religious affairs. He was mayor of Mesa from 1889 to 1895; and was one of the three original trustees and was one of its city councilmen for many years.

Mr. LeBaron organized Company "E," of the Arizona National Guard, and as its captain took an active part in the strike troubles at the Clifton-Morenci Copper Mines. His skillful handling of either rifle or shotgun in the early days marked him as a sportsman of the first water.

He was a member of the Mormon Church, and served for many years as a member of the Stake presidency. Surviving relatives are the wife, Mrs. Zina LeBaron; a daughter, Mrs. L. L. Gardner, of Mesa, and two sons, D. A., of Mesa, and Edwin M. LeBaron, of Los Angeles.

James M. Polhamus

Death claimed James M. Polhamus, sheriff of Yuma County, on November 21, at his home in Yuma. He was but forty-eight years old.

Mr. Polhamus was born in Yuma and was the son of Isaac Polhamus, steamship owner and famous Colorado River pilot of the early days.

Mr. Polhamus first entered politics in 1904 as territorial recorder. At the time of his death he was serving his third term as sheriff. He served eight years as ex-officio clerk of the board of supervisors. He had also been in the mercantile business in Yuma, and was interested in mining in Yuma County and Southern California.

Surviving Mr. Polhamus are the widow and three sons, James, Francis and Milton, three brothers and four sisters.

Mrs. Ellen Greer

Mrs. Ellen Greer, or "Grandma Greer," as she was known to the many friends and neighbors whom she had loved and served for so many years, passed away at Holbrook, Arizona, on November 15, at the age of 92. She had been a resident of Arizona for fifty-three years, nearly twenty of them having been spent in Holbrook. She is survived by three daughters and two sons, one of the latter, R. D. Greer, being a leading business man of Holbrook.

Burial took place in St. Johns and the services were attended by many people from all sections of Navajo and Apache counties.

HERMAN EHRENBERG**In Memorium****ARIZONA DAILY STAR**

February 19, 1880

Herman Ehrenberg was born in Saxony, 1820. He received a liberal education and was placed by his father in the commercial business, but not being contented with the routine duty of the counting room, he ran away and came to the United States in 1835. He had traveled from New York to New Orleans in 1836, in which place he was engaged in making what was then called "locofoco" matches. This business was not gratifying to his tastes, so when the Texas revolution commenced, he enlisted in the "New Orleans Greys" and accompanied them to the seat of war. He was at Fanning's defeat on the Goliad, and was one to draw the black bean and was marched out to be shot. As he had frequently related to me, when the order to fire was given he fell prematurely on the ground, receiving no hurt, then under cover of the smoke he rose and ran for the river. A Mexican officer pursued on horseback and gave him a gash over the forehead with a sword, the scar of which is well remembered by those who knew him. Nevertheless, he escaped by following the river and found some food at an abandoned ranch, where he was later captured by the Mexican troops. On account of his youth and his wounds, General Urras turned him loose and he followed the retreating Texans to San Jacinto where the last battle was fought.

After the recognition of Texan Independence he returned to Germany to perfect his education as a civil engineer; while there he wrote a book in German describing Texas in such enthusiastic terms that it contributed not a little to the German colonization of that state. About 1844 Mr. Ehrenberg returned to the United States and at St. Louis joined a company of emigrants for Oregon, and after crossing the continent to Astoria, he worked at his profession as a civil engineer in surveying lands and towns. In 1846 Mr. Ehrenberg went from Oregon to the Sandwich Islands, and from there he visited Marquesasi, Fijis, Samoans and finally brought up at Tahiti, where he was received with great favor by the then youthful queen, Pomare. Not being satisfied even in this earthly paradise, he crossed the sea to Valparaiso, where he joined the forces called Stevenson's Regiment, destined for the occupation of California. He was for a while with Captain, afterwards General Burton at La Paz, in the peninsula. When the American troops abandoned Lower

California, he accompanied them to upper California and witnessed the transformation of a change of government. From 1849 to 1853 Mr. Ehrenberg was engaged in mining and surveying in California, mostly in the northern part, and laid off a town at the mouth of the Klamath River; coming down the coast he discovered the gold-bearing metallic sands since known as Gold Bluff. In January, 1854, Mr. Ehrenberg joined the writer for a reconnaissance of the then recently acquired territory which is now called Arizona. With a party of five men he examined the country of Sonora from the mouth of the Gulf of California to the Gila River, stopping at the towns of Fuerte, Alamos, Guaymas, Hermosilla, Ures, San Miguel and Altar, passing through the Papaueria where the Fourth of July, 1854, was celebrated by the Americans on their own soil at the Sans-Saida by copious libations of mescal accompanied by a feast of petayahs and milk, much to the delight of the Papago chief, whose name was Tomas. The party rested awhile at Yuma in the balmy month of August, and recreated themselves by surveying that classical village; hence to the cool breezes of San Diego and from there by steamer back to San Francisco.

The writer took the specimens of minerals, maps and information which had been gathered up, and spent the year 1855 in Wilmington, New York, Philadelphia, Cincinnati and other cities, forming the Sonora Exploring Company, intending to open these treasures to the world when Nevada and Colorado were still dreary wastes and it was not known that the silver belt extended north of the Gila River. Mr. Ehrenberg spent the intervening time in Arizona, and welcomed the company to Tucson in August, 1856, after a weary and dangerous journey from San Antonio to Tucson over a thousand miles in an Indian country. Several Germans of education and intelligence belonged to this company and the winter was passed at Tubac when not in the field of exploration. Mr. Ehrenberg, on account of ill health, was assigned to duty and passed the year 1857 in examining Sonora mines. In 1858 he was in New York with the writer laying this information before capitalists, and even statesmen listened to the silver story of Sonora.

Among other state secrets it may now be told that President Buchanan and his cabinet, at the instigation of powerful capitalists in New York and New England, had agreed to occupy Northern Sonora by the regular army, and submit the matter to Congress afterwards. Ben McCollough was sent out as agent to select the military line, and Robert Rose was sent as consul to Guaymas with an American Flag prepared expressly to hoist

over that interesting seaport, upon receiving the proper orders. But, alas for progress; President Buchanan soon had hot work nearer home than Mexico, and Arizona and Sonora receded into barbarism for nearly twenty years. During the Civil War and for a long time afterward all the patronage of the government and the following favor of the capitalists was contributed to a line far north of Arizona, and none of the pioneers ever received any reward.

After the devastation of Southern Arizona, Ehrenberg engaged in some trivial mining speculations in the northern part of the territory, and in passing to and fro to California was killed at Dos Palms, a station on the Mojave Desert, in the autumn of 1866. The writer slept on a bunk under a ramada in front of the station the night before, but having just been defeated for Congress and going out of the country, was not supposed to have enough money to be worth killing. Ehrenberg slept on the same bunk the night afterwards and was known to have about \$3,500 in gold, with which he was going to buy a mine. There is no doubt in the writer's mind but that he was killed by the station keeper. Thus miserably perished one of the most intelligent men of the early occupation of Arizona. He not only had a wonderful store of knowledge gathered from his extensive travels, but was a ripe scholar in German metaphysics—a philosopher in fact; gifted with many amiable virtues; a man whose contact with the rude world had not destroyed his almost feminine nature. He would have been honored in his own country but he rests in the eternal silence of the desert, and without a tombstone. A little town on the Colorado River perpetuates his name.

The memory of many years faithful companionship and a thousand and one nights' pleasant conversation will excuse this extended memorandum.

Signed—C. D. Poston.

(Note: The above is taken from the files of the ARIZONA DAILY STAR, of February 19, 1880, in the archives of the Munk Library of Arizona, Southwest Museum, Los Angeles, California, and is a splendid tribute to a man who did so much for Arizona and about whom so little is known. Dan R. Williamson, now state historian of Arizona, copied the material in response to repeated requests for information about Mr. Ehrenberg.)

There is a small book by Ehrenberg, of 293 pages, entirely in German, written in Leipzig, 1844, in the Dr. Munk collection of the Southwest Museum. "Rare and never translated into English." A frontispiece says that Ehrenberg became the greatest surveyor, map maker and explorer of the southwest. In this same library there is also a splendid map made by Mr. Ehrenberg in 1855, covering the territory acquired by the Gadsden Treaty and showing the proposed southern or Texas Railroad Route.)

TOMBSTONE'S SEMI-CENTENNIAL

JOHN P. CLUM

It was a good show, and well patronized. Date, October 24-27, 1929. The citizens of Tombstone extended a royal welcome to their visitors and were unstinted in their hospitality and courteous consideration for all. The comparatively small band of patriots residing in the old mining camp **undertook a stupendous task**, and how well they succeeded is best indicated by the fact that the throngs that gathered within the Helldorado area from day to day, went away gratified with their reception and with the entertainments that had been provided for them—as well as the moderate prices that prevailed.

Several blocks, covering the old business section of the city, were set apart as the arena wherein to re-enact the scenes and happenings of fifty years ago. The section was completely inclosed and was popularly referred to as the "Helldorado Area". Two graceful and artistically decorated arches were erected on Allen Street, and these served, respectively, as the East and West entrances to the big show.

The Helldorado band consisted of twenty thoroughbred Yuma Indians attired in red shirts and gaudy, feathered war-bonnets. The leader sometimes used a sixshooter as a baton, but the players broadcast smiles with their music and were persistently on the job. And they knew their music.

The "Big Parade" represented much thought and labor and was thoroughly enjoyed by the throngs of spectators. In the column each day were delapidated "covered wagons" and ancient buggies and rattling buckboards and husky cowboys and trail-weary prospectors and attractive women in the costumes of their grandmothers and many children garbed as children were wont to be fifty years ago, and, also, there was the menace of scores of bearded men with rough shirts and broad hats and big bandanas and high-heeled boots and deadly sixshooters. The "Big Parade" pleased the crowds immensely and was the dominating feature of the Helldorado "doin's."

The daily daring holdup of the old "Modoc" stage, followed by the dashing charge of the sheriff's posse upon the surprised robbers and the resulting rip-roaring gun-battle, was the most realistic and spectacular event on the Helldorado "bill of fare," and tickled the crowds pink.

Another daily Helldorado stunt was the killing of an unfortunate prospector by a drunken desperado, and the prompt lynching of the killer by the infuriated mob.

The famous old Bird Cage Theater proved to be one of the "best sellers" within the Helldorado area. In fact, at the first show the full capacity of the house was sold out within ten minutes. The gambling resorts were well represented—and well patronized. The free open-air entertainments included rope twirlers, fancy shooting, dancing and a variety of high-class exhibitions by athletes and acrobats, besides boxing and wrestling and fortune tellers and mysterious side shows. In fact, the Helldorado program offered a variety of good entertainments that were rendered promptly on schedule, with only brief intermissions.

The one deplorable number on the Helldorado program was the mock street battle—pretending to re-enact the unfortunate and fatal clash which occurred between the city police and the rustlers on October 26, 1881. This grim act could well have been omitted.

Personally, I have always deprecated the sort of publicity that emphasizes and exaggerates the worst features of the social and political life of any community at any period. Lawlessness and crime have existed since the days of Cain. It is deplorable that there are as many criminals and as much crime existing today as existed fifty years ago. Criminals and crime existed in Tombstone during those so-called "hectic days" when it was a booming mining camp. But dissipation and disorder and lawlessness and murder were not the chief occupations of the citizens of Tombstone when I was a resident there in the early 80's, —although that impression was emphatically conveyed by the high spots in the Helldorado publicity and the Helldorado program. This is not fair simply because it is not true.

The Helldorado celebration—barring the one grim act—was a success as an **entertainment**. It was a bully show. It amused the throngs of spectators. But it utterly failed to represent the actual conditions of life as they existed in Tombstone when that city was the center of a rich and prosperous mining district fifty years ago,—utterly failed by the widest margins.

On "Pioneer Day" a goodly company of the friends of the late Ed Schieffelin assembled at the monument that has been erected at the grave of that famous prospector, and joined in an impressive ceremony to the memory of the discoverer of Tomb-

stone. Judge Sames presided and delivered a brief eulogy. Colonel Breakenridge followed with an appropriate address extolling the achievement of the deceased, after which a wreath, provided by a sister of Ed Schieffelin and who was present at the ceremony, was placed upon the grave. This was the one serious and impressive feature of the Helldorado program.

Not a single case of disorder fell under my observation. The throngs of visitors were universally good-natured. All seemed to appreciate the courteous hospitality of their hosts, and everyone displayed a happy disposition to contribute to the mutual enjoyment of the spectacular Helldorado carnival.

OUR NEW HISTORIAN
EFFIE R. KEEN

Judge Dan R. Williamson, appointed November 20 to succeed Major George H. Kelly as Arizona State Historian, has been a resident of Arizona for forty-five years, having come to the state as Southern Pacific agent at Bowie Station in 1885.

Judge Williamson was born at Fairfield, California, on March 4, 1863, and is one of nine children, all living, born to Angus and Katherine Williamson. He was educated in the public schools, and when but thirteen years of age entered the service of the Southern Pacific Railroad Company at Fairfield. He served successively as assistant agent, telegrapher and agent. During the year 1883, 5000 Chinese were moved by the Southern Pacific from Arizona, following completion of work on their lines in this state, to Redding, where Judge Williamson had been agent since 1881. These men were to be used on construction work for the Southern Pacific, from Redding to Portland. When the forty miles of track between Redding and Delta was finished, and the station at the latter place opened, Judge Williamson was sent there as agent, therefore having the distinction of being the first person appointed as agent for the railroad company north of Redding, on the Oregon Division. This was in 1884. He was transferred from there to Bowie. He worked continuously for the railroad company until 1888, leaving the company in that year to enter the employ of the military department of the United States Government on the San Carlos Reservation, remaining there until the abandonment of the post in November, 1894. He went to Globe from San Carlos where he gave his attention to mining, in partnership with Al Sieber, famous Indian scout, and the Anderson Brothers, discoverers of the Old Dominion Mine. He was associated with these men until their deaths.

Judge Williamson was elected sheriff of Gila County in 1896, serving until 1899, during which time he was also Deputy United States Marshal under Marshal William Griffith for the counties of Pinal, Gila and Graham. After leaving the office of sheriff, he again took up railroading as agent for the Southern Pacific and Wells Fargo Express companies at Globe, continuing as such until 1906, when he was elected county treasurer of Gila County. This office he held until statehood in 1912. From that year until 1925 his entire time was devoted to mining. In that year he was elected as justice of the peace at Globe, serving two terms, being re-elected in 1927.

In 1905 Judge Williamson was married to Miss Josephine Hamm, of Globe, a sister of Mrs. George J. Stoneman, of Los Angeles, widow of Judge Stoneman, former Globe pioneer. The Williamsons have three children, Katheryn and Josephine, teachers in the Globe schools, and Dan. Jr., a student in the Globe High School.

Judge Williamson's long residence in the State of Arizona, his wide knowledge of its history, gained through a deep, personal interest and contact, and the fact that most of the years he has spent here have been in public life, eminently fits him for the position to which he has been appointed.



JUDGE DAN R. WILLIAMSON

PREHISTORIC IRRIGATION

DR. OMAR A. TURNEY

Copyrighted 1929

IV

Pictured rocks in every locality are usually attributed to whatever group of ancient peoples had formerly inhabited the place, and so in this vicinity it has been customary to connect them with the Canal Builders, regardless of the fact that in their every appearance they look more recent and from the farther fact that they are not found within the subsurface remains of the homes of the earlier peoples. In only two instances have we found a picture rock inside a ruin, and these were surface boulders which had been exposed from the time the walls had fallen. Within the homes of the Canal Builders are found rocks which would seem to have invited the pictographer's art had there been a willing artist present. Concerning the sex of the artists, we assume that the rocks were inscribed by men, and would anticipate that the inscriptions would indicate men as inscribers, and we find the assumption justified.

We believe that pottery was decorated by women and we look for designs which would support the expectation, and again we make the anticipated discovery. How much our judgment has been warped by preconceived conclusions, we are unable to say, but naturally feel that it has not been influenced in any degree whatsoever. Whether the pictures were made by the Canal Builders or by a later Columbian people may perhaps be determined by an examination of the pictures themselves, and since we believe that the decorated pottery is some thousand years the older, it may be first considered. Reference will be made only to the decorated shards of the Lower Salt.

The noticeable figures have been preserved and counted with the following results. In eight cases, pictures of birds have been found on the pottery, but in delineation they are dissimilar from the pictures of the birds on the rocks. On the pottery, eight instances of animal figures have been seen, but in only one of these was it possible to determine what kind of an animal was intended, in that case it being a turtle. It may have been due to his sacred character that the frog, so commonly carved in shell by the Canal Builders, was never used as a decoration on pottery. In the rock pictures the kind of animal is usually evident, such as the horned sheep, the deer, and other animals

which had a food value to the hunter. Neither the frog nor the turtle have been seen in rock pictures. We dismiss as unworthy of consideration all pictures of so-called dinosaurs.

On the potteries, six cases of representation of the human figure occurred, usually in profile, as a man walking with a cross-hatched bag over his back and holding a long stick with a hook at the top; or again wearing a horned mask and blowing through a long reed: all of these figures imbued with life, and representing a definite personage in the social system. On the rocks, men are also seen, usually in front view, with arms and legs strangely jointed and held in preposterous positions; the nearest to a representation of an historical event being a pair of men with a row of animals standing on a line held between them, a suggestion of a hunt.

This gives twenty-two instances of designs found on pottery which also occur on the rocks, but when so occurring all are in quite different form. In order to secure these twenty-two, we have been compelled to examine the figures on 12,000 shards, a fact which shows the extreme rarity of parallel designs.

No count has yet been made of the elements of art design in the Lower Salt pottery. When made it will be found that there are very few; indeed increasing experience with them seems to reduce the number. One impressionistic element frequently used as a space filler is called a group of flying birds, perhaps correctly so, although we must say that as delineations, they might as well be called a flock of steamboats.

That overworked symbol, the swastika cross, has been observed by the writer just three times during forty years in the instances where it had been made before the white man insisted on seeing it in a blanket or basket before he would purchase it. These three examples are in the Turney collection; forms hammered into boulders and all left hand crosses: the modern made are usually right hand. In no instance have we seen the true swastika placed on pottery.

Some people call any set of crossing lines a swastika, but the name should be applied only to a figure of two straight lines, crossing at the middle, and forming four arms bent to a right angle at the ends. In every swastika which we have seen that was made before the advent of the white man, if the beholder imagines himself placed at the center of the cross, the arms are bent to the left. Dr. Martin Gusinde, Professor of Anthropology in the Chilean Government, tells me that the swastika is found

in the rocks all the way up and down the Andes, and that in every case it is the left hand cross. In present day commercial Indian art the cross is bent either way.

In four instances on rocks, we have seen a simple cross with straight, unbent arms of equal length with an unbroken enclosing line surrounding it and indented at the four angles; a very simple figure which a child might develop: this is not a swastika. This figure occasionally occurs on the pottery shards strewn about the ruins, where the rock cutters must have observed it many times.

The simple coil has been seen nine times on stone, of which eight run from the center outward in a direction opposite to the hands of a watch; usually this coil figure terminates at the outer end in a wavy line with a snake head, sometimes diamond shaped like the rattlesnake. Emphatically we say that we have never seen the simple coil on pottery, although the commonest pottery design is the double opposed coil, either curvilinear or rectilinear, so common that it seems to have been on two-thirds of the decorated ollas. But in the pottery, neither of its two interlocking elements terminate in sinuosities nor with snake heads. This rectilinear involute has been found twice on stone, once at Arlington and once on the Agua Fria.

In the four cases above, a design on pottery has been found on stone, out of 815 rock pictures examined around Phoenix. Combining these results we have a total of 22 instances of similarity in 12,815 cases examined. The very rareness we believe proves that they were not made at the same time, nor by the same people. No counts have been made of the elements of design in the rock pictures, although some student artist will find them instructive.

