

THE

Desert

M A G A Z I N E



SEPTEMBER, 1947

25 CENTS

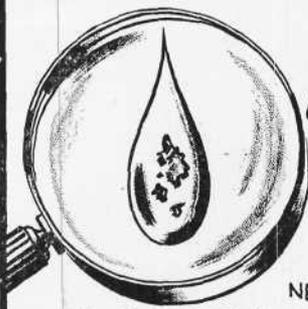
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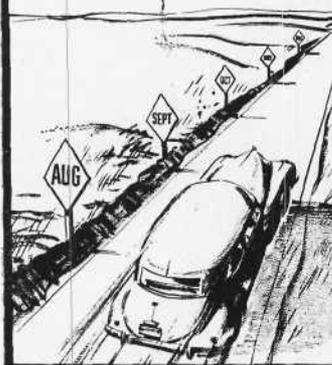


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DESERT CALENDAR

- Aug. to Sept. 20—Utah Centennial exposition, State fair grounds, Salt Lake City, Utah.
- Aug. 28-30—Utah Indian Days, honoring Ute, Whiteriver, and Uncompagre Indians, Roosevelt, Utah.
- Aug. 29-31—Santa Fe Fiesta and Gran Baile, Santa Fe, New Mexico.
- Aug. 29-Sept. 1—Elko county fair and Nevada state livestock show.
- Aug. 29-Sept. 1—Nevada rodeo and Humboldt county fair, Winnemucca, Nevada.
- Aug. 30-Sept. 1—Dig-N-Dogie Days rodeo and Mohave county fair, Kingman, Arizona.
- Aug. 30-Sept. 1—Sierra club Labor Day weekend climb to the top of San Gorgonio.
- Aug. 30-Sept. 1—Nevada state fair and rodeo, Fallon, Nevada.
- Aug. 30-Sept. 1—Rodeo and Labor Day homecoming celebration for old-timers of Owens Valley, Bishop, California.
- Sept. 2—St. Stephen's day, harvest dance, Acoma pueblo, New Mexico.
- Sept. 4—St. Augustine's day, harvest dance, Isleta pueblo, New Mexico.
- Sept. 5-6—Flower show, sponsored by Gallup Women's club and Junior Women's club, Junior high school, Gallup, New Mexico.
- Sept. 6 and 8—St. Augustine's day, corn dance, San Ildefonso pueblo, New Mexico.
- Sept. 6-8—Volunteer Firemen's rodeo, Winslow, Arizona.
- Sept. 11-13—Southern Utah Livestock show, Cedar City, Utah.
- Sept. 12-14—Yavapai county fair, Prescott, Arizona.
- Sept. 12-18—National Softball Congress, world's championship softball tournament for girls, Phoenix, Arizona.
- Sept. 13-14—Sierra club, Nevada Desert Peaks section, climb to the summit of Charleston peak. Camp at Charleston park public camp.
- Sept. 15-18—Annual fiesta, three days of dancing, Jicarilla Apache reservation, New Mexico.
- Sept. 19—Annual fiesta, harvest dance, Laguna pueblo, New Mexico.
- Sept. 19-21—Fifteenth annual Navajo county fair, Holbrook, Arizona.
- Sept. 27-28—Sierra club, rock climbing section, climb to top of Tahquitz rock.
- Sept. 27-28—Barstow rodeo, Barstow, California.
- Sept. 28-Oct. 5—New Mexico state fair, Albuquerque, New Mexico.
- Sept. 29-30—San Geronimo fiesta, Taos pueblo, Taos, New Mexico.



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RANDALL HENDERSON, Editor. BESS STACY, Business Manager.
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Newspaper Rock . . .

First prize winning picture in Desert Magazine's July contest, subject, Desert Markers and Monuments, is this view of petroglyphs in Petrified Forest national monument, Arizona, taken by Don Ollis of Santa Barbara, California. Verichrome film was used with 1/25 sec. exposure at f.11 at 1 p. m. on a clear day.

Wickenburg Monument . . .

Second prize went to Cyril Johnson of Susanville, California, for his picture of the monument near Wickenburg, Arizona, where Mojave Indians ambushed a stage, killing six passengers and fatally wounding a seventh. Taken with 2 1/4 x 3 1/4 Graflex, 1/70 sec. at f.11, Super XX film.



WICKENBURG MASSACRE

IN THIS VICINITY, NOV. 5, 1871
WICKENBURG - ELIZABURG
STAGE AMBUSHED BY APACHE
INDIAN BRIGADE.
JERRY LAVER - FRED W. LOBBE
PAUL HANDEL - WIG. SALANCE
FREDERICK SHOOKERMAN AND
C. S. ADAMS WERE MURDERED
MOCKIE SHEPARD DIED OF
WOUNDS.

ANDREW HARRIS
MONUMENT 1937

1937



Robert Pino, assistant to the Guild manager, learned his silversmith trade the hard way—and now he is helping other Navajo craftsmen improve their product—and find a market for it.

Cheating is Taboo on the Reservation

By DAMA LANGLEY
Photographs by Milton Snow

ARE YOU Mrs. Langley? Are you the Desert Magazine writer sent to learn about our Guild?"

I turned from watching snowflakes drift down from leaden clouds and met the searching gaze of a young Navajo veteran. We were in the lounge of the clubhouse at Window Rock, agency capitol of the Navajo nation in northeastern Ari-

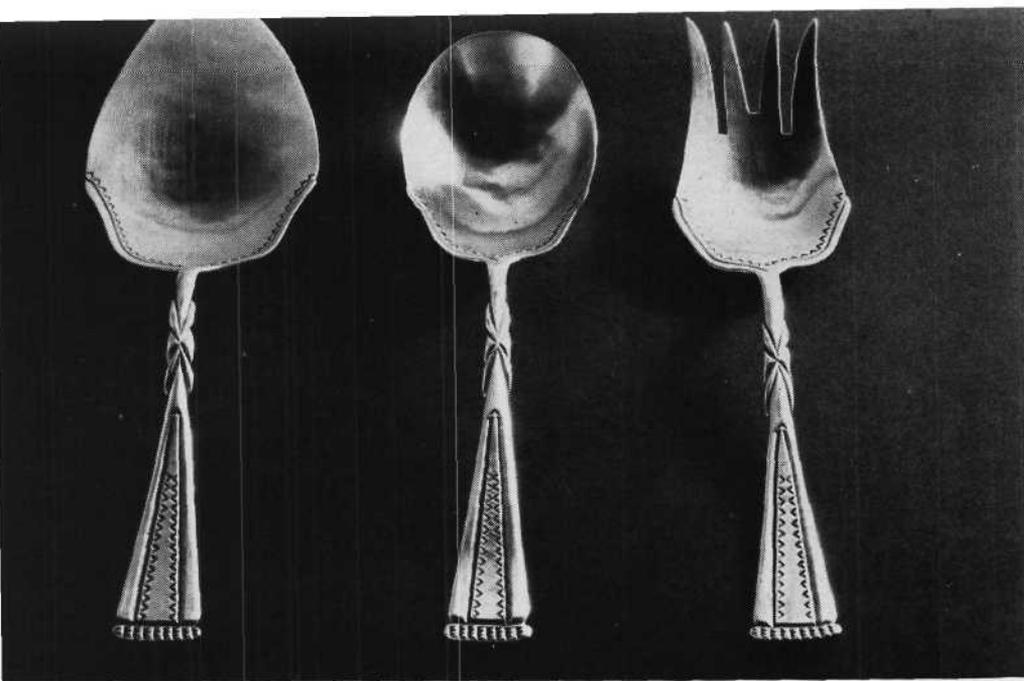
zona. January in that high country is a dreary month, and when he spoke I was thinking of the hundreds of small Navajo children denied the privileges of schooling, who were hungry and cold in their people's hogans.

"I am Robert Pino," my caller continued. "We are going in the Guild truck to Pine Springs today, and Mr. Churchfield

In order to determine what effect the war may have had on the native crafts work of the Navajo Indians, and what the future holds for the tribal weavers and silversmiths, Dama Langley spent several days on the reservation at the request of Desert Magazine—and here is her report. Briefly, it is an encouraging report, despite the competition of white men who have been flooding the market with factory-made "Indian jewelry."

thought you might like to ride with us." Mr. Churchfield is manager of the Navajo Tribal Arts & Crafts Guild.

While I got into a heavy coat and overshoes the manager's assistant talked. He was one of the many fine intelligent young Indians who had been in Uncle Sam's



armed forces, and now he was back with the *Dinne* hoping to lighten their lot and make a better life for his frail young wife.

"I go with Mr. Churchfield because many of the best silversmiths are older men who do not speak the English language. And Mr. Churchfield is not yet ready with the Navajo!" I laughed. I could well understand his tardiness with "the Navajo." After 25 years among them I am a deaf-mute when it comes to carrying on a conversation in Navajo.

"It's a bad day to drive across the mountain," I observed, as we crossed to the modest office of the Guild.

"Yes, it is a bad day. But the people will be waiting along the road. Mr. Churchfield has said we would go to Pine Springs today and they know he will be there!" That statement pleased me. When I met Mr. Churchfield I found myself appraising him through the eyes of my Navajo friends. I knew why he would meet the workers as promised.

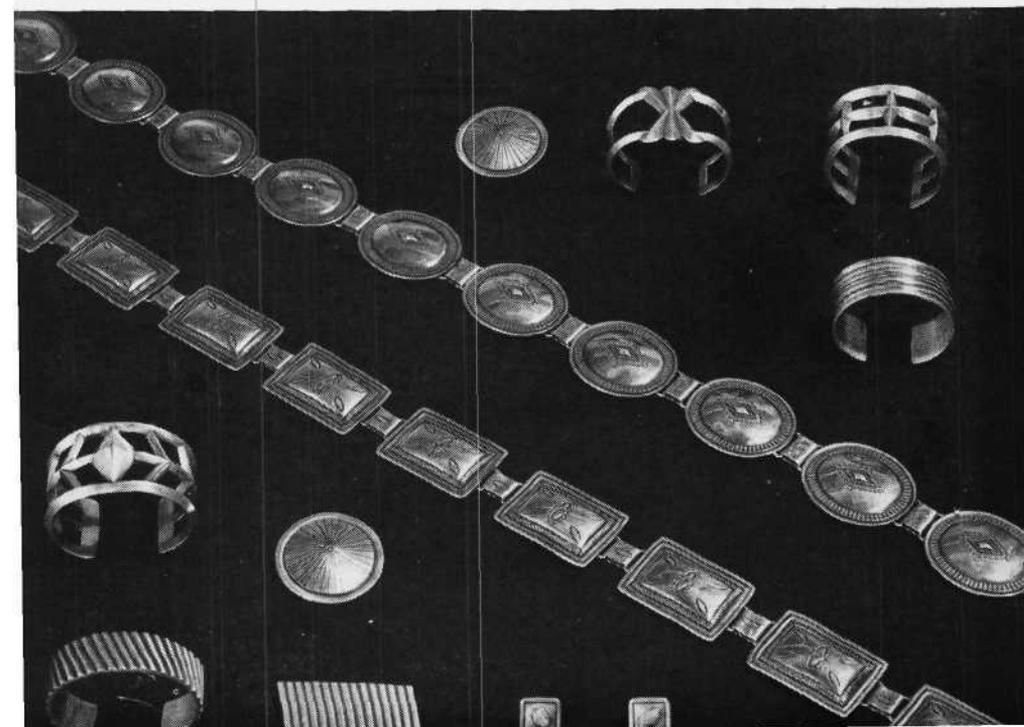
The truck was parked beside the little sign "Navajo Tribal Arts & Crafts Guild." It was an insignificant sign, but upon the stubborn efforts of the Guild officials and members rest the destiny of Navajo craftsmen and their wares.

From a safe in the office Mr. Churchfield had taken a glass jar of silver "filings" and a quantity of silver wire which would be issued to members of the Guild doing silverwork. The efforts of the Guild to secure sufficient silver for first class jewelry netted such a small amount of silver slugs that it was necessary to save all the trimmings and clippings from the finished work and remelt it to be used again.

Silverwork is not an ancestral craft with the Navajo. Less than 90 years ago they began their first working in metals under the direction of a Mexican blacksmith attached to the army post of Ft. Defiance. He taught some Navajo how to work with iron, and one of these, Herrero Delgadito, "Little Lean Iron Worker," carried the art with him when he and 12,000 Navajo were driven into exile because of their ferocious attacks on peaceful Indians and Mexicans. This was in 1863. While at Ft. Sumner in captivity the Navajo obtained copper wire and Herrero taught them how to make bracelets and ornaments from it. Only 7000 Navajo lived to be returned to their present northern Arizona and New Mexican reservation, but as soon as they found places to build their hogans they resumed weaving blankets and their new art of jewelry making.

