

THE

Desert

M A G A Z I N E



MARCH, 1947

25 CENTS

timid?

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DESERT Close-Ups

• Robert A. Barnes, whose story of the search for the Seven Cities of Cibola is his first contribution to Desert Magazine, is a young newspaper man associated with his father in the publishing of the daily Gallup Independent in New Mexico. Living in the heart of the Indian country, Robert is acquiring an intimate knowledge of Navajo life and lore to be used in magazine and newspaper feature stories in the future.

• Dick and Catherine Freeman, frequent contributors to Desert Magazine, left their home in Los Angeles early in January to spend three months in Mexico and Central America securing photographs and material for magazine feature stories. Mrs. Freeman secured a year's leave from the Los Angeles schools where she is a teacher. The Freemans are seasoned campers, and for their trip into Mexico had the seats in their sedan converted for use as car beds so they will have their own shelter wherever nightfall may find them.

DESERT CALENDAR

- March 1—U. S. downhill ski championship, Snow Basin, Ogden, Utah.
 March 1-10—Utah centennial bowling championship, Salt Lake City, Utah.
 March 2—Dons Club annual Superstition mountain trek, searching for Lost Dutchman mine, starting from Phoenix, Arizona.
 March 2—U. S. slalom ski championship, Alta, Utah.
 March 7-9—Arizona State Firemen's convention, Yuma, Arizona.
 March 10-11—Thirty-third annual convention New Mexico Cattle Growers' association, Albuquerque, N. M.
 March 13-15—International Desert Cavalcade of Imperial Valley, Calexico, California.
 March 18-23—Men's open golf tournament, Palm Springs, California.
 March 21-23—Arizona Snow Bowl annual Southwest Ski carnival, Flagstaff, Arizona.
 March 22-23—Second annual Silver Dollar ski derby, Mt. Rose, Reno, Nevada.
 March 25-30—Southwestern Livestock show and championship rodeo, Coliseum, El Paso, Texas.
 March 26-29—Tomato festival, Niland, California.
 March 29—Annual Charity Horse show, Phoenix, Arizona.
 March 29-30—Second annual show sponsored by Imperial Lapidary guild and Imperial Valley Gem and Mineral society, Central junior college auditorium, El Centro, Calif.
 March 30-April 2—California Western Music Educators' conference, Salt Lake City, Utah.
 Sunday nights through March—Tabernacle choir concerts, Tabernacle, Salt Lake City, Utah.



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RANDALL HENDERSON, Editor. BESS STACY, Business Manager.
 LUCILE HARRIS and HAROLD O. WEIGHT, Associate Editors.

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DESERT TRAILS . . .

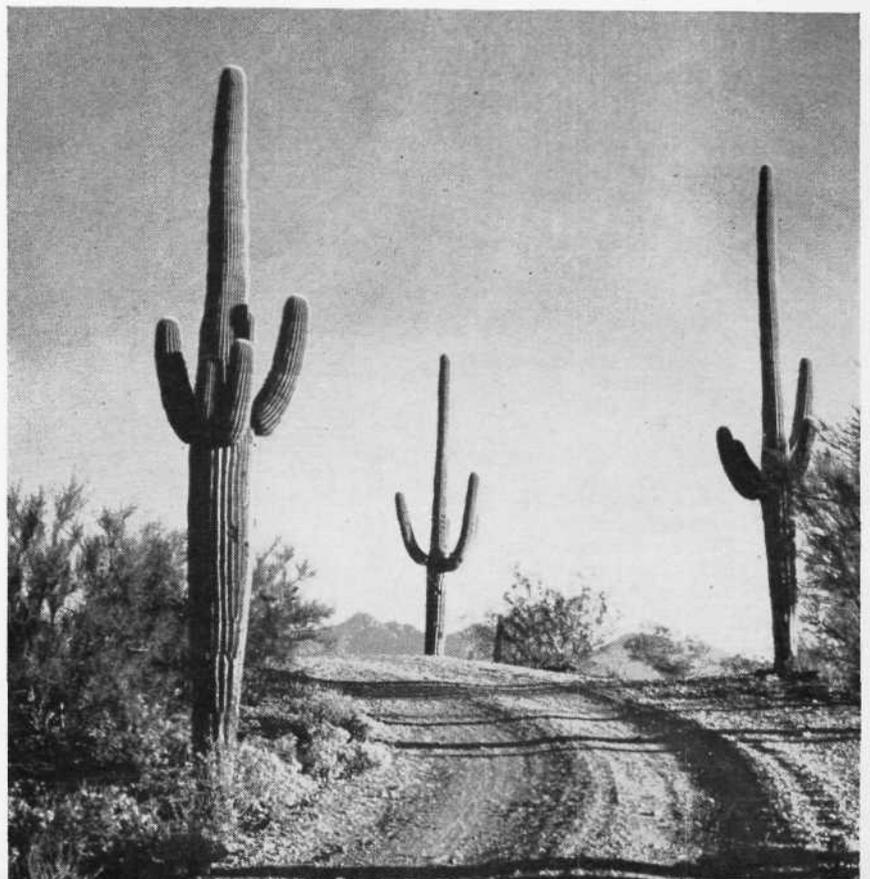
This photograph by Josephine Carpenter of Highland Park, California, won first prize in Desert Magazine's January photographic contest under the general subject of "Desert Roads and Trails." The picture was taken with an E. K. Bantam camera with Plus X film, 1/100 of a second at f.11. Location is one mile south of Highway 66 at Ludlow, California — mid-morning December 1, 1946.

DESERT ROAD . . .

Second place winner in Desert's January photographic contest was Donald W. Johnson of the U. S. Veteran's Hospital at Tucson, Arizona. The winning picture was taken in Pima county, Arizona, under a bright sun at four p. m., 1/10th second at f.22.

MARCH CONTEST . . .

All photographers, both amateur and professional, are invited to participate in the monthly contests sponsored by Desert Magazine staff. The March contest (closes March 20) is on the subject of "Desert Recreation." Hiking, riding, rock-hunting, botanizing, mountain climbing—any activity within the broad definition of recreation will be acceptable. Rules are printed on another page of this issue of Desert.

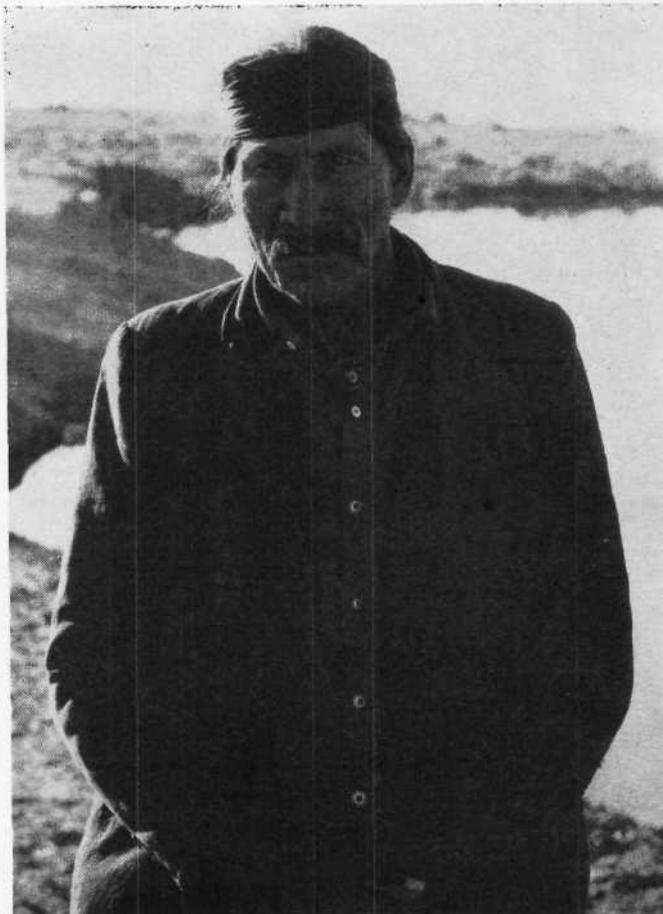


White men were digging in the ancient ruins at Wupatki. And that brought bad dreams—and sickness—to Grandma Peshlakai. So the medicine man held a sing to drive out the evil spirits. Here is the story of what took place in the Navajo hogan of the distressed woman.

We Saw the Devil Chant of the Navajo

By RICHARD VAN VALKENBURGH

Photographs by Milton Snow



Hastin Natani, the medicine man from Dinnebito, who conducted the devil-driving ceremony over Grandma Peshlakai.

SOME years ago upon my return from Flagstaff to our archeological excavations at Wupatki national monument, Arizona, I found the following note under my door:

In one day Hastin Natani starts "singing" Hochongi, or Devil-Driving chant over Grandma, Mrs. Peshlakai Atsidi. We need lemon from Flagstaff for singer's throat. And chewing tobacco for me. Cal will be there tomorrow when the sun sits on top of Doney mountain.

Thelma Peshlakai

Back-tracking over 40 miles of volcanic cinders and icy road was no pleasant chore for a winter morning in an open Model T. But this opportunity to witness the one Navajo ceremony that I had reason to believe might be similar to those held by the Mongols of Central Asia was too good to miss.

I was back from Flagstaff with the lemons and chewing tobacco late in the afternoon. *Peshlakai d'langi begai*, Silver-smith's Elder Son, the eldest of the Peshlakai brood, whom some census-taker had recorded as Calvin, was snoozing under his blanket when I drove up. Stirring, he greeted, "*Y'd'a' taa shind'i*, Good, my Elder Brother."

By the time a pot of coffee was made and drunk we were ready to start. Only the flame-colored trail left by the setting sun lightened the deepening shadows. Bundled in our sheepskin coats we faced the bitter black wind of night as Cal's wagon crunched across the cinder sprinkled mesa.

While we traveled toward the ragged rim of the great white mesa that forms the northern boundary of the Basin, I questioned Cal as to the occasion for the devil-driving ceremony over 85-year-old Grandma Peshlakai. All I got from my usually communicative friend was, "*Hola hotzaa*," Who knows?

After-dusk was settling and the early moon was a pale white shell when we slid down a cinder dune into Antelope wash. After a short pull we rounded a bend and entered a small cove. Silhouetted in the thin moonlight were the two earth-covered hogans of Grandma and Grandpa Peshlakai.

Long before Cal and I had unhitched the horses Thelma had made off with the bags from Flagstaff. When we went inside the smaller of the two hogans to warm, she was busy caching her loot in various and sundry places. With his tiny cheeks puffed out with a lollypop, *Babzhun*, the Cute One, and Thelma's small nephew,

welcomed, "Sit, Elder Brother. Have coffee."

Soon the chanting from the other hogan announced that the sing was starting. When we pushed through the blanket covered door we saw Grandma Peshlakai seated on the west side of the circular floor. She had a fixed and brooding expression on her wrinkled old face. Usually a jolly old lady, Grandma had something on her mind.

The arrangement on the earthen floor of the hogan was similar to those I had seen before. Just to the right of Grandma was the medicine man and his paraphernalia. Circling the south wall were the men folks while on the north sat the women and small children. In the center a small fire gave a flickering light to the whole scene.

Catching my curious glance at a whitish handprint high on the hogan wall, just below a sprig of green dangling from the rafters, Cal whispered, "That is the pollen imprint of the medicine man. And above is a spray of Gambel oak which comes from a tree on the side of the San Francisco mountains.

"If you will look around you will see these handprints and sprigs of oak in all four cardinal directions. This is one of the first things the medicine man does before



Members of Calvin Pesblakai's family at the time of the Evil Way "sing" over Grandma Pesblakai. (Left to right) Henry, Thelma (Hunuzba), Raymond, Myra, Bababhun, the Cute One, and Haswodi, the Running Boy.

he starts the ceremony. These were placed there to dedicate and bless the hogan."

While I watched Hastin Natani, the medicine man who came from where Dinnebito wash bursts through the painted sands of Newberry mesa, he began to chant softly as he poured water into an old Hopi bowl:

*Black Lightning,
With your power,
With your medicine
Drive away the Demons
Inside and surrounding.*

*Black Lightning,
With your power,
With your medicine
Make this Earth Person well,
Make her everlasting.*

While Hastin Natani was singing to the four lightnings and the Twin War Gods to give further aid in "shooting out" Grandma's demons, Cal told me that the medicine in the bowl was composed of the pounded needles of a piñon tree that had been struck by lightning. To the Navajo it is known as lightning medicine.

Finishing this series he rested a moment and then dug into his medicine bag. In his hand he held a black blade about a foot long. In the butt end there was a hole in which was tied a buckskin string. As he dipped it into the lightning medicine Cal whispered, "'Tis the *tsin di'ni*, or groaning stick."

In later years I had the opportunity to examine a groaning stick or what we call

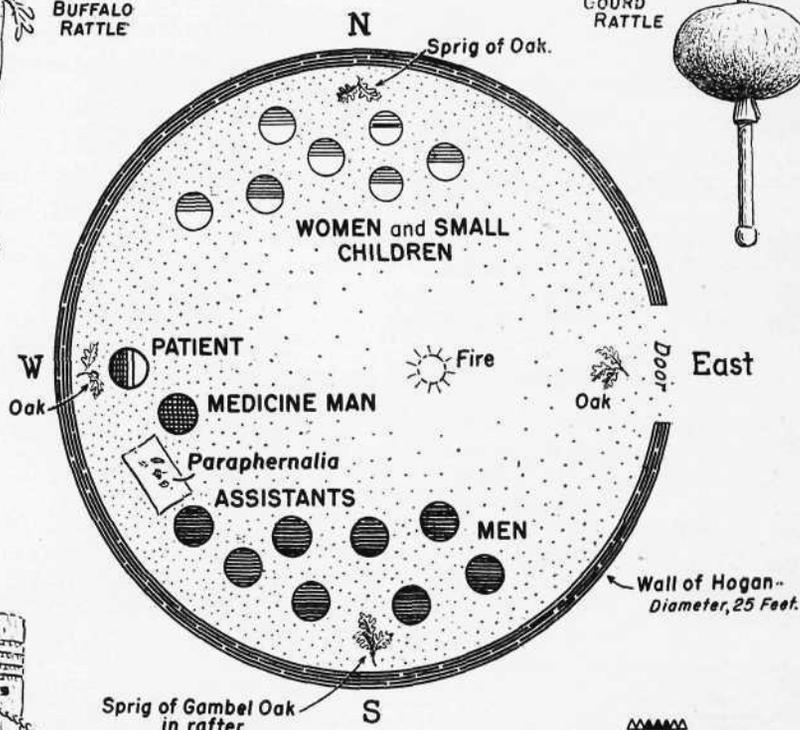
a bull-roarer. Made from pine wood which has been struck by lightning and painted with the gum from flash-burned tree, it had eyes and a mouth made of turquoise.



BUFFALO RATTLE

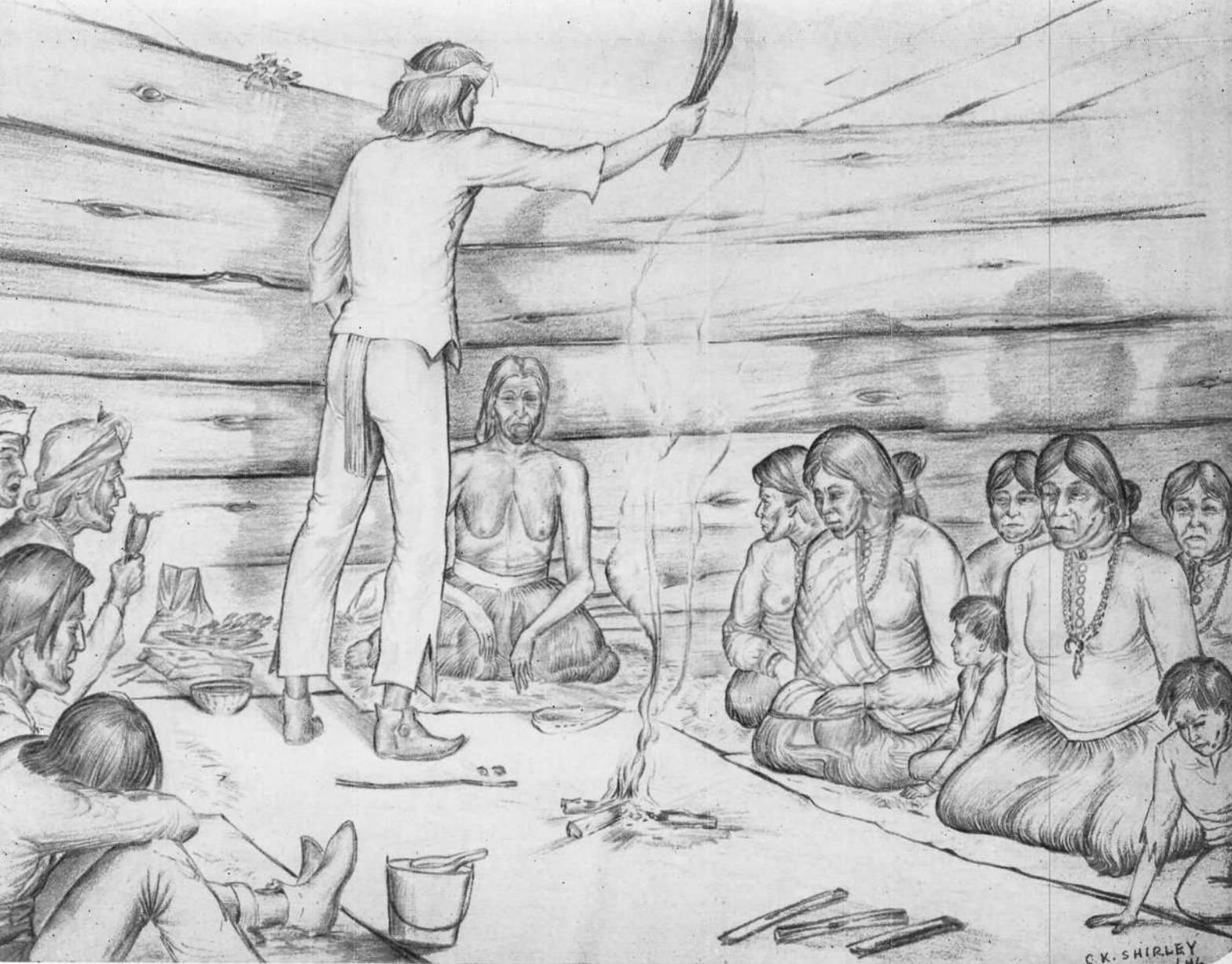


GOURD RATTLE



GROANING STICK

LAYOUT OF HOGAN FOR EVIL WAY CEREMONY.



Devil-driving chant in the hogan of Grandma Pesblakai. The patient is seated in the background, with the men on one side and the women and children on the other.
 Sketch by Charles Keetsie Shirley, Navajo artist.

"Those designs represent the constellations in which dwell the Holy People. With this song and *adé aghal*, which had turquoise rattlers as well as other precious stones inside, he called for the aid of the people above. For without their help we Earth People could never drive away the demons of the Underworld."

Finishing his appeal to the Gods, Hastin Natani really got down to the business of driving out Grandma's demons. Picking up a bundle of crow feathers tied together with a cotton string, he moved to the fire-pit. Starting from the east he touched the ashes with the tips of the feathers in the four cardinal directions.

Swinging quickly from the fire-pit he was chanting furiously when he came to a stop before Grandma. Swishing his feathers he began to sweep the demons from around the old lady as he sang:

*Black Star,
 Bring down your bow,
 Bring down your arrows
 Tipped with flint.*

*Black Star,
 Bring down your bow,
 Bring down your arrows.
 Kill these evil spirits!*

After appealing to Blue, Yellow and White Stars to come down also and aid him in his devil chasing, he suddenly turned and faced the crowd and speaking in his own language yelled:

"La! Just now Black Star helped me shoot a *chindi*. Did you hear him yell? He fell on his belly. Then his face went into the dirt. We knocked him right down. He's on his way back down to the home of Wolf Woman in the Underworld!"

Following this triumph Hastin Natani gave the demons a rough time. The whole hogan and everyone in it seemed infested. After routing one out from a corner or back of a person he would deftly flip his feather bundle up toward the open smoke hole as he emitted a queer whistling sound and uttered, "There goes another one!"

After a lot of demon chasing the medicine man again turned his attention to

Grandma. He handed her an abalone shell filled with lightning medicine. She took a big gulp. Then the concoction was passed around to the spectators. When they all had a sip the shell was returned to the patient.

The remainder of the medicine was used to bathe the patient's body and another bowl was laid before her. I found out later that the main ingredient of this concoction was pennyroyal. Taking a big mouthful Hastin Natani's cheeks puffed out. Then from his pouched lips he began to spray the crowd. I beat a hasty exit . . .

When I returned to the hogan Grandma was a sight to see. Hastin Natani had smeared her jaws from ear to ear with a band of black that looked like shoe paste. Later I learned that this preparation was very rare, as it must be made from mountain lion fat and the charcoal of a tree struck by lightning.

I was just in time to get my face smeared with these streaks which are called lightning flashes. Grandma, being the one



These archeologists at work at Wupatki national monument were the cause of Grandma Peshlakai's distress. The author is at the right.

especially afflicted by demons, had her whole body painted. The final touch was application of a gray-blue powder made from the burned tips of chamiso and grama grass.

Turning to me Cal said, "That is all. The lightning flashes will protect her from any evil spirits that might still be hanging around. She will leave it on for four days. Then should she have more bad dreams we will hold a five-day sing in which sand pictures will be used."

When we left the hogan I asked Cal why Grandma needed demons driven from her—the same question that he had evaded when we were driving over to the sing. I had witnessed the ceremony but still the actual significance as to where the demons originated had escaped me.

My friend's voice was uneasy when he answered, "I'll tell you. But I hope you won't get mad and stop bringing stuff from Flagstaff for us. Mother has been worried ever since you white men at

Wupatki started digging out the bones of our ancient enemies, the Anasazi. She believes that their spirits have entered her body and make her dream and have sickness!"

While we sat there in the darkness that was as black as the Underworld into which Hastin Natani had driven Grandma's *chindis* I had time to speculate. I could not but compare the fantastic ceremony I had just witnessed with the devil-driving ceremonies chronicled by travelers who had visited the yurts of the Mongols on the steppes of central Asia during the 13th century:

"... the Mongols had a liking for blue. Black was evil—the color of night, and of the depths of the earth. To deal with the spirits of the Underworld they had priests-doctors-shamans. They examined the sick, and drove out the demons which caused the sickness."

DEATH COMES TO VETERAN CHIEF OF THE NAVAJO

Henry Chee Dodge, 86-year-old leader of the Navajo Indians died of pneumonia on January 7, at Sage Memorial hospital at Ganado, Arizona. At his bedside were his son, Tom Dodge, Indian superintendent at Valentine, Arizona, and Mrs. Dodge; his two daughters, Mrs. Mary Peshlakai and Mrs. Annie Wauneka, and his son-in-law, George Wauneka. Dodge, for more than half a century spokesman for his tribe in its dealings with the white men, had been ill for several weeks.

He was buried in Navajo War Memorial cemetery, on the crest of a hill midway between Window Rock and Ft. Defiance after high requiem mass at St. Michaels mission. Father Berard Haile, dean of padres at St. Michael's, conducted the services and delivered in the Navajo language a sermon eulogizing "Old Mr. Interpreter."

When the Navajo were fighting with their Mexican and Indian neighbors, Captain Henry Dodge was sent to stop the trouble. With him came a Mexican interpreter, Juan Casonis, who fell in love with Chee's Navajo mother. They were married and when a son was born, his father gave him the name of his captain, Henry Dodge. Dodge was four years old when Kit Carson fought the Navajo at Canyon de Chelly, and his mother ran away and hid in the Grand Canyon. His father had been killed by the Mexicans at Tohatchi.