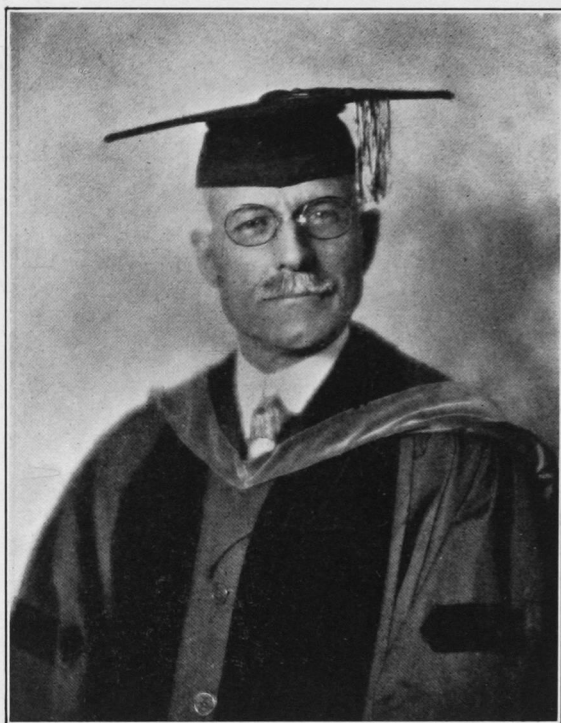
Concerning interpretation of the rock pictures, or pictographs, or petroglyphs or hieroglyphics, whichever term the idea behind them justifies, the interpretations are as numerous as the interpreters; any Pima buck Indian can read them, but no two will give the same translation. In every locality they have been studied, that which one archaeologist calls a water sign, another calls a voyage record, while another calls it a life fertility emblem. We have seen the accepted trail sign hammered into cliffs too sheer and abrupt for an ivy to climb, and we have seen it on the open desert where the beholder could go any direction except straight down. We have seen the sign of the hidden spring of water on top of a mountain of volcanic rock, and we have seen it on the banks of a river.

From time to time we have believed all the varying interpretations which scientists have published, but now we call all the rock pictures in Central Arizona pure art; aimless art, with rarely a record of events. We have abandoned symbolism, fetishes and clan emblems; we have discarded human names, effigies and danger signs; we have repudiated food indicators, trail guides and the other explanations of the Sunday newspapers. We recognize pictures, sometimes of a bird with a serpent in its mouth, or of two snakes fighting, or of the sahuaro cactus, and we say that any primitive artist would be inclined to make a picture of the common things, of a bird, an animal, or of a man, whether hammering on rock or painting on pottery, even though separated by a thousand years of time.

Given a sufficient period of years, the rock pictures would gradually have passed from the stage of ideographs into that of permanent records, and in the transition would have become one of the three forms which evolved under similar circumstances in the Old World. They might have passed into the combined ideographic and arbitrary forms of the Chinese script, or into the syllabary system of the cuneiform writing, or into the gradual simplification of original pictures which resulted in an alphabet. The end of independent evolutionary development came to the Indian with the discovery of America: that it would have been an entirely different culture from that in Europe was shown by the civilization of the Mayas.

Several factors indicate the Canal Builders were a people different from their neighbors on all sides. They were builders of the clan-castle and in no case did they build homes resembling the pueblo of the east and north, none of their buildings are D-shaped nor did they have upper stories set back in terraces. While the pueblo buildings, both ancient and modern, are devoid of an encircling defense wall, the clan-castles generally were protected by a partial or complete encircling wall. Around the clan-castle were many small, one-room houses, in appearance resembling the homes of retainers governed by over-lords. The castle and the one-room homes in every instance in the Lower Salt were oriented, and every inside wall was also so set.

At every cluster of homes there was an elliptical structure built of loose earth which has been called a sun temple, but in no instance has a kiva, or any inside room suggesting a kiva, been found. Every detail of civic life suggests a centralized authority, and such an authority seems needed where canals of great size were required. The removal of 15,000,000 cubic yards



DR. O. A. TURNEY

of earth and the clearing of a forest of hard wood trees necessitated an organized community with centralized authority. The defense of such a community from the raids of mountain nomads required a military system, and the decay of such a system may well have been one of the causes of their downfall: no fact is better proven in all pueblo history than the havoc wrought by the hostile raider.

In the details of life their individuality is also shown. They made the choicest stone axes in America, fashioned in a distinctive form, with a three-quarter groove and straight back, and with the same peculiarities they made the stone adz. They fashioned great numbers of minute carvings in stone and shell and bone figures of birds and animals, particularly those living about water. Their carvings representative of both the male and female sex worship are so truly representative and unmistakable as to prevent photographs from being introduced into this report; objects which range in size from the sub-normal to those four feet long and weighing several hundred pounds. The so-called phallic stones found in the ancient pueblos to the east and north, in Arizona, New Mexico and Colorado, can be classed as such only by a wrench of the imagination, since they are destitute of realism. The care used in the carving of hard stone cups bearing phallic figures suggests their use in the preparation of medicines, or in ceremonies and rites; the form of the stone ring indicates their use in petitions for the fertility of the fields.

Here are found the so-called stone slates, here and nowhere else. It may be accidental similarity, but the fact remains that the marking along its frame is the same as that on the dress of the Aztec god of rainfall. Here are found stone cups along with circular stone covers having a small hole in the center; probably lamps. Similar cups and covers of buff painted pottery occur. Such cups and covers, found in ruins at the pyramids in Egypt, have been proven by chemical test to have been used as lamps. In the Lower Salt ruins are found baked clay beads, and clay images of the human face, and occasionally a carving of the human head nearly life size; these heads are fashioned with the abnormal occipital flattening of the artists themselves.

Around the ruins are thousands of diorite knives, not found among other pueblo peoples. Here occurs a totally different pottery technique. In no case has the broken line encircling the rim, the life line, been found in Lower Salt pottery, but only in the intrusive Central Gila. The presence of this late intrusive

ware did not influence the local artists in their style, design or finish, neither did it suggest to them to bake their wares to the hardness of the foreign made.

In pointing out their distinctness, Dr. Kidder calls attention to the presence here of bowls with flat bottoms and flaring sides and states that this type is not found elsewhere in the Southwest; but to him the most conclusive evidence is the utter difference in decorative designs and the entire absence of the designs used in other localities; especially the absence of the kiva or anything which resembled a kiva, that most prominent feature of pueblo life. If we suggest a Mexican origin, we remember the minute carvings of the owl made in shell and stone, a thing not found among the pueblos, but which occurs in archaeological remains in Central Mexico.

In nearly a score of points their individuality is shown, and in only two features do they resemble their neighbors; they had Brachycephalic heads and they used a hard cradle board for their infants: some have even said these two resemblances are but one; the one producing the other. Work in the ruins left by the ancient people imbues within us a respect for their accomplishments; Gladwyn has well stated the emotion: (1)

“The mistake is often made of looking upon all American Indians as a race of savages, when, as a matter of fact, there is as much difference between the various Indian nations as there is between the nations of Europe. We are apt to forget how recent is the growth of Western civilization. At the time of Christ, Europe, north of Rome, was in a more primitive stage of development than the Southwest, and could not be compared favorably to the Pueblo civilization where people were living in three and four story communal houses. At the time our ancestors were making the shell mounds which litter the Danish and Scandinavian coasts, in much the same stage of culture as the Indians of California, whom we now regard as low in the scale of native Americans.”

“The continents of North and South America were populated by a steady infiltration of people through Alaska, with occasional waves of migration due to unfavorable conditions in Northeastern Asia. This does not imply that any one nation was the source of supply; on the contrary, it is certain that differentiation had already occurred in the Old World. Evidence of this is found in the head form of the early settlers, all of whom

(1)—The Red-on-buff Culture of the Gila Basin; The Medallion; 1929.

were Dolichocephalic, or Long-headed. These people were killed off or thrust aside into peripheral or refuge areas by subsequent invasions of Brachycephalic or Broad-headed people. It is equally certain that these Broad-heads had little, if anything, in common when they entered America, a fact which is indicated by the fundamental differences in language stocks."

A larger population tilled the fields of this valley before the commencement of the Christian Era than farm its lands to-day. Through climatic change and channel erosion the Canal Builders were compelled to relinquish their dominion, but the greatest irrigation achievement of ancient man in America had been wrought in this, the land of Forgotten America. These were the Original Engineers, the true Pioneers; the feats performed with the Stone Axe and the Stone Hoe demanded as lofty purpose and high courage as those created with later day devices.

Canals and clan-castles were built, used, abandoned, forgotten, when London and Paris were yet clusters of wild huts. Theirs was a prowess which rose to zenith and sank to nadir: with a piece of stone held in the fingers they had created an empire. As they left they forsook homes which had been theirs for more years than white man has been in the New World; all abandoned to uncomprehending and unsympathetic archaeologists, vandals of tombs and pilferers of shrines.

Their middens have been leveled, their shards have been read, their era told. Treasure their artifacts, you who live in Phoenix, the city from them so well named. Are they yours alone: are they not rather the heritage of one race to another?

And now let us attempt in a rational way to reconstruct the story of house building here in the Salado, but in so doing we must unload the romantic conclusions of the earlier observers, even though they had opportunities which we never had and which no one can again possess.

Earlier houses probably were built than any which have been excavated, but the earliest type known was a semi-pit form in which an excavation three feet deep was made, the walls and floor thickly plastered with mud, and posts set along the sides, leaning slightly toward the center, while in the middle of the room one or more posts were set up to support the roof. The earth excavated in making the pit was not used in carrying up outside walls but was partly used in plastering the pit walls and roof: the inference is supported by the finding of thick chunks of adobe in which are the impressions of twigs and grass.

No trace has been found of any defensive or protective wall surrounding this house. From pottery within these rooms, we know these were the homes of the earliest pottery makers whose output we have found.

Gradually disappeared the custom of placing the house floor three feet below the surface, and the level ground became the floor: posts were no longer set at an incline toward a common center and lightly plastered, but were placed in regular lines, with adobe piled up on both sides, forming a substantial wall. As these houses decayed from the action of rain against the walls, and from flood waters, and from the filling-up of rooms, a mound gradually arose. When this mound became about eight feet high, there came in a new custom of building the main outside walls, by making them three to five feet thick, built with a double row of posts, in which were no outside openings, which converted them into places of defense from enemies.

This procedure continued until the mound had taken on six feet or more of added height, then came a period of deterioration, when walls again took on the lighter form. This was the history at La Ciudad, and perhaps it was the history generally in the Salado. The use of stone at Pueblo Grande may have altered the progress of its evolution from that followed in the adobe structure. We cannot say what were the causes for the later deterioration; if we call it cultural decay, that is a result, not a cause. It may have been due to a combination of causes which presaged the abandonment of the valley.

All walls were invariably oriented: we believe that the apparent rotation of the stars had nothing to do with placing the walls in this position, but that they were set normal to the rising and setting sun for the reason that when in that position the room would receive the greater amount of sun light through its openings during the course of the day, and remembering that the custom established when they were building pit houses would remain when building great communal apartment houses. The length of rooms varied with the needs of the occupants, and in some cases was as much as forty feet, but the width was limited by the length of the tree branches used for roofing; the cottonwood affording the longest spans. On account of flood waters reaching the house walls, a protective wall was built part way or entirely around the whole compact group of houses, with a wide patio between it and the building on all sides, which became a factor in the next step in house building.

When a room has neither doors nor windows, there is a tendency toward accumulation of material on the floor; as the floor is of earth, it becomes easier to bring in more earth and cover up the debris than to clean out, thus the floor is constantly rising. Then with the added practice of floor burials, in time the head room was cramped. There was no material loss in abandoning such a room, the only article of value was the roofing logs; so these were removed and the remaining space below was filled up to the top of the walls standing, and then a new room was built on the filled-in remains of the old one. Part of the new walls might rest on top of the old walls, and part might stand across an old floor, the only rule was orientation. The first homes were those at the center of the group, and so they were the first to become filled up, thus the second story rooms first appeared at the center. In some cases two stories may have been occupied at the same time where the walls were thick enough, as in the case a part of the walls at La Ciudad and Pueblo Grande. If this greater thickness were to support a second or third story, where all were occupied at the same time, then the same thickened walls would be required in the center of the building, which is not the case. Hence we infer that the seven-foot outside walls were due to military necessity, to prevent the enemy from penetrating the wall.

Around this group of rooms, wind-borne sand and dust accumulated next to the walls and the later rooms tended to have floors following the line of slope, unless they were trued up to a level grade. This was seldom the case, and the outer rooms on all sides of the group had floors half a yard lower on the outer side, and in this manner the occupants lived, when with a few hours' work the floor might have been leveled. The presence of the surrounding patio and protective wall necessitated the building of rooms on top of filled-in rooms, and the process continued for several stories. In Pueblo Grande the use of stone in the military wall held the later construction within its limits. Of the large buildings in the valley, nine were set with their long walls north and south and three lay east and west: in the same relative ratio the large buildings at Casa Grande also run north and south. Probably there was a reason.

These communal homes we have called clan-castles; if we estimate 25 square feet of floor space for each occupant, which seems a minimum even for a savage, then clan-castles of the valley could have housed but a small fraction of the population, perhaps not over ten per cent of the number which the lands would have supported at the rate of two acres of productive

ground for each person. We cannot believe that canals would have been constructed to irrigate more land than was required for the population. We are then compelled to find the homes occupied by the other ninety per cent. Strange to say no trace whatever has been found of them. Perhaps they were of the pit-house type, perhaps an intermediate form, and perhaps only of brush, similar to those built by modern Indians in this warm climate. If so, then they were not permanent and no high trash piles accumulated, or perhaps but a few feet of thickness and these were ploughed down by the first settlers. At the clan-castles all trash mounds were restricted to as limited a spot of ground as possible, and thus they were piled up so that after a lapse of centuries they stand in some cases twelve feet deep.

Having formed the habit in the pit-houses of setting up central posts to support the roof, the plan was continued in the clan-castle rooms whose beams were supported by one or more posts. From limited observation it seems that the central rooms of the clan-castle were used more largely for grain storage, with the outer rooms on all sides taken for living rooms. The thick deposits of ashes are in outer rooms; the floors were more uneven, and were placed sometimes a few inches apart and sometimes several feet; these successive floors might extend over the entire room or over only a portion.

In the central rooms the floors were practically level and not encumbered with litter; the walls were more carefully made and new floors were put in only when there was a floor burial. The few doors in the castle are all of them between these inside rooms, and most of them had been walled up, while rough partitions had been built across some of the long rooms. Stores of grain are not looked for in these inner rooms, for if it had been possible to have kept them filled, then why would they not have remained in their homes beside the canals? This valley could readily have supported a population of 50,000 people, yet not enough food for a single meal has been found in all their combined homes.

The absence of food cannot be accounted for as due to decay entirely, for we have the dried remnants of very many perishable articles, such as cactus fruit, (a little lint cotton, some squash seed) and a few fragments of cloth. The testimony of the homes is that of starvation, and that could have been produced by only one cause, dry canals, due to climatic change or channel erosion or both. Not a vestige of evidence has been found by any workers to indicate that a military campaign or

even a single battle occurred in the Salt River Valley, yet the newer archaeologists constantly declare it without a hatfull of military proof.

Inability to interpret the evidence can not be attributed to the searchers. As proof we cite the work of Mrs. Helen R. Healy, owner of a large ruin at Globe, who found in one stone-walled room the skeleton of a woman lying full length across a metate in the middle of the room. In a nearby room she found a few beads on the floor and digging carefully across the room she found a trail of beads leading to an olla in which were found 12,000 perfect, unburned, white shell beads. Her conclusion, after having excavated thirty rooms in this building of more than a hundred, was that a battle had occurred and the building had thereafter never been occupied.

This ruin is now the property of Harold S. Gladwyn who calls it Gila Pueblo; he is excavating it with scientific care; the first ruin to be carefully studied in the eastern part of the state.

Without fear of controversy we definitely state that the Valley of the Salt was the most densely populated area in America north of Mexico and its census the largest; its environs extended on the south to the Gila where were settlements every shard of which is red-on-buff; there we find the largest modern Indian villages standing on sites of the larger of the prehistoric such as Casa Blanca (Vaaki) and Snaketown.

Outside of irrigated lands, there was an absence of earth suitable for walls, but plenty of stone; of necessity architecture changed. The clan-castles remained as one story buildings, trash mounds again became prominent, defense walls followed a prolongation of the two outside walls of the group and developed into a court: the whole a parallelogram in the farther end of which a few rooms were added, and there the general gateway was flanked by walls and rooms. This was the simplest form of adapting the defended home to a different environment.

Some archaeologists have attempted to group the southwestern peoples wholly according to house construction, but the majority have emphasized the closer life details, such as pottery types, which more quickly reflect changes in human conditions. By pottery changes we know that Pueblo Grande is older than La Ciudad but we would have drawn the reverse inference if we were depending upon comparative excellence of architecture.

To the north and east of the homes of the Canal Builders, the Cambrian and pre-Cambrian rocks at many points rise up, vertical extrusives unweathered and abrupt except for a sloping

approach of talus; ideal escarpments for the defense of homes, nothing needed but a stone wall across the approach. On these headlands they built villages of stone with a patio between the houses and the wall so that defenders could move to any point attacked. When the summit was large, the enclosed patio surrounded the entire group of houses; where stone was plentiful a wall was built along the precipice. The rooms seem to have been built outward from the central original rooms and so resemble concentric circles of additions.

Close to the valley of the Canal Builders, the pottery is red-on-buff with varying amounts of outside wares depending upon the distance from the focal center of red-on-buff ware, until in the farther distance this disappears entirely to be replaced by others. This statement will seem to shatter any theory that the red-on-buff people were a distinct cultural group, but pottery is not the only index of a people; there was the clan-castle and numerous other points. Even if they had originated in the south and had become migrants at an early date, their distinctive traits would blend along the line of contact with neighbors, so that we may not be able to draw any precise boundary line which governed during all the hundreds of years of their residence. These mountain homes may be excavated in the future and search made for technical details: for the present we shall refer to these mountain group homes as walled villages.

For an anthropologist to express an opinion as to the place of origin of the pueblo culture is to invite some fellow craftsman to hurl a stone axe in his face; the camp of the archaeologist is a place of din; even such a minor detail as the time when pottery making was invented receives dogmatic assertion and positive denial in terms of a thousand years. The Lower Salt culture belongs to the general prehistoric history of the Southwest, but it is distinct from the northeastern pueblos in life and customs; it stands by itself alone; its contact with them was only an external contact. With them it had a common need for pottery and for the cultivation of corn and beans; both universal needs. Like all other peoples in the past, they too were influenced by their neighbors, especially in customs of burial. But they differed from them in a score of points. During the life of the Canal Builders they passed from crude ditch diggers to irrigation engineers; in architecture their progress was equally marked. Similar changes in pottery technique are to be expected, yet strange to say, such changes have been reported by only one observer, Harold S. Gladwyn. (1) Probably not all

(1)—Red-on-Buff Culture of the Gila River: *cit. opp.*

the facts have been discovered as yet, but he finds that the early pottery shows flaring rims, like inverted bells, and decorations with small, sketchy figures, many times repeated in red paint on a surface given an artificial buff finish. Small ollas were finished with a dull black interior and left unburnished.

During the middle period there was an increase in the redwares which were decorated on the outside with firing clouds and the interior with black, carbonized surfaces highly polished. Ollas are found with vertical necks and decoration tends more to the geometric. In the late period large ollas were decorated on the outside in combined geometric and curvilinear patterns in which standard designs, such as the "lazy S," is used in many harmonious forms. Negative figures appear and the bowl with firing clouds outside and black polished interiors became increasingly popular.

Gladwyn gives us a valuable basis; the foregoing is our own modified statement of his definitions. We disagree in his conclusion that the heavy, coarse, undecorated pottery found in the mountains north of the Salt River Valley belongs to a decadent period of the Canal Builders. Rather would we agree with Frederick W. Hodge, as reported by him in the *American Anthropologist*, in 1893, that irrigation was first learned on the small creeks and later practiced on the large rivers. Logically we should expect that these fortified villages on mountain ridges and peaks, with the coarse, undecorated potteries, belong to the youth, rather than to the old age of the race.

Surface finds afford treacherous inferences; no subsurface work has yet been done in these fortified villages. Emphatically do we object to any classification of undecorated shards as belonging to any particular type, either the red-on-buff or the polychrome. Undecorated pottery was made by all peoples. Counts of surface-found shards may be very misleading. If two ollas of similar size be broken into fragments, the one a decorated red-on-buff and the other a polychrome, every little fragment of the polychrome is readily distinguished, classified and counted, but of the red-on-buff fragments fewer than half will reveal their origin, and usually not over one quarter can be known to have come from a red-on-buff. But on just such counts an elaborate story has been built by several workers who assume a conquest of the Canal Builders in the Salt River Valley by the polychrome intruders from the Central Gila district.