Trading posts had sprung up around the army posts and there was a ready sale for trinkets. The soldiers sent them east as souvenirs. Little Lean Iron Worker made his home at Ft. Defiance and was kept

The Guild uses no turquoise—rather its craftsmen pride themselves on the quality and simple design of their product.



busy making crude silver rings, buttons and bracelets for the soldiers.

The craft spread and after Fred Harvey began to have salesmen travel on Santa Fe trains and offer the silver trinkets and blankets to passengers there developed a worthwhile market for the work. When World War II called hundreds of young Navajo men and women from their reservation to serve in war plants and the armed forces, the Navajo people were dependent on the sale of their rugs and jewelry for more than half of their income. With money reaching the reservation from allotment checks and payrolls, silvermaking was temporarily laid aside except by a few of the older silversmiths who took an artist's pride in their craft. Prices soared along with the popularity of costume jewelry, and collectors searched for the heavy old pieces of pawn jewelry found in back country trading posts.

There is a reason for the desire to own a pawn piece. Craftsmen keep for themselves and their families, the finest work they do. When hunger or the desire to splurge at a ceremonial sing demands money, they take their family jewels to a trading post and borrow on them. Sometimes the jewelry stays there for years since traders are reluctant to sell anything they believe the owner will ever redeem. But when pawn is "dead" and there is no chance of its redemption, then it is sold.

The war ended and there was no more money coming to the Navajo hogans from workers in the war factories. Hundreds of the workers returned to the reservation ready to resume blanket weaving and silverwork. But times had changed.

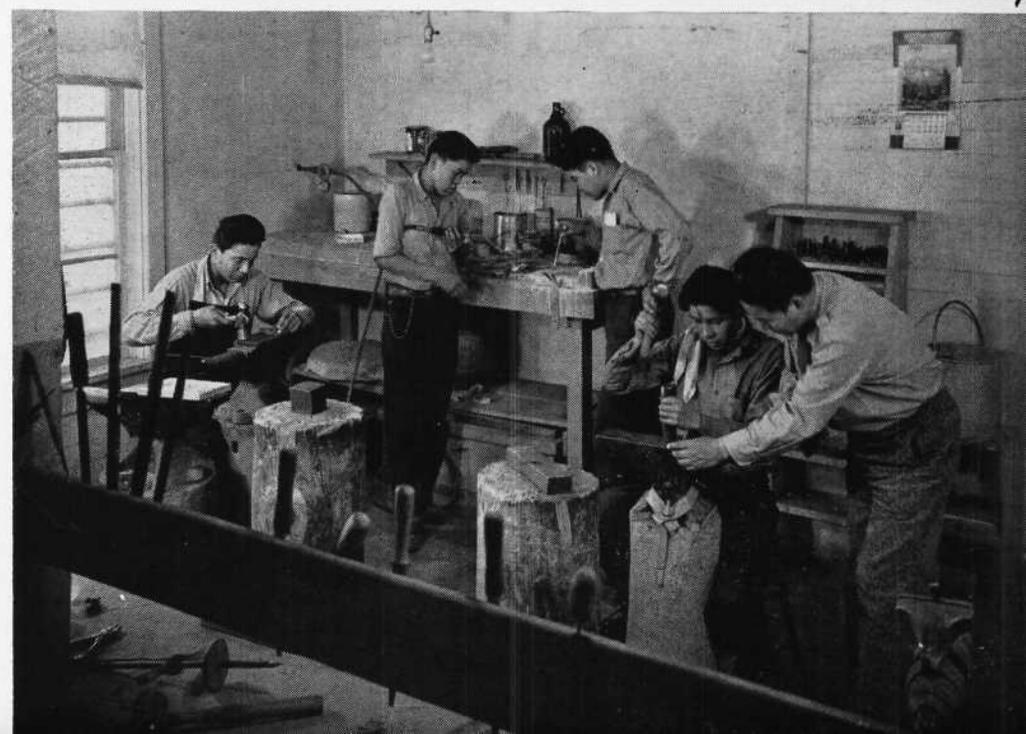
The government in order to check erosion on the great sprawling 17,000,000 acre reservation had reduced flocks until hundreds of families were destitute. They had no lambs or wool to sell to the traders, no goat milk for their children, no mutton to stew over a slow pinyon fire. Wool was so scarce on the reservation it had to be obtained through the traders who imported it. Still, their weaving craft was safe from imitators, since no machine has been devised which can produce a blanket resembling a handloomed Navajo weave.

Silverwork is another matter. White men, hovering like vultures around the reservation, saw the possibilities for money making in Navajo jewelry. With a great blare of altruistic oratory they built fac-

Above—Indian women come to the Guild school to learn the fine points which bring a higher price for their weaving.

Center—Indian boys are taught design and workmanship that they may carry on the craftsmanship of their tribe.

Lower—In the school workshop where the young Navajo learn by working in silver.



tories almost within shouting distance of the reservation boundary, and are turning out tons of pseudo Indian jewelry. Their main talking points are: "It will introduce Navajo jewelry to the public," and, "We will give work to hundreds of Indian silversmiths." What really has happened is that the market is flooded with flashy lightweight jewelry studded with turquoise, which sells for a price which hand-hammered and genuine handmade jewelry can never hope to meet. The scanty amount of available silver for such projects is bought by these concerns. Navajo are hired to sit at assembly lines doing an endless monotony of piece work. The old-time silversmith, working alone in his hogan, pouring all his inherent love of beauty and perfection into his work, has no chance to earn even starvation wages without the help of his tribal Guild.

"Who started this tribal Guild idea?" I asked Mr. Churchfield as we labored up the hill toward St. Michael's mission.

"It had its inception during the world's fair at San Francisco. A committee scoured the reservation for fine old blankets and silver work which was to appear with the Arizona exhibit. Many valuable articles were almost unobtainable, but the display excited so much interest among lovers of native crafts, the committee sought some way to enliven interest among the silversmiths and weavers so the younger generation would appreciate and practice their arts and crafts. Ft. Wingate was selected as the most logical place to carry on such a project.

"The best spinners and dyers and weavers of the tribe were employed to teach young girls their art of blanket making. Silversmiths from all over the reservation were brought there to teach their craft to the classes. Indians and white artisans were found who could add something of value to the teachings of the Navajo, and many of the finest weavers and silversmiths on the reservation today will tell you they learned most of what they know at the Wingate school.

"That idea was fine, but the silversmiths and weavers living in their own homes wanted and needed help more intensive and personal than could be obtained through the school. So in September, 1941, the Navajo Tribal council voted a \$10,000 revolving fund with which to set up a project to enable craftsmen to secure materials for their work, and through the organization have their wares marketed.

"Prior to the organization of the Guild, the only outlet for the crafts of the tribe was through the trading posts. Today the craftsmen sell their work direct to the Guild for cash, with the result that their earnings have been stabilized and increased. Now a Navajo silversmith or weaver knows that acceptable work will be bought at a fair price on a day specified, and that with a portion of the money so



Trademark of the Indian Arts and Crafts Guild. Its importance looms large for the Navajo craftsmen.

earned additional materials for future work may be secured at a fair price. During this period of scarcity of silver and wool the Navajo would have been almost helpless had they been compelled to depend upon their own efforts to secure working materials."

"You say the market has been widened? What do you mean by that?"

"In 1942 the Guild manager visited big shops and stores in the eastern cities and established wholesale markets for blankets and silver work. One of those contacts is paying off this week. Did you see the big packing cases piled in front of the Guild office? Those are full of our finest natural color and vegetable dye blankets selected by Marshall Field's buyer. He spent several days on the reservation studying methods of weaving and silverwork so his advertisements of Indian crafts will be authentic. Their silver buyer will be here soon. Such shops as that and exclusive jewelry shops such as Tiffany's and Peacock's handle the fine silverwork our Navajo are doing today. There has been such an improvement in design and workmanship on silver under our Guild management that it commands high prices and finds a ready market in high class shops and gift departments."

Robert interrupted our conversation, "We had better go in to Limping Man's place and see if he finished those conchos," he said. There was a certain grimness in his tone that promised something of interest. I climbed out of the car to enter the hogan with him.

Several knocks on the door brought no response.

"Maybe he isn't home," I said. "He is at home," said Robert. "See the door is not fastened on the outside yet it does not open. And I saw smoke coming out of the smoke hole before we left the road." We went back to the car and sat there patiently for perhaps ten minutes. Robert was playing a waiting game.

The door opened but no one appeared. Again we left the car, this time all three

of us, and went into the big eight-sided log hogan. Limping Man sat before his work bench industriously filing a rough spot on a concho. He seemed quite surprised to see us. A brisk fire burned under the half of a steel oil drum and a coffee pot sent tempting odors toward our cold noses. We gladly accepted the hot drink, but used our own cups from the car.

"We have come for the conchos," Robert said. Limping Man rose and unhooked a cotton sack from a peg driven between logs and dumped two dozen beautiful heavy conchos onto the work bench. I thought Robert and Mr. Churchfield would be delighted, but they stood and waited. Reluctantly the silversmith brought out another sack and this one was full of much smaller and more delicate conchos, evidently intended to be worn by women with their sport clothes.

"Why have you taken two months to get these ready?" asked Robert. "This is the third time we have come here for them. You have kept the Guild's silver here unworked while you did piece work for the factory. That is not being a good member of the Guild. It is not fair to other members. If you want to work for the Gallup people, that is your business, but you cannot use Guild silver for their work, nor keep your membership in the Guild."

We left the hogan with the finished work, disregarding the request of Limping Man for more working silver. Robert explained that other members of the Guild had seen Limping Man making lightweight quickly done ornaments which he did not turn in to the manager. This they felt definitely was not keeping the spirit of their Guild agreement, "One for all, all for one." Until he could regain the confidence of his fellow craftsmen they had asked that no more precious silver be issued to him. That was the only incident reported where a member of the Guild did not play fair with the officials and his fellow craftsmen. The story would go by grapevine throughout the tribe and there would be plenty of clucking and head shaking over it.

The snow was falling in hard wind-driven pellets as we went on toward Greasewood. Beside the road two Navajo women wrapped in their bright Pendleton blankets had built a fire and they flagged the car as we neared them. Piles of ashes told how many hours they had been waiting. Both of them produced lovely, soft blankets which they were ready to turn in to the Guild.

Robert spread the blankets on the clean snow and they looked like subdued flowerbeds there, with the green pinyon trees above them and snow all around. Measured and checked for uneven widths, the blankets were tucked into the car and the women happily pocketed their money and waved and laughed as they turned away among the trees. They had been waiting since daylight, Robert said. I knew then

why Mr. Churchfield had not let the stormy sky keep him from this scheduled trip.

At Greasewood community center many horses were tied to a rack and the halls were full of Navajo women, children and a few men. The sewing room was cleared of unfinished garments and upon the tables rugs were piled high waiting to be measured and paid for. It was like a county fair. The women were quite curious about the work of other weavers, and as a rug was spread out, measured and paid for, they fingered the weave, discussed the design and coloring, and were always anxious to know why such and such a rug brought more or less than some other piece of weaving. Robert patiently pointed out the factors which made the more expensive rug desirable. Perhaps it was the fineness of the weaving, or the combination of colors.