Dodge and his mother made the "Long Walk" with the rest of the Navajo to internment at Bosque Redondo. The tribe returned to its desert home in 1868, and Dodge later became an interpreter at Fort Defiance. He was named "head chief of the Navajo" in 1884 by Dennis Riordan, early Indian agent at Fort Defiance. When the tribal council was created in 1923, Dodge was elected first chairman.

NOTES ON NAVAJO VOCABULARY

In the accompanying story the words *Chindis*, a Navajo term, and demons, devils and evil spirits are used synonymously. Referring to the use of *Chindis*, Richard Van Valkenburgh, the author, writes:

"*Chindi* is not quite the term and I am not too sure as to what should be used—but lean toward demons. These are very complicated fellows and a little beyond me as to actual placement in the rather sketchy Navajo interpretation of how they look, etc. Some say *Chindis* look like decayed corpses floating through the air, etc. But usually *Chindis* are associated with the dead and it may be that this kind from the *Anasazi* were bothering Grandma Peshlakai."

Other Navajo words used are as follows for checking:

<i>Hochongi</i>	Evil Way—Devil Driving Way
<i>Peshlakai Atsidi</i>	<i>Pesh</i> (<i>Besh</i>) metal; <i>lakai</i> , white; <i>atsidi</i> , smith
<i>Babazhun</i>	Cute One
<i>Tsin di'ni</i>	Groaning stick (bull roarer)
<i>Adé aghal</i>	<i>Adé</i> , gourd; <i>aghal</i> , rattle
<i>Hastin Natani</i>	Mister Leader
<i>Anasazi</i>	<i>Aná</i> , Stranger or Enemy; <i>sazi</i> , old
<i>Wupatki</i>	A Zuñi term applied by Dr. J. Walter Fewkes in the 1890's and of obscure etymology.

While the Navajo words have been capitalized above, this is not strictly correct. In proper Navajo writing the words should never be capitalized unless they start a sentence or are anglicised forms.

The legend persists that when King Charles of Spain expelled the Jesuit Fathers from the New World in 1767, they buried great caches of gold and silver and jewels before their hasty departure from the missions they had established in what is now Arizona, Sonora and Lower California. One of these legends is the basis for the following story, first in a new series of Lost Treasure tales written for Desert Magazine by John D. Mitchell.



One day old Juan arrived at the assay office with his two burros loaded down with rich silver ore.

Bells of Old Guevavi

By JOHN D. MITCHELL
Illustration by John Hansen

MANY years have passed since the sweet-toned bells of Guevavi rang out over upland plains and verdant valleys, calling the lowly neophytes to early morning prayer. The quaint old mission dates back to the year 1691.

This Jesuit mission is near the little farming community of Calabasas, a short distance northeast of Nogales, Arizona. While the Hispano-Americans in that region have always regarded it as an agricultural mission, there are rumors that this was not always true. The padres, needing metal with which to mold bells, church service and household utensils and other articles, are said to have sent out Indian miners to search the surrounding hills for suitable ores.

From among the specimens brought in, the Spanish fathers chose the heavy black silver-copper ore which is believed to have come from the head of a rocky canyon in the southwest end of rugged San Cayetano mountains a short distance north of the mission. When the bells were molded the padres and their Indian helpers were so pleased with the beautiful church and sweet-toned bells it was at once decided to continue to work the mine. Accordingly the ore was mined and carried on the backs

of mules to the furnace which had been constructed near the mission. After the altar had been supplied with beautiful hand-molded candlesticks and other articles, the padres turned their attention to the fashioning of cups, plates, bowls and other utensils of table and household use made from the *planchas de plata* recovered from the smelting of the rich ore brought down daily from the mine.

The mine was said to be so close to the mission the miners could, on a still day, hear the sweet-toned bells ringing and the dogs barking in the little pueblo on the east bank of the wide arroyo. After all the needs of the church and the padres' quarters had been supplied, the bullion was run into heavy bars and stored in a secret place for future shipment to Spain, or to be sold in the City of Mexico. One fifth of all bullion from the many rich mines worked by the Jesuits belonged to the King of Spain and was known as the Royal Fifth. Failure on the part of the Jesuits to pay this royal tax is said to have been one of the reasons why King Charles III issued an edict expelling all Jesuits from Spain and its possessions.

In 1750 occurred the second revolt of the Pima tribes, in which the padres at Caborca and Sonoyta were murdered and the beautiful missions of San Xavier and Guevavi were plundered and partly destroyed. Then, in 1767 the edict was issued

by King Charles and the Jesuits, unable to take anything with them, sealed the entrances to the mines, buried their treasures, and fled to the coast. Many of them were killed by hostile Indians before they reached ships that were to return them to Spain. Many of the rich mines and great treasures lie undiscovered to this day. At Guevavi, according to legend the bells, altar service, candlesticks, household and cooking utensils were all collected and stored in a secret hiding place near the mission ruins, where they have remained to this day.

The first Americans to arrive in Santa Cruz valley in 1859 found large piles of slag at Tubac, Tumacacori, Cerro Colorado and Guevavi. Most of the slag was rich in silver and was shipped at a good profit by the miners who discovered it. At Guevavi most of the land on which the old adobe smelter and slag pile stood has been cultivated and there remain no signs of the old furnace. However, rich pieces of silver ore are now and then turned up by the plow.

For many years Juan Bustamante, an old wood chopper and pocket miner, lived with his son-in-law and only daughter in a shack in the shade of spreading cottonwoods that line the east bank of the wide arroyo near the mission ruins. Old Juan made his living in the hot summer months by panning the gulches for fine gold and by peddling stove wood in Nogales during the winter months when the ground was too wet for dry washing operations. Juan was well-known at the assay office of old Charley Taylor and among mer-

chants and residents where he sold his small vials of placer gold and peddled his burro loads of stove wood.

One hot summer day about 35 years ago old Juan arrived at Taylor's assay office with his two burros loaded down with sacks of rich silver ore, instead of the usual cargo of stove wood and small vial of placer gold. This caused considerable excitement among the miners who hung out at the assay office, but no amount of coaxing by Taylor or the American miners would induce the wily old Indian to disclose the source of his newly found wealth. Taylor said the ore was the richest that he had seen in many years. It had small pieces of grey quartz adhering to it and showed evidence of having come from the mineral district to the north of Nogales, around old Tumacacori mission or Cerro Colorado which has long been noted for its rich silver bearing veins.

Old Juan was fond of but two things. He loved to smoke innumerable cigarettes rolled in corn husks, and he liked to drink the red wine which he called *Sangre de Cristo*. Now there is a superstition among many of the old-time Spanish-Americans that if they will bathe in running water on

San Juan day, June 24, it will insure good health for the coming year. So it came about that every year after taking his annual bath in a nearby arroyo, old Juan loaded his faithful jacks with rich silver-copper ore and wandered south to El Pueblo de Nogales, for the fiesta of San Juan. On the second day of the great fiesta Juan, full of his beloved *Sangre de Cristo*, frijolitas, tacos and tortillas, lay down on his serape for a little siesta. In his troubled sleep, the old gambucino talked loud and long about a rich silver mine he had discovered high up in a rocky canyon on the southwest side of the rugged San Cayetano mountain. A newly made friend, not quite so drunk, listened in on old Juan's conversation and the day after the fiesta set out with a companion to search for the mine.

After several days of hard work, the two Mexicans found some very heavy silver-copper ore at the mouth of the deep rocky canyon described by Juan in his troubled sleep. High up near the head of the canyon they came upon a partly burned crucifix that had evidently been washed from the tunnel. It has long been a custom among Mexican and Indian miners to

place a crucifix in the mouth of any mine in which they are working. The crucifix was taken to the Tumacacori mission where it remained for many years. The two men made many trips to the locality but were unable to find any trace of the rich vein or the old tunnel. The heavy rains that annually fall in that locality had evidently covered it over.

Old Juan made several secret trips to the mine after the fiesta. Juan's last load of ore was purchased by Taylor for \$150. The next day he arrived at the little house of his son-in-law with his two burros loaded down with provisions and a supply of red wine. He was found dead on his pallet the next morning. Neither the mine nor the great treasure buried near the mission walls has ever been found.

The rooms of Guevavi are vacant now. The voices of the padres, the Indian children and the lowly neophytes have long since been stilled. Likewise the peal of the sweet-toned bells, the sound of music and the soft tread of moccasined feet have passed away. A small part of the thick adobe walls, a remnant altar and a few silent graves are all that remain to remind us of the padres and the happy red men who once prospered here at the quaint old mission of Guevavi.

I spent one night at the ruins many years ago and the next morning bacon was frying and the sputtering coffee pot sent out wave after wave of delicious aroma. My old Mexican guide told me that during the night he had a dream or vision in which he saw *mucho plata*, much silver. But I must confess that I have never had such a dream—nor have I found the silver.

Normal Water Supply Forecast For Colorado River Basin

Using a new forecasting technique, Weather bureau officials predict a satisfactory water supply for the Colorado river basin during 1947. Forecast is based on statistical analysis of precipitation data from 74 key Weather bureau stations in the basin, and runoff data from 37 Geological survey gauging stations.

Forecast for inflow into Lake Mead is 103 per cent of normal, with 50 per cent of normal precipitation which can be expected over the basin already reported. Upper Colorado will be normal or slightly above, excepting Roaring Fork at Glenwood Springs, which is forecast 4 per cent below normal.

The Gunnison and San Juan rivers are expected to be slightly below normal, and the Dolores slightly above normal. Green river outlook is good, 25 per cent above normal at Green River, and 50 per cent above on several tributaries. Forecast is for the period from October 1, 1946, to September 30, 1947. Precipitation, snowfall and temperatures in the basin area were all above normal during December.

DESERT QUIZ

How well do you know your desert mountains? This month—as a variation in the quiz program—Desert's staff is offering a questionnaire on the mountain peaks and ranges of the Southwest. Each of the mountains listed below is visible from one of the geographic places listed in the column on the right. But the printer got 'em all mixed up. For instance, everyone who has traveled the desert knows that Utah's Wasatch mountains are not visible from Prescott, Arizona. So, you rearrange them correctly, using the blank spaces left for that purpose. Ten correct answers is a fair showing. A score of 12 to 15 is good. Any answer above that will rate you as a 5-star pupil in the geography class. The answers are on page 25.

FROM WHAT POINT ARE THESE MOUNTAINS VISIBLE?

1—Wasatch mountains.....	Prescott, Arizona
2—Navajo mountain.....	Flagstaff, Arizona
3—Sangre de Cristo range.....	Tucson, Arizona
4—Superstition mountains.....	Ajo, Arizona
5—Castle Dome mountains.....	Essex, California
6—Panamint mountains.....	Humboldt, Nevada
7—Abajo mountains.....	Yuma, Arizona
8—San Francisco peaks.....	Coachella valley, California
9—Sandia mountains.....	Rainbow lodge, Arizona
10—Santa Catalina mountains.....	Las Vegas, Nevada
11—White mountains.....	Salt Lake City, Utah
12—San Jacinto mountains.....	Death Valley, California
13—Providence mountains.....	Springerville, Arizona
14—Charleston peak.....	Albuquerque, New Mexico
15—Humboldt range.....	Taos, New Mexico
16—Bill Williams mountain.....	Navajo Bridge, Arizona
17—Dragoon mountains.....	Desert Center, California
18—Vermilion Cliffs.....	Tombstone, Arizona
19—Chuckawalla mountains.....	Monticello, Utah
20—Growler mountains.....	Apache Junction, Arizona



Filaree. Left, above, single blossom. Right, above, seed capsule separating into five arrow-shaped drills.

Mountain mahogany or Cercocarpus sp. Flower shown enlarged at upper left. Seed with long plume at right.

Wild oats. At A are unripe seeds. B, dry ripe grain. C, foxtail with ripe grain. D, green grain.

Magic at the Grass Roots

Life begins at the grass roots. And the naturalist who rides an automobile sees less of what goes on near the ground than one who travels on a horse. Both miss much of the elf-size drama seen by the Nature lover who goes on foot. The hiker gains initiation into a magic world of seeds, insects, spiders and other tiny actors which play an important role in life on the desert. Jerry Laudermilk with his microscope has discovered some strange things in a world the rest of us know little about.

By JERRY LAUDERMILK
Sketches by the Author

IN MY first months on the Arizona desert, it seemed the quickest way to become acquainted with the strange natural life of this arid country was to do a lot of hiking. At first these jaunts took in only the territory close to the ranch house of the LK-Bar near Wick-enburg. Later, after the rains began and I had learned more about the desert, I often packed enough outfit to let me live on my own for a day or two and camp on some absolutely silent mesa under a "Pima tent" made of a bed tarp stretched over a creosote bush.

It was about the middle of April in Arizona's Hassayampa valley and I was on such an expedition into the upper reaches of Box canyon. It was a strange place of steep red malpais walls, sparkling water and posturing saguaros. The hiking was good and there was much to see. The sun dropped low and I began looking for a place to camp. Then I came to just what I wanted. It looked like a strip of misplaced

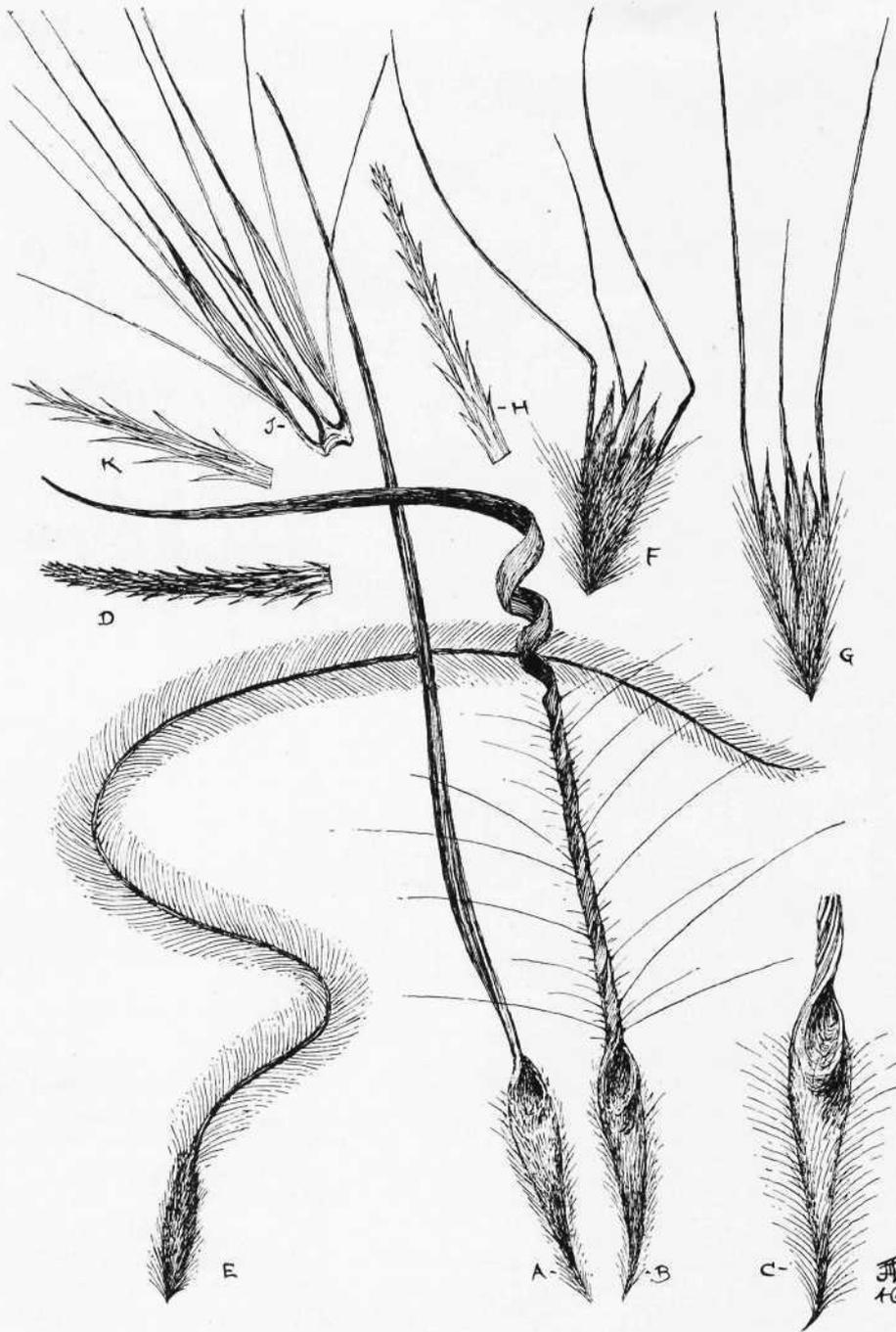
lawn. There are many such places along the river. Sub-irrigated by springs, such spots stay green the year 'round supporting stands of yerba mansa, mulefat and arrow weed which make them popular with butterflies that like damp soil. The ground on my proposed campsite had been claimed a long time before by several species of grass and an interesting plant, which, at this time of the year, grew in most places as symmetrical rosettes of leaves flat on the ground. Here, perhaps from stored-up warmth shed by the canyon walls during the night, they had moved ahead of schedule and grew as small herbs about a foot high. At this late hour their small, purplish-pink blossoms were rolled tight. But the plant was still one to attract attention for it had long, slender seeds in a cluster with up-tilted angles like the bills of a troop of pigmy herons.

This plant wasn't a total stranger to me. My aunt, who held it in high personal esteem, called it filaree and praised it might-

ily as one of the best spring range plants in Arizona. Heron bill, filaree, or "filarea" as the Mexicans call it, is scientifically *Erodium cicutarium*, a close relative to the ordinary geranium. From its abundance, filaree is an outstanding example of a plant that has made good. The reason for this honest success becomes clear when you look into some of its peculiarities. The key to the situation is in the seed.

When the fruit ripens the ridges split apart at the bottom and the whole beak separates in a most interesting way. While the ridges split, their lower ends pull from the socket and look like tiny brown arrowheads. The part above, at first simply a ridge, is now the shaft of an arrow about two inches long which soon twists itself into a neat little object that looks as if it had been turned on a jeweler's lathe. The lower part, which now resembles a machine-screw, ends with a flourish at the top and the last third of the shaft stands out at an angle as a heavy bristle curved like a sickle. When the seeds drop off the axis, the value of this curious mechanism becomes evident. Now begins a grass-root mystery where one of Mother Nature's cleverest inventions can be seen in operation. But before we go deeper into the subject let's make a few experiments with filaree seeds on a wet blotter under a tumbler.

Only a few minutes pass before the seeds do something very peculiar, startling



Seeds, tools and motors: A, filaree seed, damp and unwound. B, same dry and twisted into a drill. C, the cutting bit with which it digs its way into the ground. D, tip of filaree bristle greatly magnified to show the barbs. E, mountain mahogany seed with plume, also a drill. F, wild oat seed with awns bent in dry condition. G, same damp. H, tip of awn magnified. J, foxtail, three seeds attached to piece of stem. K, tip of the awn.

in fact. If you have piled the seeds in a heap the bristles begin a stealthy motion like some timorous daddy-long-legs recovering from a fright. Soon the movement becomes bolder and the seeds untwist and stretch out straight. Now hold one of the arrowheads between your thumb and finger with the shaft pointing upward. In less than a minute the shaft will begin to bend at a point half way down until it is almost at right angles with the lower portion. As it bends it twists from right to left in the direction opposite to the hands of a watch. Finally the arrow rewinds it-

self into the screw and bristle gadget it was before it straightened out. So far as I can discover, the best match for this instrument among man-made tools is the ratchet drill used for boring holes in unhandy places where only a part turn of the bit is possible. But, as I will show, it doesn't drill in the same way. It is even more specialized. The human invention works only in one direction but the filaree seed functions when turned either to the right or left.

The seed moves because the cells making up the fibers of the arrow shaft are

thick-walled tubes capable of swelling greatly when damp. When dry, the cells contract more lengthwise than across. Since, when they were growing and gorged with sap, they followed a spiral set in one definite direction, shrinkage pulls them in the opposite direction and the whole arrow shaft twists up into a tight spiral. The seeds are so sensitive to damp and dryness that even a trace of moisture causes them to move while lying on the ground. This all contributes to a single result: the seed buries itself.

Among my botanist friends interested in such things none had ever actually seen the seeds in operation. They had all seen them squirm when wet but so far as actual self burial went, they were taking the word of someone else.

In such cases I never feel comfortable about passing the word along until I have first-hand evidence. So I searched the ground beneath filaree plants that were shedding seed. The only seeds I found were tangled in the grass or scattered haphazard upon leaves and pebbles. Obviously, these seeds had not come to a successful end.

A closer search with a hand lens showed many of the bristles sticking out of the ground. Some of these were not fastened to anything. Others were still attached to the screws and some force was required to pull them up. Obviously, they did bury themselves, but so far I hadn't caught one in the act. The next move was to coax a few seeds into a demonstration for my benefit. I rigged up several pieces of apparatus for this purpose and they are shown in the illustration. The experiments showed the action of the seed mechanism to be as follows:

Any seed that drops to an unlitteered surface is out of luck from the start. It simply lies on the ground and squirms without doing anything useful. But there is nearly always abundant trash under bushes—dead twigs, grass, pieces of stick, etc. These accidental aids which can be used as overhead stanchions are essential for efficient performance.

When a seed drops it is usually twisted and remains so until fog, dew or rain furnishes enough water for it to react and straighten out. When it dries it twists up again and the awn gropes around until by chance it meets some object against which it can brace itself. Now the bristle will work like a ratchet and block any loose rotation of the seed as a whole. Only the shaft can move. As the screw twists and untwists with the ratchet braced, the tip of the arrowhead begins the excavating operation.

The head is furnished with microscopic hairs that point backward and act as barbs. They also have a spiral twist so they function like the threads of the gimlet tip on an auger bit. But here the resemblance to any humanly constructed mechanism ends.

The spiral twist does not continue around the point as do the threads of a gimlet. They stop at a vertical dividing line where they meet a new set of barbs spiraling in an opposite direction exactly as if two screws, one with a right hand twist and the other twisted to the left were to be split lengthwise and two halves of oppositely threaded screws welded together. The result of this bi-symmetrical arrangement of twists is to make it dig in either direction.