Here is an instance of such reasoning. In Pueblo Viejo, across the river from Phoenix, the writer found an astonishing

high percentage of polychrome shards among red-on-buff shards on the surface of a field which had never been ploughed. Three trips were made to consider the matter, in the end it was found that all the polychrome shards were the finely broken-up fragments of a single olla, or at best of not more than two. A single captive woman might upset the culture ratio of a small settlement, as has occurred, but in this case a single pot had done it!

Not all the pioneers ignored the ethnologic opportunities in their pathway; with respect we remember Dr. Joshua Miller, the first man to gather a state-wide collection, and a valuable one; it is now in the state university. When this physician came to the valley, lands were being cleared and men were frequently killed by rattlesnakes. At that time everyone believed that the Hopi snake dancers had a certain antidote; neither the honesty of the ceremony nor the risk involved had been questioned, while in later years only the sincerity of the rite passes unchallenged. And so the doctor set about finding the antidote.

Failing by direct methods, he joined the tribe, and asked to be made a member of the snake clan. With them he received instruction as to what desert herbs to gather, each man directed to take but one kind, and to do it rapidly and alone. All set out on the run, the doctor collecting the kind which had been shown him; at evening all returned to the hilltop, where in the gathering darkness a big pot of water was boiling. All emptied their bags and danced in a circle about the fire; the doctor with the rest, but with every nerve intent, watching those two who had not gone out and who alone knew the secret of the herbs. At an unexpected instant, these two grabbed here and there and picked out a handful and threw them into the boiling pot and thrust all the rest in the fire. What with the steam and the smoke, the dancing and singing, the constant going in line about the fire, the doctor saw he had failed.

But the next day, with body stripped and bedecked with paint, he took his place in the snake dance; while tourists perched high up in safety jeered a white man dancing with a rattlesnake in his mouth. A few days later, he left the tribe, but when his friends remonstrated with him for the risk he had taken and said that it might have cost him his life, he said: "It would have been worth it." This is the story as Dr. Miller told us and we believe it; but we expect some who have read about the dance in magazines to point out errors.

A Hopi boy, Matthew Coayawyma, employed for several years in Phoenix, tells us the following:

"I am glad I am civilized and am a Christian; I have been in schools in several states, I am 21 years old, but my sister has gone to college and is now teaching near Flagstaff; she is writing out all the old-time stories of our tribe.

"My father has told me many times about dancing in the snake dance with a snake in his mouth, for he and all the rest thought it would bring rain. Then he was taken east and taught tree planting and grafting and pruning; then he returned home and planted 40 acres to trees. After being converted to the white man's religion, he and my mother lost their belief in the value of the dance, and he was no longer afraid of the other men in the tribe and glad to tell the truth about it.

"My father told me they took the snakes into the cellar and took the teeth and all the poison out of the snakes before the dance. Once a Hopi when gathering snakes for the dance was bitten before he could get the snake in the bag; he died before he could get home."

In the mountains south of Prescott, Dr. Miller found a hard granite metate which cost a week's work to bring to Phoenix; it weighed 600 pounds and had been worked into regular shape on all sides. It had been used until the channel was 10 inches deep, 14 inches wide and 30 long. During the years it has been in the Turney Museum no one has reported a larger one. An assayer in Phoenix married a Mexican girl who then insisted on having a metate made for her; it was done and made lightly channelled; this she used once a day for forty years. At her death her husband found she had deepened the channel three-sixteenths of an inch.

At that rate, provided that this huge metate were a community stone and all the women constantly using it, as may have been the custom, it would have taken a hundred years to have cut it down to this depth. As the metates found here run from the very large down to miniatures two inches long, yet carefully detailed, it becomes impossible to say where utility passes over into ceremony, or perchance on down into children's toys.

Among modern Indians the metate is not a community stone neither does the woman have a set of coarse and fine manos to use in reducing the corn: that theory is suggested though by the comparative ratio of these two stones as found. The Turney collection contains twelve hundred manos and sixty metates, a ratio of twenty to one, which resulted from picking up all as they were seen.

Other acequias existed above and below these which have been described and on all the streams and creeks of these mountains and valleys; once semi-arid, destined later to become arid. To the southeast had been extensive terrace irrigation, demanding a regular and uniform rainfall; the Santa Cruz River had supplied a civilization which must have existed several centuries, so thoroughly and deeply is the soil filled with artifacts, yet today it debouches a lost river, lost in the desert. To the northeast, near cave and cliff dwellings, were numerous irrigation terraces where no possibility existed for connection with any stream or gully; all their water caught by v-shaped embankments along sloping hillsides and led out to their fields, now submerged beneath the Roosevelt Reservoir.

Modern engineers should preserve and honor the conquests of the Original Engineers; the deeds of an Archaic Culture should constitute an imperishable heritage.

We are prone to boast of our Nordic ancestors; but when our Nordic ancestors, clothed in skins, wandered through the forests of central Europe, unable to record ideas by any form of written characters, the Canal Builders were erecting clan-castles of six hundred rooms and canals that turned dry a river. While now today, in the Southwest, an empire has arisen on the ruins of a vanished civilization; Phoenix is rightly named; irrigation canals have been built in the channel of water-ways constructed and abandoned a thousand years before the day of Columbus; the Roosevelt Project copies a project perfected by a forgotten race.

The cities of the Salt River Valley stand on sites of prehistoric clan-castles, where a newer civilization has replaced the old. Here great dams storing and controlling the destroying floods, along with cost-free electric power pumping the underground water which water-logged the fields of the Ancient Colonists, have reclaimed 408,000 acres, and developments under way will increase this to 652,000 acres. (1) Well may the later race take pride in their conquest over the forces of nature which defeated the First Race.

In the ultimate correction of the culture map herein outlined, let it be understood that we entertain no naive ideas of the simplicity of the task. Several waves of peoples have occupied strategic and tillable localities in Arizona and then moved elsewhere. The Indian has been a nomad. The nomadic

(1)—Phoenix Chamber of Commerce, 1929.

life was imposed upon every race where grass became an all devouring weed after trees had been removed and the sun given access to the soil, unless that race were possessed of iron implements with which to fight the destroying grass. In Europe the sedentary life of civilization was possible only through the discovery of metals.

In the New World the discovery of metals in usable quantities was never made and the nomadic life was enforced. In the pueblo area there was no grass and here the sedentary life developed to a greater extent than in other places. But where the nomadic life has been enforced upon an entire race for some thousand years, the lack of such necessity does not immediately result in a change of racial habit.

It may be that Dr. Douglass, by the tree-ring method, may be able to give us definite *anno domini* dates for the pueblo periods; but until that time we may follow the chronology outlined by Dr. Kidder, which follows. (1) From an unknown beginning down to 2000 B. C. is the time of the Pre-basketmaker culture. From 2000 B. C. to 500 B. C. the Basketmaker; from 500 B. C. to 1 A. D. the Post-basketmaker. From 1 A. D. to 250 A. D. the Pre-pueblo; from 250 A. D. to 500 A. D. the Early pueblo; from 500 A. D. to 1100 A. D. the Great pueblo. From 1100 A. D. to 1540 the period of decline; from 1540, the time of European discovery to the present, the historical period.

A general gathering of field workers was held at Pecos, N. M., in August, 1927. The work in this field being so new, the disagreements on mooted questions outnumbered the agreements. Terms heretofore used by all writers to designate chronologically sequent periods were attacked and a new set advanced which still farther complicates the layman's task, since both are in use and the new set is not self-explanatory. It runs as follows:—(2)

Basketmaker I: A postulated stage, pre-agricultural, yet adumbrating later developments.

Basketmaker II: The agricultural, atlatl-using, non-pottery-making stage.

Basketmaker III: The pit, or slab-house-building, pottery-making stage; these three stages characterized by a long headed population, which did not practice skull deformation.

(1)—American Farmers of 400 B. C., A. V. Kidder, *Scientific American*, July, 1927.

(2)—Southwestern Archaeological Conference, El Palacio, Santa Fe, Dec. 3, 1927.

Pueblo I: The first stage during which cranial deformation was practiced, vessel neck corrugation was introduced, and villages composed of rectangular living rooms of true masonry were developed.

Pueblo II: The stage marked by widespread geographical extension of life in small villages; pottery corrugation often of elaborate technique, extending over the whole surface of cooking vessels.

Pueblo III: The Great Period of large communities, broad development of the arts, and growth of intensive local specialization.

Pueblo IV: The stage of contraction of areas occupied, by the gradual disappearance of corrugated wares, and a general decline from the preceding cultural peak.

Pueblo V: The period from 1600 A. D. to the present.

Constant are the discoveries of ditches along mountain streams whose discoverers declare they antedate all human records: their appearance certainly supports the claim. In these cases the first test to apply is the question of the presence or absence of stone digging tools, stone hoes, and of broken pottery and chips of diorite or an occasional stone hammer or axe. If the ditch is ancient then some trace of early human habitation is to be expected. Even these are not entirely conclusive, for all might be present under an abandoned and eroded mining acequia.

The writer has laid out many miles of placer mining conduits, starting out in a narrow mountain canon, and leading along hillsides, down to open, grassy glades, which would seem might have been perfect farming lands for any prehistoric homesteader. But alas for the modern mining company, the flour gold refused to be washed out, the sluices rotted away, and fell down, and were burned by cowboys; the mountain rains cut across the hillside conduits in myriad places, and the winds half filled the ditches. Many a hillside rincon has been irrigated by a Mexican and abandoned.

What archaeologist, finding these water-ways, can tell their age; the writer has been deceived in the past and expects to be deceived in the future. So we hesitate to record all the reported ditches, a mile or more in length, and without distributaries, which at some time served an acre or more of ground, and wherein no record accompanies of pottery shards and stone hoes and refuse middens.

On the north side of the Gila, midway between Liberty and Buckeye, 25 miles southwest of Phoenix, a rather large clancastle well oriented, stood near the river, but during a recent flood it was gradually washed away. A nearby rancher gathered a couple hundred ollas as they fell down into the rushing waters: more were lost, but examining those remaining we have found all of them to be Lower Salt wares, although in some there is an absence of the wash-white, leaving them a red on gray. Searchers report this difference a definite feature at points farther down the Gila. In this building was found a pottery bird-bottle with handle: since fragments of the detailed wings and tail are occasionally found, it seems that this bottle was made here but not in the profusion of the Mesa Verde country.

As soon as we pass out of the part of the valley where clancastles were built, then different types of homes are found, and so different that we see no cultural connection except that the pottery is similar in varying amounts of red-on-buff and red with firing clouds. Typical ruins occur on the Agua Fria, 8 miles north of Grand Avenue, a structure now showing only lines of smooth river boulders in regular lines. The largest village we have called Casa de Piedras, Stone House, consisting of two parallel walls 249 feet long, with end walls of 183 and 168 feet. It runs northeast and southwest, as do others in the neighborhood, although orientation would have been perfectly feasible. The boulders had been built into a wall along with adobe containing little clay, with the result that the mortar has disappeared and the stones lay in rows. The northern half of the space within the four walls is subdivided into small courts and large rooms, which in fact are so large as to have required many posts to support the roofs. The only opening in the outside wall is a gateway in the middle of the opposite end, this farther half showing no inside walls.

A trash mound 30 feet in diameter and ten feet high stood outside the walls awaiting stratigraphic study, but the impatient engineer of an irrigation company ploughed it through "to see what was in it." An examination of the sidewalls in this cut revealed no stratified differences in pottery types; it was heavy, thick stuff, with rarely a thin decorated fragment; those few may have been trade pieces since some corrugated made from kaolin may be seen.

To the southwest 200 feet, lays a similar ruin, although smaller, having but one side and one end wall visible and fewer inside rooms. The trash mound is fully as large, but has been

destroyed; it was similar in content to the other and with the same lack of stratified modifications. Wind borne dust has placed a deposit two feet in thickness within the walls of these compounds; digging beneath it a few shards were obtained, all similar to those in the trash mounds. Between these ruins a burial was found; one foot deep, a flexed adult, with undecorated pottery gifts: skull measurements not possible. No attempt has been made to find burials and nothing is known concerning cremation.

These buildings depart wholly from the clan-castle form, and they are not pueblos. An eminent authority in describing similar structures on the Verde has called them "trincheras;" the poorest possible name since they are not "entrenchments," a better name would be "fortin," a small fort, but we shall call them walled villages, remembering that the development in human civilization has been generally similar in all parts of the world, and the walled village was the normal type in Europe for some hundreds of years.

Southeast of the main village, on the bank of the river, are several well built boulder walls which form the face of the river bank, walls apparently as old as the villages, but held in place by the earth bank. These form two rooms, 10 feet square, inside of which is a half ton of friable red sandstone, which suggests a storehouse of pigment material. Nearby in the river bottom is a deposit of disintegrated red earth which seems to have been produced by long water action; no other red sandstone is known in the neighborhood. Dim traces of cultivation are present on the river benches and we can speculate that the flat river bottom was used then as now for fields. Smaller buildings are visible to the south, and a large one a mile to the north, and others across the river, with traces of cultivation at various places in the river bottom and on the benches. Casa de Piedras lies in Sec. 31, T. 5 N., R. 1 E., and traces extend two miles south and west, while another stone ruin is in Sec. 30 and another in Sec. 21 across the river.

A complication now enters the scene, for picture rocks are found in a scattered way over twelve square miles of the surrounding country. The desert is strewn with boulders, with tops blackened with manganese; weathered surfaces inviting the pictographer's art. On the south side of Calderwood Butte across the river are more hieroglyphics. Careful search has revealed only one rock within any of these walled villages which bore a picture. Picture rocks are found in Sec. 1 in the township south and west; in Sec. 24, 25, and 36, T. 5 N., R. 1 W., and in Sec.

5, T. 5 N., R. 1 E. and in Sec. 32 in the township to the north. Perhaps the greatest number of these pictures are to be found in a narrow pass near the eastern summit of the White Tanks mountains, far from any possible irrigation country; here a seventy-foot facade is closely strewn with them.

Pictures which seem but aimless art representations, pictographs, and others which seem to be records of events, as hunting trophies, pictographs, are scattered through the Salt River Mountains. This range, embracing 14,960 acres, is the property of the City of Phoenix, and the boast is made that this city alone owns an entire range for a park. The writer named this the Salt River Mountains when making government topographic maps, not knowing its Pima Indian name of Mohatuk and the legend. The mountains to the west were named by Chas. M. Clark, the Sierra Estrellas, Mountains of the Stars, while the Pimas called them Komatke, the High Wall. This is the story as told by a Pima:

“Once the tribe lived far to the south and there they had a custom that when a man died a great fire was built, the body put on the fire and the men danced around the fire until it was burned up. One time the Fox became angry with the Pimas and was watching a chance to prevent the next fire dance. A man had died and the body had been placed on the pile of wood, the dancers were going around in a circle and the fire was just starting. The Fox saw that the dancers on one side were young boys and not so tall as the men, so he jumped over them and seized the body in his mouth and jumped back.

“Then he ran north all that night and all the next day; he ran for four nights and four days, and then he came to the top of a range of mountains. Here he could see a river from the east and one from the west and they came together. The Fox was thirsty and so he laid the body down on the high rock and went toward the setting sun. But the body made a stain on the rock which we call mohatuk in Pima and that is the name of the mountains, Mohatuk.”

Pima Canon, at the east end of this range, is a spot revered by the Pimas, for this was their first home. The long, narrow canon leads into the range in a line directly west of the church at the Yaqui village of Guadalupe. A Pima told us the following:

“The Pimas lived far, far to the south and there they were very happy; but one night there came a star in the north, very bright. The medicine man said that was a sign that everybody must leave their homes and follow the star until it stopped shin-

ing, and there build new homes. So they went forth and followed the star until it ceased to shine, and there they built houses and everyone was happy. After some years the star came again in the north, and once more they followed the medicine man and made new homes and were happy. This happened four times, four is the sacred number, it means completeness and the end, and so the medicine man said that never again would the Pimas have to find a new home.

“But some of the young men wanted to see how far north the earth went, and so they stole away at night. They hid by day and travelled at night for four nights; then they came to a range of mountains, and beyond was a river, and far away four peaks (Four Peaks) rose up in the sky, and there the earth came to an end.

“There was a narrow canon in the mountains, and at its end a spring of water; no one could ever find them there. But the tribe had been following them to take the young men back; so there was a battle at night; but in the morning they all agreed to stay with the young men and live in the canon. Here they were happy, for game was everywhere and arrows flew true, the rains were sure and the fields bore corn and squash and beans, and all the world was good.

“They made pictures on the rocks to show how many mountain sheep were killed, and to point out where water could be found by digging. But one night the Apaches came from the edges of the world, out from those four peaks, and there was a great battle, and many Pimas were killed. The Apaches hammered strange signs over the pictures on the rocks, signs that nobody can read, and hammered in their victory signs, and then went away.

“But after the white men came the true name for the canon and the spring was lost. The white man calls it Yaqui Village Canon, and for that reason the spring refuses to flow its water, but when they call it by its right name, Pima Canon, then the spring will send forth its waters, and everyone will be happy.”

On Cave Creek and Camp Creek, and scattered about the country 30 miles north of Phoenix are many stone built ruins of the walled village type, usually on commanding points, where the walls are built flush with the edge of a bluff. Some of these contain from 50 to 100 rooms and are in a good state of preservation. That on the west side of Camp Creek south of the state highway is a good example of a fortified village with a central open patio. We believe these walled villages belong to the Lower

Salt culture, yet the surface shards and those obtained in scanty digging are all coarse, dull gray.

Added knowledge frequently complicates a problem. In one fortified village near the Sears Ranch, on Camp Creek, 30 miles north of Phoenix, the decorated surface shards run 100% brown on yellow, of the type made at Sikyatki, the prehistoric pottery found at the Hopi Villages. Whether these shards belong to this early Sikyatki or to the later Jeddito can not as yet be determined, but they certainly are antecedent to the Hopi.

A stockman, Jas. Bark, found a canal six miles long, on the north side of Queen Creek where it emerges from the mountains onto the desert. Near the head it is 15 feet wide and 10 feet deep, while out on the sloping desert it has the same width but is three feet deep. There are several dozen ruins, some of them of considerable size, all yet unmapped. The shards so far found belong to the Lower Salt. Overlooking this ground is the Superstition Mountains, and on their crest, on a high pinnacle, Bark found a lightning shattered olla, and from the surrounding rock crevices he gathered up several thousand beads of shell and turquoise, all with holes too fine to string with a needle, and along with them were a thousand minute arrow heads, all carefully finished. From Ft. McDowell has come a smoke blower of catlinite, highly polished. Other pieces of catlinite, generally carved, have been found in the valley, while beads, apparently of catlinite, are common in graves.

The delta of Queen Creek, where it subdivides into more than a dozen channels and spreads out on the desert, is known as Sonoqui Ranch, a locality rich in ruins, and traces of irrigation ditches. Some of the delta forks have been thought to be ditches, since true ditches are found on both sides and extend up to the point where the creek first emerges from the mountains. On the open desert, Paul Fuller, City Engineer of Mesa, found an entire irrigation unit, undisturbed from the time when it first served the land. The canal branched and branched and rebranched again until it resembled the veins of a leaf; with each last branch a tiny rivulet. The whole ground was thus fed, the service lines being but a few yards apart. An unavailing attempt was made to have this ground reserved from entry and made a National Monument. This distribution system, crude as it may seem, with no rectangular plots of ground and no parallel ditches, is the method still used by the natives of Upper Egypt in irrigating cotton.

Interesting finds have been made in the vicinity of Sonoqui, and the word vicinity in this report is used advisedly in every

case; the man who digs on unimproved desert ground knows that some person, failing even to clear the brush from his entry, is ready to demand any article which has value to a scientist. We have been driven away from the cactus and catclaw of Queen Creek by an unworking homesteader with a shotgun. However, Dr. Phillips found five large metates, every one finished in squared form, inside and outside, all of them nested and stacked, at a depth of several feet under the surface. Then he found a shell carving of a human face with bobbed hair; a regular present day feminine fashion plate.

Within the defense wall of one of the adobe ruins, a wall located on the south and west sides only, and the drainage coming from that direction, there stood a buried row of extremely large ollas of heavy, undecorated ware, in the making of which so much mica and silt had impregnated the clay that it was impossible for the untrained explorers to get them out intact. Yet one has come to our collection which measures 102 inches in circumference, the largest prehistoric olla so far now existing in the southwest; that at Casa Grande, not far distant, measures 89 inches. With this large olla was found a red stone hoe which had been regularly shaped, ground to an edge and polished over its entire surface.