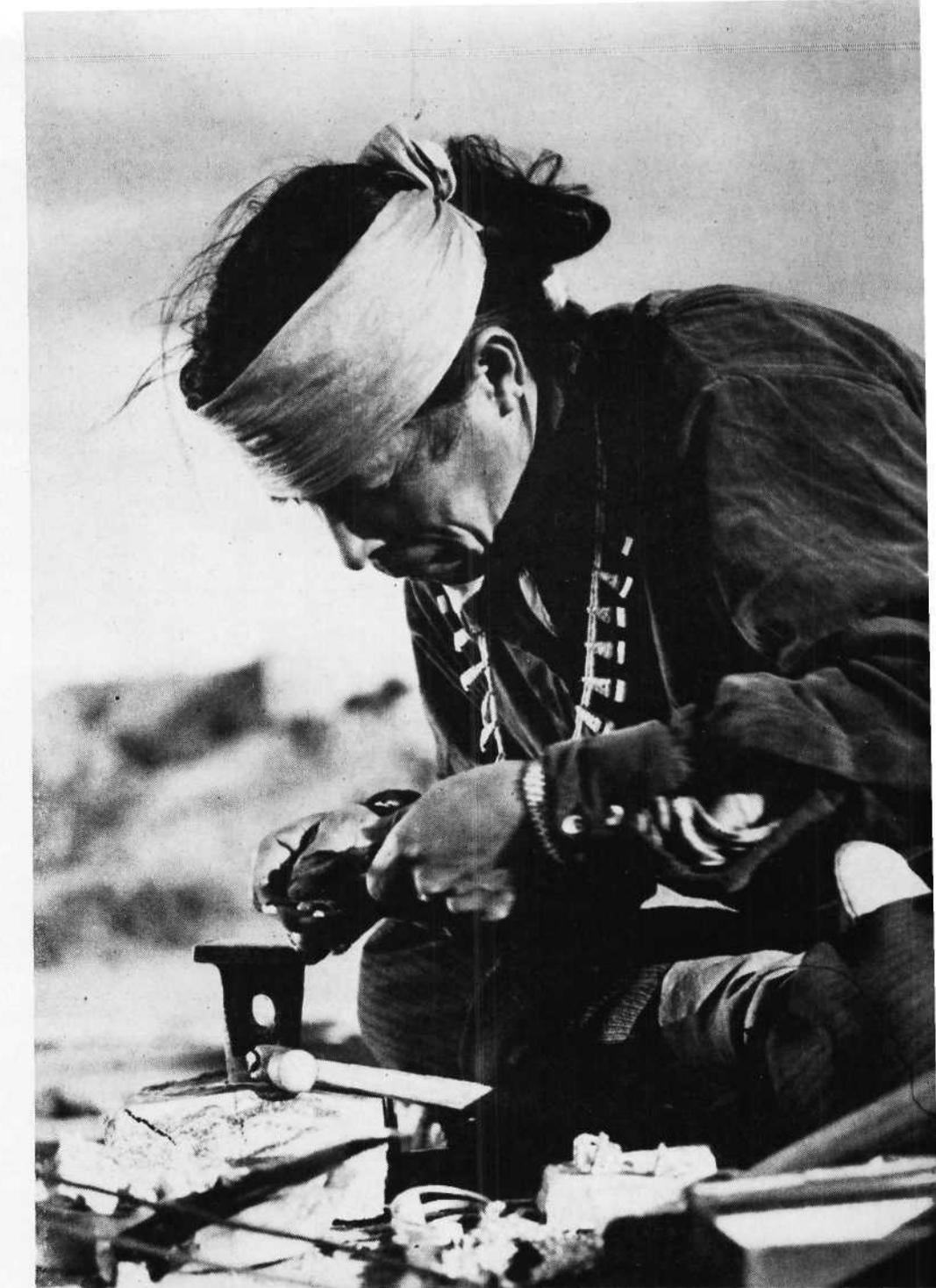
"Where did you get that cotton warp?" he asked a weaver. She named the trading post where she had bought it. "Then you will have to sell your rug to such dealers. You know the rules of the Guild—'Every Navajo rug must be of approved dyes and all wool material.' I'll tell you why you used the cotton warp. You did not get to work on your rug in time to have it done when you wanted the money. You used the cotton warp in order to save time and work. There is no place for inferior weaving or materials in the display room of the Navajo Tribal Guild." Robert had such a way of speaking to his people that they took no offense at his reproofs. The weaver giggled and other weavers shouted with laughter at her unsuccessful efforts to slip something over on their fellow tribesman.

Rug buying completed and raw wool distributed by the pound to such weavers as were in need of it, the silversmiths crowded to the table with their finished work. One artisan began to take small softly shimmering costume pins from his pockets, piling them in handfuls on the table until half a gallon were in front of us. I reached out and picked up some of them. They were the cherished old mould designs, and each article was finished smooth as satin. There were no rough edges or pockmarks for Robert to detect and refuse to accept. All over the room the watching Navajo reached for the pins and passed them from hand to hand. Mr. Churchfield smiled at my concerned look.

"They will give them all back. Not one will be missing!" He looked at Robert who spoke to the silversmith in their tongue.

"He says there are 68 of them," Robert told us.

This same silversmith produced a number of belt buckles and tie holders, all moulded. There was a time many years ago when a great many silversmiths used the mould method for their heavy items of jewelry. Styles changed and it was only now and then such a piece could be located on the reservation. Since the mould de-



One of the old silversmiths—he turns out good silver for the pride he has in his work.

signs are always interesting and artistic, the Guild manager encouraged the good workers to resume that type of jewelry. The modern mould silverwork is much less cumbersome and heavy than that of the old days.

To make a mould the silversmith searches for the light creamy stone found here and there around Greasewood. It is cut into slabs with a saw and then smoothed with sand paper or emery. One side is left blank and a design is gouged out of the other half of the mould. This is made as deep as the bracelet or other ornament is to be thick. Then in the blank stone a small funnel is carved and a channel leading to the design. Molten silver is poured quickly so that it flows down the channel and into the hollow of the design. Sometimes the mould is greased so the sil-

ver won't stick. It takes only a little while for the silver to be cool enough to be removed from the mould and bent into the proper shape for a ring or bracelet. In the case of pins or buckles no bending is necessary. The moulded silver must be filed to smoothness, polished and buffed until it attains a certain desired sheen. Small pin-hole bubbles can sometimes be seen on the flat side of the article, but even the best workman cannot prevent it.

The work is bought according to weight of the finished article and consideration is given to the length of time required for any special or difficult design. The Guild has not favored its members working with turquoise. The old designs were simple, artistic and dignified and had no turquoise sets. Their charm and beauty depended upon workmanship and design alone.

First class turquoise is difficult to obtain and very expensive. The Navajo are connoisseurs of turquoise and they favor the hard clear blue stone without any matrix. There has been a great deal of trickery practiced with turquoise in late years. Inferior stone is dyed, or soaked in grease to deepen its color. Such turquoise crumbles and loses its blueness within a short time. Considering these things the Guild members voted to stick strictly to fine authentic early designs keeping them simple, and making their jewelry of sufficient weight to endure plenty of hard wear.

"So far I have not seen any poor work. Does a silversmith have to be first class in order to belong to the Guild? That seems to me unfair to beginners," I suggested.

Robert smiled and Mr. Churchfield answered, "Any Navajo, man or woman, who wants to be a good silversmith can belong to the Guild. Our good smiths are paid to instruct the beginners. One of the best silversmiths in America is in charge of the class over at Ft. Wingate and the Guild works in close contact with that school. Any boy who wants to be a silversmith has his chance. But he doesn't have to attend school." Then he turned to Robert. "Where did you learn to work in silver?" he asked.

"I first learned from my father and uncle who worked in their hogans above Leupp. I learned by doing. They taught me how to gather juniper wood to make charcoal. The fire had to be kindled just at sunset and allowed to burn until it was red coals. Then I heaped dirt on it until only a thin line of smoke could escape. In the morning when the time came to work the silver, those coals were charcoal and ready to be placed in the bucket which served to hold them.

"I learned how to melt silver in a pottery bowl my own mother made for that purpose. It was three-cornered at the top so the silver could be poured from it. I learned how to look for the right kind of moulding rock and how to smooth it by grinding it against a harder stone. I watched my father make the silver beads and solder them together so smoothly the joining could not be seen. Then I learned more about it when I went to school. There I learned to make my own tools, including the rawhide hammer which flattens the silver without leaving marks. It was there I was taught to feel for faulty places on a finished piece. Mr. Churchfield did not tell you that often we spend several hours in a hogan showing somebody just how to join the two halves of a silver bead so it will not show solder or have any place not joined. That is part of our work.

"A certain amount of the money set up by the Guild is for the instruction and improvement of methods used by both weavers and silversmiths. No sincere worker has ever been denied a chance to improve his art or sell his work through the Guild

market. On the other hand the Guild will not accept sloppy work, because that would react upon the entire enterprise."

We visited half a dozen places on the reservation, and it seemed to me that gallons of lovely beads had been inspected and accepted or rejected by Robert. Some were large, some small. Some plain and others bearing designs.

"What will you do with all those beads?" I asked finally. I was told that the demand for "chokers" is such that there are always unfilled orders on file.

Days of such expeditions failed to disclose any resentment when Robert refused to accept an unworthy article. His tribesmen seemed to have the same sort of im-

PLICIT FAITH in his integrity that I sensed on our first meeting.

My impression of the Guild and its value to the Navajo tribe gained in estimation day by day. I saw excellent weavers whose looms would have been idle had not the Guild managed to secure wool for weaving. I saw silversmiths' families filling their empty stomachs with food paid for by work they sold to the Guild. This work could not have been done without the silver obtained by Guild officials. I saw buyers who had traveled two or three thousand miles select stock for exclusive shops from the showcases in the Guild office. Because this work was beautiful and authentic it brought good prices and repeat orders.

Hard Rock Shorty of Death Valley . . .



"Nope," said Hard Rock Shorty. "I can't tell you how hot it is. Ain't had no thermometer since Tom-Tom left. I ain't found one to take Tom-Tom's place."

Apparently that closed the subject as far as Hard Rock was concerned. He slumped back in his seat on the bench in front of Inferno store and squinted his eyes to keep out the reflection of the midday sun.

But the stranger wanted to talk. He offered Shorty a cigar. "Smoke this one, Old-timer," he said. "I don't understand about this weather gauge you call Tom-Tom."

"Oh, that wuz my old cat," said Shorty. "About twicet as good in ev-ry way as any other cat yu ever saw. That is why I doubled his name. He was a vain sortuva cat, though. Always lookin' at hisself in the mirror I set on the floor.

"Maybe you don't know about cats. They never sweat. Nor he can't take off his furs nor fan hisself, nor do any of the things us humans do to keep cool. What a cat does to keep cool is to stretch itself out on the floor—and the hotter it gits the longer and the flatter it stretches out.

"I soon found I could measure the temperature according to how far ol' Tom-Tom was stretched out. So I marked the floor where his favorite layin' place wuz. One set o' marks indicated 100 degrees. If his paws

reached to the next mark that was 110 degrees, and the next mark wuz 120 degrees.

"When it'd get up to 125 degrees Tom-Tom stretched so far it'd always make him kinda stiff, like an over-stretched spring. Then I'd throw him in a bucket o' water and that would shrink him back to normal agin.

"Wal, ol' Tom-Tom was a mighty handy thermometer fer me fer years an' years. But one day I was away all day over at the mine, and durned if that wuzn't the record day of all time—134 degrees right in the shade o' this porch. When I come back to the cabin there wuz ol' Tom-Tom stretched to the limit—4 feet an' 3 inches, not countin' his tail, an' his tongue was hangin' out like a pantin' dog's.

"I quick got the pail o' water, and that limbered him up a little, but there weren't no snap-back to him. He jes stayed stretched out long. He give hisself one look in the mirror, an' durned if he didn't think he wuz one o' them dash-huntin' dogs, and he lit out over the hills t' chase rabbits.

"He wuz a good rabbit-chaser too. The rabbits h'd never seen any animal like that. Them that didn't get caught was so scared they left the country. Last I seen of ol' Tom-Tom he'd cleared the lower hills o' rabbits and was headin' fer Telescope peak."



Located at an elevation of 2700 feet, the palms grow among agaves, yuccas, encelia and other plants of the Upper Sonoran zone.



Photograph taken 11 years ago when the author first visited Bear creek palm oasis with members of the Sierra club.

Oasis on Bear Creek

By RANDALL HENDERSON

THERE'S a good trail to Bear creek oasis. But it is seldom used—probably for the reason that although it is one of the loveliest palm canyon retreats in Southern California, it is one of the least known among the wild palm oases.