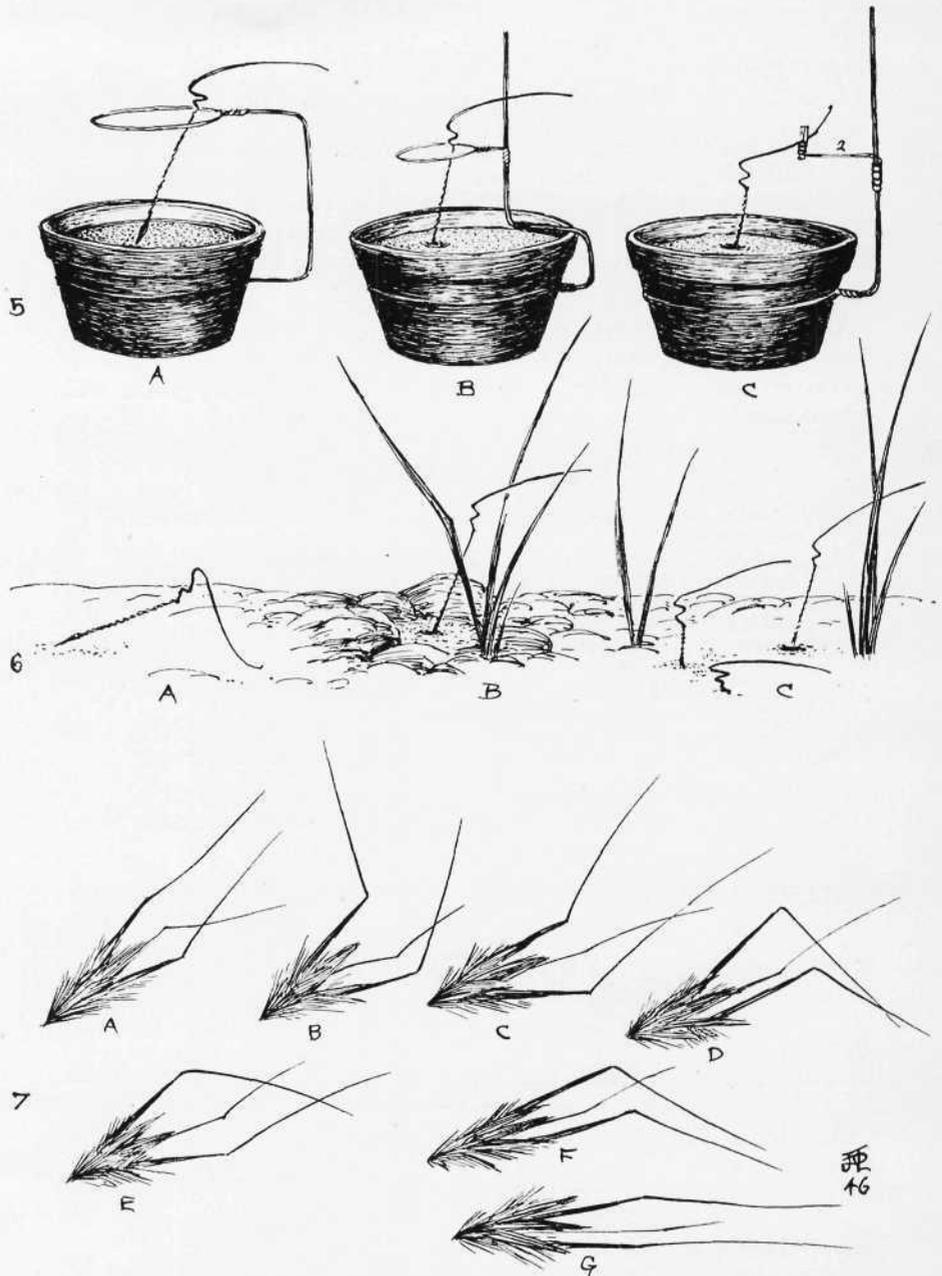
Other plants of entirely unrelated species use modifications of this method. One, mountain mahogany (*Cercocarpus* of several species) is provided with a long plume which acts both as a parachute and as the shaft of a drill. This seed needs no overhead stanchion. The free end of the plume bends down and braces against the ground, then bows up in the middle and digs in much the same way as *Erodium*.

Other ingenious seeding mechanisms are found among the grasses. Although we might not suspect it, the grasses are flowering plants just as much as is *Erodium*, and their blossoms examined under a microscope are extremely beautiful. Although the grasses didn't appear until late in the history of the world, say about 60,000,000 years ago during the Upper Cretaceous, they are highly specialized plants and have been a great success since they are the most widely distributed of all the higher plants.

Some grasses are carried great distances by the wind. Seeds of Vasey grass (*Paspalum* sp.) have been trapped on gelatin plates at 5000 feet altitude. But the seed I am about to describe utilizes the wind's energy by way of a spring motor attached to the seed itself.

Foxtail or mouse barley (*Hordeum murinum*) is so common in Arizona and Southern California that in the spring its squirrel-tail-like spikes are familiar to everyone. The seeds are furnished with an arrangement of bristles and awns which stand out at acute angles. The bristles are very elastic and carry microscopic barbs pointing toward their tips. When these seeds fall on level ground swept by a breeze they turn like weathervanes and point into the wind. Unless the wind is strong enough to move heavier objects the seeds are not blown away but brace themselves with the tips of their awns against the ground. The push of the wind against the seed bends the awns so that they are put under tension and store up some of the energy of the breeze. When the wind dies down they straighten out and propel the seed forward so that it may sometimes creep against the wind.

The next seed to be considered also favors the spring motor type of propulsion almost entirely. In this case the spring works by the action of hygroscopic moisture very much as did *Erodium* seed, but there are important differences.



5—Experiments to show how filaree seeds plant themselves: A, this seed simply rotates in the wire loop and gets nowhere since it has no prop to catch the bristle. B, this seed can dig in, the bristle catches against the wire upright at 1. It may take hours for the seed to bury itself. C, this seed will dig in fast: The arm 2 is bent from fine aluminum wire and slides loosely on the upright. A piece of split match stick holds the free end of the bristle and keeps it from turning, the seed has to stay put while it bores into the ground. With this apparatus it takes about an hour. The alternately wet and dry atmospheres for these experiments were furnished by covering with an inverted glass having piece of wet blotter in the bottom.

6—Natural conditions corresponding to the experiments: A on clean ground, the seed gets nowhere. B, propped in dry grass and ringed with gravel. C, the bristle caught between two blades of grass is free to slide up and down.

7—Positions taken by a single wild oat in a saucer of water during two minutes: A, just dropped in. B, begins to kick. C, the middle awn catches and begins to act as a spring. D, the spring slips and the seed turns over. E, good for one more kick, it again turns over and then straightens out at F and G.

The two varieties of wild oats (*Avena fatua* and *A. barbata*) are such common plants it is surprising their entertainment possibilities have been so largely overlooked. Along roadsides and in waste

places spring brings out many tall gracefully nodding stems with drooping bunches of long-whiskered seeds. After a few warm days the green grain ripens into clusters of dangling objects like fantastic

RECREATION Photo Contest

There's fun to be had on the desert—change, relaxation, and the opportunity to pursue hobbies. We think there should be some good pictures in the desert recreation you most enjoy, whether it be hiking, riding, rockhunting, or eating and yarning by the campfire. March photo contest prizes will go to photographers who successfully transcribe these pleasures in black and white.

First prize is \$10, and \$5 for second place. For non-prize-winning shots accepted for publication \$2 each will be paid. Entries must reach the Desert office in El Centro by March 20, and winning prints will be published in May.

HERE ARE THE RULES

- 1—Prints must be on black and white, 5x7 or larger, printed on glossy paper.
- 2—All entries must be in the Desert Magazine office by the 20th of the contest month.
- 3—Prints will be returned only when return postage is enclosed.
- 4—Contests are open to both amateur and professional photographers. Desert Magazine requires first publication rights of prize winning pictures only.
- 5—Time and place of photograph are immaterial except that they must be from the desert Southwest.
- 6—Judges will be selected from Desert's editorial staff, and awards will be made immediately after the close of the contest each month.
- 7—Each photograph submitted should be fully labeled as to subject, time, place. Also as to technical data: shutter speed, hour of day, etc.

ADDRESS ALL ENTRIES TO PHOTO EDITOR, DESERT MAGAZINE.

THE *Desert* MAGAZINE
EL CENTRO, CALIFORNIA

Several mechanical functions are brought into play in each case I have described. First we have the effect of capillary action and surface tension shown when the dry awns absorb moisture. Next there is the effect of elasticity evident when the wet awns begin to react. Then there is the effect of the torque in the spring mechanism in each awn; the twist is in the same direction in each. It is as if a long spring had been twisted lengthwise, then doubled so that the halves form the two awns. Now they will both rotate in the same direction and the seed is propelled as if by twin screws. Finally there is the principle of the barb, the most efficient of all simple means for preventing motion backward.

The accepted explanation for all these applications of mechanical principles so neatly applied, these self-operated drills, springs and revolving screws, is that they evolved through a series of accidental variations, which, present as merest suggestions at first, proved to be advantageous to the species. This is perfectly reasonable, but a point easily overlooked is that when cell division and growth had begun to follow the lines of the preexisting but invisible pattern for the completed plant and seed, these were accidents that had to happen.

There is a profound significance to all this. As one delves deeper and deeper into the strange miracles of the natural world there comes increasing respect for that invisible Power which brought these things to pass.

insects. But what at first appear to be a pair of, or sometimes three, long black legs bent at the knee, prove to be the awns of two or three seeds. A handful of these things dropped into a bowl of water come to life as a squirming, kicking tangle of pseudo-bugs. The legs cross and twist in a most amusing way and this keeps up until they have all straightened out and the seeds float as sedately as so many dead cockroaches in a bowl of soup.

Help these seeds out and let them bask in the sunlight and soon they bend back into the same gawky objects they were when picked. In drying they sometimes turn over and over and may even jump forward, a remarkable feat for an inanimate object operated by a very simple mechanism. The jumping of wild oat seed takes place when one awn twists against another so that they both bend under the pressure. As they bend, the awns, which cross diagonally, slip toward their tips. Finally one slides off the end of the other with a jerk which causes the suddenly freed awn to kick against the ground hard enough to capsize the whole seed. Since the barbs that arm the awn prevent the seed from springing backward, the kick drives it straight ahead.

JALOPY JOE By Frank Adams



"Did ya get that gasoline stove aworkin' Joe?"



INSISTENT SANDS

By GRACE CULBERTSON
San Diego, California

I grow content beside this placid sea,
So broad and blue, so silver in the sun,
At least, content as one could ever be
Who's seen the desert when the day is done;
Beheld arched desert skies with bright, far stars,
Or witnessed sunrise over waiting sands,
And known the quiet that no harsh noise mars,
Lost in that peace a desert mood demands . . .
Though prairie-born, no fields of waving grain,
Nor shaded streets where elm and maple meet,
No lilacs by old gates nor summer rain,
Recall more urgently my wayward feet . . .
Though prairie-born, possessed of pleasant seas,
My heart holds fast to desert memories.

THE CRUCIBLE

By IDA SMITH
Prescott, Arizona

Its rugged sides are seared.
Mid desert wastes it lies alone;
The drifting sands and winds of years,
Across its form have blown.

In other days, of human toil,
Ore filled this homely cup;
A melting pot, where gold and dross
Together bubbled up.

In seething, fierce travail
The hardened rocks, and old,
Were crushed and boiled to separate
The leavings from the gold.

The hands that wielded rock and tool
Through years of toil untold,
From out life's cup, of smiles and tears
Have gleaned their precious gold.

NEW MORN

By TANYA SOUTH

Let not my feet be leaden now
That Morn has risen from the night.
Still unto God's Will let me bow,
And still work staunchly for the right.
With eager and devoted care,
With trust and faith in Life Divine,
Still let me on the straight Path fare,
And live in but the Lord's design.
Or good, or ill, whate'er befall,
God, God alone shall hold my all!

Country God Forgot

By H. T. MUZZY
Los Angeles, California

There, where boundless spaces, parched and
barren,
Are fraught with arid life and dry unyielding
fire,
No breathing thing may hope or dare exist,
To thwart the unknown aim of God's desire.

Unfruitful, sterile plains that reach their
tendrils out,
To grasp and tear asunder all that would annoy.
Its potent vastness of the day and deathlike
hush at night,
Must always keep intact the thought to wreck
and to destroy.

Here within this land of heated stone and sand
is placed
An added virus in the million creeping things,
That act as sentinels against a living world,
To consecrate this grave which dire destruction
brings.

This spot of mystery without our every joy,
Must have rebelled in the far and remote past,
Against Almighty's wish, and this irreverence,
Was thus repaid with this bleak and barren
caste.

What is that finite soul that can destruction
play,
Build a wilderness, then, with equal lay,
Place within its barren borders there a tiny
flower so rare,
To waste its sweetness on that deathlike desert
air.

METEOR SHOWER

By MABEL FARRAR ELLIS
Rising Star, Texas

One night a million fairies danced
With shining slippers on,
I saw them twinkle in and out
'Neath skirts of white chiffon.

I saw them glide across a floor
Of polished midnight blue
Into a sea of milky-way
To bathe in nectar dew.

They danced and whirled in silent glee
All through the glamorous night,
'Till morning rolled his chariot up
And hauled them out of sight.

TENDERFOOT MINER

By NELL MURBARGER
Costa Mesa, California

I'm getting pretty seedy now while grubbing
out the gold,
And my fingers aren't so supple any more,
As when I was custom-tailored to a pretty show-
case mold

In those namby-pamby city days of yore . . .
I never saw a gold pan till I bought me one this
year,
And a pick and shovel had no great appeal;
I hadn't seen the sunrise once in twenty years,
I fear,
And I'd never cooked a desert skillet meal.

My fingernails are broken and my hair's combed
—now and then—

For the time slips by unheeded, sort of fast;
Every day I shaved back yonder; now, perhaps
in nine or ten,

For I have to make my precious water last.
As I pour the tepid nectar from my rusty old
canteen,
(Taking care that not a single drop shall
spill!)

I think how I wasted gallons when I'd bathe and
primp and preen . . .
Now I wonder how it feels to drink your fill!

But this game it somehow holds me, for the
gold-dust in my pan
Brings a thrill a pay-check never brought to
me;

And the smell of beans and bacon and hot coffee
in a can,
Is more alluring than a swank cafe could be.
When I figure daily earnings I must add in
everything—

Air and health and strength and appetite—
and then,
I still never have the profits that my city job
would bring . . .
But you'll never see me at a desk again!

VISIONS

By MARGARET BICE
Los Alamos, New Mexico

I never see a mountain peak,
But that I long to scale its heights.
I never see a forest deep,
But that I want to go and seek,
'Long its winding trails a waterfall,
Or a quaking aspen straight and tall.

I never hear a rushing stream,
But that a trout I yearn to take.
I never see a campfire's gleam,
But that a tale I start to dream,
Of covered wagons and outlaws bold,
Of a redskin warrior and placer gold.



The Nevada Hills, rich fields for the rockhound. Left, across historic Columbus Marsh, the Monte Cristo mountains with gem jasper and common opal. Right foreground, foothills of the Silver Peak range which hold the remnants of the Fish Lake petrified forests. Right background, Lone Mountain with fossil beds at its base.

-- So She Hunted Gem Stones

By HAROLD O. WEIGHT
Photographs by the Author

TWO YEARS ago, Maude Kibler had never seen a rock cut. But today she feels that her health, hope of future happiness—perhaps even her life—are gifts from the stones she seeks in the Nevada hills and which she saws, shapes and polishes in her little lapidary shop in Mina.

Mina is a not very big spot on U. S. 95—the Good Neighbor highway—some 70 miles northwest of Tonopah. Railroads built Mina, and it still is largely a railroad town, although the narrow gauge from California, which once had its terminus there, has been torn up and the Tonopah and Goldfield is abandoning its Mina-Goldfield line. Four hundred people live in Mina, and there is no directory. But al-

Maude Kibler found peace of mind and work for her hands in the hills of Nevada—just as men and women down through the ages have been going to the desert for new strength and courage.

most anyone can tell you where "the lady who polishes stones" lives.

Mrs. Kibler sat beside the grinding wheels in her little shop and unconsciously fingered a half-finished gem stone as she talked. Her story begins and the old life ended—as it did in many American homes with the arrival of a telegram from the War department. Her only son, Stanley, had been killed in action. A paratrooper, he died on Christmas Eve—the birthday of the Prince of Peace.

Maude Kibler tried to absorb the blow and go on. The family then lived at Haw-

thorne, seat of Mineral county, at the foot of Walker lake. She had a young daughter, Molly Lee, and during the days the routine of housework kept her hands busy. But through the long dragging nights she could not sleep.

Then Herbert, her husband, suffered a breakdown from overwork and worry about his wife. She knew that he would not recover while her condition remained as it was. She convinced him he should take a prospecting vacation by himself. Left alone, she thought that she could fight her own problem out and be well again when he returned.

But the spirit to fight was not there. Broken, insufficient sleep told on her physical condition. At last, she found herself thinking of drugs to give her body rest. Frightened into action, she went to a doctor the next day.

The doctor shook his head. "Medicine can't help you," he said. "Do something entirely new that will absorb your mind and occupy your hands—something that will be intensely interesting to you. Get a new hobby and ride it to death."

It didn't sound like much of a cure. Surely a hobby could not drive away the aching emptiness left by the death of her boy. But the doctor was offering a prescription almost as old as the history of medicine. Today, forms of occupational therapy are working miracle cures with those maimed in body and mind by the second world war. As early as the second century A. D., the great Greek physician Galen declared: "Employment is nature's best physician and essential to human happiness."

The territory around Hawthorne, Mina and Coaldale is a great collecting field for semi-precious stones. So it was not surprising that a gem cutting company should be established at Mina. The company needed money to help finance operation and it needed workers to learn the trade. Word of it came to Maude Kibler.

Here was something which seemed to fill the doctor's prescription. She knew nothing about the work. It required active use of hands and brain. The thought of bringing out the hidden beauty of drab stones stirred her interest. She invested part of the gratuity pay the government had sent after the death of her son, hooked up the trailer house, and moved to Mina.

The work was difficult at first, and there was little pleasure in it. But it absorbed every moment of her attention, and when night came she was tired physically. She could sleep.

Herbert Kibler came back from his prospecting trip. He had no gold, but he had found health. He also found that his family had moved and had set up house-keeping elsewhere during his absence. When he reached Mina, his wife talked animatedly about things of which he had never heard. But her face had lost its gray and haggard look. She no longer twisted and turned at night, staring sleeplessly at the ceiling. Herbert nodded his head approvingly and found himself a job in Mina.

The company paid Mrs. Kibler five cents a carat for every perfect stone turned in. At first the monetary returns were very small and the pile of rejected stones large. But she learned about diamond saws and lap wheels, grits, dopping sticks, tin oxides, flats and cabochons. Her mind, forced into new channels, functioned again. As she worked over the unfamiliar tools, a sense of balance and proportion returned. And she learned the sheer joy of seeing a brilliant gem come into being from the dull rough. That was much more important than the \$200 earned in four months.



Mrs. Kibler outside her lapidary shop in Mina, Nevada.

Herbert was pleased at the way things were going, but he shook his head critically. "You're only getting half the pleasure from it that you should," he said. "Why not go out into the hills and find the rocks yourself." He knew what desert sun, clear air and outdoor exercise would do.

So almost every week the panel truck was loaded with food and prospecting tools and they went off into the hills and mountains that lie scattered about Mina. The Kiblers were inexperienced at first, and suffered all the trials and tribulations of the budding rockhound. Places that

looked likely proved to have nothing of value. Stones which looked spectacular in the field failed to polish.

But friends helped, telling them where to look for agate and petrified wood and turquoise. The panel truck began to bring back more valuable loads.

It was all fun, whether returns were good or poor. Molly Lee loved to scramble over hillsides and hunt for rocks. But she wasn't a rockhound, she insisted. No, nor a pebble pup, either. She just brought pretty rocks for Mommy to polish. Rusty, the cocker spaniel, was a pebble pup, though. "He picks up rocks, too," she said.

Plans were made for longer trips and



Molly Lee Kibler, eight, says she isn't a pebble pup. She just finds pretty stones for Mommy to polish.

overnight camps when the weather grew warmer. There were to be expeditions to the Black Rock desert and Virgin valley. Then an unexpected blow fell. The gem cutting company moved south to Henderson, Nevada, to take advantage of the power and facilities in the great plant which had housed Basic Magnesium during the war. Mrs. Kibler couldn't go with them. Molly Lee was in school and Herbert had signed up for a job that would take at least six more months to complete. She faced the possibility of the return of those endless days with no lapidary work to fill the long hours.

But Herbert Kibler was a resourceful man, and he valued what her hobby had done for his wife. "I've got your nose to the grindstone," he laughed, "and I'm going to keep it there."

He took a look at the gem-cutting equipment, then visited dumps and automobile wrecking yards. Out of his researches came a highly workable diamond saw built upon the foundation of an old coaster wagon, auto steering shafts and axles, and other wooden and metallic odds and ends. He even created an arbor with sealed bearings. He went to Reno and, buying only such parts as he couldn't construct, built cut-off saw, grinding bench, sanders, and all the necessary paraphernalia of the trade.

Then he elaborated on the set-up, adding touches that no commercial equipment boasted. He piped water to the grindstones. When Mrs. Kibler developed rheumatism in her hands, he connected

the water to the heating system so that hot or cold was available. He wired lights down on the wheels, then placed mirrors to throw the light onto the work itself. Then he started to construct a 20-inch saw.

"He works six days a week on his regular job, and the seventh day for me," Mrs. Kibler laughs.

But she hopes that some day he will be able to work those six days in the lapidary shop with her. She hopes to carry her hobby to the point where they will be able to live upon the returns. She wants to work with Nevada stones only, making individualistic jewelry of which she and the state can be proud. She and her husband are learning to work silver so the jewelry will be theirs from discovery of the stone to its final setting.

There are other ideas and activities—some of them now being worked upon, others for that future which once more has become important: Experiments with the setting of less expensive stones in plastic; try-outs of Nevada's natural abrasives. Then there is the motel that Herbert Kibler is building for M. C. Sinnott in Mina. The motel is to have many unique features. One of them will be a great fireplace in the lounge which will be faced with precious and semi-precious Nevada stones. Maude Kibler will select, cut and polish the stones.

Still in the future, but nearer now, are those trips to Virgin valley, Black Rock desert and the great collecting fields in which Nevada abounds. For Maude Kibler has found that only through work can come release from sorrow, and that from the great heart of the desert comes the mental and physical strength to face life.

It is no accident that most of the world's great religions were born in desert solitude under a desert sun. It is not simply because of altitude and climate that hospitals and sanitariums are built in a land of ragged hills, armored vegetation, burned rock and sand. In the desert mankind finds his nearest approach to the great healing power of Nature—healing for diseased bodies and healing for spirits broken by the savagery that seems innate in our so-called civilization.

Maude Kibler hopes that others may gain a little help from the lessons she learned on the long, bitter road back from that day when the telegram from the War department came.

"If only they would get out and hunt rocks and get close to Nature—those people who are grieving themselves to death," she said. "If only they would find work for their hands and minds they would discover that—perhaps without their even knowing it—the healing had begun."

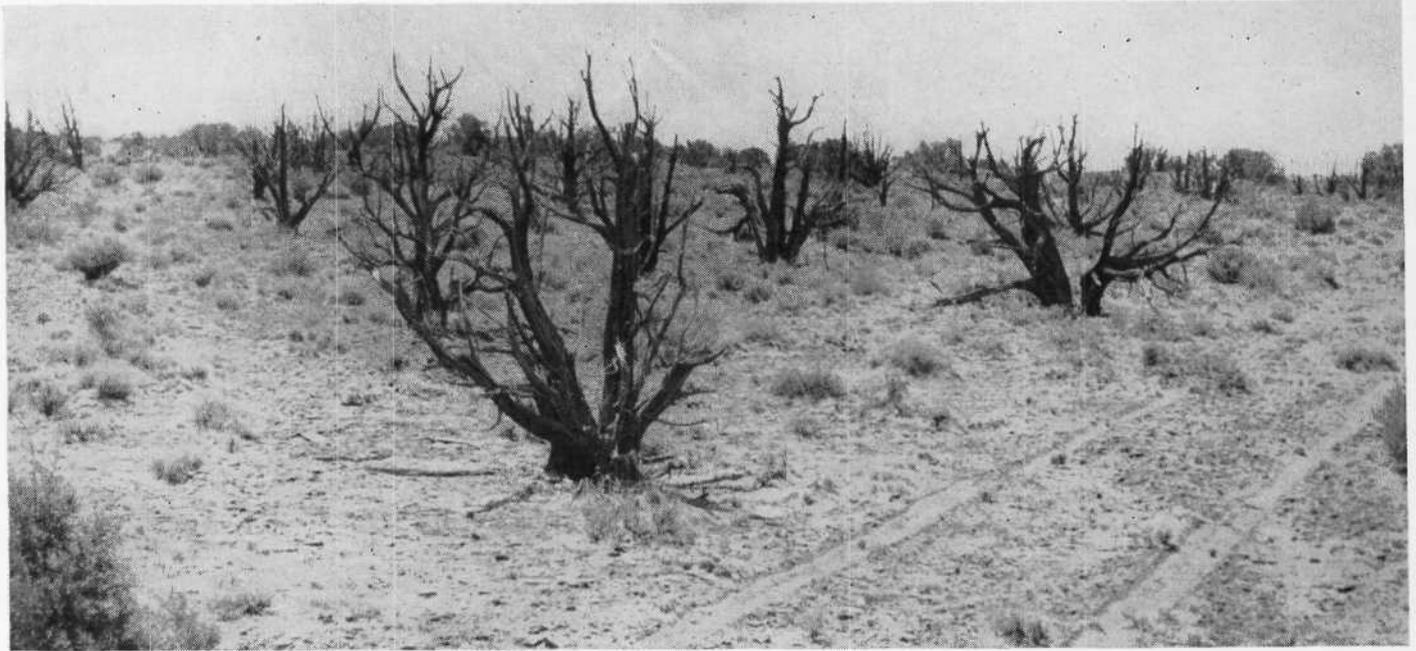
She caressed the half-finished gemstone in her hand. "Most people would say that it is only a little piece of rock. But finding it and cutting and polishing it has meant life to me. I still miss my boy terribly—I always will. But I know he approves of what I am doing. The future is no longer blank. I have found my faith in God again, and in the rightness of things."