Across one of the many deltas of Queen Creek an embankment 250 feet long had been built which must have backed up water to a depth of fifteen feet: only the ends of the dam remain, earth embankments of good proportion. That the dam is prehistoric is proven by the finding of large pieces of pottery within it, pieces which would have been broken in modern movement of earth. In the channel is a circular pit five feet deep and eight feet across, which had been lined with two layers of dense, black material, the inner layer eight inches thick and the outer five inches. Search was made for traces of its former use, but the ground had been swept by numberless rushes of water. A similar pit lay in the center of the channel a half mile east. A pit of this form was found north of Phoenix on Clarendon Street, larger in size; its top had suffered in the first ploughing of the ground. The ties to its exact location are filed with the Arizona Museum.

On the Reese Homestead, near the highway east of Higley, are two elliptical pits, 450 feet apart. The north one lays east and west 225 feet long and 160 wide, with side embankments 8 feet above the center which is 3 feet above the general surface: there are openings at the two ends. The south pit is 135 feet east and west and 175 feet wide and has an opening on the east

leading out on a low platform 62 feet long. Its sides are 4 feet above the inside center which is 2 feet above the general surface. Not a trace of house walls is visible for miles in any direction.

These pits were not reservoirs, for the centers are above grade even after allowing for the slumped down wash from the embankments. In this whole Sonoqui and Higley locality there is an absence of adobe and of boulders, any former habitations would not now be noticeable as in other places, but we do not see any trash mounds, which are usually present where the occupation has been lengthy. Apparently the earth had been stripped away, revealing clay beneath: these pits then were wholesale pottery manufactories. This being a waterless spot, homes were over on Queen Creek.

A study of the surrounding lands makes the theory seem correct but when we ask the origin of two clay banks on a sandy loam plain, miles from the mountains, then doubt arises. There are nearby sand dunes, which from the absence of pebbles, seem to be aeolian deposits; we leave to the geologists to answer if a clay bank might have a similar origin.

The slopes of all the embankments are so completely paved with small fragments of pottery that the eye does not see the dirt. Test holes in several places revealed the earth well filled with large shards even up on the embankments. Every fragment is of exactly the same color, Lower Salt red-on-buff containing a high ratio of mica. Not a fragment of intrusive ware is to be found, although it is but a few miles across to the Gila where Central Gila is so common.

The shards are thin, many of them decorated and show particular care in making: very few are of the heavy water-olla type with thick, rolling lip. While all shards are of the same faded red-on-buff yet the decoration frequently takes the form of a rectangular block from which square hooks dangle in a regular four-direction plan. This motif has not been found in the Salt River Valley. Six-foot holes were sunk in the center of each of these pits, revealing shards plentiful all the way down.

While these excavations were pottery manufactories, yet they may have been made to resemble sun temples: possibly there was a mixed use. They exactly resemble those structures which every archaeologist who has worked in this valley has called a sun temple. But in those other structures called sun temples there is a particular scarcity of shards. Again we remember that this Sonoqui pottery is more fragile than any other made in

the Salado, and the breakage in manufacture must have been large.

It may be possible that the ellipse was the accustomed manner of excavating down to pottery clay, and that the slight platforms with an enclosing ring were the firing places, built above damp ground and sheltered from wind by a small ring of earth. Furthermore the absence of shards around these places might be due to their universal employment as tempering material. The presence of a pottery making pit at each of the large groups of buildings is to be expected all over the valley, and we know that an understratum of clay was generally available. But enough clay could be obtained without making a pit 200 feet long and digging them every mile apart, as around Mesa and Pueblo Moroni; unless each clan used their own.

Apparently all types existed; reservoirs, temples and clay pits. The problem is left to future archaeologists to classify the few remaining. The sun temple at Casa Grande does not resemble those in the Salado nor these at Higley. It has a hard floor sloping to the center where a large stone was placed; it lacks the doors at the ends, and the low platforms beyond; it is only about half as long, being 120 feet long and 80 feet wide; and it is placed north and south: in fact its only resemblance lies in the fact that it has elliptical embankments.

This Sonoqui district was occupied by Lower Salt red-on-buff people and by the Central Gila polychrome people and by groups which used both styles of pottery. Three miles south of the Pottery Pits is a sand dune well covered with shards, and village sites surround; here red-on-buff runs 47% and polychrome 53% with an occasional New Mexico black on white and a Sikyatki yellow and a few Central Gila red-on-buff. These sites indicate both successive and commingling occupations.

In the Museum of Santa Fe, shards are shown which are pieces of jars made on a potter's wheel in Spain, and there used for storing olive oil. These jars had come up from Mexico during the Conquest, had been broken and fragments had fallen among shards of pueblo origin. In building the Museum at Santa Fe shards from both were found: not ordinarily is a museum enriched from its own basement. On top of a trash mound at Snaketown, similar pieces of Spanish made oil jars were discovered by us. There also was picked up a well made shell carving of a rattlesnake, the tail rattles cut on its neck: this misplacement of the parts of a figure is not uncommon. The rattle-

snake might well be called the patron saint of this village, for in startling numbers they still guard its ruins.

On the southern slope of the nearby San Tan Mountains are clear traces of terrace irrigation which was supplied by small ditches from the mountain gullys. Heavy brush prevents determining its extent, but shards and diorite slips are strewn over a thousand acres. Six miles west of Sacaton a canal starts out on the south side of the Gila and runs twelve miles west; at its middle point it is five feet wide and three feet deep; in all it covers 3000 acres. Several observers believe this is an ancient canal, but it may have been constructed at a comparatively recent date and still be placed in the prehistoric class. This same question concerning age might apply to two canals near Maricopa Station on the Southern Pacific Railroad; these are twenty feet wide, and although well filled with blown sand, are three feet deep.

Attempts made to map the prehistoric canals in the Casa Grande valley were abandoned due to difficulty in distinguishing between the ancient and those dug by the early settlers and now forsaken and well-nigh filled up. In 1926, A. Larson, (1) a student in the University of Arizona, performed a creditable work in making a survey and map of those ancient canals. He found two on the south side of the river and three on the north. On the south side, one heads nine miles above Florence at the granite reef where the government diversion dam is being built; this passed just south of the town of Florence and runs directly to the ruin of Casa Grande, winding about it on its north and west and terminating a mile to the south. This canal was 20 miles long; one lateral only was found, four miles long, on the north side of the ruin and near the river. The other canal on the south side diverted water directly north of the ruin and continued its way nine miles to the west, averaging only a mile distant from the river.

On the north side, a canal was diverted two miles east of Florence, and extended eight miles; while opposite its end was another six miles long, and farther down was another four miles long. This last canal throughout its length was scarcely more than a quarter of a mile away from the river, and the others on the north side, on account of the rapidly rising ground, were close to the river.

(1)—“Ancient Canals of the Casa Grande,” *Progressive Arizona*, Tucson, Vol. No. 5.

To an irrigation engineer, familiar with the topography of the Gila Valley, it seems particularly clear that all of the ground covered by ancient canals is shown on his map. Even though the distribution laterals have disappeared yet it seems evident that there were no outside laterals and no other canals. The ancient engineers had gone as high up the river as feasible and had selected the point where modern engineers have found the largest amount of underflow raised to the surface, and where the government engineers found the best dam site.

Under the canals on the north side are 3,540 acres, but part of this is rough, and hard with caliche; perhaps twenty per cent was undesirable, leaving 4,200 acres. On the south side 11,940 acres were under canals with about ten per cent unfitted for use, leaving approximately 10,740; with a grand total of 14,950 acres. The copyright on this map prevents its use in this report. The average water supply on the Gila is less than that of the Salt, and far less uniform; at times its bed is entirely dry and remains so for many weeks; then follow floods greater in volume than any in the Salt. When we remember the scanty results which were obtained before the construction of the San Carlos dam, the supply of water must have been greater and more uniform than at present if all of the above acreage was supplied.

At that time the forests had not been destroyed and the ranges eaten bare, the rush of rainwater down the mountain sides was retarded, and the mountain valleys had not been dissected by gullies. Even a cursory examination of the headwaters of the streams reveals the recency of this topographic change. The ancient engineers may not have found it necessary to span the wide Gila with their dams, perhaps only wing-dams of rock-and-brush were necessary; if so, the burden of floods passed on down the deeper channel and left less rebuilding to do. This seems a reasonable assumption, yet we have no proof whatever; the only fact that can be posited with certainty is that water can be raised five feet with a well made rock-and-brush dam and no higher; above that head the hydrostatic pressure sweeps it out. The same materials and methods could give no better results in one age than in another; they had no better materials and methods than we, and we had many years experience with such dams before the building of rock-filled timber dams in the Valley of the Salt.

The people of the Gila suffered more acutely and the end came more suddenly than to those on the Salt. There seems to have been a reduction in run-off, and channel erosion completed the catastrophe; the time came when they could no longer divert

water with a five-foot dam. There is no evidence that in the Casa Grande valley they attempted to push their canal heads farther upstream as in the Salt, yet they should have been familiar with that recourse as practiced some hundreds of years earlier in the nearby Salt. If it were done, the maps and published reports do not indicate it. The last people in that valley were the black on slip white pottery makers of the Central Gila, who occupied it after the real hydraulic engineers, the red-on-buff people of the Lower Salt had developed it and abandoned it. We do not know why the red-on-buff people left it; perhaps for the reason that the Gila was so very difficult to control, and the streams on the upper waters of the Salt offered good lands with a minimum amount of labor in reclamation and maintenance.

In passing, we may consider the similarity in construction of the ruin of Casa Grande with the larger clan-castles of the Lower Salt, also the similarity in artifacts of every type, to the similarity in burial customs, and to the total absence of dissimilar customs. The only evidence we have that there was a separate Central Gila culture present during the latter days of the Casa Grande is due to the fact that in the upper layers of middens the Central Gila pottery is there present and no other, while in the lower layers the pottery is Lower Salt; the difference in their cultures was in pottery technique. Due to the apparent recency of construction of the ruin of Casa Grande, it seems likely that this building was constructed by the later Central Gila people.

Frank Pinkley, Superintendent of Southwestern Monuments, has pointed out that at Casa Grande the surface shards belong to the two types of Central Gila, but that in excavating there comes a brief zone in which these are mixed with the red on buff of the Lower Salt and then below these the pottery is exclusively red-on-buff. Dr. Kidder has stated that throughout the southwest the black on white and the corrugated occur together, and that statement is correct for New Mexico, Colorado and all of Arizona, except that from Roosevelt directly south to the Mexican line corrugated is found, while the limits of the black on white passes north of Roosevelt and over to the San Francisco River and the New Mexico state line. The corrugated is not particularly plentiful at sites west of Globe, and is extremely rare as an intrusive in the Lower Salt. Some corrugated was found by Dr. Schmidt at Togetzoge, "where yellow water meets clear water," around Roosevelt and also at points in the crest of the mountain range west of Globe.

All the evidence goes to indicate that the standing ruin of Casa Grande is much later than the worn-down ruins in the Lower Salt. Mr. Pinkley has stated his belief that it was abandoned 600 years ago, or possibly 1,000 years at the time of the great pueblo concentration. He adds that the earlier surrounding ruins date back 1,500 to 2,000 years and oldest of which traces have been found may run back to 2,500 years ago. The trash mounds cover considerable areas, but are not as thick as those around Phoenix, the deepest being but six feet deep. He states that cremation ashes are not found in the polychrome black and white ollas but that the black on white wares were placed as gifts only in the interment burials: while this clue is important to the ethnologist, yet considerable additional evidence is desired.

Pinkley also reports that along the Mexican line he has found a few scattered shards of red on buff, but Mitvalski, during a search of several weeks along both sides of the line, devoted to hunting shards, found dull gray ware with no Lower Salt red on buff, but including a few examples of red on maroon. In a hundred miles the pottery making materials should change so that different shades of color may be expected even if made by the same people. Migrations were slow and the design of decorations was constantly changing. The evidence goes to show that the Canal Builders came from the south, but they only brought with them the germ of the industrial development which grew up here.

The general belief is that the ruin of Casa Grande was destroyed by fire caused by lightning, but we are skeptical. In 1879, Harry Hancock accompanied his father to the ruin where they removed a wagon load of timber and brought to Phoenix as curiosities of an ancient building. No one will doubt the correctness of a statement made by him. The father, Capt. Hancock, will be remembered as the engineer who surveyed out the Townsite of Phoenix. At that time the ruin of Casa Grande had not been made a National Monument and such a trip was looked upon as scientific work. The writer felt pride in removing a log lintel from the now famous Cliff Dwellings at Walnut Canon near Flagstaff in 1889. These had been cut with stone axes with a tapering cut of 45°, much the same as a beaver makes in felling a tree.

Volumes of discoveries in the pueblo region have appeared, but no attempt has been made to unite them into an ordered chronology until Dr. A. V. Kidder published his *Southwestern Archaeology*, a work which had been needed for a generation

past while men had been digging in the ruins. To improve on such a work is not easy, but we can change his culture boundaries in this part of Arizona where he has not had the opportunity for field work. Referring to his culture map (1) we change his western boundary of the Little Colorado district by swinging from the junction of the Little Colorado River directly to the south and pass Prescott on its east, thence across the Verde south of Camp Verde, and to the southward to Roosevelt Reservoir, thence northeast to meet his boundary line near Zuni. This will slightly reduce his Upper Gila boundary.

We abandon his designation of the Lower Gila and instead use the term of Central Gila, for the reason that the term Lower Gila must be reserved for a district extending from the neighborhood of Gila Bend to Yuma; an area recently worked by Malcolm Rogers. The district of the Central Gila takes in Globe, passes south of Roosevelt, thence to the west and includes the ruin of Casa Grande, and around to the south about midway to Tucson and back to Globe. The Central Gila wares have a black design, placed on a slipped white, over a red exterior on a gray base. If we call them black on white we are in immediate conflict with the potteries of New Mexico with which there is not any degree of similarity. The body of the bowl is grayish with a solid red exterior, and over this was painted a strong wash white and then a black design. The work was crudely done, in broad bands of color with ragged edges. The dual reversed stepped design of the Tularosa wares never appears.

The other Central Gila ware is called polychrome, as three colors are used in the design; red, white and black, all applied over a gray base; the lines are broad, applied with a rough brush, and with little attempt at retouching. Some writers call both of these "Polychrome," although two colors only appear. Compared to wares generally, this ware must be called fragile, yet it is harder to drill than that of the Lower Salt. No strong, ringing wares have been discovered south of Sikyatki and west of the wares with bordered designs on the Little Colorado.

With particular emphasis we defend the designation of these wares and the nomenclature of their districts; the red-on-buff of the Lower Salt; and the polychrome of the Central Gila. When a sack of coins is poured out before a bank teller, no faster does he separate gold, silver and copper than we can separate these shards as turned out of the earth by the shovel.

(1)—Kidder, Dr. A. V. Introduction to the Study of Southwestern Archaeology, Yale University Press; pg. 47.

We care not where the Canal Builders learned to make pottery, nor who were their teachers, certainly the art did not originate in any district to the east, the west or north, and if in the south, or southeast, then it was made in too sparing quantities to justify giving it a name from that area.

The red on buff was made in the Lower Salt in vaster quantities than any other pottery in any other district in the whole Southwest, and due to two reasons, its fragile character and the denser population in its district.

Searches have been made in Sonora and nothing found to indicate that the Canal Builders learned their arts there. (1) This statement does not militate against our former argument that they came up from Mexico and developed their independent culture in the valleys of the Salt and Gila. Sonora is not the country to invite the permanent abode of any strong group of peoples passing through. Concerning its former occupation, Monroe Amsden states: (2)

“In view of the paucity of internal development manifested by the remains of these Sonoran cultures, it is safe to say that their period of existence was brief. The absence of rubbish mounds at any of the sites support this statement. Apparently this part of Sonora was an unpeopled wilderness until the upper Southwestern cultures reached their zenith and began to decay. Then a thin wave of population crossed the Sierra Madre from the east and settled in the valleys among its foothills, to remain a short while and disappear. Later, the Opatas, according to tradition, moved into the valley of the Rio de Sonora and built the villages we have seen, and lived in them until the Spanish colonization. Short though the entire period of occupation was, it provides another opportunity for linking the prehistoric southwest with the historic times and may eventually shed light upon the important cultures of Chihuahua.”

Amsden places the first development at a recent time, that of the Great period of Pueblo expansion, and concludes that it may not have occurred even then but during the later time of general concentration of a thousand years ago. He makes these deductions from a comparison of decorated potteries.

(1)—Bandelier, A. F. Final Report of Investigations among the Indians of the Southwestern United States, from 1880 to 1885. Papers of the Archaeological Institute of America, Vol. IV.

Lumholtz, Carl. Unknown Mexico, Scribner's, 1902.

(2)—Archaeological Reconnaissance in Sonora, Southwestern Museum Papers, No. 1, 1928.

A few ollas have come to Phoenix, found at various points in the area of the Central Colorado river, which are all precisely alike; a black-on-gray. They have come from burial caves and field burials in the mountains in Imperial Valley; from Blythe, from Needles, and the Lost City of Nevada, and from around the Colorado near its junction with the Little Colorado, and in very considerable quantities from Prescott and Skull Valley, where they are intermixed with Lower Salt pottery; and some beautiful ollas have come from State Highway work around Ash Fork. Many exquisite examples have been found in burials and in caves near Perkinsville by an enthusiastic amateur, Mrs. Evelyn Perkins; there they are associated with Little Colorado ware. The exact similarity of all these would seem to justify the creation of a district of the Central Colorado and the naming of its potteries as black-on-gray.

On Oak Creek, reports state that there was a series of puny ditches in ancient times, but careful search by the writer, when an irrigation engineer, failed to reveal any traces; although the ancient conduits may have been obliterated by the thirty or more modern ditches. (1) Presumably there were small ditches on Clear Creek, Beaver Creek, Dagoon Creek and the Upper Verde, but eighty modern ditches now reclaim all the ground. From one of these tributaries comes a white quartz ball, highly polished, and bearing a complete equatorial groove, deeply cut; many days of work were required in its making.

When the waters in the Roosevelt reservoir were low, an intrusive black on white pitcher of Tularosa motif was taken from the Grape Vine Spring Ruin, and a sealed olla containing small carvings and a 15-inch square of cotton cloth. From the Superstition Mountains comes a hard stone carving in the form of a chopping knife with handles at the two corners; this was found near a stone lined pit, where the mescal plant is growing; its heart bud when roasted is also considered by modern Indians to be delicious. From a cave in Cochise County comes a plaque made of reeds split open, and sewed with sinew on cross reeds and then the surface decorated with black pigment in the interlocking spiral design found on ancient pottery. From a spring in the same locality came several hundred arrow heads ranging from those made in eolithic crudeness to late neolithic spear heads of perfect workmanship. Perhaps this spring may have furnished waters during a long period of human

(1)—Use and Duty of Water on the Verde River, O. A. Turney, 1901; Cleveland Daily Record, Publishers.

progress, and its bounty was propitiated by gifts during many generations.

West of Prescott, in Skull Valley, Dr. Phillips has found pottery which had been moulded on finely woven bags filled with earth or sand; after the clay had dried, the bag was removed and the olla fired; an ingenious form of mold. In the same locality he found shards of pots made over woven cloth similarly used. These lack but one step of being the earliest type of pottery made anywhere.

On the Verde River are ancient irrigation systems which have been described in print many times and the statement made that they are on grades impossible to use today. We believe that these misunderstood features are due to channel erosion. In the Verde Valley are old buildings of such solid construction and numerous rooms as to constitute villages, while scattered about the irrigated areas are numerous single room houses. The location of the larger buildings suggests that the need of water caused strife with the resulting construction of numerous out-post houses in the cultivated fields, while the towns formed the general defensive homes of the gens or clan. Domiciles were of varying types of perfection in workmanship, largely of loose stone, irregularly laid. Along the canon walls are many caves which had been enlarged and doorways built in front, indicating a rather dense population or much change in habitat. Cosmos Mindeleff in his bulky report on these villages concluded that the occupation of the Verde was not for a long period of time but of comparative recency. (1) At Camp Verde he found a series of ancient canals of small size. The heads having been destroyed by floods, it was impossible to determine how much erosion had taken place since they were used, but in the case of one canal at a distance of two miles from its head it was elevated upon the mesa forty feet above the surface of the river, and about ten feet above the grade of modern ditches which headed at practically the same point. Other ancient ditches on the Verde and its tributary, Clear Creek, are three or four feet above the level of the stream. A few kivas have been found on the upper Verde: the kiva was essentially a ceremonial-club chamber. It has been thought that some of the interior rooms in the Lower Salt clan-castles were kivas, but we doubt it on account of the presence of sun temples, which are not found where kivas abound.