Bear creek is one of the many canyons which drain the north slope of the Santa Rosa mountains. Its headwaters are high up in a ridge which forms the north wing of Sheep mountain. From this ridge one

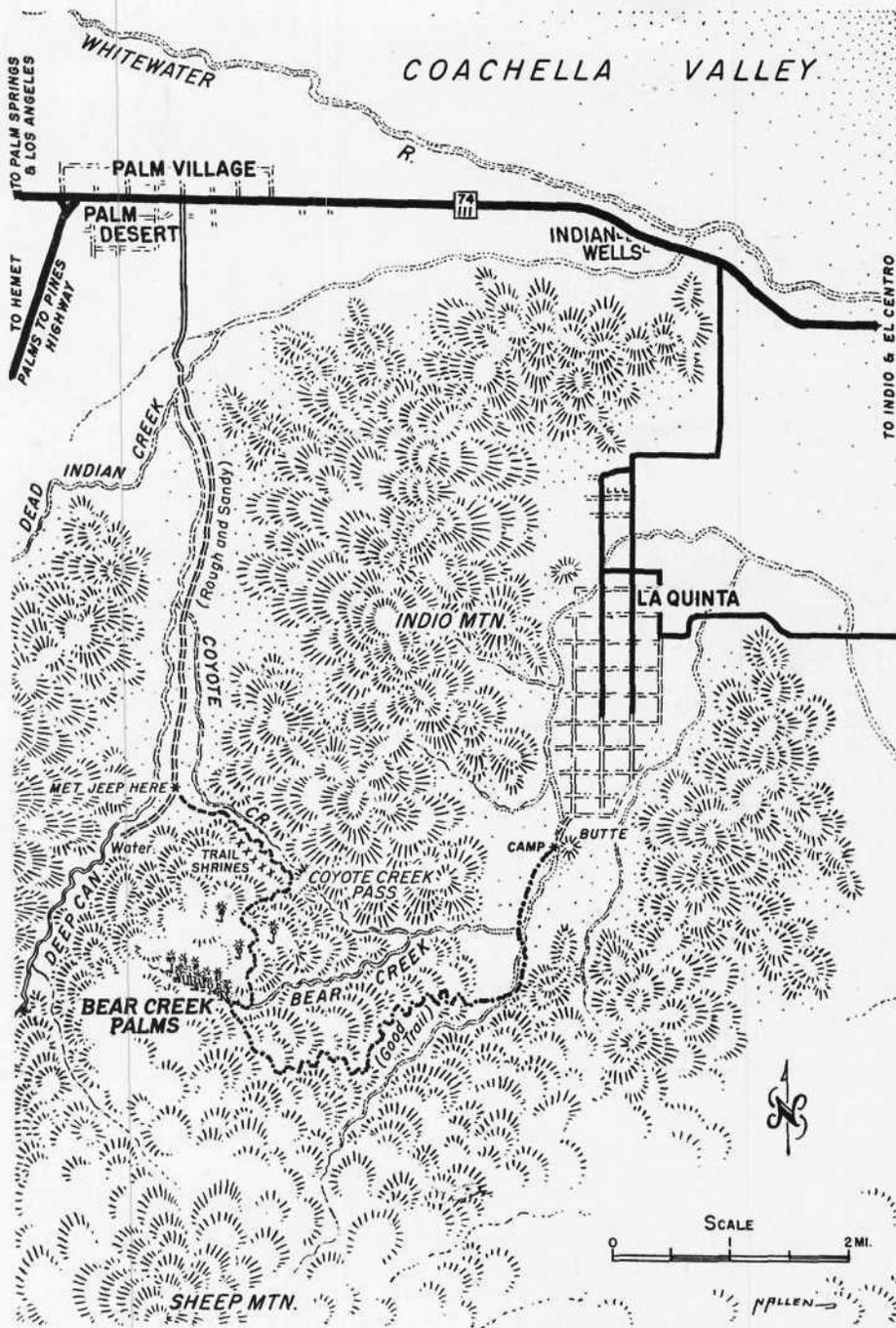
may look down toward the west into Deep canyon and the Pines-to-Palms highway. On those rare occasions when there is running water in Bear creek, its stream flows into the secluded La Quinta cove on the south side of Coachella valley.

Why it is called Bear creek I do not know. There have been no bears in the Santa Rosas within the memory of living white men. Nor have I ever seen a map showing this place name. Eleven years ago

Motorists on the Colorado desert of Southern California are seldom more than a few miles from a canyon or waterhole fringed with native palm trees—and yet with two or three exceptions these natural palm oases are never seen, except by those who leave the paved roads and follow difficult trails. Actually, these little forests of palms, ranging from a half dozen to many hundreds in the various localities, are among the most amazing scenic phenomena in this arid region. This month Desert presents another of the little-known palm groups, hidden in a little canyon far up on the side of the Santa Rosa mountains.

when I first hiked up the five-mile trail to these palms with members of the Sierra club as my companions, I was told that the original developers of the La Quinta townsite had built the trail and were using the term Bear creek to identify the canyon. Perhaps a reader of Desert Magazine will be able to throw additional light on the origin of the name.

My most recent visit to the little palm group high up on Bear creek was in March



this year. My companions were Dr. Maris E. Harvey of the U. S. Department of Agriculture at Pomona, California, Wilson McKenney who was associated with me in the launching of Desert Magazine ten years ago and who now publishes the weekly News at Yucaipa, California, and Wilson's friend Martin Barrett of Redlands, California.

One Saturday afternoon we drove south through La Quinta townsite and continued along an arroyo which feeds into the cove from the Santa Rosas. But we did not go far. The trail soon became too sandy for our heavy cars. So we parked and camped for the night at the base of a butte which is a conspicuous landmark in the fan of this unnamed wash.

The next morning we shouldered our packsacks carrying lunch and camera equipment and headed up the wash. Less

than a half mile beyond the butte a trail takes off on the right, climbing out of the wadi and following a series of ridges. In passing, I would like to compliment the men who laid out that trail. Although it is seldom used and has had little maintenance during the 11 years since I first came this way, it is in a remarkably good state of repair due to careful planning and almost complete avoidance of water courses where it would be destroyed by storm water. It zigs and zags from ridge to ridge, with the lovely panorama of Coachella valley nearly always in view. It gains altitude by an easy gradient which makes hiking a pleasure.

Over this trail it is five miles from La Quinta to the oasis which was our destination, and we trekked along at a leisurely pace.

In the Bureau of Plant Industry, Dr.

Harvey devotes most of his time to citrus crops and diseases, but his hobby is taxonomy—the classification of plants and animals. One of his first jobs after he finished school was in the former Desert Laboratory at Tucson, and there he acquired a special interest in the botany of the desert—a hobby that has taken him on many tramps into the desert during the intervening years.

The companionship of a man who knows the name and family relationships of practically every shrub growing on the desert adds immeasurable interest to a field day in the open country. Our trail was up over slopes and ridges which are extremely arid, even according to desert standards—but even the ugliest of the desert shrubs has a character of its own, and an interesting story for those who look beyond its drab exterior to the special traits which have enabled it to survive in a land of little rainfall.

For instance, the lowly Emory dalea, *Parosela emoryi*, has no visible charm for the passing hiker on the desert. And yet when the inconspicuous blossom of this plant is crushed between the fingers it gives a distinctive, agreeable odor, and leaves a saffron-yellow stain which resembles the coloring dye that comes with a package of oleomargarine. The Indians used this dye in art work. Dr. Harvey called attention to the fact that in the Palm Desert cove where the army in 1943 stripped every sprig of vegetation from 160 acres of desert plain for use as a motor pool, the Emory dalea until now has been the first and only shrub to reseed itself in the bare sand.

Along the trail we saw specimens of Indigo bush, *Parosela schottii*, and the white stemmed milkweed, *Asclepias albicans*, with long leafless stems that resemble an old-fashioned buggy-whip. The stalks are pliant and strong, and it is said that prospectors actually used them for whips to prod their slow-moving burros.

Flowers were not plentiful along the trail, but we saw white ratany, pigmy cedar, five-spot mallow, ghost flower, California chicory and mint—and with a botanist along to tell something of the characteristics of these desert denizens the five miles passed quickly and without thought of fatigue.

Our altimeter showed 500 feet elevation when we started up the trail. At 2700 feet we rounded a low pinnacle of boulders and there across a little canyon on the opposite side of a shallow gorge was the goal of our trek—a little cluster of wild Washingtonia palms with their green fronds glistening in the morning sun.

In 1936 I counted 84 adult palms and estimated there were 300 young ones ranging up to six feet in height. At that time there was no water in the creek, but the palms were green and healthy. This time—11 years later—the young generation of palms had attained considerable



One of the Indian trail shrines described by the author in the accompanying story—just a pile of rocks heaped along the trail in accordance with ancient religious custom.

size. I counted 172 trees over six feet in height, and estimated there were 250 smaller ones. And there was a trickle of water flowing among them.

The trail ended here. We saw an old rock fireplace with a rusty iron grate—probably used in years past by riders who came up the trail from La Quinta for a breakfast party or a picnic dinner. Eleven of the palms had been burned many years ago, but all the rest wore their full skirts of dead fronds. The oasis was clean—the rugged cleanliness which Nature maintains when there are not too many visitors to disturb the balance of things.

We sat in the shade of the palms on the boulders above a tiny waterfall and ate our lunch while Maris Harvey, at our suggestion, gave us an elementary lesson in the identification of the sunflowers, a great family of composites containing over 750 genera and 10,000 species, including many which grow on the desert. Thistles, daisies, encelias, tidy-tips and scores of other more or less well known desert species are all members of the sunflower family. Hereafter when I am in doubt as to the name of a plant I'll call it a sunflower if there are no expert botanists around to check up on me.

The palms extended along the creek a distance of about 100 yards. Evidently there is a generous supply of water from springs along this sector of the canyon, although little of it ever reaches the surface. Palms will not survive for long periods without water, as will smoke tree, willow, ironwood, palo verde and other trees of the desert country.

Recently a reader of Desert wrote ask-

ing me to tell more about the fruit that grows on the wild palm. It is nourishing food. The Indians thrived on it. But the palates of Anglo-Americans have been

humored during too many generations with domesticated fruits and herbs to relish the fruit of the native palm.

The fruit grows in great clusters much

Rounding a turn on the trail from La Quinta, the palms suddenly come in view on the far side of a wide arroyo. Agave in the foreground.



after the manner of the date palm. It is more seed than fruit. The seed, smooth and smaller than a pea, is covered with a thin skin which is almost black when ripe. The skin is sweet and edible—but it would take a lot of work to obtain enough of these skins to make a meal for a canary. The seed is nutritious—but rather tasteless. However, Indian women ground them to make porridge and bread, and since the major part of an Indian woman's time was available for such chores, it was no hardship. I am sure the coyotes, birds and rodents which eat the fruit need have no fear that the present generation of humans will ever rob their food supply.

From Bear creek oasis we returned to the floor of the desert by an uncharted route. Years ago I had seen Indian trail shrines along Coyote creek and I wanted to go back that way and get better acquainted with them. A low saddle connects La Quinta cove with Deep canyon. From the top of the saddle dry Coyote creek flows west as a tributary of Deep canyon. This pass was a much-used thoroughfare in the days when the Cahuilla Indians occupied this area and followed trails from waterhole to waterhole.

The old Indian trail through the pass and over the saddle has not been used for a hundred years, and the erosion of wind and water has almost obliterated it. But the route is well-marked by a series of 22 trail shrines along a bench which parallels Coyote creek.

And so we worked down the mountain-side to intercept the old trail near the top of the pass. Vandals have dug into two or three of them, probably in search for hidden treasure or artifacts. But if they had known more about the character of the Indian they would have spared themselves the effort. Indians do not mark burial places or hidden caches with monuments.

An Indian trail shrine is nothing more than a pile of pebbles and small boulders heaped beside the trail. According to Arthur Woodward of Los Angeles Museum (Desert Magazine, January '41), each Indian passing that way added a stone to the pile as a prayer to the gods for good luck along the way. These shrines are still to be seen in the Navajo country where passing Indians deposit a sprig of juniper or other green shrub on them.

In accordance with the ancient tradition of the desert, I added my stone to the many thousands previously deposited by prehistoric tribesmen who came this way.

From the Indian trail shrines we continued down Coyote creek to its junction with Deep canyon, and there in accordance with pre-arrangements we were met by Chuck Riddell in his jeep. The road up Deep canyon is too rocky for any vehicle except a jeep.

Four years ago Maris Harvey suffered the misfortune to break a spinal vertebra in a fall from a refrigerator car which he had climbed to inspect fruit. I had some

TRUE OR FALSE

Well, let's get the pencil and settle down in an over-stuffed chair, and start making crosses after the questions below. The law

of averages should give you 10 correct answers even if you have never seen the Great American Desert. But you'll probably do better than that. A seasoned desert rat will get about 15 of them right, and that is a good score. A score of 18 is exceptional. You'll find the answers on page 44.