She looked through the window of her lapidary shop at the jagged Pilot mountains, glittering under the summer sun. I felt that she was saying, in her own words, something that had been written long, long ago.

"I will lift up mine eyes unto the hills, from whence cometh my help."



Herbert Kibler with the rock-saw he built from the bed of a child's wagon and odds and ends from junked automobiles. And it works!



Some of the trees that died of fear.

Trees That Died of Fear!

Here is an unsolved mystery of the Navajo country—a 1000-acre forest of juniper that suddenly withered and lost its foliage. But the Indians have an explanation which satisfies them—the trees died of fear. Toney Richardson drove deep into the heart of a vast roadless desert to get this story for *Desert Magazine* readers.

By TONEY RICHARDSON

AS GUIDE, I took along with me into the far western Navajo country Tsecody because he knew the Kaibito plateau. In fact he knew that part of Arizona as well as he did the inside of his hogan.

In the sand I drew a rough map of the area we were to cover, showing the greater landmarks such as the Colorado river, Navajo mountain, old Lee's ferry, and a profusion of canyons and mesas. Tsecody studied the map at great length. Then he made a mark with the end of a stick. That was our objective—the hogan of Hosteen Clahbidoney, whom I was going into this remote country to see on an important matter.

From Kaibito trading post we drove 20-odd miles through the Land of Marching Giants. The name derives from a series of sloping natural monuments in lines that actually make them appear to be marching across the landscape.

From the Copper Mine district we went north, soon reaching the end of traveled roads. But the tracks of a Navajo wagon continued to the north, and we followed them, winding through the sagebrush along the route of a long-used sheep trail.

Finally, up on a high bench overlooking the great basin of the Colorado river we came upon a road where wagon wheels had cut the soil into fine reddish dust. This could mean only one thing—a source of water. Moreover, the route of the water hauling wagons took off over the bench to a low red mesa. Down from this mesa would be Hosteen Clahbidoney's hogan.

A mental calculation told me that we could save a few miles by taking this road and moving down from the red mesa to another bench. Yet according to Tsecody's plan we should go from this spot over a rough, probably impassable trail around the mesa.

I told Tsecody that I didn't see any reason why we shouldn't take this nearer route. That is, provided there wasn't a deep canyon barring our way.

"There is no canyon," he admitted. But I noticed that his face was dead set.

"Then is there any reason why we shouldn't go this closer way?" I asked.

"Yes, there is," he replied stiffly. "Only the wagons dare invade the place where the Trees Died of Fear."

"Trees that died of fear?" I asked, staring at him.

"Yes," he answered seriously. "A great forest of them. All dead."

"Are you afraid of them?" I asked.

After some reflection Tsecody shook his head.

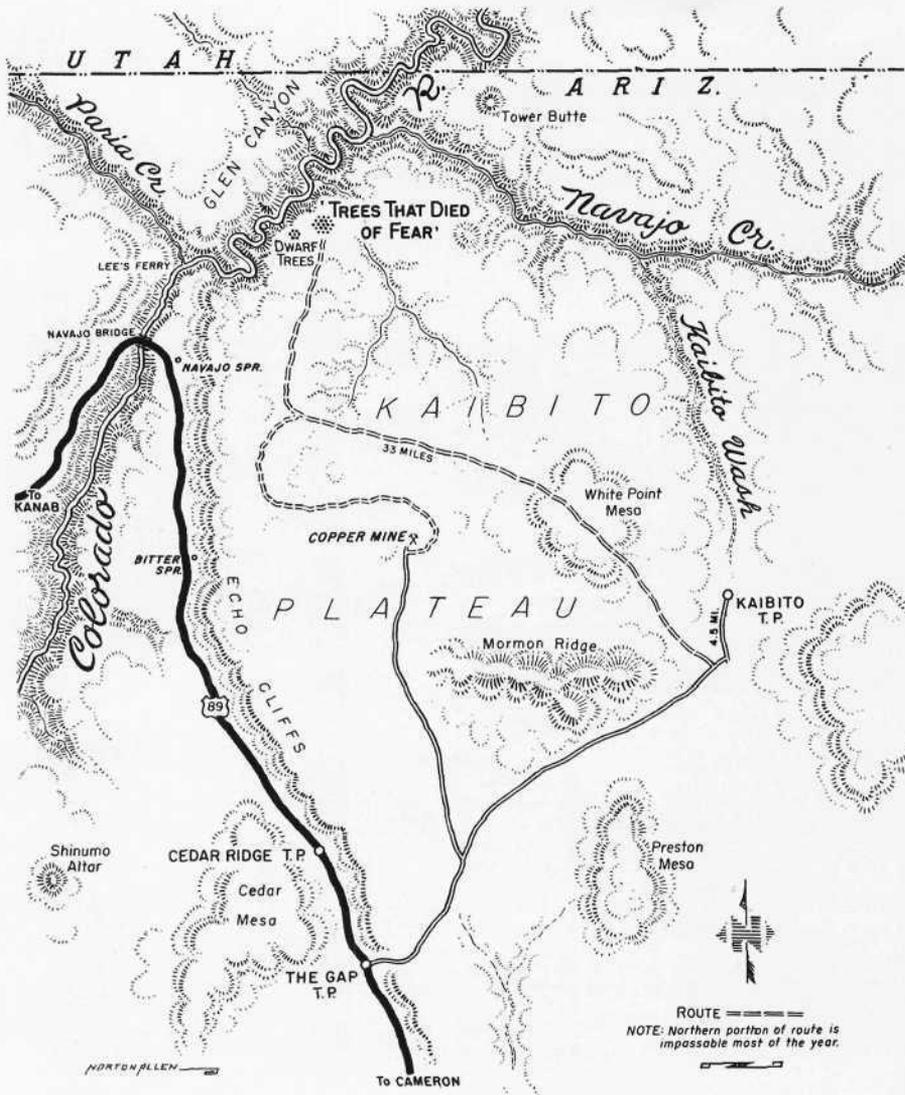
"Such strange things are best avoided when it is not necessary to go to them," he advised. "No, no Navajo is afraid of them. It is only as I have spoken."

Vaguely I could recall having heard of the dead trees before. Navajo references to them had, however, given me the impression the dead trees consisted of a small clump here and there, scattered over a wide expanse. I figured also that there must be growing timber in between the dead ones, and that there was some understandable reason for their death.

Tsecody was reluctant to proceed, but finally consented. Finding myself so unexpectedly close to the "dead forest" I felt an eagerness to have a look at the area. We proceeded along the wagon road. The trail was easy to negotiate. Growing timber fringed the edge of the mesa. We soon came through it into the edge of the dead forest.

Rather, I should say that we burst upon it with dramatic suddenness. One moment we were in green timber of the high plateau country. Here there was grass and weeds, and blooming flowers. Then abruptly that ended and we were face to face with the great expanse of a dead land.

It was really dead, this red land before us, devoid of practically all vegetation. The gaunt, stark trunks of trees continued unbroken ahead, in a desolate array where



even the gregarious piñon jay refused to venture. Instead of finding only a few isolated clumps of dead timber, before me lay what once had been a veritable forest.

Tescody seemed to have forgotten his former reluctance now. He walked out with me to examine the trees, and talked all the while. We investigated various spots, driving deeper among the denuded trees.

The forest covered approximately 1000 acres. On the east, south and southwest sides, piñon and juniper timber pressed in against the lifeless area in a dark solid green line. This made the scene all the more startling.

The majority of the stricken trees were from seven to twelve feet high, although a few here and there were slightly taller. I noted a few burned trees, probably set afire by lightning during storms.

Mystified, I set about trying to discover the cause of the blight which had stricken this area. There existed at this late date no evidence of a ground fire. Tescody insisted no fire had killed the timber here, and the trees themselves bore out this conclusion.

There was little ground vegetation in the way of grass, weeds or shrubs. In some of the draws we did find sagebrush. It had

the appearance of having taken root and grown in place since the timber died.

My estimate was that the forest had been dead about 25 or 30 years. Without a doubt most of the trees were juniper. All the bark on the trunks and limbs had long since disappeared. The stark trunks gave the area a ghostly aspect.

Tescody would discuss little of what he knew about the dead forest. Returning to the car we drove to Hosteen Clahbidoney's hogan. There with my business completed, we discussed the dead forest, and later called at more hogans in the vicinity seeking further information. The Navajo invariably referred to the timber as the 'Trees That Died of Fear.'

One man thought the forest had been killed by an underbrush fire. It was hardly necessary to point out the lack of such evidence. Another Navajo theory was that a drouth 28 years before killed the timber. But if this was true, why had not some of the growing timber around the edges of the dead forest died also?

We came upon still another explanation. One old man told us a "star" fell in the area 30 years before. He said at the time he had been herding sheep, but was a long distance from the scene. He suggest-

ed the flame and gas from this 'star' killed the timber, or scared the trees to death.

On White Point mesa ten miles or more from the place, we found an old man who said the forest had been dead for half a century. While this is extremely doubtful, his tale holds interesting points. He believes the timber is a different species from that around the area. A long time ago, he said, grass grew profusely in among the trees. During a very bad drouth the Navajo drove their stock in there. The cover was eaten completely off until the sod was cut into fine dust. The bark and leaves of the trees being palatable to animals, they promptly ate it away, thus killing the timber.

Juniper is not palatable. Few animals will eat it, so that possibility hardly is tenable. Another aged Navajo told us that a worm ate the roots of the trees, completed its life cycle and died along with the forest.

With one fact, all the old people in the region were agreed—that the trees died suddenly, all at once, a long time ago. The forest lay green and thick one day, only to become shriveled and dead the next.

Hosteen Clah told me his brother rode through the forest one day on his way to the Colorado river. He remained there two days, and came back to find the trees dying and the limbs already dropping.

Clah said the trees were *ghaad*. That is the Navajo name for cedar—the juniper of the high plateau country in northern Arizona. If this is true and the grain of the wood indicates it is, another question immediately arises. What happened to the stringy, brown bark? Nowhere in the forest did I find any adhering to a trunk, nor any fragments lying around on the ground. All the trees I examined, and cut into, obviously died suddenly and in the summer of some year, just as the Navajo claim. Their demise came so swiftly the gummy sap remained to harden the boles which has tended to preserve the wood from decay.

The fire theory is definitely out. Overgrazing, or that stock ate the bark and leaves, is likewise not possible. There is no evidence of a meteorite having fallen in the area. There are no surface marks of any kind, and terrific heat from a falling heavenly body would have left signs of fire.

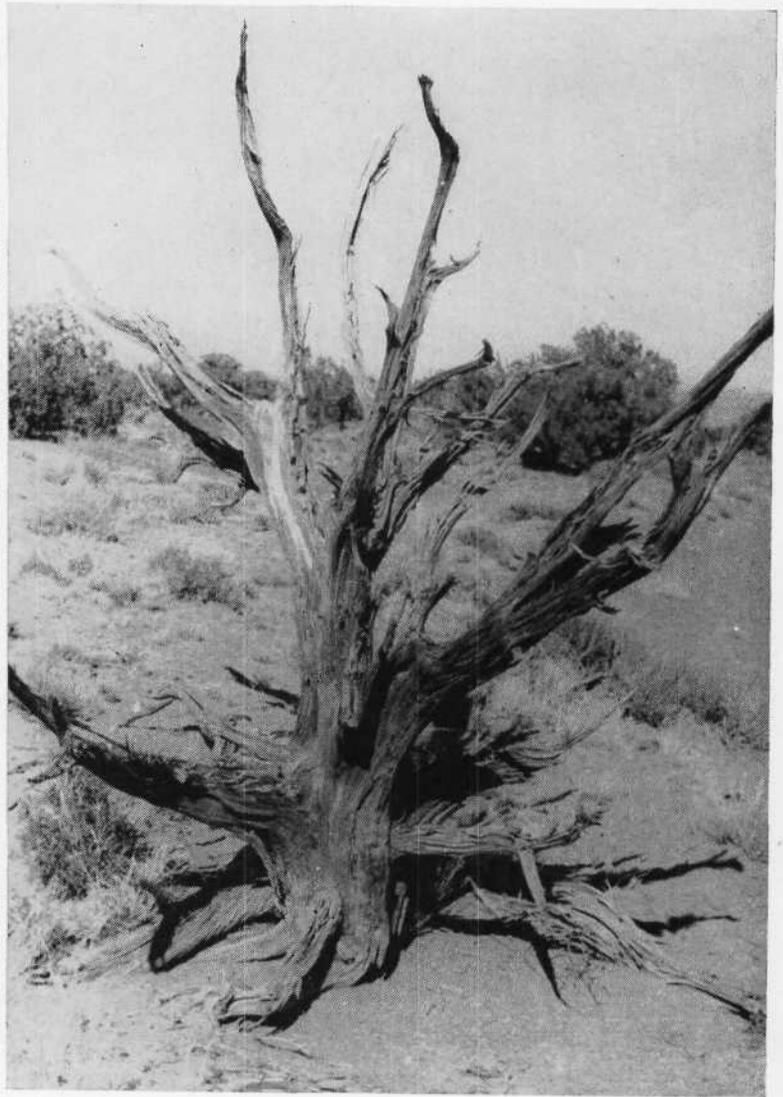
A drouth would have to extend over a period of two or three years to kill juniper trees. Also, the dead timber would have verged into the standing live forest around the area. No definite line of demarcation would have remained.

To determine if the roots of the trees had been attacked by some kind of insect, I dug up some of them in various parts of the forest. There existed no sign of such an attack.

Indeed, the more I have investigated the dead forest, the less reason there appears



Lee Kanaswood standing beside a 30-year-old juniper in the dwarf forest.



Close-up of one of the junipers which for no apparent reason shed their foliage and died.

to have been for its untimely end. That it should have died at all hardly makes sense.

The growing forest around the area stands closely packed, with underbrush a thick mat. This hardly makes the drouth theory worth considering. The living trees are much taller than the dead ones.

If a plant disease attacked the timber, why did it spread over 1000 acres and then end so abruptly? I made it a point to examine the surrounding area, and found only a few dead trees. These had been killed by burning. Either they were struck by lightning and set afire, or the Navajo in their usual way when wanting a big fire in a hurry, simply lighted the cedar bark at the base of the tree.

Following my first visit to the Trees That Died of Fear, I returned the following month with Lee Kanaswood. This educated Navajo once lived near the dead forest.

"Have you seen the dwarf trees?" he asked me.

"Dwarf trees?"

"Why sure," he replied. "Small trees, most of them hardly more than knee high."

We went two miles to the west, and out in the open found the dwarf trees. Many of them were hardly more than 12 or 14 inches tall. A large number were knee high, and some were three feet tall. A later check with tree rings gave the age of this small forest as around 20 years, more or less.

The small trees are perfectly formed. They resemble pot plants, although they are somewhat brushy. The explanation for the dwarf junipers probably is lack of soil and water. The thin layer of soil over the bedrock beneath is not sufficient to retain any amount of moisture. Rainfall, and snow in the winter, however, keep the small trees growing.

In the dead forest the reverse is true. The fertile soil is not only deep, but the rock beneath it is porous. This combination retains plenty of moisture.

Scientists of Navajo service have examined the dead forest. They have shaken

their heads, declaring at this late date nothing remains to give them a definite clue to the cause.

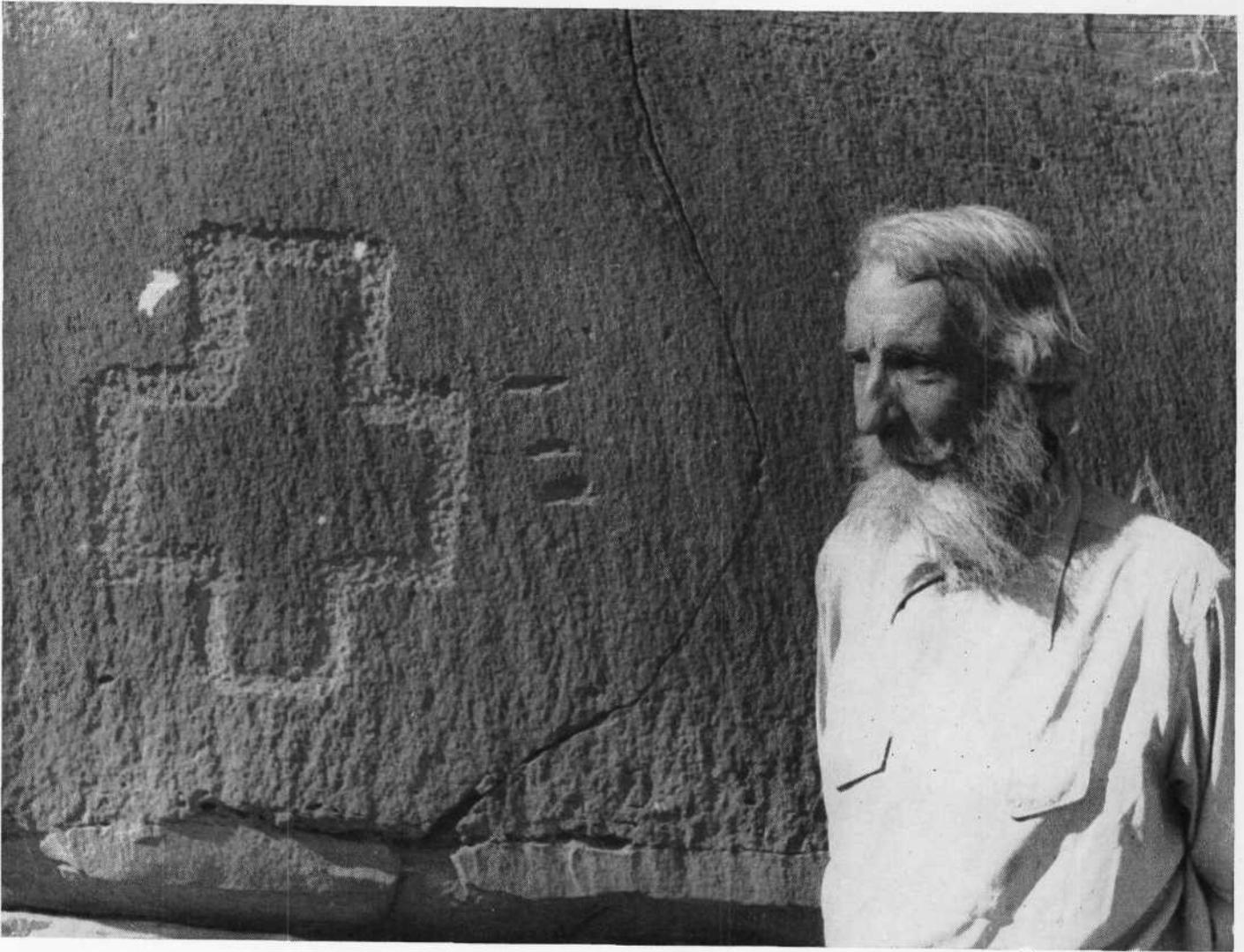
So, until a better explanation is given, we can only accept the Navajo legend that these trees died of fear.

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ARCHEOLOGISTS WILL MAP ALL KNOWN INDIAN SITES

Search for new Southern California Indian sites and the mapping of those already known will be the principal undertaking of the newly formed Southern California Archeological Survey association formed under the sponsorship of Southwest Museum in Los Angeles January 25.

First suggested by Edwin F. Walker, research assistant at the museum, the organization will invite the cooperation of museums and professional and amateur archeologists. Curator M. R. Harrington presided at the organization meeting and Dr. George W. Brainerd was appointed temporary chairman. Weekend field trips are planned.



Harry E. Miller, veteran of the southwest desert, and one of three crosses carved in the rock near Lupton, which may have been chiseled by De Niza and companions.

Clues to the Fabulous Seven Cities of Cibola?

For many months, news dispatches have been coming from New Mexico and Arizona hinting at the possible discovery of the sites of the fabled Seven Cities of Cibola—once goal of Spanish conquistadores. No one can say for sure that such cities ever existed—but here is one man who believes he has found them—and an archeologist who has uncovered some interesting evidence of an ancient culture.

By ROBERT A. BARNES
Photographs by Mullarky of Gallup

FOUR hundred and eight years have passed since Friar Marcos de Niza with his Indian guides and servants sought the Seven Cities of Cibola. Neither the Spanish padre nor his successors ever found the fabulous wealth of gold, silver and turquoise reported to

be in possession of the Cibola Indians. Historians today are inclined to regard the Seven Cities as a myth.

But Harry E. Miller—he prefers to be called Two-Gun Miller—is not so sure. Miller, who is as unconventional a soul as one will ever meet—will tell you through

his flowing gray beard that he has located ruins which he believes to be the lost remnants of Cibola.

The ruins lie astraddle the Arizona-New Mexico state line and are scattered over an area north and south of Lupton, Arizona. They cover an estimated 10,000 acres or more. The area adjoins the proposed Manuelito national monument west of Gallup.

With his friend and colleague, Milton A. Wetherill, an archeologist attached to the staff of Museum of Northern Arizona, Miller has spent months locating and exploring the sites of seven distinct centers of population, the first being only 200 yards from U. S. Highway 66. Millions of

thrill-seeking travelers have driven unsuspectingly by what may prove to be the most historic spot in the Southwest and one of the most ancient in the United States.

In May, 1946, Miller and Wetherill guided a party from Gallup including M. L. Woodard, secretary of the influential United Indian Traders association, A. W. Barnes, publisher of the Gallup Independent, Horace Boardman of the Navajo service, Tom Mullarky, Gallup photographer, and the writer on a tour of the nearest of the cities. This was the first time Miller had made his findings public. He has since taken the writer on other expeditions as new evidence has been unearthed to support his thesis.

Since his first discoveries Miller has become convinced, not only that he has found the site of Cibola, but that Friar Marcos de Niza returned to the spot after leaving the Coronado expedition in 1540 and carried on missionary work among the Cibolans. The evidence is far from complete and Miller hopes to interest archeologists who will have the time and authority to give the region a thorough investigation.

Friar Marcos' report in 1539 of a city glistening with golden roofs and gates of turquoise was the spark which set off one expedition after another by the Spaniards from Mexico.