(1)—Thirteenth Annual Report, Bureau of Ethnology, Washington, 1896.

In many localities in Arizona are traces of ancient irrigation ditches though usually very small. Major Frank Alkire found one on New River, forty-three miles northwest of Phoenix, which he estimated was located forty feet above the present river surface, but its head was obliterated. Here may be seen 200 acres of terraced lands where crops had been grown by collecting hillside water.

A study of the climatic changes in the southwestern portion of the United States and the adjacent areas of Mexico was conducted under the direction of the Carnegie Institution. An especially uninviting section was selected as one unit, a locality north of Tucson where today the water supply is practically nil. The Santa Cruz River debouches on an open desert, its waters lost in the sands, but the course of this river can be traced far beyond any point to which water ever reaches, even during the heaviest storms. Evidences of many villages and of scattered dwellings are found throughout the area wherever the ground slope and soil would permit cultivation, provided there had been water in the river channel. Pottery fragments were scattered over the ground in these village sites and found to a depth of two feet, indicating an occupation of many generations. This being a locality in which little game existed, the occupants, having no domestic animals, must have subsisted on agriculture.

Village sites are numerous where pottery, flint knives, arrow heads, stone hammers and axes, manos and metate stones are strewn about.

These ruins occur in localities where water runs in the few arroyos only during the actual continuance of the downpour. Men do not build irrigation works and leave them strewn with potsherds without a reward; food could be their only reward. Many stories come of single canals on mountain streams, stories difficult of confirmation; generally they seem to be based on fact, but over rated. The following is a typical example: on the Little Colorado, somewhere north of Springerville, is a prehistoric canal twenty miles long which was discovered by the Mormons, cleaned out by them and used to irrigate several hundred acres, which had been cultivated in the same manner by an ancient race.

On the Gila, near Solomonville, were reservoirs on the mesa from which terraced gardens below were irrigated. Reports have been made of a limited amount of irrigation in the valley of the Rio Grande and its tributaries in New Mexico, all ditches

being short and small, and the ground limited. (1) Irrigation was practiced in a comparatively limited way on several streams; but that which the nearest approached hydraulic engineering was in the Chaco Canon where the people of Penasco Blanco diverted water by means of a ditch which supplied a reservoir built in sand, and partially prevented seepage by lining its bed with slabs of stones and clay. There were works at Una Vida, Pueblo Bonito, Kinklazhin, Kinbineola and Kinyaah. F. W. Hodge states; cit. op.

Kinyaah exhibits the best example of irrigation works of any of the Chaco group of villages, water having been diverted from the sandy wash to a large natural depression and thence conducted to the fields, two miles away, by a ditch dug around a mesa and along a series of sand hills on a fairly uniform grade. This ditch was mainly earthwork but where necessary the lower border was reinforced with retaining walls of stone. Kinyaah is said to have been provided with two large reservoirs and a canal 25 to 30 feet wide and 3 to 4 feet deep.

Rolt-Wheeler (1) in describing the prehistoric canals of the Southwest states that the Chaco irrigation works comprise fifty miles of ditches which exhibit a high degree of skill, and that many smaller ones are being traced from time to time. He says that in Arizona and New Mexico can still be traced a thousand miles of irrigation ditches which were made before the coming of Columbus and of these one-third or more antedate the establishment of the Maya Empire.

Neil M. Judd reports in general that; (2) Early man could exist comfortably on a quart or so of water for household purposes each day, but Pueblo Bonito had a thousand inhabitants, and the other neighboring villages were dependent upon the same supply. Behind the ruin the broad stairway may have led to water seepages in the rocks above where crevices still hold water for a short time following the few summer and fall rains. More likely it is that once copious springs at the foot of the canon wall have been covered over by blown sand, so that their location is no longer apparent to the white man.

Certainly the people of Pueblo Bonito were compelled to raise their food by irrigation yet positive proof is lacking. No certain trace do we find of ditches or acequias and Chaco Canon has no living streams, hence canals seem scarcely feasible. The

(1)—Handbook of American Indian north of Mexico, article by F. W. Hodge on Irrigation.

(1)—In the Days Before Columbus, Rolt-Wheeler, Doran, 1921.

(2)—National Geographic Magazine, July, 1923 and Sept., 1925.

waters that flowed down from the mesas after torrential mid-summer rains may have been caught by low ridges of earth and provided water for little plots sometimes only a few yards square, wherever corn and beans would grow. By this system of inundation moisture was gathered into the cultivated ground.

Frank Pinkley, Superintendent of Southwestern Monuments, states that the entire bed of the Chaco is a level, damp, sandy bottom, where corn would have grown with very little or perhaps without any irrigation, and that he has seen no traces of ditches on the canon floor which has been swept by floods innumerable since its abandonment. The sufficiency of the canon bed to afford fields for the people is a complicated question and hinges largely on the number of rooms within the ruin occupied at one time; Pueblo Bonito contains 1000 rooms, Pecos Blanco ranks next to it in size, then comes Chetro Kettle, to be followed by many others.

But Judd in discussing the causes for abandonment of Pueblo Bonito mentions the possibility of disease, warfare, drought, water-log and alkali. In general he states that: *cit. op.*

The water supply may have dwindled and there may have been years of continuous drought, when new crops were not ripened. Or again the long continued irrigation may have rendered their cultivated fields impotent. This latter seems an important contributory factor. Experiments in semi-desert areas show that irrigation water sometimes tends to wash out chemicals helpful to the soil and leave behind a too high ratio of sodium bicarbonate. This has a hardening effect on the soil.

The fields were likely located along the sandy edge of the Chaco Canon in order to benefit from such rains as came down from the mesas; but if this water gradually brought in harmful elements to the soil, even a small population would soon have found themselves in a desperate condition and threatened with failure of their means of livelihood. Pueblo Bonito was almost wholly dependent upon agriculture. These people had no beasts of burden; with prowling enemies present they could not have cultivated distant farms or supported themselves through barter with other tribes.

Dr. E. L. Hewett, the trained observer who has studied the archaeology of New Mexico for many years, gave close study to this subject a score of years ago, when possibly the clues were less obliterated than today. He states: (1)

(1)—Records of the Past, Nov., 1905.

“The practice of impounding the drainage of small catchment basins in natural depressions and artificial ponds by the construction of dams of earth and stone were common wherever the pueblo mode of life prevailed, but only in a few localities have remains been found that point to anything like a system of irrigation; that a well developed system existed in the Gila drainage has been fully established. No higher development of the science of irrigation was reached in prehistoric America, and, indeed it is doubtful if any people of the Old World practiced irrigation on a larger scale or by a more perfect system as early as the fifteenth century.

It seems certain that no such system existed anywhere within the present limits of the United States outside of the Gila drainage. In the Rio Grande valley only the most rudimentary form of irrigation was practiced. Small reservoirs are found in conjunction with almost every pueblo ruin. These evidently served to impound the waters of flood seasons for domestic use, and also for the purpose of watering small fields, but at best they could have served only slightly to supplement the natural rainfall. In places small ditches are found extending from the mountain sides into the valleys evidently designed to divert the waters of mountain torrents to irrigable fields. None of these are of any considerable extent save one at Puye on the Pajarito plateau. Here a large, well constructed ditch, originating in a catchment basin of considerable area, west of Puye Mesa, is carried along the hillside a few feet above the level of the dry Puye arroya for a distance of over two miles to the level plain east of the ancient village site. It cannot be proven, however, that this is the work of the prehistoric period. It is well known that the Puye pueblo and cliff village was reoccupied by the Santa Clara Indians late in the Seventeenth Century after having been long abandoned, and after the Spanish system of irrigation had been introduced among the Rio Grande Pueblos.”

Irrigation was perhaps developed in the Little Colorado drainage in pre-Spanish times and may have reached a somewhat higher plane in the San Juan Valley. The remains of rather extensive works have been reported from time to time in the latter region, but these have been for the most part destroyed in recent years.

A totally unlooked for development of irrigation works was observed by the writer in the midst of the Navajo Desert in Northwestern New Mexico. Entering by way of Jemez, the last stream of any consequence that is crossed is the Puerco, and this is by no means permanent. A few miles farther west water is re-

tained in holes during the greater part of the year. Beyond this, vegetation quickly disappears and absolute desert is encountered. For the next hundred miles or so, a more barren waste cannot be pictured by the imagination. There are vast stretches where no living objects, not even the ordinary desert plants, are to be found. A loaded wagon sinks half hub deep in the sand, the wheels leaving great furrows which are filled by the winds in a few minutes, leaving the trail completely obliterated. There are places where the entire horizon is unbroken, where there is not a tree, not a bush, hummock, undulation or mark of any sort, where the wind immediately obliterates all tracks and the traveler must steer by the compass.

In the midst of the appalling waste is the famous Chaco Canon group of ruins. They extend for about 30 miles along the dry wash of the Chaco and form the most imposing group of ruins in the Pueblo region. Not all the large ruins of the group are in the narrow valley of the Chaco, nor on the mesas immediately overlooking it. Several of the most important lie in the desert some miles to the south of the Chaco and it is about these that the ancient irrigation works are the most conspicuous.

The best preserved works in the canon are at Una Vida, two miles above Pueblo Bonito, and those belonging to the pueblo of Penasco Blanco, three miles below Bonito. Near Una Vida, which is situated against the north wall of the canon, a reservoir and a system of ditches is discernible. Penasco Blanco is situated on top of the mesa south of the canon. Its fields lay in the bottom north of the pueblo. No great area was cultivated and it is difficult to understand how any such land could ever have produced sustenance for such a large community. The reservoir was built in a bed of sand where seepage would have been so great as to render it useless. This was overcome, at least partially, by lining the bottom with clay and slabs of stone. The waters from the main channel of the Chaco were diverted by means of a weir and conducted to the reservoir. Seepage in the weir was overcome by the same means as in the reservoir.

Kinklizhin is a large ruin on the mesa about eight miles southwest of Bonito where there are fairly well preserved irrigation works. The pueblo stands on a hill while nearby is a broad wash in which are the well preserved remains of a stone dam. On the east side is a waste-way cut through the solid rock. The reservoir was large enough to impound a meagre supply of water for the irrigation of the fields of about 200 acres; the ditch is filled with sand but discernible.

The best example of irrigation works is in the Chaco at Kinbineola, about 15 miles southwest of Bonito; a ruin in the basin of a wash tributary to Chaco. South of the ruins is a large natural depression which was made to serve as a reservoir for the flood waters diverted from this wash. A ditch fully two miles long conducted the water from this lake to the fields, which were quite extensive. The ditch is carried around the mesa and along a series of sand hills on a fairly uniform grade. The ditch was mainly earthwork, but whenever necessary the lower border was reinforced with retaining walls of stone, portions of which still remain in place.

It is stated that the small ruin of Kinyaah, 40 miles south of the Chaco, shows vestiges of an irrigation system; the ruin, situated on an open plain, is surrounded by a large area of irrigable land. The works consist of two large reservoirs and a ditch, 25 to 30 feet wide, and in places 3 or 4 feet deep.

This irrigation on the Navajo desert is on a plane of development intermediate between the advanced system on the Gila and its tributaries and the very rudimentary form common to the entire pueblo region; for it represents but modest achievement as compared with that of the Gila people, but a marked advance over the common achievements of the prehistoric pueblos.

In the Mesa Verde country, in the southwestern corner of Colorado, irrigation was practiced in prehistoric times, but the systems were on a small scale. At Aztec, New Mexico, on the La Plata, some of the ditches can still be traced for several miles. (1) Attempts were made to store water in some sections of the Animas Valley, New Mexico, where a gigantic earthwork or a dam $5\frac{1}{2}$ miles long was built, which stands 22 to 24 feet high. (2)

Now in conclusion I will say that I believe there were no true dams built in prehistoric times in North America, except an occasional embankment placed across the mouth of a gully to form a reservoir, or a row of stones laid across a broad, flat channel to swing the water into a ditch. The great canals were so aligned as to become drainage ways from creeks and rivers. No trace of a true dam to force water into a conduit has been found, and, having seen practically all of the large canals, I can say that every one of them, before this last thous-

(1)—Haas, W. H. *Annals Association of American Geographers*. Vol. XVI, Dec. 1926, p. 210, "The Cliff Dweller and his Habitat."

(2)—Gaillard, D. D. *American Anthropologist*, Vol. IX, F. S. pp. 311-313, "Gigantic Earthwork in New Mexico."

and years of erosion had occurred, would have been drainage ways, needing no dams.

Endless are the myths concerning early North America, and one of them, long yet to live, is the story of irrigation canals in Yucatan and the earlier home of the Mayas on the mainland, and throughout Mexico and Central America generally. A few small ditches remain, but all the ancient irrigation canals in North America have been described in these pages.

Asst. Prof. Schenck, of the University of California, Berkeley, has made several trips to compare the irrigation systems in the ancient Salt River Valley with those of similar antiquity which he had studied in South America. After a year spent in going up and down the Andes, he failed to find a single ancient dam, but unnumbered small ditches cut and built in the stone mountain sides. In each case, at the river, a sunken gallery, lined and roofed with stone, drained away a part of the mountain stream. The modern natives call this a "pukio," and use them today, unaltered from the time of the ancient builders, to serve the same puny strips of ground.

A German scientist, Prof. Dr. Martin Gusinde, entered the employment of the Chilean government and was detailed to study these ancient systems throughout the central Andes. Later he became a Franciscan teacher and when in Phoenix he gave the writer the results of years of work. With emphasis he stated that he had never seen an ancient canal which had served more than a thousand acres, and that he doubted if there ever would be found in all South America an ancient irrigation system which had supplied five thousand acres.

A chapter has been written on the type of canal building in these districts of South America, but my physical strength prevents editing it. Data has also been gathered concerning the irrigation areas served in Egypt and Mesopotamia 3000 years ago, and with the unexpected discovery of the smallness of each separate district served. Also was noted that Old World scholars are as human as the rest of us: as one example, what one distinguished authority declares to have been a great storage reservoir is declared by another equally eminent authority to be but an accident in the terrain. We believe that the only single irrigation unit in the ancient world larger than this in the Salt River Valley existed in China, but health having prevented the opportunity to submit to the editor four more chapters to prove all these things, I close.

These four chapters on Prehistoric Irrigation have been bound as a separate monograph, price \$1.00; address State Historian, Capitol Bldg., Phoenix.

VICTORIO

Chief of the Warm Spring Apaches

(By JOHN P. CLUM. Copyright—1929.)

During the past year it has been my great privilege to contribute to the pages of THE ARIZONA HISTORICAL REVIEW some facts relative to the history of the Apache Indians. These recitals have dealt more particularly with the biographies of two conspicuous Apache characters—Geronimo and Es-kim-in-zin.

If I may be permitted to occupy additional space in these valuable pages I shall find inspiration for the task in the hope that I may be able to present convincing evidence in support of the opinion I have expressed from the time of my earliest associations with these Indians, viz: that if from that time the Apaches had been given a fair chance under firm, just, intelligent and sympathetic direction, their orderly development and gradual progress would have been assured, and the miserable record of the campaigns against Geronimo never would have been written.

And further, if, from this review, it shall appear that the mass of these Indians have been the unfortunate victims of the tragedy of misrule and of unhappy, variable and demoralizing conditions which they were not afforded the least opportunity either to prevent or correct; if the **neglected truth** shall thus be rehabilitated and established, that these facts may arouse such genuine interest in the matter as will inspire a sincere endeavor to measurably redeem our past transgressions against these primitive people by encouraging and aiding the maturing generation of this race of FIRST AMERICANS in a sensible and practical way.

In concluding my somewhat extended narrative of Geronimo I stated that my official report of the capture of this renegade was confined to a single paragraph, and I deem it only fair to the reader as well as to myself, that the paragraph referred to should be reproduced in this review as an essential feature in the development of the record.

My final official report was dated at Florence, Arizona, September 18, 1877—about three months after I had relinquished my official responsibilities at San Carlos, and about five months after the exciting capture of Ojo Caliente. This report was made a part of, and printed with the annual report of the Commis-

sioner of Indian Affairs for 1877. The paragraph in question reads as follows:

“The capture of several noted renegades at Hot Springs (Ojo Caliente), New Mexico, and the removal of the Indians of the Hot Springs Agency, New Mexico, to San Carlos, Arizona, is one of the most important movements with which I have been connected while in the Indian service, and the result of this movement was a complete success. The co-operation of the troops under General Hatch and Major Wade was perfect. On April 21 my Indian police arrested ‘Heronemo’, ‘Gordo’, ‘Ponce’, ‘Francisco’ and several other noted renegades, who were immediately lodged in the guard-house, in irons. The entire tribe of the Hot Springs Indians, numbering 453 souls, left the agency on May 1 by trail for San Carlos. I started the same day by road with the prisoners. On May 20 the Hot Springs Indians were located peacefully, and with satisfaction to themselves, on the San Carlos reservation—twenty miles east of the main agency buildings.”

In those days we gave Geronimo's name the Spanish pronunciation, hence the spelling, “Heronemo”. I reported the co-operation of the troops as “perfect”. I had asked that troops be stationed at strategic points for the protection of citizens in case of emergency. This was done, but no emergency developed. Major Wade was a day late in arriving at Ojo Caliente, but we did not allow his failure to keep his appointment to defeat the chief purpose of our campaign, and when the troops did arrive at the agency my police had already arrested the principal renegades and were holding these prisoners in the guard-house, in irons. In these circumstances there had been nothing for the troops to do except to “co-operate” by marching to their respective positions in the field and then return to their respective posts, and, inasmuch as I had attained my objective, I was quite willing to overlook the tardy arrival of Major Wade and to give the troops a “perfect” score. Moreover, in view of the **unwilling support** or open hostility which quite uniformly characterized my experiences with the military authorities in Arizona, I was eager to extol the **genuinely cordial spirit of co-operation** displayed by General Hatch and his staff in New Mexico.

The original campaign against Geronimo in 1877 was undertaken in the interest of the public welfare, and, notwithstanding the renegade chief and several of his fellow outlaws were apprehended and brought to San Carlos in irons—no banquets, or medals, or promotions, or pensions were ever tendered to any

of the members of the successful expeditionary force. The public we served complacently regarded the campaign as a feature of our official job, and the capture of a few renegades was merely a part of the day's work. Thus it happened that with the exceedingly brief official record already quoted, the more or less thrilling and important episode enacted at Ojo Caliente on April 21, 1877, passed silently into history—and near oblivion.

Late in September, 1881, Geronimo resumed his role as a dangerous renegade, and in the sorry drama that followed he held the center of the state for five years. Notwithstanding the military campaigns waged against him he was able to extend his world-record series of surrenders from 1883 to 1886. Meanwhile, graphic accounts of the savage prowess of the renegade chief and of the brilliant maneuvers of the pursuing troops filled countless front-page columns throughout the land. It is not remarkable, therefore, that the modest record and the faint recollections of the campaign and capture of 1877 were hopelessly submerged in this veritable sea of spectacular literature.