- 1—You can tell the age of a rattlesnake by the number of buttons in its rattle. True..... False.....
- 2—Gold is often found in volcanic rock. True..... False.....
- 3—Elwood Mead for whom Lake Mead was named was former commissioner of the U. S. Bureau of Reclamation. True..... False.....
- 4—Water in the Great Salt lake has a higher salt content than ocean water. True..... False.....
- 5—According to Indian legend *Sipapu* is the name of the opening in the earth through which the first tribesmen emerged from the underworld. True..... False.....
- 6—The foliage of juniper trees turns yellow when frost comes in the fall. True..... False.....
- 7—The famous Yellow Aster mine is located near Randsburg, California. True..... False.....
- 8—Silver City formerly was the capital of New Mexico. True..... False.....
- 9—Tallest native tree of the desert Southwest is the palm. True..... False.....
- 10—Land acquired in the Gadsden purchase was bought from France. True..... False.....
- 11—In certain parts of the Southwest the white ocotillo is more common than the red variety. True..... False.....
- 12—An arrastre was a tool used by the Spaniards for recovering gold. True..... False.....
- 13—Brigham Young brought the first Mormon colonists to Utah before the Civil war. True..... False.....
- 14—Tortoises found in the desert country are hatched from eggs. True..... False.....
- 15—Dandy Crossing is a historic spot on the Rio Grande river. True..... False.....
- 16—Malachite and azurite often are associated in the same ore. True..... False.....
- 17—Winnemucca, Nevada, was named for a famous Paiute Indian chief. True..... False.....
- 18—Pinyon nuts grow underground like peanuts. True..... False.....
- 19—The Utah Centennial this year marks the 100th anniversary of the completion of the Mormon Tabernacle in Salt Lake City. True..... False.....
- 20—Roosevelt dam stores water for the Imperial valley of California. True..... False.....

misgivings as to whether or not he would be able to make the strenuous eight-mile hike scheduled for this trip. But he came through with all the vigor of the days when we followed desert trails together before his injury.

A few days after the trip I received this message in a letter from him: "I have been thinking of the splendid trip we had over the last weekend. It was so well planned and executed—there was no bogging down and the food was excellent. I was happy to make the hike. There seems to be no such thing as becoming familiar with our desert mountains. Every excursion into them afoot is always a series of pleasing experiences. The hike Sunday seemed altogether new to me, although I have been in this region many times. After every rest I felt eager as a kid to be away and around

the next turn to see what would be brought into view. And around the corner which brought into sudden sight the palms in Bear creek below and beyond us was magnificent."

I shared Dr. Harvey's enjoyment of this trip. Perhaps my silent homage to the Great Spirit of the desert when I placed my rock on the ancient trail shrine had nothing to do with the pleasure and success of this day's outing. Nevertheless as I read the doctor's message I recalled the simple prayer of the Navajo as he pauses for the simple ceremony of placing a symbol on the pile of sacred rocks:

"With beauty before me I walk,
With beauty behind me I walk.
Grant me success in my venture.
In beauty I walk."



Elaine and Bud Tanner, who believe they have developed a process which will make production of synthetic pumice commercially profitable.

Perlite Miners of Searchlight

There is much interest these days in perlite—a new insulation material which is said to have certain advantages over most of the other insulating products. But perlite, described as synthetic pumice, is still in the experimental stage insofar as the processing is concerned—and here is the story of a couple of practical miners, Elaine and Bud Tanner, who are perfecting their own process in a mill Bud has invented—out among the Joshua trees of Nevada.

By HAROLD O. WEIGHT

BUD TANNER had given me exact directions for finding his perlite claims, which lie on the slopes of the rough hills six miles northwest of the old mining town of Searchlight, Nevada. A brisk north wind was blowing that January morning as I picked my way through the maze of roads woven about the camp by a generation of miners and prospectors. At last I found myself on the un-

improved trail which Bud and his wife, Elaine, had scratched across a landscape dotted with Joshua trees and Mojave yucca.

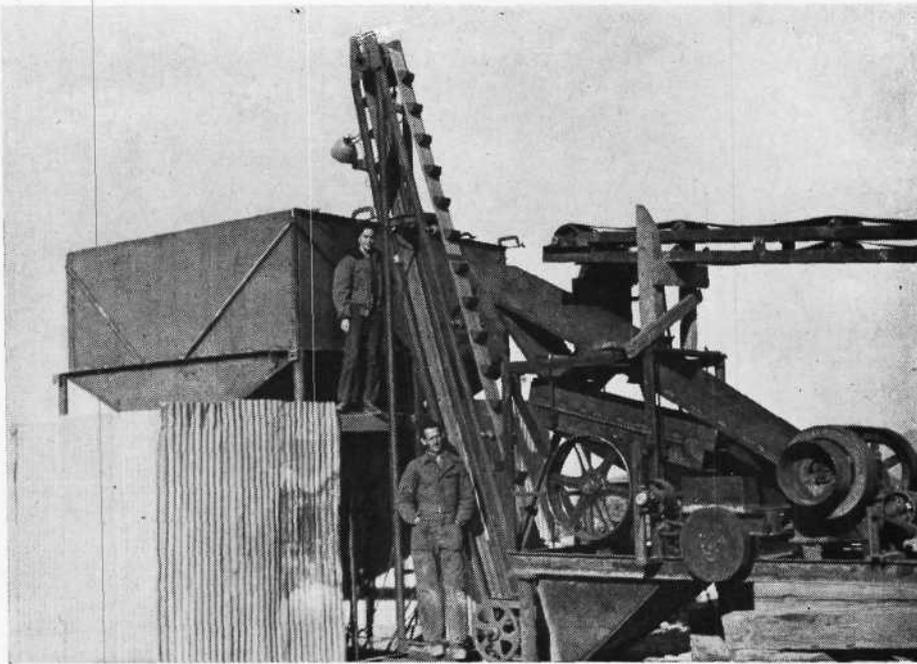
Bud and I had discussed perlite in Ed's cafe in Searchlight the night before. He had invited me to visit his claims and learn about this relatively new industrial rock. When I reached the end of the trail Bud—tall, lean and seething with enthusiasm—

was waiting beside the processing mill which he and Elaine had designed and built. Bud has an eager interest in many things, but his passion for perlite is overwhelming.

He took me to a spot where the mill gave shelter from the wind, and produced some pieces of grey, glassy-looking rock. He put hunks of the crumbly rock, which seemed to outcrop abundantly on the surrounding slopes, on a scrap of iron plate and lit an acetylene torch.

"Now watch," he said. Under the flame of the torch the grey rock seemed to come to life. It squirmed, swelled, turned white. Bud looked up with the warm smile which comes so easily to his tanned face. He held up some of the white material.

"That's expanded perlite," he said. "It's the insulation of the future. It's sound-proof and vermin-proof. It won't pack and



Portion of the mill which Bud and Elaine designed, then hauled to the hills and set up almost without help.

it won't sweat. It will expand up to 20 times its original volume and become so light you can insulate airplanes with it. It can be used in abrasives, soaps, woodfillers, putty, paint pigment, plastics, cowfeed and chicken grits." Bud is all enthusiasm when he talks perlite. The rock is more to him than the source of a possible fortune. It is a hobby—a material whose seemingly endless possibilities fascinate and intrigue him.

"One thing has held up widespread use of perlite," Bud went on. "There has been no uniformly successful method of processing it. Now I've got a mill and furnace that will work. Elaine and I have been developing it for more than two years. In a little while we will be turning out 120 yards of 'popped' rock a day."

The Tanners will not sell their perlite deposit when it is developed. They intend to settle down in the Searchlight hills. Since October, 1946, they have lived in a small white trailer in a hollow in the Joshua-spotted hills below the millsite. The trailer's wheels have been removed and earth banked up under and around it to minimize the refrigerative tendencies of the almost-continuous Nevada winds. It is battered by years of exposure to desert weather, but the interior is friendly and comfortable.

Bud is so tall that when in the trailer he must maneuver with his head cocked, and he is talking about putting a box extension through the trailer-side so that he will have room for his feet at night. Now and then, when the wind really blows, the Tanners feel that they are in a small boat on a rough sea. But they are happy in the trailer. Elaine says that she will miss its compact convenience when they move into a house.

Plans for the house are already made,

and Elaine is attempting to convince plants and trees that they should grow in the hollow. Alders and maples are doing well, protected by burlap. Tulips grow in a wooden box. But the most cherished growth is a small violet-like plant raised by Bud's grandmother in Virginia and transplanted by his parents to northern California. Now it is thriving in an apple crate near Searchlight.

But the house must wait successful operation of the mill. The project has been very much a family affair. Although Fred Smith, who lives with his wife in a trailer near the Tanners, has helped with erection of the mill, Bud and Elaine did all development and testing of plant and furnace.

They built the mill at Phoenix, then cut it into three sections with the torch and hauled it to Searchlight. Much of the time Elaine drove the 1½-ton truck. They had to construct a road from the power transmission line to the millsite, a distance of more than a mile, grubbing out brush and moving rocks by hand.

"There were lots of rocks," Bud declared wryly, "and 90 per cent of every rock was under the surface."

The mill, reassembled and welded together is a towering, bulky structure.

"Three people put that up?" I questioned.

Bud grinned. "With nothing but a little block and tackle. When we hoisted diamond plate for the bins, the wind was blowing so hard those heavy sheets of iron fluttered like pieces of cardboard. When we thought everything was fixed we took out the cribbing and the whole mill started down hill. But some emergency braces held until we could block it up."

Elaine stepped out of the little trailer and waved to let us know that coffee was

almost ready. As we walked down the path toward the hollow, the rock that Bud was mining came up for more discussion.

Perlite once was defined narrowly as a rather rare form of acid lava containing water in solution. This particular lava cooled rapidly in layers, having an onion-like structure and a pearly luster due to interference of light between the layers. It frequently was formed as "bombs" by explosive eruption of large amounts of lava into the air, where they cooled rapidly with little escape of contained water.

Increasing interest in the material caused the United States bureau of mines to issue a preliminary survey. In this pamphlet, information circular 7364, the industrial definition of perlite is broadened to include any siliceous lava containing dissolved water in sufficient amount to expand into bubbles when it is heated quickly to suitable temperatures.

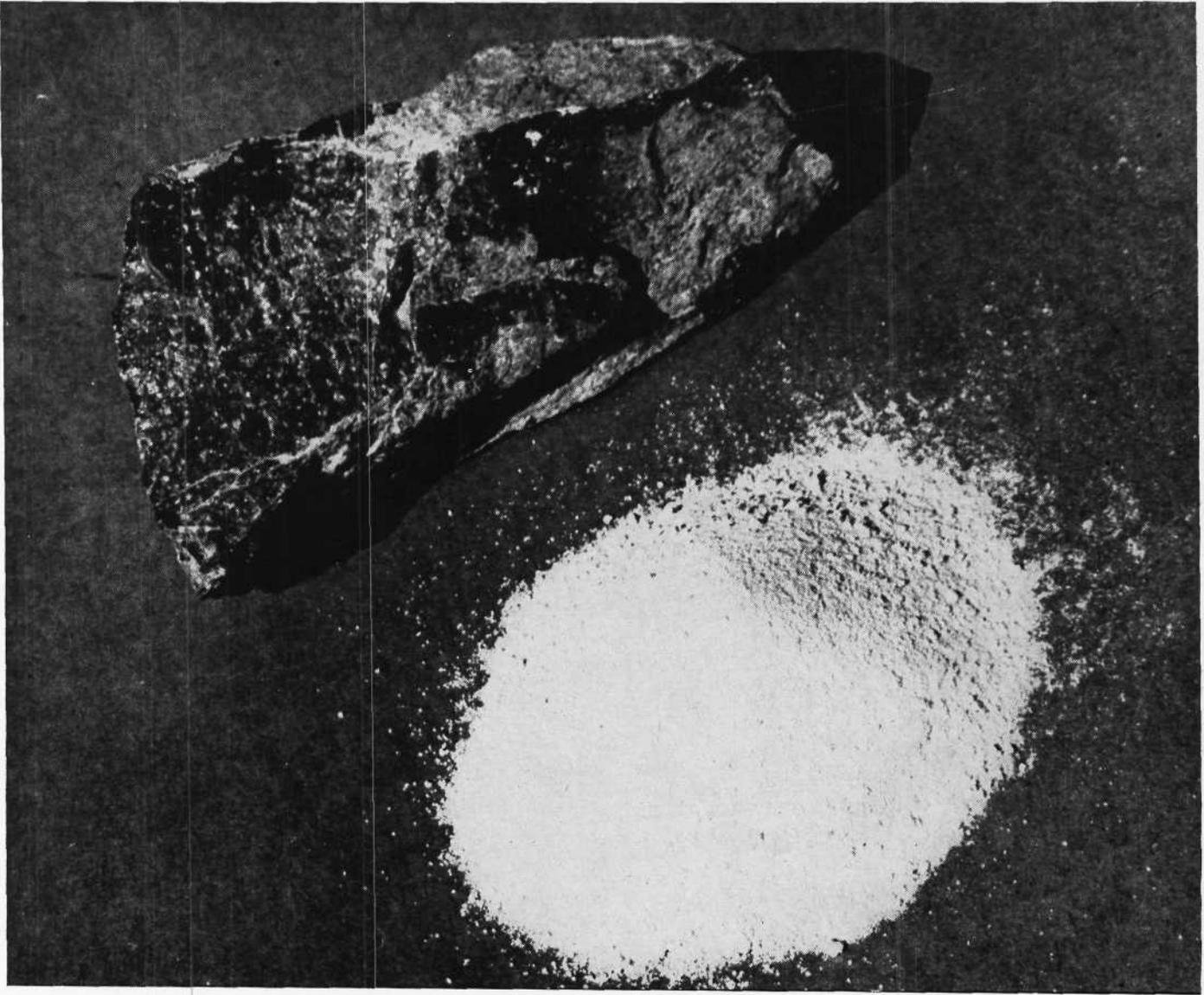
The same lava, cooling under different conditions, might have formed obsidian, rhyolite, pumice or volcanic ash. Perlite generally is grey or blue-grey in color, although yellows and reds are known. The process of expanding the rock is known as "popping," and when expanded, perlite usually turns white.