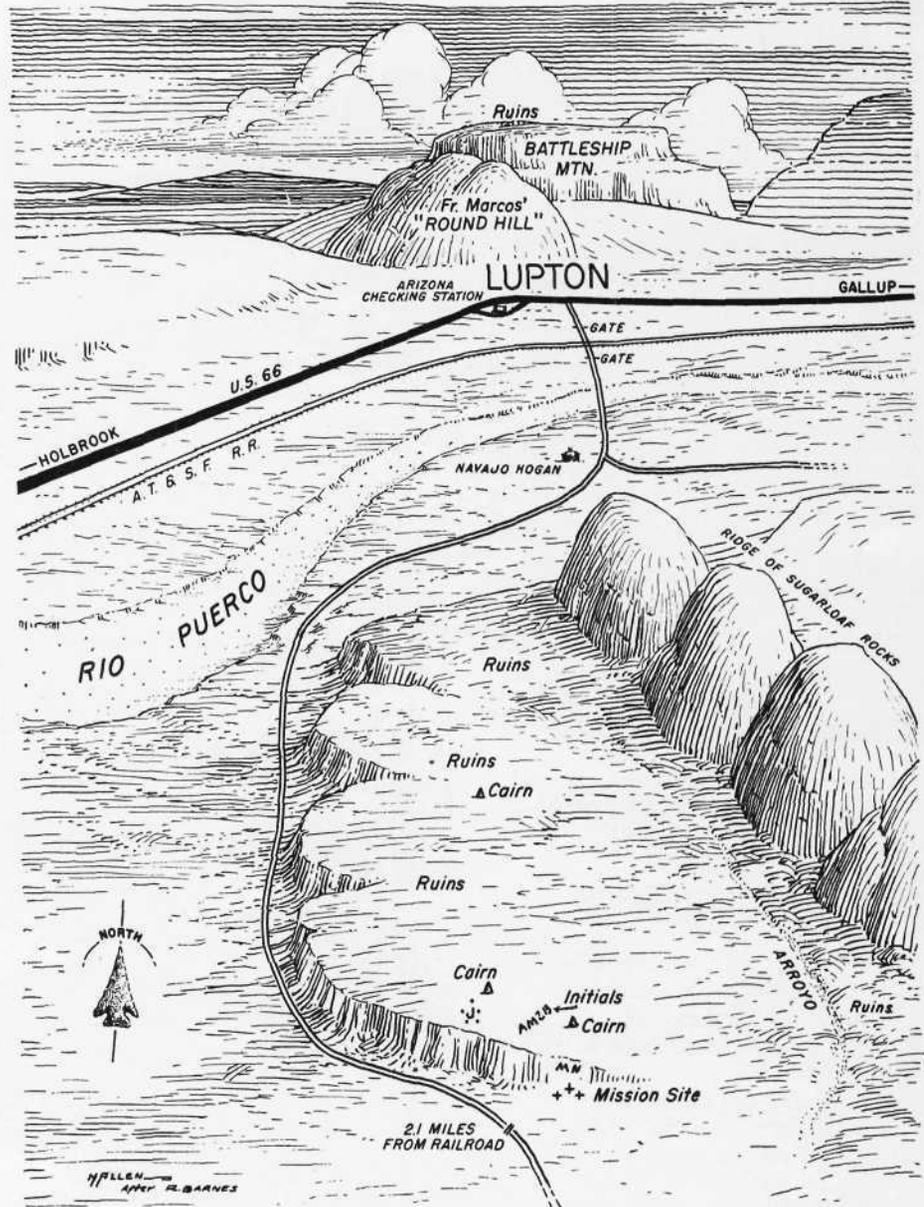
"I came within sight of Cibola, which is situate on a plain at the foot of a round hill," Friar Marcos wrote. This hill, as the friar explains at another place, was viewed from a mountain across the plain.

Miller pointed out to his companions a high mesa, which he believes was the friar's vantage point, and a round hill of solid rock with a plain at its bottom. This plain, if it actually is the one reported by Friar Marcos, now is transversed by the Rio Puerco, the Santa Fe railway and Highway 66.

Then he took us to the base of the round hill. At the base are ancient petroglyphs, which he said none of the modern Indians of the vicinity—Navajo, Zuñi nor Hopis—were able to decipher or explain. Here and there can be seen more recent Navajo carvings in the cliff, done by present-day sheepherders and silversmiths of the tribe.

We went up a narrow box canyon between walls perhaps 250 feet high on one side and 30 feet on the other. All through this area the floor of the canyon is lined with bits of broken pottery.

"This pottery," declared Wetherill, "is definitely not of modern origin. Of course here and there you may find recent shards mixed in, but most of that lying so generously in this canyon, and for that matter, throughout this entire region extending at least nine miles in a northerly direction and three to the south, is four or five hundred years old at the very least." Wetherill said later that he would classify the pot-



tery in three periods: From the year 1 to 750 A. D., from 1000 to 1270, and from 1300 to 1600.

Storm floods evidently have exposed ancient burial grounds for we saw on the surface of the ground several pieces of human skulls and a 16-inch human femur.

"I believe that in ten square miles of this area the total population was at one time greater than the present-day populations of either Arizona or New Mexico," Wetherill declared. "The culture that existed here is without question different from any which has been found elsewhere in the Southwest."

He pointed to some holes in the massive rock cliff, ranging from the size of a fist to that of a basketball. For the most part they were located at a height of 10 to 15 feet, although some were much higher. "Many of those holes were not, as you may have supposed, made by natural erosion of wind and water," he said. "They were the work of people who lived here long ago—possibly even the Basketmakers, of nearly 2000 years ago. The only use we can figure

out for them, aside from foot and hand holds in some instances, is to support the ends of rafters which once rested in them. What makes this culture unique is the unusual method of building which they had. Apparently they built their houses against the sides of cliffs, going up four and five stories."

A clue to the purpose of the holes is found in Friar Marcos' description of Cibola, which states:

"... all the inhabitants of the city lie upon beds raised a good height from the ground, with quilts and canopies over them, which cover the said beds..."

No evidence has yet been found to substantiate the belief of the Spanish conquistadores that the cities of Cibola were literal treasure chests of gold and turquoise. No metals of any kind have been found there yet. Wetherill advanced the theory that the tales of gold may have arisen from the value placed by some of the Indians of that day on hematite ore, a small handful of which even today is regarded as highly as



Explorers Milton A. Wetherill and "Two-Gun" Miller who have discovered a culture "different from anything previously found in the Southwest."

gold by certain Southwestern tribes, who use it as a base for facial paints.

"I have seen as much as five dollars paid for a little handful of this ore," Wetherill said.

To date only superficial excavating has been done, since the site is located on the Navajo reservation and federal permits are necessary for such work.

Evidence of burial grounds in the area is plentiful, with several having been discovered so far. Huge kitchen middens, as the archeologists term the old refuse heaps, have been found throughout the area.

On the northern side of the mesa on which this first city stood, across a shallow valley about 200 yards wide, stands Battleship mountain, named in the eighties because of its resemblance to the battleships of that day. Atop this mesa are three stone cisterns or reservoirs hollowed out of the ridge of solid rock which held the water supply of the former inhabitants. Several hundred feet of trenches had been chiseled laboriously in the rock to direct rainfall into the reservoirs.

Scattered liberally throughout the entire area are petroglyphs and broken fragments of pottery. Wetherill said that in all his studies and travel over the Southwest he had never seen any other place where there was so much broken pottery lying on the surface of the ground.

A half dozen wooden beams in a good state of preservation have been taken out and will be sent to Prof. Douglass at the



slave girls. There were whole streets in Cibola, he told the Spaniards, occupied exclusively by goldsmiths and silversmiths. Turquoise and other gems were set in door frames and on the fronts of houses.

After a first expedition had gotten lost and reached the west coast of Mexico, two barefoot Franciscan friars were sent northward in 1539 by the viceroy of New Spain to explore the kingdom of Cibola. One of them soon turned back, but the other, Friar

Ancient petroglyphs found on one of the walls in Lupton area. There are thousands of similar carvings in the region.

University of Arizona for dating through matching of the rings. Remains of some of the dwellings from which these beams were salvaged are in locations exceptionally well adapted to defense against enemies.

Stone steps in the nearly vertical cliffs indicate a people of extraordinary agility in climbing. Miller has found what he believes to be the "main street" leading from the top of the mesa to the part of the city which was located on the plain at the base. This "street," which he terms the "golden staircase," consists now of a row of holes the size of baseballs leading in a straight line up the smooth rock cliffside.

In 1521 the Spanish conquerors of Mexico City, having robbed that city of its riches, were eager to discover new tribesmen to loot. Rumors reached them that far to the north was a region occupied by seven great cities with incalculable wealth in gold and precious stones. An old Indian gave details, saying that each of the cities was larger than the City of Mexico. He said the tools the people used were made of gold and that their chiefs ate from golden dishes brought to them by beautiful

Marcos de Niza, continued on until, according to his written report, he was able to view the remarkable city from a mountain.

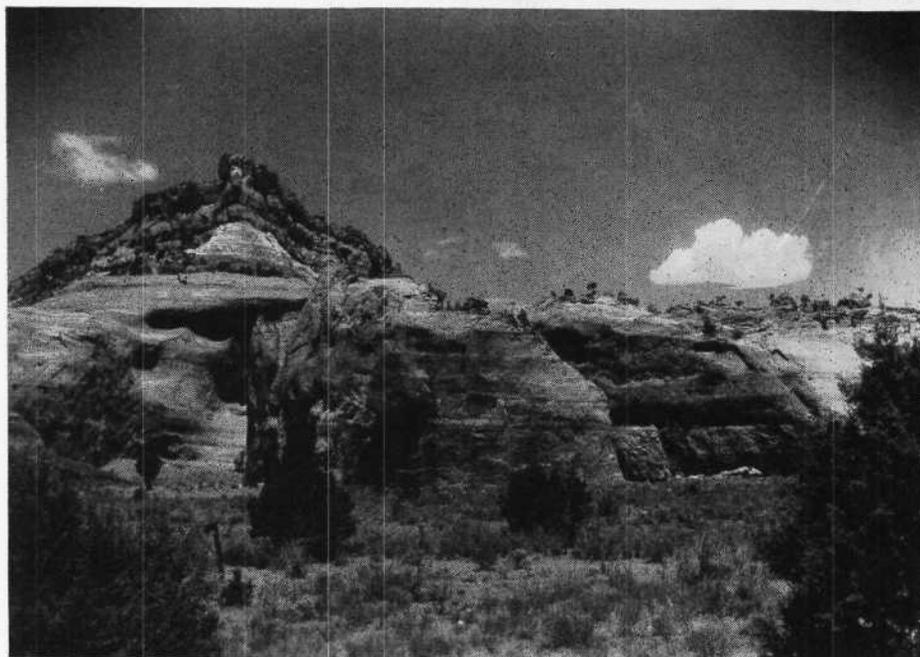
Friar Marcos' report to the viceroy was such as to stir the greed of the gold-hungry Spaniards. He said:

"I followed my way, till I came within site of Ceuola (Cibola) which is situate on a plain at the foot of a round hill, and maketh shew to be a fair city, and is better seated than any that I have seen in these parts. . . The people . . . have emeralds and other jewels, although they esteem none so much as turquoise wherewith they adorn the walls of the porches of their houses, and their apparel and vessels . . . They use vessels of gold and silver, for they have no other metal . . ."

Confirmation by Marcos of the much-fabled gold was sufficient to set off another expedition in 1540, this time led by Coronado. Although accompanied by Friar Marcos, the expedition was believed led aside by its Indian guides to the small pueblo village of Zuñi, where the conquistadores were bitterly disappointed by the obvious lack of riches.

Coronado reported to the viceroy that the story of Friar Marcos was false. The result was that the friar was greatly discredited and never redeemed himself. The opinion has been pretty generally accepted through the intervening generations that the friar had written his glowing report from his imagination because he knew the Spaniards were anxious to hear that sort of thing.

Battleship mountain. It was on top of this mesa that the ancients had chiseled three reservoirs out of solid rock.



This may be the site of the Seven Cities of Cibola. On the plateau in center were found three ancient cairns and many glyphs.

there is no doubt that there was once a tremendous population in the area and that the evidence so far uncovered points to a culture different from any ever before described in the Southwest.

Failure of Coronado's expedition to find the golden kingdom caused intense disappointment and a seeming apathy among the Spanish conquerors, although rumors concerning the cities continued to come to Mexico. Then in 1572 a Spanish captain reported that he came upon Cibola with the inhabitants all gone. He apparently took back with him no proof, nor did he note the location.

Proceeding south across the plain and pointing out a low cliff forming the south face of the mesa, Miller showed us where three crosses had been chiseled into the sandstone wall just above the surface of the ground. Their outlines had been pecked into the rock in a line an inch wide.

A ledge ran across the face of the rock about eight feet above the ground. Slightly above this ledge and directly over the crosses were the initials MN, which Miller believes stand for Marcos de Niza. He guided the group around the eastern end of the mesa and up the sloping ascent. On the upper level he pointed out a pile of large rocks, a cairn built in the shape of a crescent. About one hundred feet farther up the hill was another heap of rocks laid in an L shape. Miller said there was a third cairn about half a mile farther to the north.

These, he says, are the cairns Friar Marcos referred to in his report.

Harry Miller impresses one as being intensely interested in his explorations. He is certain he has found the site of the cities of Cibola. He bases his conclusions partly upon the indisputable fact that a huge population once inhabited the region—and in seven separate cities—and partly upon the writings of Friar Marcos.

"I used to think Marcos was a liar," he confesses. "Now, however, I have to admit I was wrong because, while we haven't substantiated everything that he claimed, we have found a lot of evidence to back him up."

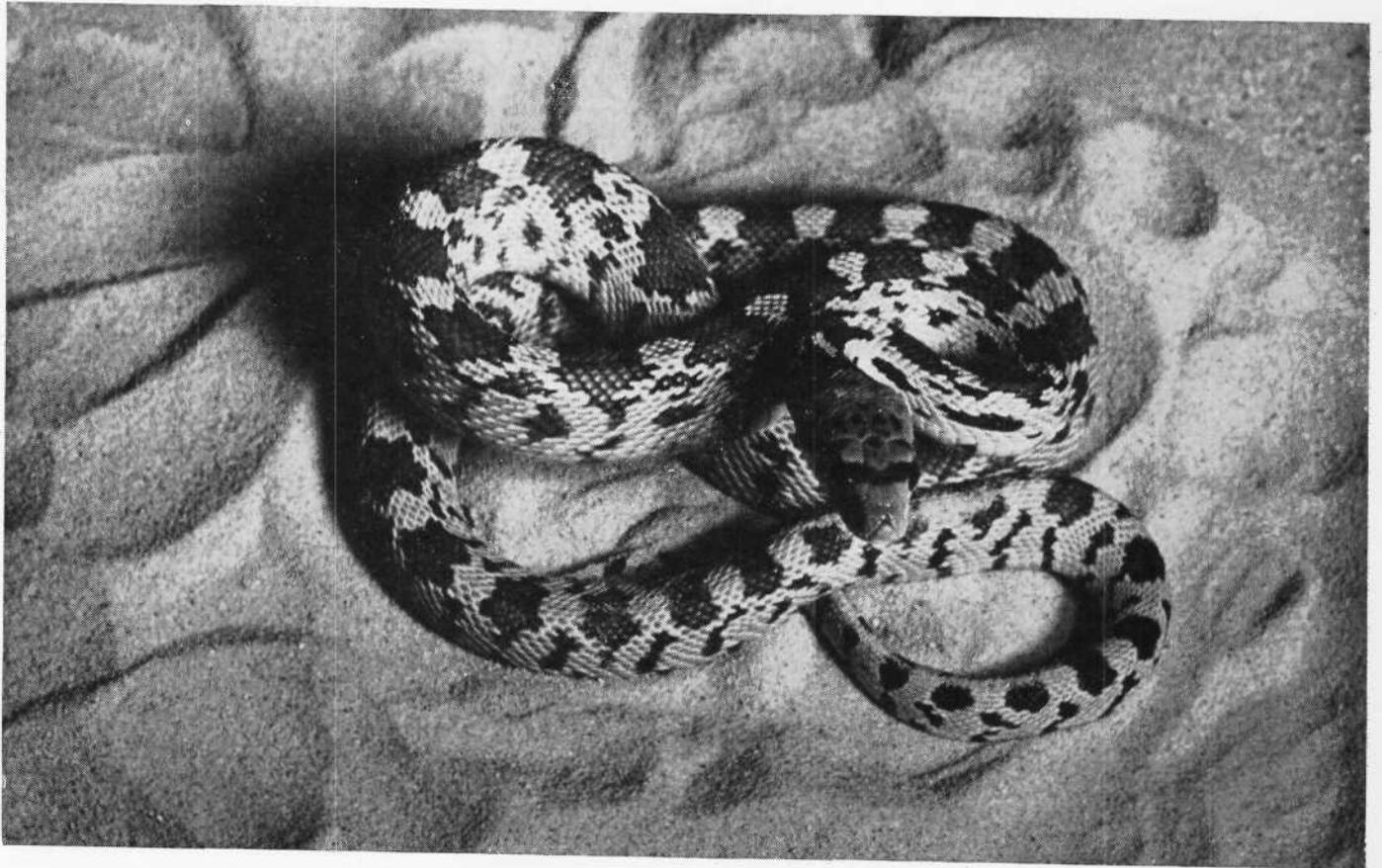
Miller wants the area set aside as a national monument. "This whole section, including some ten or twelve thousand acres, should be set aside and added to the Manuelito national monument," he asserted.

Archeologist Wetherill concurs with Miller on many points. He said that everything that is known about Cibola has so far checked with the description of the Lupton site. What puzzles him, he declared, is the fact that he has found much evidence of the Zuni culture pattern mixed in with the unique type of culture. He said

ANSWERS TO DESERT QUIZ

Questions are on page 10

- 1—Wasatch mountain—Salt Lake City, Utah.
- 2—Navajo mountain—Rainbow lodge, Arizona.
- 3—Sangre de Cristo range—Taos, New Mexico.
- 4—Superstition mountains — Apache Junction, Arizona.
- 5—Castle Dome mountains—Yuma, Arizona.
- 6—Panamint mountains—Death Valley, California.
- 7—Abajo mountains, Monticello, Utah.
- 8—San Francisco Peaks — Flagstaff, Arizona.
- 9—Sandia mountains — Albuquerque, New Mexico.
- 10—Santa Catalina mountains—Tucson, Arizona.
- 11—White mountains — Springerville, Arizona.
- 12—San Jacinto mountains — Coachella Valley, California.
- 13—Providence mountains—Essex, California.
- 14—Charleston peak—Las Vegas, Nevada.
- 15—Humboldt range—Humboldt, Nevada.
- 16—Bill Williams mountain—Prescott, Arizona.
- 17—Dragon mountains — Tombstone, Arizona.
- 18—Vermilion Cliffs — Navajo bridge, Arizona.
- 19—Chuckawalla mountains — Desert Center, California.
- 20—Growler mountains—Ajo, Arizona.



His Hiss Is Just a Bluff

By RICHARD L. CASSELL

ONE OF the bull snake family, the Great Basin gopher snake (*Pituophis catenifer deserticola*, Stejneger)—sometimes called the desert gopher—is closely related to the rat snakes of which there are three North American species. Its range is the Great Basin states of Nevada, Utah, Arizona, Idaho, western Colorado, southeastern California and eastern Washington and Oregon.

This harmless snake attains a length of nearly five feet, and characteristic of the constrictors, is rather slender, having a proportional diameter of about one and a quarter inches. The head is slender and pointed. A five foot specimen will have a head only about seven-eighths inch wide and one and one half inches long. Scales on the back are moderately keeled. Those on the sides are smooth and polished. Coloration varies considerably with immediate locale, but usually the basic color is yellowish with distinguishing dark square blotches upon the back. The basic color may vary from yellow to white, and the blotches from black to pale reddish brown. These blotches, in the desert gopher, are greater in number than the other varieties of bull snakes. On the sides are very obscure smaller blotches, and beneath, the color is distinctly yellow with small dark blotches at the edges of the abdominal plates. The young specimens are marked like the parents.

Although the desert gopher is less vicious than the other varieties of bull snakes, it is nervous in disposition. When greatly disturbed it hisses loudly and vibrates its tail to intimidate its enemies. This hissing is a unique characteristic of the bull snakes of North America. It is produced by a specialized

development of the epiglottis. When the snake is angered, the mouth is partially opened, a peculiar filament of cartilage at the head of the trachea is elevated and the breath is violently expelled against it, thus producing the prolonged loud hiss which can be heard at a distance of 50 feet or more.

Under sufficient provocation the common bull snake, like its cousin the pine snake, will strike like a rattler. A member of the Desert Magazine staff reported that in attempting to take a close-up picture of one of the reptiles it struck repeatedly with such force as to actually pull itself out of a creosote bush in which it was partly concealed. It carries no venom but its hissing and striking give it a formidable and rather terrifying defense.

Another unique characteristic of bull snakes is the method by which they devour eggs. (This should not prejudice any one against this snake, for it is profoundly the farmers' friend, taking an enormous toll of small mammals injurious to man and agriculture.) But it does occasionally go on a rampage and rob birds' nests. The eggs are swallowed and instead of continuing unbroken into the stomach to be very slowly dissolved by gastric juices in two or three days as is characteristic among other snakes, this species breaks the shell by powerful throat muscles as the egg passes down the esophagus. The broken egg then passes into the stomach to be quickly digested.

The desert gopher, and bull snakes in general, are all oviparous. Their eggs have tough leathery shells and they may lay as many as 15 to 24.

LETTERS . . .

Baja California in 1893 . . .

San Bernardino, California

Dear Mr. Henderson:

After reading the interesting article in January Desert Magazine by L. W. Walker describing the kit fox near San Felipe bay in Lower California, my memory carried me back to the year 1893 when William Hutt and I camped for 10 days at the San Felipe water.

That country was then totally uninhabited. We had a hard time finding the waterhole, so dense was the brush around it, but after we had cleared it of the bodies of small animals and bailed it out to the bottom, the resultant inflow of new water was of excellent quality.

From the time we left the last Cocopah village on the lower Colorado river on our southbound journey, until we returned to Yuma 25 days later, we saw not a single human being.

CHARLES BATTYE

. . .

Desert Goes North . . .

Escondido, California

My Dear Mr. Henderson:

In the summer of 1937 the writer went to Ellsmere Land, with the Fur Trade expedition of the Hudson's Bay company, with among others J. W. Anderson, chief fur trader, Ungava division.

Recently I subscribed for Mr. Anderson at Winnepeg to the magazine you publish, which contrasts so greatly with the "Beaver" which he sends to me, which presents the Arctic people at home.

Mr. Anderson writes to me that he sends his copies to his trader at Fort Ross (which the writer helped to build) north of the farthest point of the North American continent, on Somerset island, on the north side of Bellot strait, the true Northwest Passage.

This is the farthest north dwelling in the world, with a possible temperature of 80 degrees below zero. It has about three to four weeks of summer, during which it may snow any or even every day.

In his letter to me Mr. Anderson comments on the possible reaction of his lone trader when he reads the Desert Magazine. At best he can see a white man only once a year, for a day or two, and recently the post was isolated for three years. I believe the post trader has two eskimo families to supply sea-food if and when yearly supplies fail to reach him. Thought you would like to know how far north your paper circulates. The copies are delivered once a year, except by possible Arctic-Air.

FRANKLIN C. HENDERSON



Trail of the Vandals . . .

El Monte, California

Gentlemen:

In the October issue, you had a contest headed Desert Signboards. I have no intention of competing in the contest, but it recalled to my mind many incidents of outright vandalism in regard to desert signboards.

We spend a good deal of our time on the desert, mainly Death Valley, Panamint, and Saline valleys, where we have some mineral interests of our own. I am sending you two photos, which I took to prove this. In the case of the Ballarat and Indian Ranch these vandals not only shot holes in the signs, but also stole the galvanized bolts that held them to the pole, then threw the signs about 50 feet from the road. On our way to Trona we saw the pole standing, walked back from the road, found the signs, and leaned them at the base of the pole. We personally know every trail and road in that part of the desert, without the aid of the signs, but we thought of the many people that are making their first trip, as we did years ago.