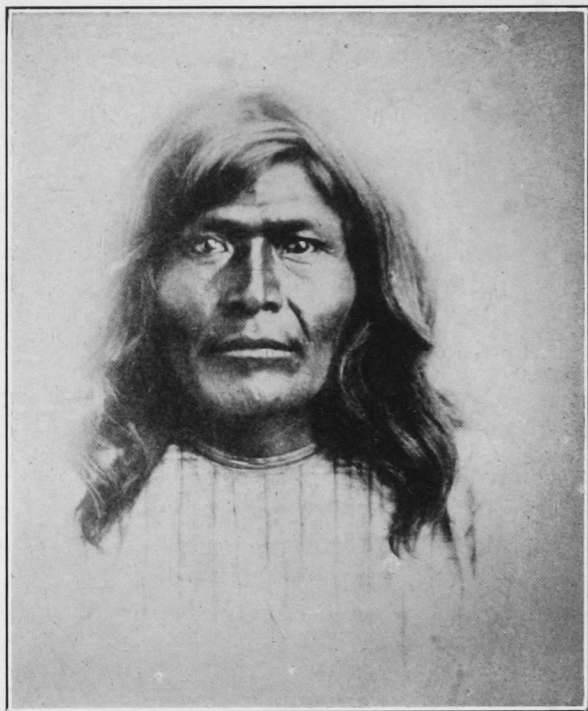
Conscious of the fact that my official report of the campaign into New Mexico was lamentably deficient in supporting details, I felt inclined to allow the story to continue to slumber as a part of the forgotten past. However, as time passed I felt that, in justice to the Apache Police—if for no other reason—the details of this campaign should be given its proper place in the story of the Apaches. Nevertheless, I hesitated until a couple of years ago, when, to my great joy, I discovered the convincing documentary evidence which I had so much desired, in the form of a letter I had written at Ojo Caliente **only three days after Geronimo had been placed in the guard-house in irons.** The reader will appreciate that the citizens of Arizona were very anxious to know what was happening in New Mexico, and that in the letter to my friend, John Wasson, editor of the *Citizen*, I was merely outlining in an off-hand manner, some of the most important facts relative to our activities at Ojo Caliente from April 20, to April 24, 1877. The letter follows:

(This letter was published in the *ARIZONA CITIZEN* at Tucson on May 5, 1877. See copy of said paper on file at the Library of Congress, Washington, D. C.)

“Southern Apache Agency, New Mexico,
April 24, 1877.

Mr. John Wasson:

On the afternoon of the 20th I took an escort of twenty-two police and came into the agency, leaving Captain Beauford with



VICTORIO

the remainder of our grand army about ten miles out. On my arrival, which was just before sundown, I learned that Eronemo, or Geronimo, had been here the same day for rations. The troops would not be here until the 22nd, but I determined to make a strike at once. I accordingly sent a messenger out to Captain Beauford to ask him to come in with his command before daylight of the morning of the 21st. At 4 o'clock on that morning Beauford was here, and his men all shut up in the main commissary building. I at once sent for the chiefs of this reservation to talk with them. About fifty of them came up to the agency, and as they supposed I had only my escort of twenty-two police they were prepared to be very mean. But when I got them all ready to hear what I had to say the commissary door was opened and eighty more police were thrown into a formidable skirmish line, which completely surprised and surrounded the Hot Springs gentry.

Some of the boys who were mounted made an attempt to ride away in disgust, but several needle-guns were leveled on them and they were persuaded to return and hear what I had to say. I told them my orders in a few words and took a needle-gun from Eronemo, a Winchester from another, and several other guns from various red brethren. Then Eronemo was ordered to march out and surrender to Captain Beauford—which he did with reluctance, and was evidently undecided whether to fight to the last with his knife or to give himself up. Just here Sergeant Rip of Captain Beauford's company stepped up and took the knife from Eronemo's belt, Captain Beauford came down with his needle-gun—and Eronemo was our prisoner.

We then took Gordo's son, and after a few remarks explaining our new relations the men were permitted to go to camp, having been ordered to attend count in the afternoon. About one hour before sundown we counted 434. After the count I arrested one of the three Indians who stole the seven head of horses from San Pedro on the 8th instant, of which I wrote you from Camp Bowie. You will remember Captain F. Apodaca was following their trail. These three Indians reached the reservation three days before I did.

During the night of the 21st the Indians got drunk and went to the hills, badly scared at their own shadow, so that at count on the 22nd I had only about 175. Major Wade and his command arrived here on the 22nd, and it was feared that the Indians would not appear again at the agency, but yesterday most of them came back, and today I have about 400 men, women and children.

I have fourteen prisoners; among them Eronemo, Gordo, son of Gordo, and two of the three Indians who stole the horses on the San Pedro on the 8th instant. Eronemo, Gordo's son and another Indian I have in chains.

Today I had a talk with the principal men and they have consented to move to San Carlos. There will be no fighting here and I will get nearly every one.

Pi-on-se-nay and four men left about four weeks ago and are now raiding in Sonora and Arizona. I am officially informed by the acting agent that at least forty Indians are now on raids in the southwest who draw rations here.

I will leave here as soon as arrangements can be made for transportation, etc. Captain Beauford left here yesterday morning with his company and thirty days' rations, and will pick up anything he can find between here and the Dos Cabazas mountains. He has a good company and is an excellent scout. I gave him three thousand rounds of ammunition just before he left.

Colonel Wade and his command are doing all in their power to assist and insure success.

Very truly yours,

(Signed) JOHN P. CLUM,
U. S. Indian Agent."

In the same issue of the CITIZEN containing the foregoing letter there was also published the following telegram:

"Fort Craig, N. M., April 26, 1877.

Governor A. P. K. Safford,
Tucson, Arizona.

"I have Heronemo, Ponce, Gordo and fourteen other prisoners. The worst are chained. Expect to start on thirtieth with all Indians for San Carlos. Entire success thus far. Pi-on-se-nay, Nol-gee and about forty others now absent in Arizona and Sonora. Beauford started back on the 23rd."

(Signed) JOHN P. CLUM,
Agent."

The letter and telegram above quoted are of great historical value since they contain details of important events recorded at the time and place of their occurrence. They also furnish some evidence of the deplorable conditions then existing in con-

nection with the affairs of the Southern Apache Agency at Ojo Caliente. It is noted that Geronimo was supplied with rations at the agency on April 20; that Pi-on-se-nay with four men had left the agency a month previous on a raid into Arizona and Sonora; that at least forty Indians who drew rations at Ojo Caliente were then on raids in the southwest, and that Ponce with a small party had just returned from a raid bringing some stolen stock with him, but it is not indicated that any action had been taken by the local agency authorities with a view to apprehending and punishing any of these bold and defiant renegades.

As a matter of fact I was astounded when I learned the actual conditions existing on that reservation. There was an acting agent, but he did not pretend to exercise any control over the Indians who were supposed to be under his direction and management. He knew that the Ojo Caliente reservation was the rendezvous of some of the most active of the hostiles. He knew the desperate character of Geronimo, Pi-on-se-nay, Nol-gee and others, but when any of these appeared at his agency he did not even report their presence. His principal occupation was to issue rations, and his chief concern was to preserve his own life. With this end in view he had obtained a detail of ten soldiers as a body-guard, whose sole duty it was to protect him from violence and assassination at the hands of the Indians he was feeding, and I was told that notwithstanding this special guard it sometimes happened that the Indians would brush the agent aside and help themselves to rations.

To me this condition of affairs seemed monstrous and incomprehensible. In my experience at San Carlos order and discipline and harmony had been maintained through the friendly and efficient co-operation of the Indians themselves, and every symptom of insubordination was speedily controlled and suppressed. Our rules and regulations were neither numerous nor unreasonable. We were feeding and protecting the Indians on the reservation, and in return for these valuable considerations we insisted upon the strict observance of at least two features of discipline as being vital to the success of my administration; viz: first, respect for the authority of the agent, and second, orderly conduct on the part of all the Indians. In these circumstances the one offense I could not tolerate was that of insolent insubordination, and any display of this nature instantly aroused my Dutch fighting blood to vigorous action. And so it happened that the rebellious and defiant spirit which had prevailed among the Indians at Ojo Caliente speedily led to my

first and only honest-to-goodness, hand-to-hand combat with an enraged Apache on murder bent.

But before reciting the details of this spirited and more or less thrilling episode I beg the indulgence of my friends—as a matter of personal privilege—while I undertake, briefly, to emphasize three points, viz: first, that I did not belong to the popular type of so-called “Indian fighters,” for the reason that it was my habit to fight for the Indians and in their ranks; second, that the success of my administration at San Carlos was not so much the result of **what I did with the Apaches**, but rather **what I was able to encourage the Apaches to do for themselves** under judicious and sympathetic direction; and, third, that as a “publicity stunt” I effected the capture of Geronimo much too early in the game, because when that wily Apache was placed in irons at Ojo Caliente on April 21, 1877, our prisoner had had only about **nine months** in which to “get a reputation,” whereas, in 1886, when this same Indian surrendered to General Crook, and then—about five months later—surrendered to General Miles, he had been doing his special brand of renegade stuff for about **nine years**, and during all of those years an innumerable throng of enthusiastic press agents vied with each other in spreading the name and fame of Geronimo, not only throughout the United States, but throughout the civilized world wherever newspapers were read.

And now for the “scrap” with the Apache. A trusted employee had been sent to Ojo Caliente in advance for the purpose of “spying out the land,” and immediately upon my arrival there late in the afternoon of April 20 he informed me of the insubordinate and defiant attitude of the Indians belonging to that agency. Very promptly I determined to challenge that attitude at the earliest opportunity, and this opportunity developed the next morning as soon as Geronimo and several other principal leaders had been taken into custody by the Apache Police.

Victorio was the chief of this band—all of whom had accompanied Geronimo to the agency that morning, and had been thrilled by the swift and effective maneuvers of the San Carlos Police. The desired arrests having been made, I assembled the main body of the Indians in a more compact group and forthwith precipitated a “heart-to-heart talk”—substantially as follows: “I understand that you have been disorderly and have defied and threatened the local agent; that you say you are dangerous fighting men and will never submit to discipline or con-

trol, and that everyone is afraid of you because you are brave, desperate and deadly warriors. Now listen!" (and here I met their bluff with a stiff one of my own). "You have seen what the San Carlos police have done here this morning. **We are brave warriors, too**, and are always looking for those Indians who boast they are so dangerous that everyone is afraid of them. We have subdued all of that sort of bad men in Arizona—and were out of a job, so when we heard how brave and bad some of the Indians at Ojo Caliente claimed to be, we started at once for New Mexico. Now you see us here with our **fighting harness on**. It is our business to fight all bad Indians. We are always ready. We are not afraid. Therefore if any of you feel that you must fight we are here to oblige you—and none of you will ever find it necessary to wear out your moccasins trying to find us. We will always be ready with good rifles and plenty of ammunition, because we know we will not have good order and live well and have peace **until all Indians who are trying to be bad and dangerous** are held as prisoners in chains—or have been killed."

As I paused to roll a cigarette Victorio protested that his people had been grossly misrepresented; that they were good Indians, and their great desire was to live peaceful and orderly lives.

Promptly I replied: "You know that a number of your people are now absent on raids into Sonora, or along the trails leading from Ojo Caliente through New Mexico and Arizona into Mexico. My police have just followed the trail of a raiding party with stolen stock returning to the reservation. Ten soldiers have been stationed here to protect the agent because the Indians have been insolent and threatening. Indians who commit such offenses have bad hearts and do not care to live peaceful lives."

"At San Carlos the Apaches do not go out on raids. The Indian Police enforce discipline and maintain order. All troops were sent away from that reservation two years ago. We have peace, and no one is afraid. You can learn from the policemen with me how well the Apaches are living on the Arizona reservation and how contented they are."

"Your chief, Victorio, says you want to live at peace and improve your condition. Very good. I will give you a chance to live as the Apaches do at San Carlos. But there must be no more raids. No more insubordination. I will give you a fair

chance—and I believe nearly all of you will be glad to settle down and be friendly with everyone.

“We will begin this new plan of living today. There has been no regular system of counting the Indians at this agency—and you have told the agent that you would not be ‘counted like sheep.’ You said that because you do not understand. I do not want to count you ‘like sheep,’ I want to count you **like men**. For many months I counted all of the Indians at San Carlos every day. Now they are all counted every week. All our white soldiers report for roll call—are counted—every day. From time to time I will explain everything to you that you do not understand. If we are going to be friends we must understand each other. I will explain one point about the count now. Some stock might be stolen in Arizona today and someone might say that Victorio was the leader of that raiding party. Then I would tell them that the charge against Victorio was false—because he was present at the count made at Ojo Caliente, New Mexico, on April 21. You see the count protects you. There are other reasons why the count is necessary. We will begin today. Now you may go to your camps—but this afternoon, about one hour before sunset, I want **all of you**, men, women and children, to assemble here at the agency for a count.”

The reaction of this common sense appeal was that practically the entire band were assembled at the agency as the sun was approaching the western horizon, and the record shows that we counted 434 individuals that afternoon, whereas, the complete round-up of these Indians on the morning of May 1, when they started over the trail to San Carlos, showed a total of 453 men, women and children—only 19 in excess of my original count.

The result was, of course, very gratifying, and I was hopeful that no serious clash would occur in the future. However, the advent of some “bootleg booze” and the troops under Major Wade produced much excitement and some alarm in the Indian camp for a couple of days, during which time comparatively few reported at the agency for the count, but there were no acts of defiant insubordination. I assured the Indians that the troops would not molest them if they followed my advice and instructions, and within three or four days the excitement had subsided and nearly all reported for the daily count.

Again I was gratified and felt hopeful that none of my new charges would manifest a spirit of open rebellion, but this hope was doomed to be shattered in a most abrupt and unexpected

manner. We had counted the Indians six times without opposition of any sort on their part, but the seventh count was destined to produce a genuine thrill for the benefit of a goodly throng of spectators that included officers, soldiers, citizens and Indians.

In my original talk with these Indians, after calling their attention to the fact that the San Carlos Police were there with their "fighting harness" on, I had boldly added that Captain Beauford and myself could be relied upon to take a hand in a scrap—if necessary. Whether there was a conspiracy to "try me out" along these lines cannot be known now, but it is certain that this episode put me to the test. It was about an hour before sunset, and the men were forming in line on the parade ground in front of the agency for the purpose of the daily count.

My costume and equipment for trail trips in those days consisted of a broad brimmed hat, double breasted blue flannel shirt, pants and boots—the pants tucked into the boot-tops, a belt with cartridges, a hunting knife and a Colt's "forty-five," and a rifle which was carried in a short sling looped over the pommel of the saddle. Such a costume offered little resistance to either a bullet or a knife.

Ordinarily at San Carlos I went about unarmed, but as we were "in the enemy's country" at Ojo Caliente I wore my belt with its knife and six-shooter most of the time. Inasmuch as the Indians were assembling on the parade ground in an orderly manner I left the details of the count to the chief clerk and stepped into the agency office. Having worn my belt all day it was beginning to feel a bit heavy, so I unbuckled it and laid it aside with its handy weapons attached. This I have always regarded as a **very fortunate circumstance**, as I will indicate later.

Glancing out of the window I saw that something was going wrong with the count. It was my habit to nip trouble while it was still in the bud, so, seizing my hat, I hastened to the scene of the disturbance without even thinking of my knife and six-shooter. When I asked what the trouble was about, the interpreter pointed out a young Indian who was seated on the ground near by and who, he said, refused to go into the line to be counted. I ordered the young man to take his place in the line, but he showed no inclination to obey. I then ordered two of my Indian Police to take him to the guard-house. They each took an arm of the insubordinate Indian, raised him to his feet and started for the guard-house. At first the prisoner made no re-

sistance, but after going a few steps he suddenly wrenched his bare arms from the loose grasp of the policemen and deliberately went back and sat down. Thereupon I entered actively into the affair.

Taking a rifle from one of the policemen—and to this day I do not know whether it was loaded or not—I stepped beside the defiant Indian, grasped his left arm with my right hand, raised him to his feet and started to conduct him to the guard-house—even as the policemen had done. The way led down the entire front of the line of Indians who, while waiting for the count to proceed, were intensely interested in the impromptu entertainment provided by this rebellious member of their band.

Perhaps I should have paid more heed to the cunning of my prisoner which had enabled him to break away from the policemen so easily, and, obviously, it would have been a wise precaution to have disarmed the Indian before I started with him to the guard-house. But, as a matter of fact, I had not observed the knife he carried in his belt and which was almost hidden by his loose shirt.

However, he went unresistingly until we had reached about the middle of the line of waiting Indians, then, with a violent effort, he wrested his left arm from my grasp—at the same instant drawing his knife with his right hand and raising it high above his head as he poised for the deadly thrust. His effort to break from my grasp threw him about two paces from me.

Fortunately I had neither knife nor pistol, or the fight would have been deadly indeed. The rifle handed to me by the policeman I had grasped by the barrel so that it balanced in my left hand with the stock to the rear. The instant I saw the Indian draw his knife I swung the rifle up to a horizontal position at the height of my head, thus reversing it, and seized the small section of the stock with my right hand. As the infuriated Indian leaped forward to stab me I bumped him squarely on the forehead with the butt of my rifle. That was a lucky strike—for me. With both arms thus upraised, I shudder to think what probably would have happened had the butt of my gun failed to connect with that red-skin's **bean**. The defense I made was instinctive, instantaneous and effective.

The blow from my gun was of sufficient force to stun my antagonist, and he fell backward upon the ground. In an instant I was over him and had seized his right wrist with the intention of disarming him. But he was not seriously hurt. Fierce and quick as a panther at bay, he caught the knife with his left

hand and made a vicious thrust at my bending form. Being alert and active myself I executed a graceful side-step and the keen blade **never touched me**. Instantly I swung the butt end of my rifle and dealt the blood-thirsty savage a glancing blow just over his right ear. The Indian was dazed, but not disabled. However, the fight was over.

While this encounter was exceedingly spirited, it was equally brief. Only two blows were struck, and the interval between those blows could not have been more than ten seconds. I wish I might give the same speed to the story—but that is impossible. Although my opponent was not knocked out, **I won on points**, for—fortunately for me—mine were the only blows that landed.

Just as I struck the Indian the second time two of his friends in the line came forward and volunteered to disarm him. I stepped back a pace and, watching "the enemy" closely, I told his friends to take the knife and hand it to one of my policemen—several of whom were "standing by" awaiting a signal from me to take a hand in the fray. Having secured and delivered the knife, the "friends" were ordered back to their places in the line.

My opponent having been deprived of his weapon, it seemed only fair that I should place myself on the same footing, so I surrendered my good rifle to one of the idling policemen. The belligerent Indian was still my prisoner and I determined to take no chances on his wriggling away from me a second time. With my left hand I grasped his left arm, while my right hand took a firm and generous grip on the abundant hair of my frenzied foe—and in this particular grip I had a hundred per cent advantage over the Apache (see one of my high-brow photographs). Feeling quite sure of my prisoner, I raised him to his feet, marched him past the second half of the waiting line and on to the guard-house—where I literally "threw him into prison." A little later he was placed in irons.

Returning to the line of waiting men I reiterated my "declaration of war"—**if they insisted on fighting**, but at the same time I **strongly advised peace**. The Indians were then counted and allowed to retire to their camps. Thereafter I had no trouble with the Ojo Caliente Indians.

Looking backward I recall that during this encounter I had no sense of fear—in fact, I did not have time to get scared, nor was I particularly excited at any moment. Neither did I have any purpose or desire to kill the Indian, although it was evident that he was endeavoring his utmost to use his knife with fatal

effect. The first blow I struck the Apache with my rifle was in self-defense. Its delivery was instinctive and without reserve. If the time and distance had allowed me an inch or two longer stroke I probably would have crushed the Indian's skull, because the rifle was very heavy—one of the old-pattern, long-barrelled, three-band needle-gun. If my first blow had resulted fatally it would have been without "intent" on my part, and while my second blow would also be classed as "self-defense," it was, nevertheless, deliberate. The Indian had been knocked down and was still on the ground. My personal danger was not so imminent, and although the knife still flashed its deadly menace, I deliberately planned to hit the Indian just hard enough to knock the fight out of him.

This "scrap" might be rated as a combat, or even as a fight, and yet it was merely an incident in the execution of my general administrative plan, and **was in no sense a spectacular gesture** of the "Indian fighter" type, and it is evident that I had no desire to have it appear as such from the fact that I have allowed more than fifty years to elapse before giving any publicity to the episode.

It was of vital importance that the Indians should respect my authority as agent, but, at best, I was seldom given an opportunity to pose as anything more than a "pinch" fighter, for the reason that my loyal and vigilant Apache Police were ever on the alert to intercept any danger that menaced me, and they were amazed when I abruptly thrust myself actively into the affair at Ojo Caliente. But, in the circumstances, that Indian's defiant attitude appealed to me as a personal challenge—and I promptly accepted that challenge. I took the chance—and won, and the moral effect was greatly to my advantage, both with my police and with the other Indians. And, furthermore, the incident demonstrated the fact that my purpose was merely to enforce discipline and not to kill—or even to inflict unnecessary punishment.

There was one other brief, exciting and bloodless incident in connection with this campaign that occurred about twenty miles from Ojo Caliente about mid-afternoon on April 20, and which may be worth while recording as an illustration of how completely people may be misled by circumstantial evidence; how one may be thoroughly frightened at nothing, and—of special importance—as affording another example of the loyal attitude and true soldierly deportment of the Apache Police in an apparent emergency. I have said that during the scrap at Ojo

Caliente I did not have time to entertain a sense of fear, but in this bit of impromptu wild west comedy I had plenty of time—and was plenty “scared”.