Many deposits of this volcanic rock have been found in the Southwest since increasing commercial possibilities have led prospectors to search for it. But the Tanners sought high grade perlite in a quantity which would guarantee the future of the business which they hoped to establish. While experimenting on a process for working the perlite, they spent their free time prospecting for it through large areas of Nevada and Arizona.

Bud, studying Searchlight geology, came to the conclusion that perlite should occur in the district. But mile after mile of rugged terrain was prospected on foot before he found the float which proved his theory right. Tracing the float to its source, Bud and Elaine filed their first claims in October, 1946. They now hold nine placer claims totaling 180 acres. Perlite crops out over the entire area, and test holes have established a reserve of millions of tons of good material.

Elaine doesn't look like a prospector, but she went every foot of the way with Bud. Neither does she look as if she could work a jackhammer, drive a truck or build a mill. But she has done all of those things. Bud met Elaine while he was working at a mine near Aguila, Arizona. She lived there on the ranch of Del Crabb, her grandfather. After they were married, they lived in the trailer and prospected and worked throughout much of the Southwest.

Wherever they go, no matter how hurried the trip, they find time to look at a rock or prospect up a likely looking canyon. Elaine is particularly good at finding large specimens a long way from the car. Bud told me as we sat in the pleasant warmth of the trailer.



Perlite—the solid rock and the same material expanded by sudden heat until it is so light that the smaller “pearls” drift with a gentle breeze.

“And I have to carry them back,” he said. “Once she found a big slab of petrified wood that she just had to have for the garden. I didn’t know whether I was going to make it back to the car.”

“But it was a beautiful piece of wood,” Elaine insisted.

The Tanners laugh a great deal. Their varied experiences on the desert have given them the rare faculty of enjoying life as it comes along, without too much questioning. They even can see an amusing side to the fact that almost every step in their perlite project has been backwards or out of its proper order. They had to test the furnace in the heat of a Las Vegas summer and develop the claims in winter. That was the way things seemed to work out.

After filing on the Searchlight property late in October, it was necessary to complete discovery work within 90 days. It snowed during most of the period they drilled the test holes. When the wind blew steadily from the north for a week, they built a fire to keep from freezing while

they worked. Explosives for the test holes were spread out upwind from the fire. Unexpectedly the wind shifted to the south and blew sparks across powder and caps. Elaine crawled between flames and explosives, built a wall of rocks and stopped the sparks.

Visitors are welcome at the Tanner claim, but Bud cannot permit them to go to the mill. The “popping” furnace is the heart of his new process and he is keeping it secret. It represents years of effort, of trial and error.

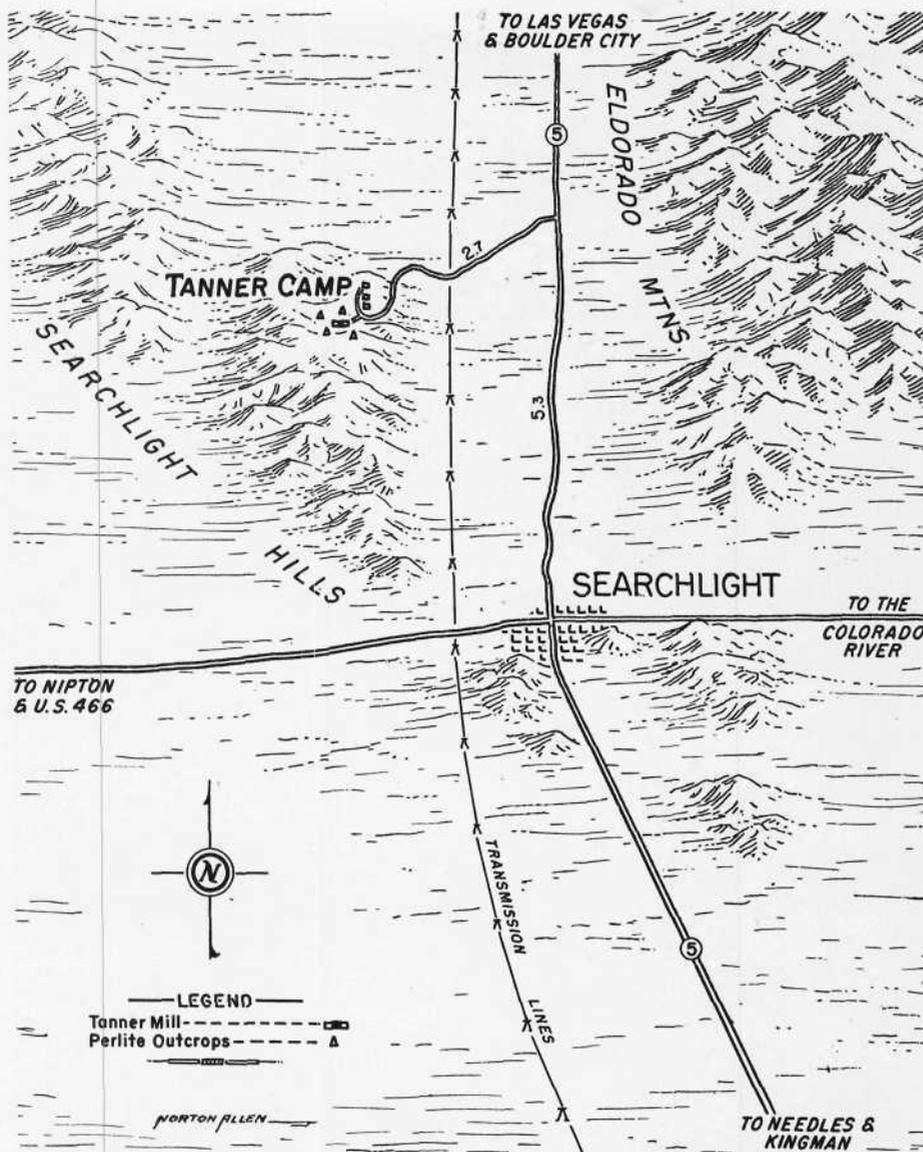
Rapid heating causes perlite to puff, due to conversion of the two to five per cent of contained water into bubbles of steam. Suitable temperatures for expansion vary from 1600 to 2000 degrees fahrenheit, according to the bureau of mines. But when perlite is exposed to this intense heat, it is likely to become liquified, and the molten silica fuses to the side of the furnace, glassing it up. Or the expanded perlite will burn; or expansion, weight and fineness will vary with each batch.

Bud has been learning the mining game through practical experience since 1934. He has prospected, worked as miner and foreman, and tested ideas of his own. He believes that he has eliminated the faults in perlite processing, and has developed a furnace in which almost any amount of expansion can be pre-determined. Weight of the expanded perlite can be varied from 4 to 16 pounds per cubic foot.

He built a small model first. Changes were made and a scale model constructed. Then the furnace was ready for testing.

“The Las Vegas chamber of commerce won’t like this,” Bud said, “but the outside temperature was 115 degrees. We worked in a room 10 feet wide, 8 feet high and 30 long. The furnace heat was between 1750 and 2000 degrees. You can imagine the temperature in that room.”

“When we had to pass by the furnace, our clothing was scorched,” Elaine contributed. “We kept wetting the walls and had a fire extinguisher on hand at all times.” By the end of August, furnace try-



outs were completed and final adjustments made.

During original tests of the crushing equipment in Pleasant valley, Arizona, clouds of fine processed perlite so filled the air that planes and autos came to investigate a possible fire. Fine perlite drifted under every bush within the radius of a mile about the mill, and rose into the air with the slightest breeze. Bud and Elaine practically lived in respirators during that period. The fine dust was almost pure silica, and Bud has had personal experience with dangers of silicosis. Now he has equipped the mill with a classifier which will save the fine dust, but he insists that workers wear a mask while the mill is operating.

Bud has claims of gold, chrome, copper, in several desert states. But perlite is his major interest. "Elaine has the latest reports on it," he said. "In addition to cooking, housekeeping, driving into Las Vegas for supplies and helping at the mill, she is business manager."

"I think Bud made the most convincing test," Elaine countered. "He filled a pie

pan with processed perlite and put it on a hot stove. Half an hour later, the top of the mineral was barely warm."

Expanded perlite is a synthetic pumice, according to the bureau of mines. Pumice, which is a sort of foam formed through release of pressures when a lava flow reaches the surface, has been used for many years as an aggregate in concrete. But pumice has to be used in the form that nature made it, with different types necessary to obtain various strengths.

Perlite is useful as bulk insulation, and in furnaces and refrigerators. It is used in wallboard, acoustical plaster, building blocks, brick and tile. A Las Vegas theater saved 21 tons in weight by using perlite plaster. It is an ideal insecticide carrier for dusting crops, being so light that it rises and covers the undersides of leaves.

Mining men are watching the Tanner operation with interest. Various methods of processing perlite are being used with more or less success by other operators. But these are pilot units, operating intermittently to determine best conditions both for expansion of perlite and for heat

economy in operations. None of them yet has achieved the perfect efficiency needed to make processing of perlite a great desert industry.

The Tanners have large exposures of perlite at the surface of their claims. They plan open-pit mining, using a small power shovel—half-ton or more—in the pit, and conveyor belts to carry the rock to the crusher. But R. R. Sayers, director of U. S. bureau of mines, reports that most perlite deposits are not surface flows but are dikes or sills usually outcropping over a narrow area. For this type of deposit, mining ultimately must go underground.

When I visited the Tanners again in March, yellow evening primrose, accented by the lavender-blue of gilia, covered the hills. Indian paintbrush was thick, but not in full bloom, and the great Joshua forest which lies from Searchlight westward through Nipton, was spotted with creamy blossoms. A broad, direct road had been scraped from Highway 95 to the perlite plant. Mill and furnaces were installed and preliminary production had started.

Another visit in June found the mill operating smoothly, with Las Vegas contractors taking all the perlite that Bud and Elaine could process. A bigger compressor was on the way and three additional popping furnaces were being installed. The trailer home-site had been moved nearer to the mill and a power plant furnished electric lights for the camp. A new building for the furnaces had been started, knocked down by a whirlwind and rebuilt.