We hope that these photos will make certain people think (if such a thing is possible); also you can use both this letter and photos in any way you see fit if it will make people think.

In closing I do not see how people that love, and spend any time on the desert, can do without your magazine.

O. E. NORSTROM

More Power to Quartzsite . . .

Quartzsite, Arizona

Dear Mr. Henderson:

We were very much surprised to read the statement in the February number of Desert to the effect that Quartzsite has only a few residents. You have been here often enough to know that such is not the case, even if the statement was carried in a newspaper yarn published in November.

Quartzsite is a small place, to be sure, but it is a busy one with no idle men except those who do not care to work, such as pensioners, etc. In the first place, we have 156 registered voters in this precinct, 130 of whom exercised their privilege in the November election. We have a church, school of from 25 to 30 pupils, postoffice, store, cafes, bars, service stations, auto courts, justice of the peace and constable, deputy county clerk, a branch of the county assessor's office where car licenses are dispensed, two notaries, besides two new service stations being built.

There are a number of people who have made Quartzsite their home for many years, and intend to continue to do so. We are on a main highway, 60-70, as you know, and the Arizona highway department maintains a maintenance yard here.

I would not state the above facts unless they were true, and we would like to see a correction in a future number of Desert. We are subscribers of several years standing, and think your magazine is just about tops. No hard feeling whatever, but that statement in your February number was just too much to take.

Also, we have formed a cooperative under REA, and expect to have electricity within a few months. This is just about all Quartzsite needs to make it a real town. The cooperative is known as NYCO, with headquarters at Salome, and is intended to furnish all of Northern Yuma county with electricity, hence the name.

FRED V. KUEHN

. . .

On the Trail of Pegleg Smith . . .

Grand Junction, Colorado

Dear Desert:

I have studied lost mines and buried treasures as a hobby for years, and have much data on the Pegleg gold.

Speaking of the original Lost Pegleg I would place it northwest of Glamis, 10 or 15 miles, and toward the Chocolate mountains. It could be a small butte several miles from the main range.

However, the several stories about the Pegleg could place it anywhere in Imperial county, California. Travel with a pack-train in the days of Pegleg Smith was slow, and if he started from Yuma to go to the coast it is not likely he wandered north of the Chocolates.

However, I don't think I'll look for it. The odds are too great.

W. C. HENNEBERGER

He Planted the Figs at Corn Springs San Diego, California

Dear Editor:

During a recent trip to Corn Springs in California's Chuckawalla mountains, I picked up the following information which may be of interest to you and Desert readers.

With my wife and small daughter, followed by Mr. and Mrs. Echols of San Diego, we pulled our trailers into the palm grove after dark, expecting to be stuck in the sand anytime.

We had barely gotten squared away and a fire started when the lights of another car were seen coming up the road. This party later proved to be Mr. and Mrs. Tyler Bennett. They were surprised to see that we had taken trailers in there.

Mr. Bennett told us that some 40 years ago he had lived there, owning mining claims which included Corn Springs. In one year he had taken out \$1200, hauling the ore from the mine to the mill which he built at Corn Springs. Also, he said he was the planter of the two fig trees there, having hauled them in on a buckboard.

ALF HOLMBERG

Anyway, It Is a Pretty Canyon . . .

San Diego, California

Desert Editor:

In your January, 1947, page of "Letters," some one takes issue with you for the use of "Bow Willow" when it should be "Bull Willow" canyon in the Inkopah range of San Diego county.

The army service map, Carrizo mountain quadrangle, Grid Zone F, and the Cuyapaipe quadrangle to the west, both name it Bow Willow creek and canyon, so you have good authority for your use of the name. However, I have heard old-timers around Campo refer to it as Bull Willow.

VINCENT LUCAS

Jackpot in the Nevada Sands . . .

Reno, Nevada

Dear Sir:

My wife and I are amateur collectors of Indian relics. We really hit the jackpot along the shores of Washoe lake between Reno and Carson City.

We were out looking for arrowheads, or anything we could find in the way of Indian artifacts when we found a few beads on the top of the ground. We returned to the car and got our wire screen and started washing and screening the sand. Before the afternoon was over we had screened out 1155 beads. One screen alone sifted out 200. Most of them were white, with perhaps a dozen red ones and one black bead.

We sent a sample of these to Smithsonian institution and also the Los Angeles museum. The report was the same from both sources—that these beads were

brought into Nevada by white men and traded to Indians for work in the mines, probably about 1847.

Any information any of your readers can give us as to the value collectors place on these antiques will be appreciated.

H. F. REGAN

In the Good Old Days . . .

Banning, California

Editor Henderson:

Gotta pat you on the back for your "you and me" page, but brother, I'll celebrate my 77th birthday next month, and it is tough to read about that new road in Utah, and the Palms of Palomar and just have to sit on the sidelines so far away that I can-

not even see 'em, let alone wander on the trails.

But then I saw and roamed where the youngsters of today will never be able to see or tread. It is gone and when sitting around the fire with my children I told them of those old days and they exclaimed, "Why dad, you had a better time than we do!" Yep, I really believe that tramping the hills in my boots in the early days when there were no roads was more joy than speeding around in the buzz wagons they make today.

I especially enjoyed Lois Elder Roy's verses—but I would like to walk through that saddle between the peaks and see what is beyond.

JIM PIERCE

Here's Wildflower Forecast for March

Based on reports received at the Desert Magazine office, Death Valley will lead the desert wildflower parade this year. That is the only area in which better-than-normal prospects are forecast. Reports are generally favorable from the Mojave desert.

On the Colorado desert, south of the Little San Bernardino and Chuckawalla mountains, the outlook is less promising, and only in scattered spots will the bloom be up to a normal year. Following are the detailed forecasts of Desert's reporters:

Death Valley

Odds were in favor of the finest flowering season since 1940, in Death Valley national monument. Edwin C. Alberts, park naturalist, announced that on January 23, nearly all hillsides and exposures below 1000 feet had most of the available space covered with green. An outstanding mass blooming of Desert Sunflower was expected during February. In March following were expected: On the lower fans, canyons and valley floor, Desert Star, Nama, Desert Sunflower, Evening Primrose, Desert Fivespot, Globemallows, Gilmania, Phacelias, Gravel Ghost, Monkeyflower; middle zone, 1500-3500 feet, Mojave Aster, Globemallows, Evening Primroses, Monkeyflower; high country, above 3500, scattered blooms.

Mojave Desert

Late in January manzanita and bladder pod were blooming in the foothills near Lancaster. Jane S. Pinheiro reported poppies, dwarf lupine and fiddlehead were up about an inch. More rain should bring a good display of Bigelow mimulus, Perry gilia, Chinese houses, purple mat, phacelia and forget-me-not in the Joshua forest on the west side of the valley. Texas Blue Bonnet, coreopsis and phacelia probably would be thickest along the Rosamond to Muroc road where pigmy poppy, fleabane and plantain also would be visible for those who were willing to leave the car to look for them.

Mary Beal reported January 28 that no plants were to be seen in the Barstow area, and few were in evidence farther east. It was raining on that date, however, and there was still hope for a good season of flowers.

Sara M. Schenck of Twentynine Palms, reports the following most prominent species for that part of the Mojave during March: Sand verbena, Dune primrose, Incense bush. Other species expected are Blazing Star, Ghost flower, magenta Monkey flower, Desert sunflower, Chuckawalla's Delight, Desert lily, Desert Dandelion, purple Phacelias. February rains will determine number and variety to be seen.

Prospects for desert wildflower display in Joshua Tree national monument are better than good, according to Jim Cole, monument custodian. There is considerable moisture in the ground and the winter has been mild. In January lupine, chias and desert dandelions were in flower in Cottonwood canyon.

Nevada

Lupine, long tube primrose, groundsel, Fremont phacelia and Eriophyllum were found in bloom on January 8 in El Dorado canyon by Dora Tucker of Las Vegas. Mrs. Tucker expects a good display in the Nevada area if a little more rain falls. She has been able to find some flowers in bloom in the desert at all seasons.

Magnitude of the display in Boulder Dam national recreation area cannot yet be predicted. Park naturalist Gordon C. Baldwin found the following flowers in bloom in the area at the end of January: California Poppy, Desert Chicory, Stickleaf, Wild Heliotrope, Arizona Lupine, Evening Primrose, Golden Hills. Flowers were most plentiful at Willow beach.

HERE AND THERE... on the Desert

ARIZONA

Salome Sun Shines Again . . .

SALOME—Carrying the name of Dick Wick Hall as editor, the Salome Sun is being published again after a lapse of more than 20 years. Bill Sheffler and Ed Roth of Salome have revived the little mimeographed paper which brought world-wide attention to the Arizona humorist who died in 1926. They plan to use only reprints of Hall's work to fill one page publication. Featured in current issue is a cartoon of Dick Wick's canteen-carrying desert frog, who was seven years old and hadn't learned to swim.

School for Indian Veterans . . .

PARKER—Poston war relocation center, south of Parker on Colorado river Indian reservation, will become a school for Indian veterans, if Indian bureau plans materialize. William H. Zeh, bureau director for Arizona, New Mexico, Colorado and Utah, declared classes will begin in February if property is acquired and funds obtained from Veterans administration. Between 200-400 Navajo and Hopi veterans will be taught farming and mechanical trades. Upon completing course, Indians would have opportunity to acquire without charge tracts of land on reservation, now home of Mojave tribe.

Historic Fourr Ranch Sold . . .

TUCSON — Fifteen thousand acre Billy Fourr ranch, where southern Arizona pioneers once fought off Apache attacks, has been purchased by Lester W. Armour of Chicago banking family. Seller was Arizona cattleman Jim Finley, with price said to be near \$100,000. Ranch has been in possession of Fourr and Finley families since its origin. Armour, who has been a GI student at University of Arizona will run cattle on ranch. He and his family will live in stone house, with rifle slots in walls and lookout towers, which served as fort in Indian raids.

He Couldn't Stay Away . . .

GLOBE—John W. Wentworth completed what is believed to be longest continuous service in public office in the nation, and retired from office of clerk of Gila county on December 31. He had held the elective office since Arizona became a state in 1912, and retired voluntarily. The 88-year-old pioneer came to Globe in 1880, when it was a roaring mining camp. Elected justice of the peace in 1884, he has held public office for a period of 62 years. Now he's back at work as clerk in the Gila county assessor's office, his retirement lasting less than a month.

Yucca Fiber Plant Reactivated . . .

KINGMAN—Purchase of McConnico fiber works from War Assets administration forecasts new attempts to make harvesting of yucca fiber commercially successful. Plant was built at government expense, but never operated. Purchasers, T. R. and N. B. Stepp announce plant will be put into immediate operation. Experiments in New Mexico were said to have shown that yucca fiber has greater strength than hemp and can be adapted to many commercial uses. It is claimed that yucca may be stripped every three years, and can be grown commercially.

Acquisition of necessary right-of-way for realignment of U. S. 66 between Winslow and Canyon Diablo has been authorized by Arizona state highway commission. Twenty-five mile stretch has been described as one of the worst spots in Highway 66.

Incorporation of St. Johns in Apache county leaves Kingman only unincorporated county seat in Arizona.

Dr. Byron Cummings reportedly has retired as custodian of Kinishba museum, Fort Apache, Arizona. Dr. Cummings has written a book on his 40 years in Southwestern archeology which will be published soon.

Immediate survey to locate a dam site on the Colorado river in Glen canyon has been announced by United States bureau of reclamation. Dam is considered necessary to control silt which will shorten life of other projects.

Thomas L. Kimball has been named supervisor of game management in Arizona. His duties will include supervision of game refuges, the Raymond ranch buffalo and antelope refuge near Flagstaff, state owned buffalo herd in Houserock valley, and predatory animal control for the state.

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CALIFORNIA

N.O.T.S. Figures Released . . .

INYOKERN — Navy Ordnance Test station at Inyokern now includes an area of 300,000 acres, or 1100 square miles, according to figures released by executive officer, Commander A. G. Beckmann, USN. Boundary dimensions are 42 by 25 miles, roughly marked by the Southern Pacific right-of-way on the west, town of Darwin on the north, Ridgecrest-Trona road on the south, and a line skirting Trona and the active gold properties in the Argus mountains on the east. One hundred million dollars have been spent on the project to date, and \$13,500,000 are allocated on construction projects at present time. There are 4100 civilian workers on the base.

Jim Cole Leaves Joshua . . .

TWENTYNINE PALMS—Jim Cole, long custodian of Joshua Tree national monument, has been promoted to regional biologist for National Park service. He will leave March 1 for Omaha, Nebraska, Region 2 headquarters for the service. His new assignment will include all national monuments and parks west of the Mississippi and east of the Rocky mountains. Succeeding Cole at Twentynine Palms and already at the monument on special duty, is Frank R. Givens, former custodian of Pinnacles national monument in the California Sierras.

Judge Takes Law to Desert . . .

SAN BERNARDINO—Newly-elected superior court judge Archie D. Mitchell has announced that if cases come up for hearing in the Barstow or Needles area, he and his clerk will journey to those cities and hold court. In the past, residents of desert area of enormous San Bernardino county have been required to travel as much as 300 miles for justice proceedings at county seat. Judge Mitchell discovered the desert area had not been represented on panel of county grand jury for 20 years, and has asked for names of desert people to be submitted for jury duty.

M. B. Wise, Lone Pine, has petitioned interstate commerce commission and state railroad commission for permission to inaugurate a stage line from Lone Pine to Baker. Twice-daily service would have stops at Keeler, Darwin, Panamint Springs, Stove Pipe Wells, Furnace Creek, Death Valley Junction, Shoshone, Tecopa, Renoville, Silver Lake and Baker.

Midland, mining town of approximately 800 persons 21 miles north of Blythe, bought 63,750,000 gallons of water during 1946. The town depends on Blythe for all water, domestic and industrial, used by residents, mills and mines. Water was shipped in 3750 tank cars.

Hikes Across the Panamints . . .

TRONA—It's only 24 miles from the Chris Wicht camp in Surprise canyon, across the Panamints to Furnace Creek inn—as the crow flies. But Erick Peters of Trona walked and it took him 2½ days. Peters hiked from the narrows of Surprise canyon to the reactivated camp of Panamint City where he spent the first night. High on the Panamints next day, he lost the trail under a heavy fall of snow, finally finding his way to Hungry Bill's ranch. Starting at dawn, after a night so cold that he was unable to sleep, Peters went down Johnson's canyon to Mesquite well in Death Valley. He found Bennett's well road blocked to the south by the flooded Amargosa river, and was forced to walk 26 miles to Furnace Creek.

Vallecitos Station Neglected? . . .

BORREGO—Old Vallecitos stage station, which his father deeded to San Diego county, is being neglected according to a protest filed with county supervisors by Cecil D. Holland. Holland recently visited historic spot on the old Butterfield route and found no attempt being made to maintain it, he complained. Property was deeded to county by the late Christopher F. Holland to be maintained and kept as a county park for public use, with stage station to be restored and maintained as nearly as possible in its original state.

Society Seeks Valley Stories . . .

EL CENTRO—Pioneer Society of Imperial Valley is making an effort to secure and preserve human interest stories of early valley history. Society has made public appeal to all who made their homes in the valley prior to 1920 to help secure

reminiscences of members of their families or other early day residents. Material will be carefully preserved at society headquarters in Imperial county fairgrounds. Contributions can be mailed to Mrs. John Kavanaugh at Holtville.

There's a new jeep at Ballarat, inscribed with the advice: "Go Prospecting with Seldom Seen Slim." Slim explains that he has just sold some of his claims and intends to "dog it" a bit.

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NEVADA

Davis Dam Rumors Denied . . .
BOULDER CITY—Reports that excavation for foundation of Davis dam on Colorado river above Needles had failed to find bedrock at depth indicated by preliminary surveys were denied by E. A. Moritz, regional director of U. S. bureau of reclamation. Moritz said, however, that geological conditions uncovered at bedrock necessitated some changes in plans. Design of power plant and spillway structures might require minor alterations to fit geological characteristics as more completely exposed by open excavation, according to the director, but such changes would not require renegotiation of contract with Utah Construction company, which is building dam.

Anti-Gambling Petition Blocked . . .
CARSON CITY—Proposed initiative petition calling for outlawing of all gambling activities within Nevada, is apparently dead for at least two years. Ruling by attorney general's office said petition should have been filed with secretary of state at least 30 days before 1947 legislature convened. Measure, sponsored by Frank Williams of Goodsprings, former regent of University of Nevada, would have made illegal in Nevada any form of gambling for money. During 1946, state's residents and visitors bet an estimated

\$650,000,000 on the gambling tables. Club owners took \$27,107,913 and paid \$270,000 into state treasury for one per cent gambling tax passed by 1945 legislature.

Dam Controversy Renewed . . .
BOULDER CITY—Long controversy over name of the great dam in Black canyon, known for 14 years as Boulder dam, may be settled by the present Congress. Representative Jack Anderson, California, has introduced bill to make name Hoover dam. Appropriation bills for 1932, 1933 referred to "Hoover dam," but name was changed by Harold L. Ickes in 1933, although dam had not been constructed in Boulder canyon as originally planned.

Rustlers Active in Nevada . . .
ELY—Cattle rustling in White Pine county has reached such proportions that stockmen met with county commissioners to demand protection. Committee also was established to make recommendations for law revisions to state legislature. Thefts varying from one or two cows to 50-head lots have been reported in recent weeks in the area. One rancher reported loss of between 80 and 90 cattle valued at \$4500, during ten day period. Butchering has taken place in Lund and Preston areas, but rustling has been reported in all parts of county.



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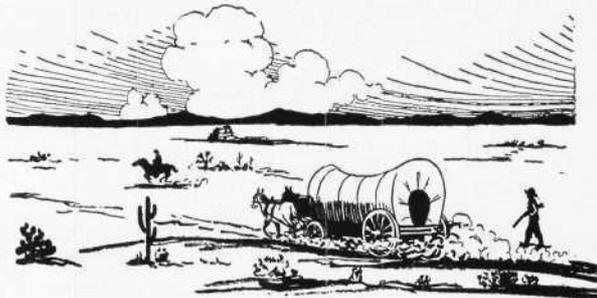
Tonopah-Goldfield Line Abandoned

TONOPAH—Tonopah and Goldfield railroad, built at beginning of century when the two camps were pouring out fortunes in gold and silver, has been authorized by Interstate Commerce commission to abandon its entire 97 miles of operation between Mina and Goldfield, Nevada. Traffic now available or in prospect does not warrant large expenditures required to place line in good operating condition, according to commission. Increase in traffic during war was due to establishment of an army air base no longer in operation. It is reported that Newmont Mining corporation has made an offer to railroad for rails

on company's line, planning to ship them to Africa where a major mine operation is under way.

Peat Moss Found in Nevada . . .

BEATTY—One of largest beds of high-grade peat moss in the United States is located at Ash Meadows, southern Nye county, according to Tex McCall, owner of property. Material has already been baled and shipped to coast points where it is said to have been pronounced superior to best peat moss shipped to this country from Canada and Europe. The bed covers several hundred acres and a number of test holes failed to find bottom at 20 feet.



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- Gold rush to California
- Butterfield stage lines and desert freighters.
- Reclamation of Imperial Valley and the coming of the first settlers—and the disaster that threatened when the Colorado river ran wild in 1905-6-7

The Cavalcade festivities start Thursday, March 13, with the international Governors' dinner and Parade of the School Children.

Friday, the 14th, is Mexicali day, with the Cavalcade pageant at 8:00 in the evening.

Saturday, the 15th, the Big Parade will occupy the afternoon, with a second showing of Cavalcade Pageant at 8:00 in the evening.

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For seat reservations write to Desert Cavalcade Calexico, Calif.



MONEY ISN'T EVERYTHING— (OR IS IT?)



By GROUCHO MARX

WHAT do you want to save up a lot of money for? You'll never need the stuff. Why, just think of all the wonderful, wonderful things you can do *without* money. Things like—well, things like—

On second thought, you'd better keep on saving, chum. Otherwise you're licked.

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THE *Desert* MAGAZINE

El Centro, California

NEW MEXICO

Edgar Lee Hewett Dies . . .

ALBUQUERQUE — Dr. Edgar Lee Hewett, 81, director of Museum of New Mexico and School of American Research died of cerebral hemorrhage at Presbyterian hospital on December 31. Hewett was a pioneer in American archeology and the author of numerous books. Major works included *Ancient Life in the American Southwest*, *Ancient Life in Mexico and Central America* and *Ancient Andean Life*. Living in Santa Fe for years, his research extended to Mexico, Mayan ruins of Guatemala and Yucatan and regions in northern Africa and Arabia. He was one of the founders and first director of San Diego, California, Museum of Man and taught at San Diego State Teacher's college, University of New Mexico and University of Southern California.

Ask Vote for New Mexico Indians . . .

SANTA FE—New Mexico Association on Indian Affairs has asked state legislature to enact legislation granting Indians in state the right to vote, according to Mrs. Charles H. Dietrich, president. Group also called for separation of federal appropriations to benefit the Navajo in order that they may receive their fair share of funds. Use of prefabricated houses and Quonset huts for school buildings was suggested to speed educational program on Navajo reservation and a federal survey of Navajo welfare was recommended.

. . .

When postal authorities decided to open a post office at Palo Verde, they feared confusion with an older New Mexico post office known as Palo Verde. So they translated the name, and protesting residents of Palo Verde must receive their mail through Green Tree post office.

Inter-Tribal Housing Planned . . .

GALLUP — Extension and improvement of housing for Indians participating in programs of Inter-Tribal Indian Ceremonial will be undertaken early in the spring. It is planned to erect at least 12 additional housing units, probably of the adobe type, adjoining the 12 provided at present, and to improve the latter.

Suit Against Pueblo Filed . . .

ALBUQUERQUE — Suit against the Acoma Indian pueblo has been filed by Arthur Bibo, Cubero rancher, challenging government's authority to acquire grazing lands for Indians without consent of Congress. Bibo asserts that government has bought or withdrawn 200,000 acres, including 4000 to which he had rights under Taylor grazing law, and set it aside for use of cattle belonging to the Indian pueblo. He claims that withdrawal of land from general use constitutes enlargement of Acoma reservation and that such enlargement requires an act of Congress.

To Receive Unemployment Benefits

GALLUP—Between 4000 and 5000 Navajo, Zuñi and Hopi Indians will be able to collect weekly unemployment insurance benefits through newly-appointed claim agents. The agents, who have been given special training, are Indian traders, missionaries and government employes, most of them on the Navajo reservation. Payment is not a dole, but has been provided for under Railroad Unemployment Insurance act, which requires payment of three per cent of employe's earnings each month into unemployment fund. Only employes who have worked for railroads are eligible, and average check is expected to be \$10 per week.

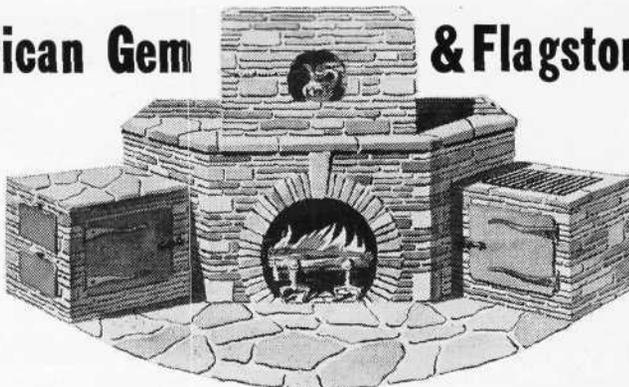
Old Ruins Are Damaged . . .