The trek from Silver City to Ojo Caliente was not an un-mixed hardship. About the middle of April the weather is very delightful in the mountainous country over which our trail led. On every hand were blooming flowers in endless variety and of rare beauty—the varieties constantly changing with the varying altitudes. Antelope and deer were quite plentiful, affording pardonable entertainment for our skilled hunters and daily replenishing our commissary with delicious steaks and chops—and always there was the exhilaration of enchanting mountain vistas and the tonic of the pure, clean, arid atmosphere. To these very agreeable conditions were added the charm of intimate association with vast forest areas, the flash and song of sparkling mountain brooks, the mysterious depths of rugged canyons—with here and there the soothing aspect of a velvety-green mountain meadow.

Thus each day yielded its generous tribute of good things in compensation for the fatigue involved in our strenuous march, and each evening discovered in our camp a more or less weary, hopefully hungry, happily husky and uniformly good-natured bunch of swarthy masculine humanity lounging in small groups about the sparkling camp-fires, toasting choice bits of venison set on “spits” near the fire after the fashion of the “well greaved Greeks”—meanwhile puffing cigarettes and “telling old tales beneath a tree with starlit skies for canopy”.

And ours was a democratic assembly. There was no saluting of superior officers. We were engaged in a serious undertaking. Just how much actual hazard might be involved in our mission none knew,—but each one was there for service at all times and for instant and effective action in any emergency. The best information obtainable had warned us to be constantly on our guard in order to avoid an ambush or a surprise attack by those desperate renegades whom we hoped ultimately to meet. Rumor had cautioned us that there were probably between 200 and 300 of these renegades—all seasoned, well armed and determined fighters. It was these persistent and ominous rumors of possible combat at any turn of the trail that lent zest as well as gravity to the enterprise.

Thus we went on our way ever eager and watchful. The morning of April 20 found us at the summit of a range about forty miles from Ojo Caliente. We were early on the trail and

completed a march of twenty miles by ten o'clock. Our mid-day camp was ideal. We had reached a beautiful mountain meadow about a mile in diameter, near the center of which was a wooded hillock with a spring of clear, cold water at its base. Among the trees on this elevation we made our camp.

As I had agreed to meet Major Wade at Ojo Caliente the following morning I planned to start out about two o'clock and complete the march of twenty miles to the agency that afternoon. Two members of my police force had been over this trail before and they informed me that there was good water about half-way between our noon camp and the agency. Thereupon I told Captain Beauford that I would take with me a score or more of the police who had good mounts and ride on to the agency, but inasmuch as nearly all of the other police were on foot and had already marched twenty miles that day, he might bring them to the half-way spring that afternoon and come on to the agency the following morning.

When I rode out of camp with my escort of twenty-two mounted police there was nothing to indicate that I was riding into the prize scare of the campaign. Lunch was over and our "buddies" who remained in camp were lounging under the trees—some asleep. The ugly rumors that had been so gleefully repeated to us regarding the multitude of roving renegades liable to be abruptly met with on our march had failed to develop any alarming signs, and this fact had engendered a feeling of assurance that nothing serious would occur prior to our arrival at Ojo Caliente.

It was in this confident mood that we rode bravely away from the bunch of drowsy comrades lounging and napping about the camp, crossed the half-mile of meadow and disappeared as the trail curved into the canyon. We had followed the trail along the floor of the canyon for five minutes or less when we were startled by the quick reports of rifle shots from the vicinity of the camp we had just left. The first reports were in the nature of a volley followed by scattering shots—then another volley merging into desultory firing for a minute or two, and, to our ears, the echoes in the canyon announced a genuine battle.

The time occupied by the shooting was very brief—probably not over three minutes, but three minutes is ample time in which to develop a **high-grade scare**—provided conditions are favorable. And existing conditions were unusually favorable for myself and my escort during those few exciting moments. At the instant the firing began we all thought our noon camp

had been attacked by a force of lurking renegades. This unanimous conclusion was spontaneously expressed by actions rather than by words. Orders were unnecessary. While the keen reports of the first volley were still echoing from the canyon walls we wheeled our horses about and started on a run back to the camp.

It was in this moment of apparent sudden emergency that the Apache Police once more demonstrated their alert loyalty. Promptly my escort deployed in skirmish lines on both sides of the trail, covering as broad an area as the sloping walls of the canyon would permit, with a view to securing the strongest formation possible for meeting and repelling an attack, and at the same time offering the best protection for me. With instinctive good judgment fully three-fourths of the police took positions on the side of the trail toward the camp and all eyes were scanning that rim of the canyon watching for the expected foe.

To our excited minds the situation was clear. The renegades had learned of our approach and the trail we were following, and they had anticipated that we would halt at this ideal camping ground. With all their natural caution and cunning they had avoided any signs that might warn us of their presence in that vicinity, and had carefully concealed themselves in the forest adjacent to the camp. When they observed our small party preparing to leave they had allowed us to go—thus dividing our forces, and as soon as we were well out of sight in the canyon they had attacked our noon camp while many of the police were asleep—and thus had literally “caught us napping.”

Such a bold attack at that time of the day indicated that the renegades were out in sufficient numbers to give them confidence, and surely they would detail a formidable party to oppose us if we came to the relief of our comrades in the camp. Each second as we were charging back along the canyon we were expecting that the fusilade echoing from the camp would be supplemented by the cracking of rifle shots and the whiz of bullets in the canyon—and as I was the only pale-face in the canyon I figured that my chances of effecting an exit alive were reduced to the lowest terms.

It is frankly admitted that we were as thoroughly alarmed and excited as though the situation, as we imagined it, had been absolutely real. Perhaps we were all the more alarmed because our position in the canyon was untenable. But whatever fleeting emotions may have seized upon us, we still rushed on toward the open grassy meadow where we might join in the fight on an

equal footing with the enemy. We were "scared" all right—and were **on the run**, but we were **running in the right direction**, and we did not hesitate until we halted in the open field—and **then we all laughed**.

A small herd of antelope had strolled along the edge of the meadow on the windward side. They did not scent the Indians—but suddenly the Indians discovered the antelope. Those who were fully awake caught up their rifles and fired in the direction of the herd—thus producing that first "volley" which had startled our little company in the canyon—as well as the herd of unsuspecting antelope. By this time the sleeping scouts had been fully aroused and they, too, joined in the shooting—thus giving the effect of the "second volley." Very promptly the antelope scattered into the forest, but as long as any of the animals remained in sight the Indians maintained the "desultory firing."

Without stopping to inquire whether any of the antelope had been killed—or whether they had simply shared the "prize scare" with our little party, we again headed our horses for the canyon and continued our march to Ojo Caliente.

EARLY MILITARY POSTS IN ARIZONA

FRANK C. LOCKWOOD.

In 1849, Fort Defiance, the first military post in Arizona, was established in the extreme northeastern corner of the state for the purpose of quelling and controlling the fierce and troublesome Navajo nation. All the early army posts in Arizona were well located with reference to water, grass, and wood. Almost always the climate is referred to as delightful, and the location as healthful. The buildings at the post were usually either of adobe or logs, and consisted of quarters, store-houses, hospitals, guard-house, and supply depot. At many camps there were corrals, at others work-shops, and at Camp Lowell there was a magazine of adobe, 19 by 39 feet. Six months subsistence was usually kept on hand. Camps were located, of course, with reference to operations offensive and defensive against hostile Indians. One is bewildered with the kaleidoscopic changes in these camps, posts, and forts. Today a camp is here, tomorrow it is there. Now it is called one thing and anon it is called another.

In 1859, Fort Breckenridge was located very near the junction of the Aravaipa Canyon with the San Pedro, in the midst of the Pinal, and Aravaipa Apaches. In the report of 1870, this post appears under the name Camp Grant. The location was bad and the living conditions wretched. The officers did not have enough room either for comfort or health. All the buildings were leaky and required frequent repairs. There were two corrals of good capacity, built of logs on the plan of a stockade, in order to protect the horses from Indian raids. Good water was to be had nearby, and was hauled in water wagons. There was, too, good grazing for the animals. But, at best, this camp was a hot, dreary, unsavory station; and was eventually moved to the southwestern slope of the Graham Mountains and called Fort Grant.

Fort Buchanan was, possibly, the first post established after the American occupancy of the Gadsden Purchase. It was in the Sonoita Valley, twenty miles north of the Mexican boundary, and about twenty-five miles east of Tubac. Fort Buchanan was commanded, successively by Major Enoch Steen, Captain E. H. Fitzgerald, Captain I. V. D. Reeve, and Captain R. S. Ewell. When the Civil War broke out, there was at Fort Buchanan only a company of infantry and a troop of dragoons. Colonel McClintock, in his "**Arizona the Youngest State,**" affirms that, at

the beginning of the war there was more than a million dollars worth of military equipment and provisions at this point. "Fort Buchanan was made the depot of stores to be used by a Confederate Column that was to march from Texas to seize the silver mines of Arizona and the gold fields of California." The location did not prove very healthful, and in 1868 a much better site was selected on the beautiful plain above and a half-mile to the east of the old location. The post was now named Camp Crittenden, in honor of General J. L. Crittenden, who then commanded the military district. The extensive ruins of Camp Crittenden are still plainly visible, though scarcely a vestige of old Fort Buchanan remains.

Camp Mohave, established in 1858, abandoned in May, 1861, and re-garrisoned in May, 1863, was a few miles above the present Needles, on the Colorado River. Mail was carried on horseback. Sometimes a steamer came up from Yuma. The nearest Indians were the Mohaves, though the Hualpais, and Piutes sometimes appeared at the post. The camp was supplied with water from the Colorado by means of a steam pump, and from a tank holding six thousand gallons the water was piped to all parts. As in the time of Jedediah Smith, the first American trapper to cross the continent, the Indians raised beans, grain, and melons on the rich bottoms below the post. The location was healthful, except that the heat was great, the report of the officer in command stating that "troops should not remain more than two summers at this post, and cannot do so without permanent injury to the constitution."

The first American soldiers to enter the territory acquired by the Gadsden Purchase marched into Tucson in 1856. The command consisted of four troops of dragoons. They soon departed to the southward, where for awhile they took up their station at Calabasas, and then moved on up the Sonoita Valley and built Fort Buchanan. But Tucson was always an important military point. Camp Lowell, at Tucson, was not formally established until 1866, but on May 20, 1862, the California Column occupied the city and unfurled the Stars and Stripes. Tucson was continuously occupied by troops until September 15, 1864, and during this time was the base of military supplies for Southern Arizona. It was abandoned in the fall of 1864 but was re-occupied the following May.

On August 29, 1866, it was declared a regular military post under the name of Camp Lowell. The nearest Indians were the friendly Papagoes, but the irrepressible Apaches were at no

great distance, and from the neighboring mountains to the north and east they would enter the town to murder and steal. By means of irrigation, almost anything could be raised on the fertile soil adjacent to the town. The climate was reported as "hot during most of the year, evenings and nights usually cold." March 19, 1873, the post was transferred to a location seven miles northeast of Tucson.

Camp Bowie was established under the name of Fort Bowie by the California Volunteers, in August, 1862. It was located in Apache Pass, on the Overland Mail Route, at an elevation of almost five thousand feet. This pass had been and for years continued to be the most dangerous point on the southern route to California. Excellent water was to be had five hundred yards from the fort. Wood was furnished by contract at nine dollars and fifty cents a cord. Neither grain nor garden stuff could be raised anywhere within thirty miles of the post. Close by rich deposits of gold and silver were known to exist, and when the station of the Overland Mail Route was maintained here, before Cochise went on the war-path, the Indians used often to bring in nuggets of gold. The nearest Indians were the Chiricahua Apaches.

Fort Whipple was established December 21, 1863, fifteen miles northeast of Prescott. In 1864, the troops were removed from that point to Granite Creek, a mile above Prescott, and thereafter this station was designated Fort Whipple. The climate was delightful; there was abundant wood, water, and grama grass; grain and vegetables could be raised, and the location was healthful and picturesque. The nearest depot of supplies was at Yuma. Freight came by boat to Ehrenberg and from that point was hauled by way of Camp Date Creek by wagon. Marauding Indians, belonging to the Hualpais, and the Mohave, Tonto, and Pinal Apache tribes committed frequent depredations in the region about Fort Whipple.

Camp Verde was originally known as Camp Lincoln. It was established in the spring of 1864 at a point five miles south of the location later chosen. It was moved to its present site in 1866, and was then named Camp Verde, since there were two Camp Lincolns in the Division. It was situated forty miles east of Prescott, very near the junction of Beaver Creek with the Verde. The supply depot was at distant Yuma, and supplies came by way of Ehrenberg and Prescott. Good water was available, and wood was secured by contract at nine dollars a cord. The Indians in the neighborhood were wandering bands of Tonto

Apaches and Coyoteros. The location of the camp was healthful and the surroundings delightful. A post garden had been set aside on Clear Creek, five miles to the south, and three men were kept busy tilling this extensive allotment.

Camp Date Creek was "a going concern." Established in the first place by the California Volunteers at Date Creek, in 1864, the troops, in 1866, moved twenty-five miles to the north to protect the settlers of Skull Valley. At that time the post was known as Camp McPherson. The following year the command returned to Date Creek, but in 1868 it was again removed and given its final station on the south bank of Date Creek, twenty-six miles from Wickenburg, the nearest town, and on November 23 was officially renamed Camp Date Creek. The climate was mild; the locality was pronounced healthful; grass was plentiful; wood near at hand, and there was a good post garden in the creek bottom. Lest the situation should seem to the reader to have been altogether Elysian, I should add that in the region were many Yavapais and Apache Mohave Indians.

Camp McDowell, established in 1865, on the west bank of the Verde River seven miles above its junction with the Salt River settlement, was an important post. Incidental reference is made to "a farming settlement called Phoenix that is growing up at Salt River, about thirty miles southwest from here." The friendly Pima and Maricopa Indians lived about fifty miles distant on the Gila, but the immediate region teemed with warriors of active, wily, hostile tribes—the Apache Mohaves, the Tonto Apaches, Pinal Apaches, and Coyotero Apaches. These bands lived in the neighboring Sierra Ancha, Pinal and White Mountains, and in early spring and late fall, about harvest time, they made bold and destructive raids throughout the country adjacent to Camp McDowell. The temperature in summer sometimes reached one hundred twenty degrees; snow never falls, but "the vicinity of the post is occasionally visited by terrific storms of wind, rain and hail, accompanied by thunder and lightning."

Camp Hualpai, originally known as Camp Toll Gate, was established in 1869, a mile and a half southeast of Aztec Pass, and forty-five miles northwest of Prescott. The post was situated on a Mesa at six thousand feet elevation. There were deep canyons, both above and below, and the camp was located between these two canyons for the purpose of guarding the road against Indian attacks.

November 27, 1850, Major S. P. Heintzelman arrived at the junction of the Colorado and Gila rivers to establish a garrison

for the purpose of protecting the thousands of emigrants who were crossing the Colorado at this point on their way to the California gold fields. The post was called Camp Independence. In March, 1851, the location was changed to the high ground on the west bank of the river where Garces had built a Spanish Mission in 1779. The post was now renamed and called Fort Yuma. It was very difficult to transport supplies to this remote camp. At that time the Yuma Indians were not hostile, though soon after this date they became so. In the summer of 1851 they killed a number of emigrants and attacked the fort, left temporarily under command of Lieutenant L. W. Sweeney with a force of only ten men. Soon after this, sickness and lack of supplies necessitated the withdrawal of the troops. From December, 1851, to February, 1852, the camp was deserted and the ferry left unprotected. Heintzelman returned in February, rebuilt the fort and established a permanent garrison. At the same time that Camp Independence was established in 1850, the army was looking into the possibility of transporting supplies by water from the Pacific Coast to points on the Colorado River. As a result, the schooner *Invincible* sailed from San Francisco November, 1850, and during the month of January, 1851, made attempts to ascend and chart the river, but without much success.

The Fort Yuma Reservation, declared January 22, 1867, included both Fort Yuma, California, and the Yuma Depot, Arizona. Both the fort and the depot were in the military department of Arizona. The fort was extensive, and for a good many years had been well-provided with everything requisite for an exposed army station. The heat at Yuma injected into literature a certain degree of profanity, and in the early days the remark was common that the army officers "raised the temperature of the place thirty degrees" in order to escape post duty there. The fort was only three hundred and fifty-five feet above sea level; the sand-flats were extensive, and the desert pressed in from every side, yet the location was healthful and to visitors who had just crossed the dreary wastes either east or west, and to voyagers who had spent weeks on a crowded, ill-smelling ship from San Francisco, the comforts of Fort Yuma, and the hospitality of the Commandant were memorable. The adobe walls were thick; broad verandas surrounded the various buildings, and water was piped to every part of the post. The great Yuma depot, where supplies were received to be distributed to the camps throughout the territory, was on the Arizona side, as was the postoffice, both for the fort and the depot. For a good many

years before there was any permanent town on the present site of Yuma, the place was very important—full of stirring activity.

When the report of 1870 was issued, Camp Apache was just being placed on a permanent basis. It had previously been occupied, and had been known successively as Sumner in 1869, Camp Ord, Camp Mogollon, and Camp Thomas. It was located in the heart of the Coyotero Apache country, on a beautiful mountain stream, with the lofty peaks of the White Mountains as a background. It was an important post during the period of Apache warfare, and at present the region is sought every summer for its historic associations and as an ideal summer playground. The postoffice used to be at Fort Bowie, one hundred and eighty miles distant, and Tucson, two hundred and thirty miles away, was the supply station and nearest town. The valleys around were very fertile; there was fine grazing for the animals; magnificent forests of pine were close at hand, and there was an abundance of fish and game—trout, deer, mountain quail and wild turkey.

Ft. Thomas, located on the Gila River and within a few miles of the San Carlos Indian Reservation, was established in the early 70's at a strategic point midway between Ft. Apache and Ft. Bowie, and directly on the road over which the post at Ft. Apache as well as the City of Globe and the San Carlos Indian Reservation received all supplies. This was also the route over which the Apache travelled on his many forays to Mexico.

So important and permanent was this post considered that very substantial and comfortable quarters of adobe were built in the 70's for the officers, enlisted men, supplies and live stock.

Many early posts were as transient as the camp of the Arab, who folds his tent and silently steals away. It is tantalizing to find mention of places that had a name, yet seem to have had no "local habitation." A few of these evasive locations I have run to earth; and such knowledge as I have, I will share with my reader. Camp Supply was a temporary military station established by Colonel Kit Carson on the Little Colorado not far from Holbrook, during his campaign against the Navajos. Camp Reno was established as a sub-station of Camp McDowell, in Tonto Basin, at the foot of Reno Pass, in order to hold the Tonto Apaches in check. Old Fort Goodwin, named after the first active governor of the territory, was about thirty miles from Safford, three miles south of the Gila River. It was established by General Carleton in 1864 both as a protection for that region against the fierce and destructive attacks of the White Moun-

tain, Pinal, and Chiricahua Apaches, and as a safe place for resort for Indians who desired to come in and give themselves up. In 1865 there were three companies of soldiers at Fort Goodwin under command of Colonel Pollack, and in 1866 there were nine hundred Indians there under guard of the troops. In anticipation of the arrival of the civil officers who had been appointed to set up a territorial government in Arizona, Major Willis in command of a detachment of the California Volunteers, established a camp at Chino Valley about twenty miles northeast of Prescott, December 21, 1863, and named it Fort Whipple. The civil government was set up here in January, 1864; but in May, Capitol and Camp were both moved to Granite Creek, near the present site of Prescott, and, thereafter, for a considerable time the original location at Chino Valley was called Camp Clark, in honor of the surveyor-general of New Mexico. At the time that America took possession of the Gadsden Purchase there was a Mexican fort about two miles south of Calabasas with substantial buildings of stone and adobe. In June, 1856, the dragoons under Major Steen came on from Tucson, and occupied this old Mexican fort for some months before taking up a permanent location at Fort Buchanan. Later, near the close of the Civil War, this old fort was again occupied by American troops, and was then named Fort Mason, in honor of the then commanding officer in Arizona. May 10, 1866, Camp Wallen was established on Babacomari Creek in a well-watered picturesque grazing region. Henry I. Yohn, who had been a soldier in Arizona in 1866, told me in an interview December 17, 1925, that he was with the command that established Camp Wallen. They took possession of old Babacomari Ranch. He said: "The buildings were in excellent condition. The main building was just like a castle, with towers on two corners—one toward Tubac, and one toward the San Pedro. We lived in tents, and used the buildings for a corral at night. We built an addition to the old house about one hundred feet square, and kept our stores and grain." In 1868 Camp Wallen gave place to Fort Huachuca.