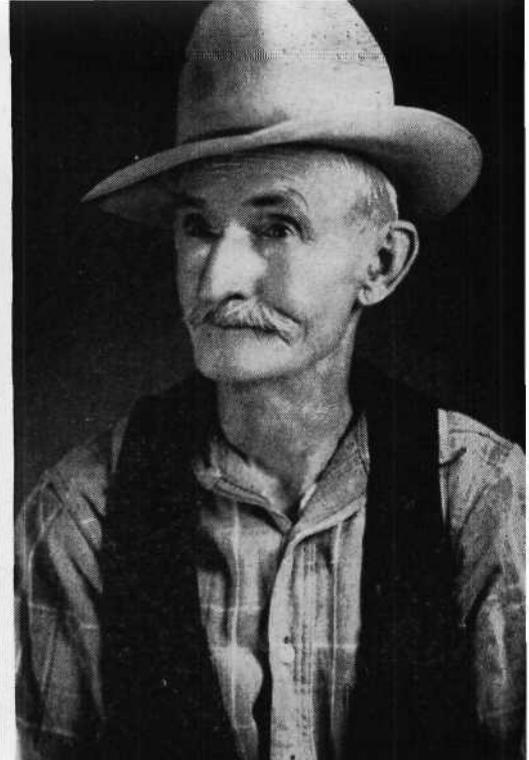
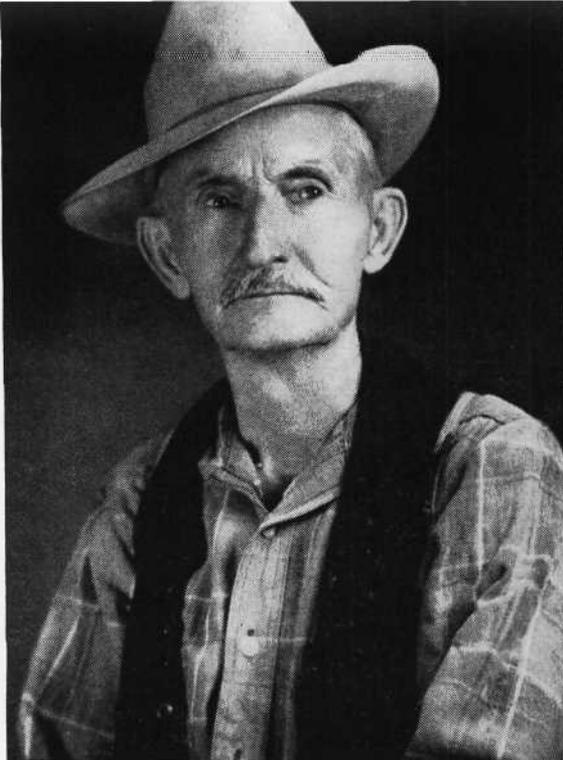
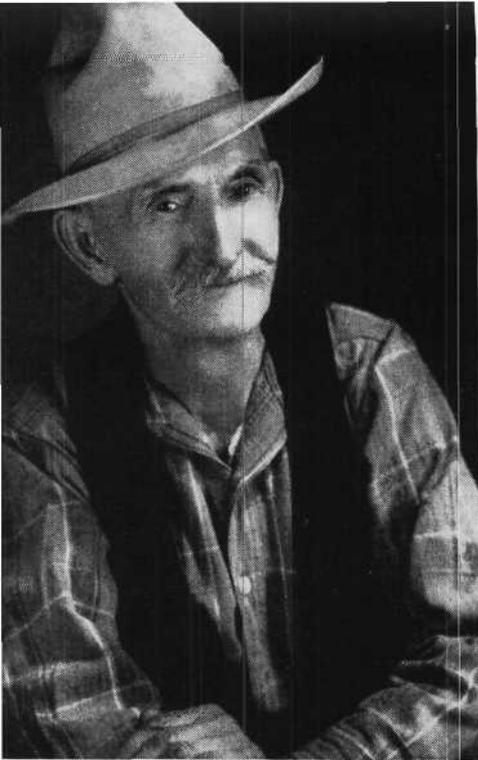
As for the weather: "The difference between summer and winter here," said Elaine, "is that in winter the wind blows cold."

There was a relatively new resident at the camp—Chloe, a black and white dog of varied ancestry. The Tanners had intended to take one of Chloe's pups, but the older dog appealed to them.

Bud watched the dog bounce across the desert landscape. "Chloe's life is all wrapped up in chasing butterflies and bugs," he said.

Bud's life is all wrapped up in processing perlite. The Tanners are working hard, and they deserve success. Their efforts already have brought some dividends. They have gained good health and a measure of contentment.

Now and again some highly civilized gentleman, usually with little first hand knowledge, bemoans the passing of the American frontier. But Bud and Elaine are as much pioneers as were the men and women who bridged the continent and built cities in the wasteland. They have their dream and they are following it without thought of physical comfort or immediate financial gain. The trailer has replaced the covered wagon, but the spirit is unchanged.



Fred Wright with a wit as sharp as a cactus needle and eyes that gleam like sapphires at the mention of lost lodes or buried treasure, at 78 is still an incurable follower of the golden mirage that has never faded, from the veldt of South Africa to the deserts of Arizona.

Photos by Pereira, Tucson.

His Compass Was a Burro's Tail

NOW THAT Fred Wright has moved to Tucson, the folks around here say that when the coyotes and hoot owls get lost down along the border, they won't have anyone to show them the trail home," a mining engineer recently told me in Ajo, Arizona.

Following this lead I went to see Fred in Tucson's Old Pueblo. While denying that he was "a signpost for coyotes and such varmints," Fred did surmise that after following the tail of a burro through the sand and malpais along the border for 37 years he might know a little about the country.

And as the days of friendship extended into weeks my fondness for Fred increased. This small dehydrated old timer whose memory is as sharp as a cactus needle, and whose blue eyes sparkle like sapphires at the mention of lost lodes or buried treasure, is an incurable follower of a golden mirage that has never faded.

Fred's world-wide quest for treasure started a long way from the sun-seared deserts of Arizona and Sonora. Born 78 years ago last February, on the tobacco farm cleared by his grandfather in 1821 in Linn county, Missouri, his youthful imagination was colored by the stories of lost mines and buried treasures of the Southwest.

A smile flickered across his face as he said, "As early as 1885 I started planning to break the home ties and go west to seek my fortune. I knew that somewhere in Ari-

Probably no part of the West is haunted by more tales of lost gold and buried treasure than the waterless terrain along the Highway of the Devil, Camino del Diablo, in southern Arizona. Literally hundreds of treasure seekers have met their death from thirst in that desert wilderness, as evidenced by graves still to be seen. Fred Wright has been seeking his pot o' gold there for 37 years. But El Diablo has concealed his treasures well and Fred has only memories to show for his years of prospecting—but they are happy memories.

By RICHARD VAN VALKENBURGH

zona there was some Apache gold or Spanish silver with Fred Wright's initials on it.

"But something always seemed to get me sidetracked. In 1899 I read in the St. Louis paper:

WANTED—Muleteers for Africa. Chance of a Lifetime. Ocean Voyage and Get Paid for the Adventure.

"And before I knew it I was sailing out of New Orleans on the S. S. Kildone with the title of 'Muleteer' which really meant 'waiter and chambermaid to a boatload of seasick Missouri mules.' After 42 days at sea we rounded the Cape of Good Hope

and docked at East London, Cape Colony."

Missing his ship and with only a sixpence in his pocket Fred enlisted to fight with the British against the Boers. On the strength of his being a crack shot he was sent to Bloemfontein, Orange Free State, where he became a member of Driscoll's Scouts. Serving out his six months' hitch, he returned to Missouri by way of London and the continent.

But the tales of King Solomon's mines and other unfound treasure in the veldt and deserts of Africa haunted Fred. So after a short visit he was again on his way to Africa with 18 men and another boatload of mules. He rejoined Driscoll's Scouts and when peace was declared he was rated a sergeant with a Victoria medal on his chest.

For the next few years Fred prospected for gold and diamonds all over South Africa. One trek, made with oxen, took him as far north as the Zambesi river and Victoria falls. Then hearing of new gold fields in New South Wales he left Africa and reached Australia in 1903.

His luck ran out in Australia and Fred soon left for home. He arrived in San Francisco early in 1904. Stopping in the Bay City only long enough to change his money, he went to Reno, Nevada, from where he jumped off on a prospecting jaunt that took him through Colorado, Montana and Idaho.



Fighting with the British in the Boer war, Fred got a sergeant's rating and a Victoria medal. He remained to prospect for gold and diamonds. This picture taken in Durban in 1901.

For reasons that he himself could not explain, Fred settled down on a homestead near Ephrata, Washington. But even during that time he neglected his ranch to go up on the Frazier river in British Columbia and do some prospecting. And then—

"As I had not found my pot o' gold, or even the base of the rainbow, the news of gold strikes down in Arizona made my feet tickle. So, I sold out lock, stock, and barrel. On December 1, 1911, I crossed the bridge at Yuma to set my feet on Arizona soil for the first time."

After a short visit in Phoenix, Fred went on to Missouri. And after a short reunion with his folks he returned to Black Butte, west of the Hasayampa river, to do some assessment work for a man named Young. Later he was employed in the same kind of work by Louis Anderson, who is said to be still alive in Arlington, Arizona.

Deciding to go on his own, Fred rounded up a burro and headed east to wind up at Picket Post mountain, near Superior, Arizona. While prospecting there he became acquainted with "Yellow Dog" Griffith. Fred says "they called him that because he always had a yellow dog hanging around."

"One night we got to talking about camels on the Arizona desert. Yellow Dog said, 'Sure there was camels! The last one hung out around Mullen's well, west of the Hassayamp. What's more—I'm the feller who found his carcass. And should one look today they'll find his bones in a tunnel near the well, where I buried him.'

"Then Yellow Dog went on to tell that there were rumors about a live camel down in the desert below Sonoita, which, as he put it, was 'a long whoop and a holler south of Ajo.' But what made my ears stick up was his saying that all down

through that country there were lost Spanish mines and 49'er treasure.

"Now this really stirred my imagination. So I said goodbye to Yellow Dog and steered my burro in the direction of Sonoita. It was sometime in 1911 when I came out of the desert and looked down on that little green valley with its white houses by a sparkling stream of water, and I said to myself, 'Fred Wright—you're staying around here for awhile.'"

True to his word Fred did stay around Sonoita for awhile. On and off for the next 35 years this tiny Sonoran *barrio* just south of the border was headquarters. And from remote oases in the Sonoran desert Fred searched for adventure and hoped to make his golden mirage a reality.

Aware that Sonoita is fast becoming an important stopping place for the traveling public, owing to its location on the new pavement that connects Gila Bend, Arizona, with Punta Peñasco on the Gulf of California, I probed to get Fred's reaction to these changes.

"Well," he answered quietly, "All I know is that in my day the little *tienda* could be left open all the time with the cash box setting on the counter. When I first hit Sonoita the folks down there were happy-go-lucky with no trouble or worry to mention. We'll see what civilization does to them."

Prospecting out of Sonoita, Fred roamed as far south as the old Sonoran town of Caborca. And while there, I have been told by Mexicans, he caused great consternation among the natives by suggesting that the little *santos* in the chapel of the old mission of La Concepción represented the three degrees of Freemasonry!

Using the tail of his burro for a compass, Fred trekked through the Sonoran desert,

stopping at such odd sounding places as Zumbador, Soni, Chiuyabi, and Quitovac, to make friends with the Papago Indians and Mexicans. When asked regards the use of automobiles he chuckled, "Sure I tried a Model T. But you can't get around a burro—he don't use no gas."

Then Yellow Dog's camel story unraveled itself. There had been camels in the Sonoran desert. One of the band which had been brought down to the Sierra Pinta mines by some Frenchmen, had turned up on the Sonoita river, but it had vanished in the desert some years before Fred's arrival. Local natives recall the weird antics of this camel, who was known as Old Esau.

Soon after reaching Sonoita, Fred heard of the buried treasure of San Marcelo. This mission had been founded in 1699 for the Papago Indians by Father Kino, about one mile upstream from the present town. There, in 1751, Father Enrique Rhuen had been killed during a Papago revolt.

Regarding the story, as told to him by an old Papago, Fred was evasive, "With that padre's ghost haunting the ruins the natives were spooky about digging. And they also associated it with *El Diablo*, who snuffed out the lives of over 300 emigrants on the trail between Sonoita and Yuma in the pioneer days.

"Superstitious folks along the border still get spooky when they talk too much about this grave-lined *Camino del Diablo*. I have been told that this 100 miles of waterless trail was first traveled by Father Kino in 1700, but that its evil reputation came during the days of the California gold rush.