SANTA FE — Large scale adobe-making operations at San Gabriel on the Rio Grande have damaged remains of what is believed to be first capital of New Mexico. Mrs. Marjorie F. Tichy, a curator for Museum of New Mexico reports that a bulldozer had been used, destroying half of the only remaining mound of any size. Large quantities of pottery and other cultural items and human skeletal remains could be seen. All rooms excavated by museum in 1944 had been destroyed. Land belongs to pueblo of San Juan and Indians have promised to get in touch with the museum before any further heavy digging or cultivation is done in vicinity of ruin.

. . .

After a blaze was sighted at 1 a. m. on top of Osa ridge, 20 miles east of El Morro, ground parties and planes spent a day covering the entire area searching for possible crashed plane. Later an Indian was found in vicinity who said his party had a large fire going at hour in question, to ward off cold when temperature dropped to 24 degrees below zero.

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UTAH

Field House Planned at Vernal . . .

VERNAL — Utah Field House of Natural History, containing complete headquarters for use of researching universities and institutions interested in fossils of the area, will be built in Vernal during 1947. Utah State Department of Publicity and Industrial Development has allocated \$188,000 for the project. First bids received were too high, and state architect has been asked to revise plans, with brick replacing the originally planned stone.

Pioneer Sells Ranch Holdings . . .

MOAB—Andrew Somerville, veteran Moab stockman, has sold his interest in Scorup-Somerville Cattle company to J. A. Scorup, president and principal owner. Somerville will retire from active business following 60 years in cattle and ranching industry of southeastern Utah. Scorup-Somerville company is the largest cattle outfit in state of Utah. Its ranges extend from Indian creek on the north to San Juan river on the south, lying between the Elk mountains and the Colorado river. Company operates eight ranches on Indian creek and in Paradox valley, Colorado, and owns 20,000 acres of summer grazing land in La Sal mountains.

Utah Tribes Ask Compensation . . .

SALT LAKE CITY—Indians of eastern Utah have filed eleven suits in U. S. court of claims in Washington which could enrich the tribes many millions of dollars if granted. Claims were filed by Ernest L. Wilkinson on behalf of Uintah and White river bands of Utes with reservation at Roosevelt, the Confederated bands of Utes of Eastern Utah, and southern Utes of southern Colorado. Petitions ask for "just" compensation for millions of acres of land taken from the tribes for forest reserves, parks and mining purposes and a general accounting of funds received and expended by federal government for tribes since early days. Supreme court is hearing suits already pending on behalf of Confederated bands regarding lands taken from them in Colorado.

Bombing Range Plan Dropped . . .

WENDOVER—Plans for a 3,000,000 acre bombing range south of Wendover have been abandoned by War department. Officials gave no reason for action, but announced they intended to look for a site in some other state. At time withdrawal of the 100-mile-long area was first proposed, the state and many cattlemen protested that such a plan would interfere disastrously with grazing in that part of state.

Popularity of Salt Lake City's Temple Square as a tourist attraction continued to soar in 1946. Total of visitors was 719,765, nearly 50 per cent higher than former record year of 1941.

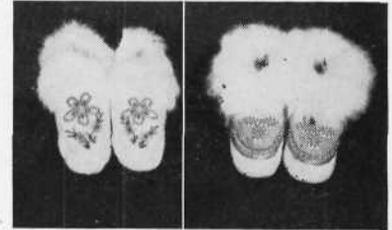
Surplus Town Offered by WAA . . .

PRICE — Dragerton, Utah, population 2500, has been put up for sale by War Assets administration. Town was built by government in 1943 at cost of \$4,530,000 to house workers at Geneva coal mine. Located 23 miles from Price, it has been classified as surplus and sealed bids were accepted until February 14. Buyer must take entire 337-acre town, including 604 furnished frame houses, laundry, hospital, school, church, general store, roadscraper, a passenger car and five dump trucks. Also included is a guest house complete with linen, furniture and draperies.

Kearns O.R.D. Becomes Surplus . . .

KEARNS — Once known as Utah's third largest city, Kearns overseas replacement depot has dropped in population from 22,000 to 30. An estimated 175,000 men trained at camp, which has been basic training center, overseas training center and overseas replacement depot. Thousands of air force men were received each month, processed and shipped to ports of embarkation, with all-time high of 14,000 in August, 1945. Kearns will soon be turned over to War Assets administration for disposal, but will not be forgotten in the lifetime of ex-service men who passed through it.

Salt Lake City is receiving its annual visit by hordes of small brown birds, the Waxwings. Birds come south from their native Canada when weather becomes cold, usually in November, and remain until following April. They do not create a nuisance, according to Dr. A. M. Woodbury, professor of zoology at University of Utah, as they feed on dried berries and apples.



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Mines and Mining . . .

Randsburg, California . . .

New machinery has arrived for placer dredge operations to be resumed northeast of Randsburg along the power line toward Goler gulch. Kern Placers, Inc., new operators, plan to use a Monogen shovel and a float to be operated from banks of dredgepit, instead of dredge bucket method which was used by Randsburg Gold Dredging associates. Washing plant will be floated in water from three wells drilled by previous operators. A. B. Woodward Jr. is superintendent in charge of project.

. . .

Denver, Colorado . . .

Claiming to have a map of the Lost Dutchman mine of Arizona's Superstition mountains, Mrs. Laura Branstetter Middaugh hitchhiked from Joplin, Missouri, to Denver, Colorado, looking for a grubstake. The 59-year-old grandmother said the Dutchman himself, her great-great-uncle Jacob Walz, left map in family. Mrs. Middaugh considers herself fit to handle a pick and shovel and "blow a lode," and announces that she intends to find the mine or die trying. Offers of financial help began to come in as soon as her story was known.

. . .

Eureka, Nevada . . .

New development for lead-silver camp of Eureka is being undertaken by Consolidated Eureka Mining company, controlled by Utah interests. Work on Diamond and Excelsior properties owned by the company will be financed through sale of 1,500,000 shares of stock at 10 cents a share. Money will go for equipment, diamond drilling, re-timbering and drifting. Also in progress in the camp is a \$2,000,000 development program of Eureka Corporation, Ltd., of Canada. Between 1864 and 1886, Eureka produced \$60,000,000, of which one-half was gold.

. . .

Goldfield, Nevada . . .

Historic Tule canyon in southern Esmeralda county is being investigated by F. I. Green, of Sacramento, California, as a site for possible large scale dredging operations. First of ten test holes has been completed and explorations will probably continue into the summer. Green believes dredging operations can be successful financially if gravels with 25 cents per cubic yard gold values can be found. Upper reaches of Tule canyon yielded many gold nuggets to Mexican prospectors nearly a century ago.

Cripple Creek, Colorado . . .

Carload of ore shipped from the Ajax mine ran \$455 in gold to the ton, according to returns from the Golden Cycle mill. Ore came from 28th level, according to Earl Bebee, mine superintendent. Another 40-ton car, from same level, settled at \$352 in gold to the ton. Twenty-eighth is lowest level of mine, and ore comes from territory drained by Carlton tunnel.

. . .

Austin, Nevada . . .

A gold brick, weighing 13 pounds and valued at \$5500 was brought into Austin by Wayne Smith. Smith was sending brick for Silver King Mining company of New Pass, to the United States mint at San Francisco. Gold represented results of recent development work at the Thomas W. mine at New Pass. Ore was treated and gold extracted at the five-stamp mill at mine.

MINE ASSESSMENT RULING

WASHINGTON, D. C. — Annual assessment work on unpatented mining claims will be required for fiscal year beginning July 1, 1947, as a result of President Truman's proclamation officially ending hostilities. Following is a statement on end of the moratorium, issued by Fred W. Johnson, acting director of bureau of land management:

"The Act of May 3, 1943, 57 Stat. 74, which amended Section 2324, Revised Statutes, provides for the suspension of assessment work on mining claims until 12 o'clock noon on the first day of July after the cessation of hostilities. The cessation of hostilities having been proclaimed by the President, the Act of May 3, 1943, expires at 12 o'clock meridian on July 1, 1947. The adjudication of cases arising between adverse mineral claimants for the same mineral land under the above Act, is a matter for determination by the courts. However, in our opinion, if a notice of the desire to hold a mining claim is filed on or prior to noon, July 1, 1947, the assessment work need not be done for the present assessment year ending at that time. Annual assessment work will be necessary for the year ending noon, July 1, 1948. The above refers to mining claims on lands subject to location under the United States Mining Law."

Mecca, California . . .

Clyde Hall, research chemist, announced that he has leased 640 acres of mining land from Mecca Chemical Company, Inc., of Nevada. Property is situated near Mecca and carries, according to Hall, an abundant new ore of clay-like appearance which contains almost all elements known to science. Hall has been interested in rare metal mining property in Southwest for many years. He expects to produce gallium from his claims, also fertilizer and monterey sand for making interior stucco.

. . .

Elko, Nevada . . .

Utah Construction company is drilling old mining properties in Tuscarora district, 50 miles north of Elko, in an effort to locate ore bodies worth working, below the exhausted level. This level averages 600 to 800 feet, where equipment used by early operators and later developers was not able to handle flow of underground water. District is credited with \$40,000,000 gold-silver production.

. . .

Socorro, New Mexico . . .

New Mexico bureau of mines and mineral resources has issued Bulletin 25: *Mica Deposits of the Petaca District, Rio Arriba County*. Bulletin describes occurrence of mica, feldspar, beryl and ores of tantalum in district 30 miles north of Espanola. Included are brief descriptions of area near Ojo Caliente, and Elk mountain district, San Miguel county. It was prepared by R. H. Jahns, United States geological survey. Also published were bureau's annual report and Circular 13 on state tax laws relating to mining.

. . .

Goldfield, Nevada . . .

Transfer of Newmont Mining corporation personnel from Silver Pick mine to the Florence strengthened rumors that company had found high grade ore in the historic mine. Stock in Goldfield Deep Mines company, which had found no buyers at two cents a share before Newmont company took it over, was bid at 25 cents a share, with reports of 30 cent bids in New York. Twenty-five men are now at work in the Florence.

. . .

Salt Lake City, Utah . . .

Colorado Fuel and Iron corporation is preparing to start production from magnetite iron deposit east of Columbia company's open cut operations in Iron county, according to George H. Rupp, manager of mines. New operation will replace Duncan pits which are said to be nearly mined out. Monthly tonnage at open cut operations is expected to reach 50,000 by April. Utah Construction company, which has mined the Duncan ore, will function as contract producer at new mine.

Blythe, California . . .

First car of gypsum from American Gypsum company's mine north of Blythe was shipped January 4. Utah Construction company, operating mine, expects to be able to move maximum of 12 cars daily when full production is reached. The gypsum, ground to fineness of flour by hammer mill, was hauled by truck to Santa Fe railroad at Inca, and loaded into car by special equipment. Fifteen men are employed on project, and gypsum is shipped to American Gypsum's plant at Arvin, California.

Lone Pine, California . . .

Only commercially important deposit of the rare ore of beryllium known to exist in the United States is being developed six miles southeast of Lone Pine by Walter J. Sorensen, local miner. When Sorensen first sent samples to government agencies, they were returned with notation that they contained beryllium, but that they must come from South America, since none existed in this country. Deposits are encountered in hillside outcroppings, and are being worked in open cuts and trenches. Five distinct veins have been staked at Inyo-Beryl mine, and prospecting for main ore body is continuing. Rare material is used as hardening agent for copper and in ceramics. It also occurs as the gems emerald and aquamarine.

Tonopah, Nevada . . .

Barite deposit located four miles east of Weepah reportedly has been sold on royalty basis to Los Angeles interests. Former owners were Martin Brown, Robert Bassett and Roscoe Wright of Goldfield. Shipments of 100 tons a month were scheduled to start during January. Material will be trucked to Big Pine, California, distance of 100 miles. Weepah deposit is said to be one of best on North American continent, running 98.7 per cent pure.

Mecca, California . . .

Henry Kaiser has purchased 600 acres of land one mile from Mecca on south side of Box canyon road, as site for 100-home housing project for workers at his Eagle mountain iron mine. Project will probably serve as temporary housing for workers on railroad which Kaiser will build from mine to Southern Pacific lines just north of Salton. At present ore is being trucked from mine to temporary loading facilities at Mecca. Kaiser company has recently negotiated a \$11,500,000 loan with Reconstruction Finance corporation, which will provide Kaiser's Fontana steel plant with facilities for meeting enlarged western construction needs.

Harrison M. Lavender, vice-president and general manager of Phelps Dodge corporation, Douglas, Arizona, has been

elected unanimously as chairman of board of governors of Western division American Mining congress. One of Lavender's principal duties will be development of program for 1947 Metal Mining convention of American Mining congress, to be held week of October 27 in El Paso, Texas.

Kennecott Copper corporation is new name of company operating the great low-grade properties in Bingham canyon, Utah. Change is one of name only, since old company, Utah Copper company, was merged with Kennecott Copper in 1936. Utah Copper company has been operating mine under managerial agreement which expired December 31.

Abandonment of remaining operating sections of Nevada Copper Belt railway, about 28 miles of track in Lyon county, has been authorized by state Public Service commission. Railroad was built in 1911 to carry copper ore from mines in county to outside rail transportation. Towns served included Yerington, Wabuska, Mason and Hudson.

Phosphate mining land in Utah was returned to control of the state on January 16, by order of department of interior. Land had been held by U. S. since 1938. Areas to be affected directly will include deposits on north and south flanks of Uintahs and eastern flank of Wasatch range, now open to mining developments.

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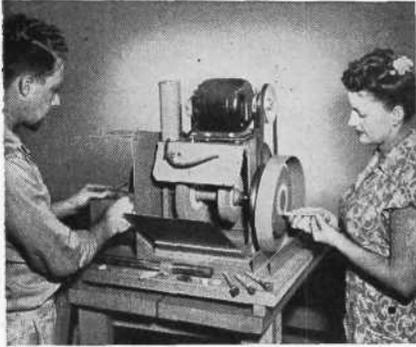
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AMATEUR GEM CUTTER

By **LELANDE QUICK**

So many new gem and mineral societies have been formed in the past year and such marvelous developments have been made in lapidary machinery that the evidence is strong that gem cutting as an avocation and a vocation is growing far faster than it has in any previous year. This fact is brought home forcibly when one compares a current copy of any mineral magazine with a copy six years old. The enormous increase in advertising has come almost wholly from the lapidary machinery manufacturers, the dealers in lapidary supplies, gem cutters who have turned "professional" and rock dealers.

The term "professional" has caused as much argument through the years as the term "commercialism" is now causing among amateur gem cutters. Much of the argument and discussion is inane, for no amateur gem cutter can be placed upon a plane with an amateur athlete. Taking money for lessons in gem grinding and silver work, selling a useful gadget for some phase of lapidary procedure, selling an occasional gem or piece of surplus material, writing about gem cutting, making display cabinets for sale, etc., changes not at all the status of the "amateur" gem cutter.

We do not deny that a great many people have graduated from gem and mineral societies to gem and mineral businesses of their own. Is that bad? It is the greatest testimony to the good reason for a lapidary society at all. Any association of gem cutters that does not in the course of time produce some contribution to the lapidary art and some members for the profession (or craft, as it is more correctly termed) does not seem to fulfill any purpose beyond being just a social group.

I have made the statement before that the fine machinery being freely offered today is largely the result of ideas worked out by trial and error methods of amateurs in their home shops. Too few of those pioneers have profited personally from their ideas because of a lack of vision in many cases and a false interpretation of the word "amateur" in other instances. If the societies have been the laboratories of the rediscovery of the lapidary art the societies should profit by it or their individual members should.

These statements should not be construed as derogatory to our lapidary machinery manufacturers. Indeed the manufacturers are doing a splendid job in developing new machinery and I know of no individual who has cause to complain that he has been wronged by any one of them. Their enterprise demands investment of much capital, time and effort and the risk is great. Present equipment is highly efficient and well made and deserves the custom of the lapidary who is not a mechanic himself. Their catalogs and brochures should be studied and their equipment examined at local dealers with the idea of purchasing machines that personally appeal. Saw blades saw faster and give much longer life, faceting equipment is almost fool-proof, grinding wheels are said to be better, new cut-off saws shorten cabochon blank cutting time by at least one half. If you have an old outmoded shop investigate the new machines. You can turn out a handful of cabochons now in less time than it took to grind one stone on most six-year-old equipment.

With all this advance in lapidary art the West Coast is rapidly becoming the gem cutting cen-

ter of America and much of the business has moved from Europe to the United States. In another five years the industry will draw several thousand craftsmen from gem and mineral societies and lapidary schools that are springing up. To attempt to stop all this with cries of "professionalism" and "commercialism" is like commanding the sun to stand still. A tide has set in that is running fast. It washes the western shores because the societies are highly concentrated there and there is a vast amount of gem material at hand. Diamond cutting houses are moving from New York to Los Angeles. Jewelry manufacturers are following them. In view of all this incontrovertible evidence it seems foolish in the extreme to attempt to fasten a stigma on an amateur lapidary who likes his avocation so much that he takes advantage of the times and adopts the vocation of a lapidary.

And of course the time has come when the lapidary should have his own publication. He needs a magazine that caters to him by giving the latest news of his society and activities and that presents well written information on technique. The gem collector who doesn't cut at all needs a dependable source of information about gem markets. The jewelry maker needs new ideas and all these folk need a constant review of the old ideas, a forum for the exchange of thought and a steady flow of gem information and education.

Such a magazine is about to make its bow. *The Lapidary Journal* will make its appearance April 1 as a quarterly. If it is the success its originators hope, it will become a monthly publication the second year. It will be a fine example of the printers' art and will be well illustrated on "slick" paper. Early issues particularly will become collectors' items in the years to come. The subscription price is \$1.00 for the first four issues. If you wish to subscribe send a dollar bill in an envelope with your name and address plainly printed on an enclosed slip of paper. The address is *The Lapidary Journal*, P. O. Box 1288, Hollywood 28, California. Manuscripts, as contributions, are solicited, society news items are wanted, advertising rates will be supplied on inquiry. I fondly hope that my reader friends will subscribe, because you see I am to be the editor. My associate will be Harry R. Ringwald as business manager. The magazine will be owned and published by Lapidary Journal, Inc., owned entirely by us. It will have no connection whatever with any society, but be operated for the welfare and knowledge of the lapidary and gem collector everywhere. Mr. Ringwald is treasurer of one of the largest newspaper publishing companies on the Pacific coast. He has been a well known amateur lapidary for 17 years. Both of us are actuated by an ideal of doing something for the lapidaries, rather than for personal gain. We feel sure we know what the gem cutter wants and we believe we deserve unqualified support from the gem cutting fraternity.

The column will continue in *Desert Magazine*. My stint here for nearly five years has been one of the most pleasurable experiences of my life and I have every wish to continue it. Those of you who wish to read more of gem cutting than can be presented in the special field of *Desert Magazine* will find an enjoyable and useful magazine, I am sure, in *The Lapidary Journal* and I hope to hear from you.

GEMS AND MINERALS

ARTHUR L. EATON, Editor

OPALIZED FOREST DISCOVERED BY OREGON GEOLOGY CLUB

Members of Deschutes Geology club of Bend, Oregon, report discovery of a forest of completely opalized trees in the John Day river region in Oregon. Forest is believed to be of Miocene origin and therefore very ancient. Most of the petrified forests of the world are made up of tree trunks and broken pieces which have come to the place as driftwood, then petrified. But in this forest many of the tree trunks and stumps are in the site where they grew naturally.

Geological evidence of the area shows that the stream beds and valleys of the region were made into lakes by Miocene volcanoes which then partly buried the whole area, including the lakes, with a heavy coating of volcanic ash. Waters of the lakes, leaching opal material from the ash and at the same time decaying the wood, slowly replaced each fiber with common or semi-opal. In this way grain of the wood is plainly visible.

FOUR CORNERS ROCK CLUB ORGANIZES AT DURANGO

Four Corners Rock club, drawing its membership from residents of four corners area of southwestern Colorado, northwestern New Mexico, southeastern Utah and northeastern Arizona, was organized on January 24 at Marvin's Rock Shop in Durango, Colorado. Membership is open to commercial dealers, collectors, rockhounds and others interested in mineralogy, geology or archeology.

Kenneth Owens of Animas City is president of new organization. Other officers are: Myrle Hall, Animas City, vice-president; N. C. Brockman, Durango, secretary; W. E. Barber, Durango, treasurer; Leo R. Brewington, publicity chairman; Mrs. Ethel Stafford, program chairman; Rev. Homer Root, by-laws. Second meeting was scheduled for February 3 at Durango First Methodist church, with regular meetings planned for first Monday of each month.

NORTHWEST FEDERATION CONVENTION SCHEDULED

Northwest Federation of Mineralogical societies will hold its annual convention August 30 to September 1, in Masonic temple, Seattle. Preparations for event are under way, under joint leadership of Lloyd S. Roberson, Mrs. Nellie Murbach and G. I. Canfield.

NATIONAL FEDERATION OF ROCK CLUBS ORGANIZING

Dr. Richard M. Pearl of Rocky Mountain federation and Ben Hur Wilson of Midwest federation are taking the initiative in organizing a national federation of mineral and gem societies. Ernest W. Chapman has been appointed California federation representative. One member from each federation will form an advisory committee which will probably meet at Salt Lake City in August, 1947. First meeting of the national organization is called for August, 1948, in Denver.

IMPERIAL GEM AND MINERAL SHOW SET FOR MARCH 29-30

Second annual show sponsored by Imperial Lapidary guild and Imperial Valley Gem and Mineral society will be staged March 29-30 in Central junior college auditorium, El Centro, California. Leo DeCelles and Sam Robinson, presidents of the two clubs, have named George Moore, Leon Miller, L. G. "Blackie" Beale, Ira Huffman and Miss Eva Wilson as chairmen of committees on housing, floor arrangements, lighting and publicity.

Local stones will be featured, many of them cut and polished for cabinet specimens and worked into jewelry. Cutting and polishing will be demonstrated during the show. Door prizes will include member-made jewelry and novelties. Grab-bag will consist of a large proportion of polished material. There will be a special fluorescent display. Admission will be free and all rockhounds are cordially invited.

COACHELLA VALLEY SOCIETY ORGANIZED AT INDIO

Organization of Coachella Valley Mineral society was instituted January 16 at home of Mrs. Jane Walker, Indio librarian. Thirty-five persons were present, and Glenn Vargas was made temporary chairman with Gladys Butterfield acting secretary. O. A. Rush headed nominating committee, and Omar Kerschner will be in charge of field trips. First field trip was planned for February 9, with Desert Gem and Mineral society at Blythe.

ROCKHOUND CLASSES GIVEN BY LOS ANGELES SCHOOLS

Evening classes in mineralogy and geology are being offered in the adult education program in the Los Angeles area. John Benkart,

mineralogist, author and teacher is instructor. Classes will meet at North Hollywood high school on Mondays; at Hollywood high school on Tuesdays and Thursdays; at Belmont high school, 1575 W. 2nd street, on Wednesdays and Fridays, 7:00-10:00 p. m.

During spring semester, starting week of February 3rd, work will consist of study of principles of geology; origin and occurrence of metallic and non-metallic minerals including oil and coal; and study of the nature and properties of minerals, including laboratory work in the identification and recognition of important types. During second semester, class will also consider geology and origin of scenic features of our national parks and monuments. All lessons are outlined in mimeographed sheets which are available each evening.

Work of the class is carried on in such a way that it meets needs of both experienced and inexperienced rockhounds. Course is especially valuable to those adults who wish to make the collecting and study of rocks and minerals their hobby.

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ALL BRAZIL and Ceylon gem faceting minerals now in stock, Australian shipment on the way. The Desert Rat's Nest, P. O. Box 1123, Encinitas, Calif.