JOSEPHINE BRAWLEY HUGHES—Crusader, State Builder

C. LOUISE BOEHRINGER

(Copyright 1929)

Josephine Brawley Hughes, wife of a state governor and mother of a state senator was a true builder of state by her own efforts. No need for her to bask in their reflected glory, for all who knew the Hughes family knew of her part in the development of institutions that have made Arizona a great sovereign state.

Born on a farm near Meadville, Pa., Josephine Brawley attended regularly a rural school several miles from home until ready to enter Edinboro State Normal. After graduating from the normal school, she taught for two years in the public schools of Pennsylvania. While a student at Edinboro she met Louis C. Hughes, who had returned to school after service in the Civil War, and in 1868 they were married. A wound received in the war made it necessary for the young husband to seek a warmer climate. Tucson, Arizona, was decided upon as his destination in quest of health. A brother, Sam Hughes, had gone to Tucson years before, and urged the trip. Having only limited funds, Louis Hughes found it necessary to leave his young wife behind and make the journey alone in 1871. On arrival he opened a law office and began to plan and save for the coming of his wife. Money was not plentiful, and merchandise such as chickens and eggs received in payment for legal services must be sold to augment the fund. A cow received in this way was kept as a part of home equipment. It took a year to save enough for Josephine's fare—and in 1872 she started on the long journey with her baby daughter, Gertrude.

The trip from Pennsylvania to San Francisco was made by rail. There passage was taken on a boat to San Diego, known then as "New Town." At that point began a 500-mile trip by stage from San Diego to Tucson, Arizona; this meant continuous traveling for four days and nights without stopping except to change horses. After crossing into Arizona, parts of the trip became precarious, as hostile Apaches were raiding the country. Josephine carried a loaded rifle at her side and carried her baby in her arms. Bouncing over the rough road at great speed there was constant fear the rifle might go off, and at one point Baby Gertrude was bounced out of her arms, fortunately into soft sand. Only two other homemakers were established in Tucson

when the young wife and mother reached her destination—Mrs. Charles Lord (wife of Dr. Lord), and Mrs. C. Scott (wife of Judge C. Scott).

* * * * *

The old pueblo was a primitive settlement in the early seventies when the young wife came to preside over the home prepared by the struggling young lawyer husband. This home, as all the others, was built of adobe, with a fireplace in each room and a woodbox by each fireplace. The adobes used in building were made on the premises and, while digging on the site, many human bones, swords, pistols and arrowheads were found. The ground was already historic ground for it was the site of the old fort which marked the original settlement by the white men there. It was there that the first American flag was raised in Arizona. The old adobe wall, which surrounded the old town and the ruins of the old fort, stood for years around the little new home until it was so undermined by rains that it was finally torn down.

The first light used was made by placing a burning rag in a saucer of grease. Mrs. Hughes sent to her home in Pennsylvania for candle molds and soon her little home and those of her neighbors were lighted by candles. It was one of the most modern homes in the community and the yard contained the only cistern there. This cistern was a great luxury for the water drawn from the earth was harsh and brackish. Drinking water was brought in by peddlers who got it from a spring and sold it at ten cents a bucket.

These early homes had no screens and flies swarmed everywhere seeking entrance. It was the day of the paper fly brush which waved constantly over the dining table. The young housewives exercised their artistic skill in making them of colored papers cut in long strips with fancy edges.

Housewives made their own soap—soft soap by the barrel. The laundry work was done by the Mexicans who took the clothes to the stream that ran in the valley near Tucson. They dipped the garments in water, soaped them and rubbed and sopped them up and down on a large smooth stone, kneeling during the process. When all were snowy white, they were hung on the mesquite bushes to dry.

The only fruits available were quinces and pomegranates, brought from Mexico in wooden ox carts. The squeaking and groaning of these carts could be heard blocks away. The Mexi-

can drivers carried buckets of thick soap which they frequently poured into the axle holes of the solid wooden wheels to lubricate them. These two-wheeled carts had a hide bottom and a framework of sticks around the top. Beside fruits they brought in loads of sugar cane. These were sold to the children who peeled off the skin and sucked the end—Arizona's first all-day suckers.

Insect life was plentiful and even in the homes, people were on the lookout for tarantulas, centipedes and scorpions. Shoes were placed on chairs at night and shaken out in the morning. These insects often crawled out of the wood in the woodboxes by the fireplace. They were plentiful in the yards, but flocks of chickens launched a safety campaign by chasing and eating them.

Colored paper was the means of adding color and cheer to all sorts of festive occasions. One had to be resourceful with the little material available for decoration. On the Fourth of July and other occasions, the people decorated small tin cans with bright paper of various hues, placed a lighted candle in each, and arranged them all around the edge on the tops of the flat houses. It was really effective. Christmas was delightfully observed in the Hughes home. There was always a tree which Mrs. Hughes decorated with colored papers, cotton and simple toys. Later in the evening, Santa Claus with sleigh bells brought from Pennsylvania, pranced about on the flat roof, blowing a horn and beating a drum. The horn and drum appeared among gifts on the tree next morning. Little Gertrude and her brother John were taught to believe in Santa Claus, who in later years was to them a great spirit of love, with parents and friends as his agents to carry out his wishes.

Summer nights were just as warm in the old pueblo fifty years ago as they are now. The inhabitants all slept in the open, in their yards or on the sidewalks in front of their houses. The Hughes family slept in their yard inside the historic adobe wall. When all were settled in their cots with the starry Arizona heavens above them, Mr. Hughes would tell them of the stars and planets, nowhere more clearly visible than during Arizona nights. In the far distance the howl of the coyote, closer to the houses the bark of the dogs, and in the surrounding yards the crowing of the roosters were the accompanying night sounds as gradually the pueblo sank in slumber. At times the stillness of the later night was broken by the crying and moaning in some Mexican home where death had claimed his own. At other

times, pistol shots rang out sharply over the town as some brawl was at its height in a saloon, and at intervals a loud resonant voice was heard from a distance calling out "k-e-e-n-o" (keno) from the gaming table.

New Year's day, everyone kept open house and served refreshments. The men called at the various homes and left unique calling cards. They called at the Hughes home first, because it was the only home that did not serve liquor, and after having made the rounds they did not feel safe in calling there. At this season came barrels of apples, apple butter, buckwheat flour, maple sugar and a sack of dried apples from Grandpa and Grandma Brawley in Pennsylvania.

The first carpet for the "parlor" was an event. It came in long strips that were sewed together by hand, and laid upon layers of straw and paper. The whole family sat upon it and stretched and pulled until it was tacked in place. New furniture, upholstered in blue, was purchased from W. C. Davis, who had brought it in from San Francisco. The bill of lading was dated March 23, 1875, and accounted for "9 packages measuring 247 ft. at \$1.00 per foot—total \$247." Its routing was indicated—"San Francisco—for Colorado River—to any Colorado Navigation Company's vessels at the mouth of the Colorado—to be delivered in good order and condition at Ft. Yuma." It was taken from Yuma to Tucson by wagon train.

* * * * *

It was in this historic home that General Nelson Miles, in his campaign against the Indians in 1886, planned many of his military ventures. Mrs. Hughes kept the map used by General Miles in planning his campaigns against the Apaches, and just before her death she presented it to the Historical Society of Arizona.

General Crook was also a guest at this house and much admired by the Hughes family. Significant conferences on other matters of historical interest have been held in this house, as late as 1914 when despatches concerning the troublesome affairs of a sister republic were prepared and sent to eastern papers.

* * * * *

In this new country teachers were in demand, and the young housewife found herself called upon to use her normal training secured at Edinboro Normal in Pennsylvania. A call had been

sent out for teachers in Arizona the year before *(1872) and in 1873 two teachers had been engaged to come to Tucson to take charge of a school for girls. An outbreak of Apache Indians made it unsafe for them to come by stage into Tucson, and Mrs. Hughes opened the school in March of 1873 and continued the school until travel was safe for the California teachers who were engaged to come.

* * * * *

Announcement of the opening of the Centennial Exposition to be held in Philadelphia in 1876, carried with it recognition for Arizona Territory, and in 1875 Mrs. Hughes was appointed Commissioner for Arizona to the women's department. So, in 1876, the family, father, mother, little Gertrude and Baby John, made the still dangerous stage trip to Los Angeles, thence by boat to San Francisco, and by rail across the continent to Philadelphia. Here, with pride and honor, she performed the distinguished service reposed in her by Arizona.

The following year (1877), Mrs. Hughes joined with a group of women to launch another new institution—the first Protestant church in Arizona. This little group of women helped to raise funds for the little church erected under the auspices of the Presbyterian Board of Missions. Mrs. Hughes, however, had been a life-long Methodist, and when the Reverend George E. Adams, pioneer Methodist missionary to Arizona, arrived, he found an ally in her. She became the leading spirit in organizing Methodism in Tucson which found its first outward manifestation in the brick church at the corner of Pennington Street and Stone Avenue. This little brick church became the center for many reform movements in Arizona. Here Frances Willard, a warm personal friend of Mrs. Hughes, spoke for the temperance cause, and these two crusaders set out over the territory and organized the first W. C. T. U. As president of the new organization, Mrs. Hughes found much to engage the efforts of a reformer. Arizona was wide open—and all days were alike. Their first efforts were centered upon a Sunday closing law—which was finally placed upon the statutes by the legislature in 1887.

*—Free schools were established by an act of the legislature in 1868. This law was repealed and others were passed in 1871 and in 1875. In 1872, a call went out from Arizona for teachers to come into the territory to meet the demand for opening of free schools in Tucson and in Yuma. Clara Skinner, Frances Bishop and Mary E. Post responded to the Yuma call. Miss Wakefield and Mrs. Fish responded to the Tucson call.

During the struggle, over a period of years, to secure a Sunday closing law, Mrs. Hughes discovered the power of the ballot in legislation. She persuaded Mrs. Laura M. Johns, a national suffrage organizer, living in Kansas, to come to Arizona to organize the suffrage movement into a territorial organization. Mrs. Hughes became president of this organization of which Mrs. L. Collins was recording secretary and Mrs. R. C. Phillips, corresponding secretary. Thus was crystallized the initial movement to secure equal rights, before the law, for Arizona womanhood. In resigning from the presidency of the W. C. T. U. to take up the suffrage cause, Mrs. Hughes said: "Let us secure the **vote for women, first**—then the victory for the protection of our homes and for the cause of temperance will follow."

In the Constitutional Convention called in 1891, (by act of the legislature), a strong fight, led by General William Herring, was made to incorporate into the constitution an equal rights provision. Mrs. Hughes and Mrs. Laura Johns, national suffragist leader, were invited to present the matter before the convention. They made able presentations and remained throughout the convention, almost winning an equality clause for the constitution.

Then began a personal campaign, led by these two suffrage pioneers, to form equal suffrage clubs in every county. Woman's right to the ballot became an issue before each successive session of the legislature. Legislative tactics permitted the equal suffrage bill to pass in one house, only to kill it in the other—during 1891, 1893, *1895, 1897—until 1899 it passed both houses, only to be vetoed by Governor Brodie. This veto was a distinct shock to the aggressive advocates of equal suffrage, but they were not discouraged. They merely changed their policy, and began a quiet educational campaign for suffrage, temperance and other reforms.

*—In 1893, Mrs. Hughes' husband, Louis C. Hughes, was appointed governor of the territory by President Grover Cleveland. In 1894, Mrs. Hughes, accompanied by her son and daughter, attended the National Suffrage Convention held in Washington, D. C. Susan B. Anthony, a close friend of Mrs. Hughes, brought the young son (later Senator John Hughes), to the platform and after introducing him as the son of Governor and Mrs. L. C. Hughes, life-long champions of equal rights, dedicated this native son of Arizona to the cause espoused by his mother. She named him "The Suffrage Knight of Arizona." He accepted the charge of his knighthood—and in 1912 when the time was ripe, as state senator, he introduced in the senate the resolution which amended Arizona's new state constitution by giving the franchise to women several years before the nation was ready for the amendment.

Both Mr. and Mrs. Hughes were workers in reform movements. They had recognized early the power of the press. In 1878, they established the Tucson Star, which they continued to operate for a period of thirty years. Its pages were always open for the promotion of the reform movements to which they gave so much of their time.

In the early years of the Star, Mrs. Hughes was business manager, bookkeeper and cashier, while Mr. Hughes was editor, doing all the work, local, exchange and clipping.† Both the Star and the Citizen (afternoon paper), received a "pony" Associated Press report of about 500 words.

During the early days of the wide open saloon, Mrs. Hughes conceived the idea of changing pay day from Saturday night to the first of the week, as Saturday pay days meant a "hang over" for the first of the week and difficulty in getting out the paper. The change at first caused a riot and some dropped out, but in time it was accepted. The Star was, as now, a morning paper, and when it was off the press in the early morning hours, Mr. Hughes would take home a large bundle, and Gertrude and John were routed out of bed to help get them addressed and ready for the stage mail. Often after the office help was paid off, there was little left for the owners of the paper.

The Star was the determined and aggressive foe of saloons and gambling houses of the early days. Both Mr. and Mrs. Hughes lived to see the gamblers go out of business as a result of a law passed by a territorial legislature, and the elimination of saloons by an initiated law after the initiative and referendum power had been placed in the constitution of the State of Arizona and was put in operation by the voters of the state.

The owners of the saloons and gambling houses of the territory constituted the dominating influence in the politics of that period, but even so, Editor and Mrs. Hughes had the courage to bar the columns of the Star to any advertising from these sources. Their war was on the liquor evil and not against individuals in the business. While the Star was not popular

†—In 1887, Major George Kelly, late State Historian, joined Mr. and Mrs. Hughes as a member of the Arizona Daily Star force, having decided to leave Missouri and cast his lot with Arizona, after correspondence with the owners of the paper. In a recent editorial he paid tribute to Mrs. Hughes' ability as manager and cashier and to Mr. Hughes' ability as a paragrapher who commanded attention. The aggressive and determined policies of the Star brought it early recognition as the foe of evil influences and the friend of churches and early day organizations for the uplift of Arizona's citizenship.

among those who inhabited and controlled the bar rooms, it was always recognized as a power, both in politics and in promoting the development of Arizona.

One of the early campaigns of the Star was for the removal of the blood-thirsty Apaches from the state. These Indians by their depredations prevented the state from becoming thickly populated. The Star plan provided for the removal of the Apache leaders to the Everglade country of Florida, and the editor, in the National Democratic Convention of 1884, caused a plank declaring for a removal policy to be placed in the platform. Following the election of Cleveland to the presidency in that year, the policy was put into practice, and General Miles was sent to the state in 1886 to rid it of the warlike redskins.

* * * * *

On April 1, 1893, Mrs. Hughes became the first lady of the territory when her husband was appointed territorial governor by President Grover Cleveland.

Mrs. Hughes and the governor were both ardent advocates and supporters of higher education. They were active in establishing the University of Arizona, and later their daughter, Gertrude, was the first woman instructor in the university.

In 1912, Mrs. Hughes had the honor and satisfaction of seeing her son, John Hughes, a member of the first state senate. Like his mother, he was an advocate of temperance and of the enfranchising of women. He introduced a resolution in this first state senate proposing a constitutional amendment enfranchising Arizona's womanhood. The amendment was passed and the following year (1913)* Arizona women first went to the polls, and even elected a woman to office.

*—Enfranchisement of women in Arizona came by this early amendment to the new constitution which had been adopted in 1910. Recall of public officers and the initiative and referendum were incorporated, but the enfranchisement of women had to wait until after Arizona's star was made one of the galaxy of states, in 1912. Too many innovations could not be incorporated into the body of the constitution. In 1913, the women proceeded to test out the recall of officers and enfranchisement of women. In that election and by the decision of the Supreme Court of Arizona, C. Louise Boehringer became the first woman to hold public office in the new state. Later, an interesting meeting took place between the first president of the Arizona Suffrage Association, Josephine Brawley Hughes, and the first woman to hold public office in Arizona. The meeting occurred in the historic Hughes home where battles with Indians and battles for progressive ideas had been mapped out.

Senator Hughes' death in 1922 was a shock to his mother from which she never fully recovered.

* * * * *

Josephine Brawley Hughes was a true crusader, sacrificing financial gain, comforts and herself for the causes she had espoused. A pioneer in righteousness, in freedom for womanhood, in protection of the home, and in education, she was a true state builder. She was a wide reader, and as the wife of a governor, the mother of a state senator, and the business manager of a daily paper, she was well informed on the political questions of the day, both national and international.

She and her husband both lived to see the gamblers go out of business, the saloons eliminated by means of an initiative law, after the initiative and referendum power had been placed in the constitution of Arizona, and they saw women enfranchised and elected to office. For all these measures and others, they fought aggressively and were willing to have enemies that future citizens might come into their own. Mrs. Hughes saw Arizona become a pioneer state in woman suffrage and in curbing the liquor traffic, after thirty years of unremitting effort. So unlikely was it that either of these measures would ever be adopted, that for years the work in their behalf was considered a joke. Their adoption brought hundreds of letters of congratulation to these pioneers in state building.

Self-denying, eager to share the beauties and plain comforts of life with her neighbors and the needy—from rare plants, shrubs and plots of green grass in the days of early desert barrenness—to food, medicines and personal ministrations for the healthseekers who came to seek life's greatest boon was this little mother and teacher of the seventies and eighties. Quietly aggressive in her vision of Arizona as a clean and free state for future citizens, was this fearless crusader and builder of state in the nineties and the days of emerging statehood.

The pioneer spirit was transmitted to her daughter who was the first woman on our state university faculty, and to her only grandchild, Miriam Meredith Woodward Taylor, who was for several years connected with the Ince Picture Studios at Culver City and is now a scenario editor with National Pictures in New York.

Mrs. Hughes died at Hermosa Beach, California, in April of 1926, at the age of 88 years. She was buried in Evergreen

Cemetery, Tucson. She leaves her daughter, Gertrude Hughes Woodward, of Hermosa Beach.

* * * * *

The only tablet in memory of a woman who has rendered service to her state yet placed in the rotunda of the State Capitol in Phoenix is the one in memory of Josephine Brawley Hughes, placed there December 16, 1926.

In Memorium

E. JOSEPHINE BRAWLEY HUGHES

Wife of

GOVERNOR L. C. HUGHES

and Mother of

HON. JOHN T. HUGHES

Mother of Methodism

Founder of W. C. T. U.

and Founder of the First Daily Newspaper in Arizona

Born at Meadville, Pa., Dec. 22, 1839

Died April 22, 1926

**STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., RE-
QUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912,**

Of ARIZONA HISTORICAL REVIEW published quarterly at Phoenix, Arizona, for October 1, 1929.

STATE OF ARIZONA }
COUNTY OF MARICOPA } ss.

Before me, a notary public in and for the State and county aforesaid, personally appeared Geo. H. Kelly, who, having been duly sworn according to law, deposes and says that he is the Editor and publisher of the ARIZONA HISTORICAL REVIEW and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc. of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411, Postal Laws and Regulations, printed on the reverse of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Name of—	Post Office address—
Publisher—Geo. H. Kelly	Phoenix, Arizona
Editor—Geo. H. Kelly	Phoenix, Arizona
Managing Editor—Geo. H. Kelly	Phoenix, Arizona
Business Manager—Geo. H. Kelly	Phoenix, Arizona

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.)

Owned by State of Arizona.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) No indebtedness.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the six months preceding the date shown above is (This information is required from daily publications only.)

GEO. H. KELLY,
State Historian.

Sworn to and subscribed before me this 30th day of September, 1929.
(Seal) B. F. HILL,
Form 3526.—Ed. 1924. (My commission expires Sept. 23, 1930.)

NOTE.—This statement must be made in duplicate and both copies delivered by the publisher to the postmaster, who shall send one copy to the Third Assistant Postmaster General (Division of Classification), Washington, D. C., and retain the other in the files of the post office. The publisher must publish a copy of this statement in the second issue printed next after its filing.

POSTMASTER: BE SURE TO READ AND CAREFULLY OBSERVE INSTRUCTIONS
ON THE OTHER SIDE.