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MINERAL AND FOSSIL COLLECTORS! Read The Earth Science Digest, a monthly publication reaching thousands of collectors the world over. One year subscription \$2.00. Sample copy 25c. Write: Dept. D., Box 57, Omaha 3, Nebraska.

BEADS, BUTTONS. Cut from your own gem materials. Drilling, any size or quantity. For fine gem cutting try us. Lapidary work since 1904. H. M. Samuelson, 1012 El Camino Real N., Salinas, Calif.

WANTED: Excellent crystallized specimens, outstanding cutting material for wholesale trade. Send specimen samples and prices. Jack Frost, 59 E. Hoffer St., Banning, California.

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ATTENTION is called to the new location of Swisher's Rock and Novelty Shop, at 4719 So. Hoover St., Los Angeles 37, Calif. The place for rare novelties, Petrified Woods, mine minerals, Agates, Geodes, etc. Beautiful costume jewelry made from lovely Petrified Wood. When visiting Los Angeles call on us. Swisher's, 4719 So. Hoover St., Los Angeles, Calif.

CAN SUPPLY Montana moss agate, agatized wood, jasper, jade and sapphires. The sapphires are small and are put up approximately 75 in a glass vial with two or three Montana rubies included for \$1. Good grade agate \$1 per pound plus postage. Jade in various shades of green \$3 per pound and up. E. A. Wight, 217 Hedden Building, Billings, Montana.

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INDIAN RELICS, Curios, Coins, Minerals, Books, Old Buttons, Old Glass, Old West Photos, Weapons, Catalogue 5c. Lemley Antique Store, Osborne, Kansas.

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WHOLESALE AGATE JEWELRY, to dealers and jobbers. Custom 10k gold and silver mountings in rings, bracelets, tie pins, lapel pins, etc. Write for prices. Carter's Agate Shop, 1124 Newport Ave., Bend, Ore.

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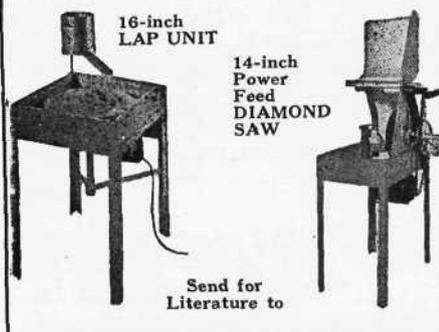
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Professor Mills was scheduled speaker at January 2 meeting of East Bay Mineral society, Oakland, California. Display table was in charge of O. J. Bell. A full calendar was planned for January 16: round table talks by T. Osburn on mineral specimens and gems, illustrated by colored slides; talk by Gerold H. Smith on chemistry of gem variety minerals; and a discussion on valuable ores and minerals of California by Robert Deidrick. Visitors are welcome at meetings. Secretary is F. Niemon, 450 Pershing drive, San Leandro.

February 8 was date chosen by Searles Lake Gem and Mineral society for its annual '49er party. At January 15 meeting Ralph Dietz, president of N.O.T.S. Rock club, talked on rare and interesting minerals found in the area. Talks on birthday stones were resumed with a discussion by Roy Bailey on garnets. The Trona group was invited by Orange Belt Mineralogical society for February field trip to Crestmore quarry, reportedly the second best mineral collecting area in the United States. The society defrays expenses of its representative at annual federation convention by holding a raffle at each meeting. Winner is requested to give a short talk on his prize at following meeting.

Pumice and pumicite are varieties of the same rock. Pumice is a vesicular, spongy mass, filled with gas holes and bubbles. It is usually white, gray or brown, and may appear as small pieces or great masses. Pumicite is a finely powdered volcanic glass, often known as volcanic ash. It may be found either as a powder or pressed into a crumbly rock which itself powders easily.

Color photographs of Oak Creek canyon, Sunset crater and the Walker district were shown by H. L. Womack, guest speaker at January meeting of Yavapai Gem and Mineral society, Prescott. Exhibits at the meeting included coral formations from prehistoric lake bed in Arizona, shown by H. G. Porter, faceted gems by A. De Angelis, and polished slabs from Moulton B. Smith collection.

Mineral resources of America were discussed by Victor Hayek, Southwest Mining association secretary, at January meeting of Los Angeles Mineralogical society. Sunday, January 19, 55 members and guests visited quartz crystal deposit at Mojave.

Nineteenth anniversary meeting of Arkansas Mineralogical society was to be held February 16 at chamber of commerce building, Hot Springs national park, Arkansas.

February 4 meeting of San Jose Lapidary society was planned as round table discussion of second annual gem show to be held by organization in city armory April 19-20. Morton Bachrach and Arthur Maudens displayed transparencies at January meeting.

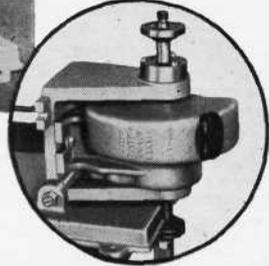
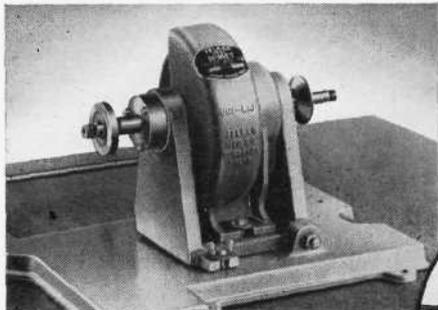
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John E. Gaston, vice-president of Los Angeles Lapidary society, assumed the duties of president in January, due to departure of President Benton MacLellan for Manila, P. I., for an indefinite period of time. Board of directors gave MacLellan a going away party December 12 at home of Louis and Katherine Goss. The Faceteers, an inner group specializing in faceting, furnished the program at regular monthly meeting held in Griffith park playground auditorium. Charles J. Norona and his associates, combining photography with lapidary art, showed colored slides of individual specimens displayed at annual exhibit. Jessie Quane, program chairman, held open house at her home in Altadena December 28-29. January field trip was planned to Chuckawalla wells for agate geodes and nodules.

Members Perry, Ash and Evans were slated to discuss the corundum gems at January meeting of Minnesota Mineral club held as usual in the Curtis hotel. Mr. Davidson of E. J. Long-year company was to talk about adventures of a geologist. A panel discussion on quartz family minerals was planned for February meeting, also color pictures of Chicago hall of gems. Rings, pins and bracelets have been completed by the jewelry class, but buttons which are a bit more intricate are not yet finished.

H. Stanton Hill, instructor in geology and mineralogy, Pasadena junior college, was speaker for January 13 meeting of Mineralogical Society of Southern California, Pasadena. He illustrated his talk on geology of Lassen Volcanic national park with kodachrome slides. Because specimen collecting is prohibited in the park, members displayed minerals from adjacent counties—Shasta, Lassen, Tehama and Plumas.

Mrs. Bertha G. Brown talked on petrified woods of the Columbia river basin and the Ginkgo Forest at January 15 meeting of Imperial Valley Gem and Mineral society. She displayed many large polished specimens of identified varieties of woods. A committee was appointed to plan second annual exhibit sponsored by this group and Imperial Lapidary guild March 29-30.

Northern California Mineral society, San Francisco, has chosen following officers to serve during 1947: L. P. Bolander, president; Michael Hanna, vice-president; Louis Eddy, treasurer; Mrs. Harriet Thompson, secretary; Al Tham, curator; Bert Walker, librarian; Mrs. Helen Burress, hostess; Dudley Haskell, Mrs. Ethel McNeill, Wm. Meader, directors. These officers assumed duties at annual banquet January 12. J. G. Ennes was scheduled to speak at January 15 general meeting held in public library in civic center, using kodachrome slides to show science aspects of a pack trip from Silver City to Mt. Whitney. Visitors are welcome at all society activities.

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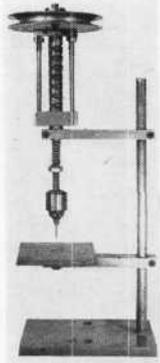
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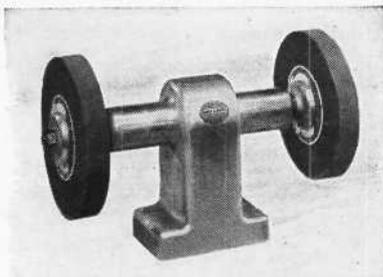
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Kern County Mineral society meets second Mondays at 414 19th street, Bakersfield, California. January session was round table discussion with questions and answers by members. There were specimens for sale and a grab bag.

Mineralogical Society of Utah elected officers at January meeting in geology building, University of Utah. Junius J. Hayes of university astronomy department was reelected president. Other officers are: Mrs. Guy W. Crane, first vice-president; W. T. Rogers, second vice-president; Mrs. Marcia F. Bagby, secretary; Kenneth Tanne, treasurer; Sears P. Roach, historian. Illustrated lecture on lava flows of southern Idaho was presented at meeting by Walter H. Koch, field examiner, U. S. bureau of land management.

Mojave Desert Gem and Mineral society of Barstow celebrated its seventh birthday with a party on January 8. Field trip on January 20 was into Opal mountain area. Walter Lauterbach led approximately 30 members and friends on trip, and jasper and bloodstone were collected. Group later visited Inscription canyon.

Early life of ancient California Indians was subject of talk at January meeting of San Geronimo Mineral and Gem society. Paul Walker, club vice-president, was speaker. Thirty-five members attended.

Members of Imperial Valley Gem and Mineral society visited the pumice and obsidian buttes January 19. They gathered hundreds of small, water worn pebbles of feather-light pumice and all they wanted of obsidian which gives its name to the place. John Fick discovered a vent of steam pouring from top of pumice butte.

Leland Quick talked on rediscovery of a lost art at first 1947 meeting of Orange Belt Mineralogical society held at San Bernardino junior college. Group made plans for its monthly field trips.

State Mineral society of Texas will hold a mineral show April 5-6 in Plaza hotel, San Antonio, according to Edith Owens, secretary-treasurer, 380 S. Sixth St., Honey Grove, Texas.

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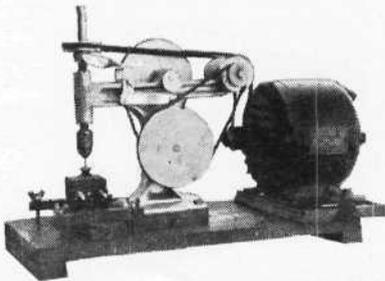
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Officers for 1947, elected at January meeting of Mineralogical Society of Southern Nevada, are: Jim Redding, Henderson, president; D. McMillan, Boulder City, vice-president; Mrs. Florence McMillan, Boulder City, secretary-treasurer. Committee in charge of field trips consists of: Mrs. E. L. Sapp, Boulder City; J. Weston, Boulder City; Bob McNeil, Henderson. Plans were made for a display in hobby show sponsored by Boulder City News which was to be held at high school February 1. Jim Redding displayed portable grinding and polishing equipment.

Herbert L. Monlux showed his collection of thin slides of gem materials at February meeting of Los Angeles Lapidary society. Collection consists of 150 slides prepared from Southern California materials. Field trip for Feb. was to Bicycle lake, east of Yermo, California. Public exhibit, which society planned this spring, has been postponed due to inability to obtain display room of county museum for scheduled time.

Pomona Valley Mineral club lost an active and respected member with the passing December 21 of Ernest W. Coiner. He was an accomplished lapidist and had spent many years collecting minerals.

Russell D. Dysart, instructor of geology at Chaffey junior college, Ontario, California, was guest speaker at January 14 meeting of Pomona Valley Mineral club held in chemistry building, Pomona college, Claremont. His subject—highlights of western geology—was illustrated with kodachrome slides of interesting geological and glaciated areas of western national parks. Mrs. Hollis Page, member, talked on garnets and their varieties.

Officers of Colorado mineral society, Denver, are: Chester R. Howard, president; Harvey C. Markman, first vice-president; Richard M. Pearl, second vice-president; Mrs. Mary A. Piper, Room 220 State Museum building, 14th at Sherman, Denver, secretary-treasurer. Society is non-profit educational organization to promote study of Colorado minerals and other geologic materials, to encourage mineral collecting as a hobby, and to conduct public meetings, lectures and field trips. Membership is open to all. Regular meetings are held first Fridays October through May in Colorado Museum of Natural History, City Park, Denver. Summer meetings are field trips. A mineral identification symposium was planned for January meeting. Harvey C. Markman was in charge of crystal study; Guy B. Ellermeier, physical and optical tests; Charles O. Parker, assaying; Richard M. Pearl, blowpipe analysis. At December meeting Mrs. George D. Volk, curator of archeology at Colorado Museum of Natural History, talked on Southwest archeology.

Mineralogical Society of Arizona has a new meeting place: mineral building, state fair grounds, Phoenix. Meetings are first and third Thursdays, 8 p. m., October through May. Visitors welcomed. January 2 meeting the group saw a movie on minerals of Texas, courtesy U. S. bureau of mines. At January 16 gathering, Chas. A. Diehl and Ben Humphreys were scheduled to begin series of short discussions on what the rockhound wants to know. At each meeting questions based on preceding discussions will be passed out and at the end of the series in May prizes will be awarded for most perfect answers. A course in cutting and polishing semi-precious stones tentatively is planned.

Member Dick Thompson was in charge of January program of Long Beach, California, Mineralogical society. He showed a moving picture of the plant and operations of American Potash and Chemical company. Club meets second Wednesdays in Belmont recreation center, 4104 Allin street. Visitors are welcome.

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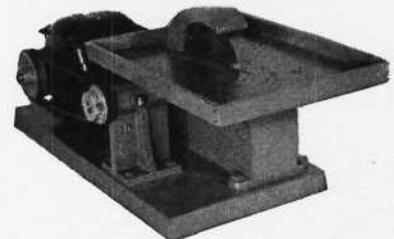
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Just Between You and Me

By RANDALL HENDERSON

AMONG Desert readers I know there are many who will share my feeling of loss in the passing of Chee Dodge of the Navajo. Born of a Navajo mother and a Mexican father, Chee Dodge was a great leader under any standards by which civilized men may be judged. Endowed with greater vision than many of his tribesmen, he often was criticized by his own people.

Throughout his life, with rare courage and understanding, he worked and fought to bridge the appalling gap of economic and political inequality which has stood between the Navajo and the white men who invaded his tribal lands. Chee Dodge's life story is revealing proof of what every geneticist already knows, and the rest of us slowly are learning—that the gene of strong character is not the exclusive inheritance of any race or nationality, but an endowment of the human species regardless of color or place of birth.

* * *

One evening in 1939 a little group of people met in a private home in Calexico on the California-Mexico border to discuss ways and means of improving the community morale.

Commercially, Calexico was in the doldrums. That was true of most American communities during the 10 depression years. But the nation-wide depression was not Calexico's most painful headache. Being an international port of entry, the town's economy had been built largely on its trade with Mexicali and the fertile delta of the Colorado river in Lower California.

During the 'thirties Mexico began imposing restrictions on commerce across the border. It was a matter of national pride. Lower California was trying to establish a self-contained economy—with less dependence on American goods. And Calexico was losing its customers from across the border. It was being squeezed from both sides. Its American business was at low ebb—and its trade with Mexico was being cut off at the gate. And there was nothing the Calexico chamber of commerce could do about it.

It was after years of this hopeless struggle for a place in the world of commerce that some of the neighbors gathered at the home of Hermina "Ma" Keller on an October evening in 1939 to "do something for Calexico."

Out of that meeting, and many which followed, there was formed the Calexico Winter Festival association, sponsor for the International Desert Cavalcade which will stage its eighth annual presentation this month, March 13-14-15.

I'll confess I am prejudiced in favor of Calexico. I edited the newspaper there for 15 years. But one does not have to be prejudiced to appreciate the gorgeous historical pageant now being staged every year by my old friends and neighbors on the border. They have revived and dramatized the struggle of those courageous men and women, from Capt. Anza, the Spaniard who led the first colonists into California, down through the years to Rockwood, the engineer whose vision led to the reclamation of the great Imperial desert in Southern California.

No professional talent is imported for the staging of this

spectacle. Its General Manager Les Dowe, Director Walter Bowker and all its players and musicians are drawn from the twin border cities, Calexico with a population of 8000 and Mexicali with 30,000.

The Mexican who plays the role of the gallant Capt. Juan Bautista de Anza is a working member of the Mexican consulate in Calexico. Father Garces is a grapefruit grower on the outskirts of town. The part of Chief Palma of the Yuma Indians is played by a Mexican employe of the Southern Pacific. The role of General Kearny is taken by a Calexico physician. Captain Cooke of the Mormon battalion is played by an immigration inspector. One of the choruses is recruited from the choir of the Catholic church. *La Golondrina*, *Adios* and other Mexican favorites are sung by talented señoras and señoritas from across the line. The historical script, dramatic and accurate, was prepared for the most part by a group of Calexico women who spent months in their research, and each year add some new but forgotten episode to their historical narrative.

The outdoor stage for the pageant is itself a spot of historic interest. When the Colorado river broke through in 1905 and created the present Salton sea, the silt floor of Imperial Valley melted away like sugar before the flood torrent, and a great barranca was created just outside the present city limits of Calexico. The amphitheater for the Cavalcade was built in one of the arms of this barranca. The fence that separates Alta California from Baja California is only a stone's throw from this natural setting. Capt. Anza and Father Font and their caravan of settlers and livestock on the long trek from Tubac in Southern Arizona to establish California's first white colony at Monterey passed near this spot in 1775.

The Desert Cavalcade is a beautiful historical drama presented so realistically as to bring both tears and laughter to those who make the pilgrimage to Calexico each year. But it is something more than that. It symbolizes the triumph of a small community which in its commercial frustration turned to cultural channels for the preservation of its dignity and self respect. Confronted with reverses that stemmed on the one side from economic maladjustment in the United States, and on the other side from International barriers they could not surmount—the business men of the town—the chamber of commerce—were stymied.

But in Calexico there were men and women who could see beyond the commercial horizon to the heights where were to be found cultural values which always and everywhere make for greater security and satisfaction than the jingle of the cash register.

With the development of railroad and highway connections across the formidable delta terrain to connect Lower California with the Mexican mainland, it is probable that Calexico will again in future years become an important and prosperous international port of entry. But no amount of commerce will ever create for the community either the prestige or the self-respect that is accruing to it from the unselfish community effort it puts forth each year in the presentation of Desert Cavalcade.



NAVAJO LIFE AND SOCIAL RELATIONSHIPS ARE STUDIED

THE NAVAHO, by Clyde Kluckhohn and Dorothea Leighton, is an extremely detailed study of present day life, religion, language, government and philosophy of this Southwestern tribe. Central aim of the book, according to the authors, is to supply background needed by an administrator or teacher who is to deal effectively with the Navajo on human terms. It was written as part of a project jointly undertaken by the Committee on Human Development of University of Chicago and United States Office of Indian Affairs.

All of which sounds rather formidable, and the general reader will not find this volume easy to read. But anyone seeking special information on any of the many fields which THE NAVAHO covers, will find the book invaluable. History of the tribe is dealt with in a brief and sketchy fashion. It is the Navajo of today—his means of livelihood, social and family relationships—in whom the authors are interested.

There is an entire section on the Tongue of the People, in which Navajo sounds, words, grammar and speech are discussed. Another chapter deals with witches, ghosts and supernatural beings, the Navajo theory of disease, and folk tales and myths. There is a frank discussion of difficulties encountered by Indians and the Navajo service in their mutual dealings. These relationships are complicated on the part of the Navajo, according to the authors, "by bewilderment, cynicism and resentment bred by two generations of treatment that was often vicious, almost always stupid and always based on the attitudes toward 'backward peoples' current in white society at the time."

Clyde Kluckhohn is professor of anthropology at Harvard university and Dorothea C. Leighton is a psychiatrist. Their book is an important contribution to the study of the Navajo.

Harvard University Press, Cambridge, Mass., 1946. 250 pps., photographs, endmaps, illustrations. \$4.50.

DESERT PHILOSOPHER DREAMS AT THE OASIS OF MARA

DESERT YARNS is written charmingly—a small book of sketches which are almost fables. Most of the sketches are about people and places at Twentynine Palms—the Oasis of Mara. Into them E. I. Edwards has worked scattered strands of the philoso-

phy which life on the desert has brought to him. "It's not the road—but the manner in which we travel it," he explains. "Not the distant goal—but the spirit in which we seek it." Edward's earlier work, *The Valley Whose Name is Death*, a bibliography of Death Valley and history of the emigrants in the valley, gave no hint of the philosophy of DESERT YARNS. But in his new book, Edwards travels his chosen road well. It is to be hoped that more sketches will be added in some future edition, and the price reduced so that the book may achieve the audience that it deserves.

Ward Ritchie Press, Los Angeles, 1946. 41 pps. Limited edition of 250 copies. \$5.

CAREY McWILLIAMS STUDIES SOUTHERN CALIFORNIA

In SOUTHERN CALIFORNIA COUNTRY, latest title in the American Folkway series, Carey McWilliams has made an amazingly detailed study of the climate and people of the area south of the Tehachapi, north of Mexico and west of the California mountains. Although he has specifically excluded the desert country from the boundaries of Southern California, desert people will find much of interest in the book. Included are accounts of Owens Valley aqueduct, Job Harri-man's Socialist colony at Llano on the Mojave and a great deal on irrigation and development of arid land.

Social and economic forces are of greatest importance to Mr. McWilliams, and his study of the tragedy of California Indians under both mission and American management is probably the most important section of the book. According to the author, the Franciscan padres "eliminated Indians with the effectiveness of Nazis operating concentration camps." Impact of American settlement was still more severe, reducing the tribesmen from 72,000 to 15,000 in 30 years.

Booms and boom psychology, orange culture, California politics and labor and religions are examined closely, and the author is many times dissatisfied with what he finds. There is much that is controversial in SOUTHERN CALIFORNIA COUNTRY, and a definite bias in the author's viewpoint. Some people might call the volume "Carey McWilliams Country."

But it contains a vast amount of information, much good humor, and a sting that will start many Southern Californians thinking. The book is indispensable to

anyone desiring a complete picture of the "island on the land" called Southern California.

Duell, Sloan and Pearce, New York, 1946. Index, 387 pp. \$3.75.

BEAUTIES OF PACIFIC WEST SHOWN IN PICTORIAL FORM

The variety and beauty of the Pacific West is too all-embracing to be captured between the covers of one book. But much of the best of it may be found in the new pictorial volume WEST COAST PORTRAIT, edited by Joyce Rockwood Muench. The work of more than 50 photographers, etchers, engravers and lithographers is represented by almost 250 illustrations, including six in full color, which picture the Pacific coast from Alaska to San Diego.

WEST COAST PORTRAIT is divided into sections which portray the shoreline, cities and towns, valleys and foothills, old buildings and ruins, the desert, the mountains, and the northland. Included are many of Josef Muench's finest photographs of desert, mountain and coast; Conrad Buff's magnificent lithograph of Pala; Bradford Washburn's unmatched glacier portraits and numerous examples of the work of Hubert A. Lowman, Roi Partridge and Walt Dyke. In addition to selecting the contents of the book, Joyce Muench, in a brief introduction, has outlined the history of the region portrayed.

Hastings House, N. Y., 1947. 168 pps. \$5.00.

POETRY OF YUCCA VALLEY . . .

Out of her rich experience in her little home among the Joshua trees of Yucca valley, California, June LeMert Paxton has written and published a book of poems under the title of DESERT PEACE.

Illustrated with typical desert photographs, the poetry is classified under the general sub-titles of Desert Moods, Desert Miniatures and Poems for Meditation. The verse reflects the peace and the philosophy of an author who has found the real spiritual values which after all are the most important values in life.

Published by the Green Lantern Publishing House, Corona, California. \$1.60.

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