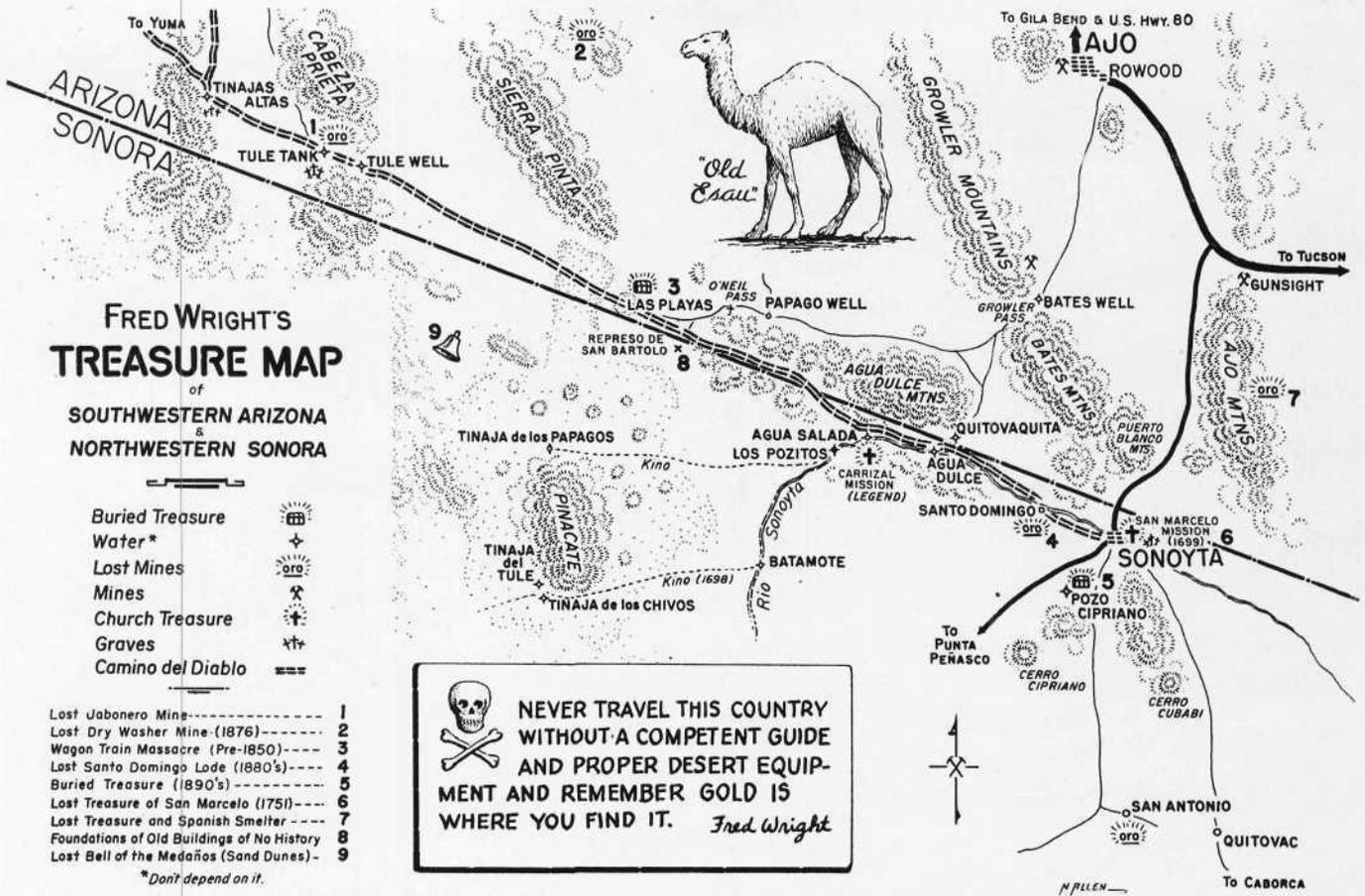
"Many legends have sprung from this trail which for years was my main highway. In years past, I would come upon bleached skeletons lying out there in the drifting sand and I have agreed it rightly belonged to *El Diablo*.

"But to get back to the treasure of San Marcelo. Many gold-hunters have looked and dug. All they got was skeletons and busted pottery. I admit I took my turn—on the quiet. At the base of the wall I hit a place that sounded hollow. And I said to myself, 'Fred Wright—hold on to your galluses—this may be your pot o' gold!'

"Then I broke into a little alcove. All that was inside was a polished cowhorn that had been neatly trimmed and painted in several colors. I dug around for a couple of hours and then came back for the horn. The sun and air had crumpled it to dust—just like my hopes."

After 1913 Fred moved westward on the Camino to the old watering place of Quitovaquita, which is now a small Papago settlement in the southwestern corner of the Organ Pipe national monument. Aside from being interested in some placer dirt there, he had also been hearing promising rumors about the nearby ghost-town of Santo Domingo.

According to local history, Santo Domingo had been founded during the



1870's by Cipriano Ortega, for whom Cipriano's well and mountains are named. Dreaming of an agricultural paradise along the Sonoita river, Ortega had built a hacienda of 'dobes for his colonists, and a soap factory that ran on burro fat!

"But," says Fred, "Cipriano never should have started his colony on the Camino. For pretty soon old El Diablo took a hand and began to play tricks. The colonists began to find hand-stacked gold ore all over their fields. And of course they went wild and forgot about farming.

"I saw some of the specimens. Neither placer or lode, they were in sandwich form—between two slices of country rock with 1/4 to 1/8 of an inch of gold spread on like butter. That was gold like none that I have ever seen in nearly 50 years of prospecting.

"A lot of folks, including Fred Wright, tried to figure out the story and locate the ledge. But no one, to my knowledge, ever learned who did the piling or located the source. Probably it was pioneers who planned to come back. I guess they got

killed by Injuns or died of thirst on the Camino. *Quién sabe?"*

Soon after locating at Quitovaquita Fred began his long friendship with Manuel G. Levy, who had a trading post there during the 1890's. Born in Roma, Texas, Levy had come to Arizona during the 1880's. Locating first at Nogales, he moved westward through the mining camps along the border to reach Old Ajo, soon after 1900.

Of Levy's influence on his wanderings, Fred tells, "He was a great one to dig up lost history from the old Injuns and Mexi-

This is the country Wright has been prospecting for 37 years. In the foreground is one of the monuments marking the Arizona-Mexico border. National Park Service photo.





Punta Peñasco on the Gulf of California. When Wright first visited here the sea birds "were as tame as barnyard chickens." Today, reached from Gila Bend and Ajo, Arizona, by a surfaced road, it is a popular mecca for American fishermen. Photo by Chuck Abbott, Tucson.

cans. And many times he would tell me the tradition of a lost mine or buried treasure. Before sun-up the next day I'd be heading down into the desert with Levy's grubstake.

"Once he got me out as far as the 'sand,' beyond Tinajas Altas and almost to Yuma, to look for the remains of two wagon trains. All I found was a lot of graves. Then there was the time that I packed out to Las Playas on the Camino to locate the scene of an Injun massacre where some old Mexican coins and trinkets had been found. All I turned up was some skeletons.

"Another time I almost gave the buzzards a feed by getting lost down in the shifting sands of the *Médanos*, that lie between the Sierra Pinacate and the Gulf of California, while hunting for an old mission bell that was supposed to be lost in the sand. Old prospectors claimed that they could hear it ringing when they were alone or lost in the desert.

"With no bell I came out near Punta Peñasco on the gulf. All I had found in my hunt were the corral-like houses and cemeteries of the *Areneno*. Many times since, I have wished that I had picked up some of the pottery and other Indian stuff lying around those deserted camps.

"In those days Peñasco was just like it

was when Columbus discovered America. The sea birds were without fear and one could walk among them like they were barnyard chickens. I used to exaggerate a little by saying that one could wade out into the water and pet the fish like they were kittens."

After endless dusty desert miles—moving from one "strike" to another, with side trips that ranged from the Gila river in Arizona to the Yaqui river in Mexico, Fred began to headquarter at Old Camp, which was located about one mile south of modern Ajo.

Founded by early Sonoran miners, who gophered the native copper, Old Camp (or Ajo), before 1916 was a combination of 'dobs, small frame buildings and miners' shanties. In addition to Levy's general store there was Tom Child's mercantile emporium, the Valley bank, and Kaigo's Jap restaurant.

After the fire which destroyed Old Camp in 1916, much of the business moved to Clarkstown, near present Rowood. And soon after, the great steam shovels of the New Cornelia Copper company began to take into their jaws the remains of the historic camp, which today would have been about in the center of

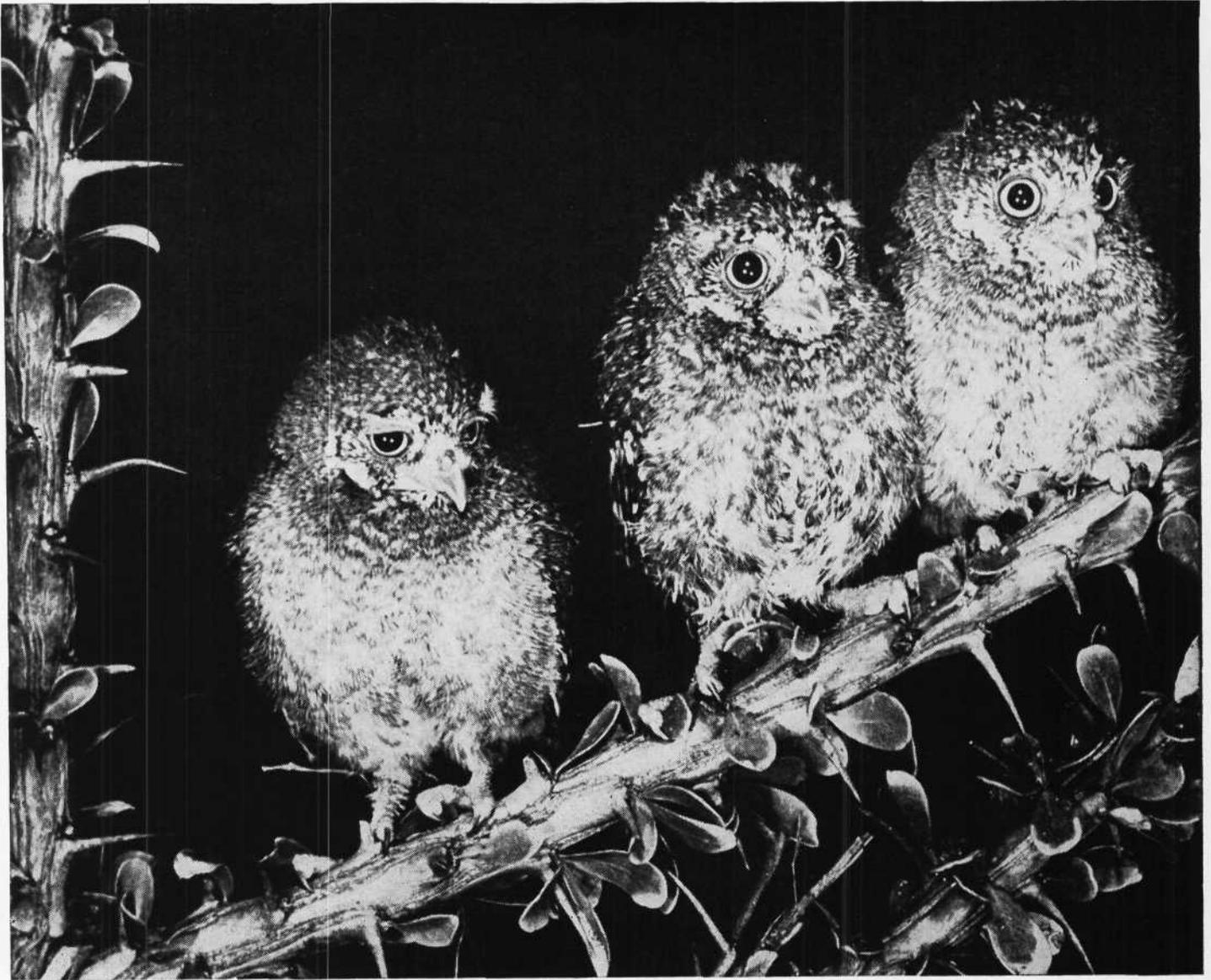
one of the largest open pit mines in the world.

With his friends gravitating toward the big company mines, Fred began to spend more time in town. But according to associates, "Fred would be around for a spell. Then the next thing you'd hear he was down at Cujubabi, or some other forsaken spot in the desert."

Finally, Fred forsook his burros and bought a Model T. Ajo had certain attractions. With one of the richest mining traditions in the Southwest the lore and history of the old camp became one of his main interests.

Today Fred lives in semi-retirement trading yarns with old friends. Of a different nature than those who turn sour at the continued "petering out" of fortune, his eyes twinkle as he tells, "I was lucky to get my coffee in one gulch and my bacon in another. But never have I seemed to be able to get both in the same place."

Even though Lady Luck has never been good to him, Fred is content. His wealth is in his memories instead of his pocketbook. His treasures are in the recollections of adventures and true companionship he has encountered in 37 years of traveling over desert trails in search of the golden mirage that never fades.



These baby elf owls have grown old enough to venture forth from their home in the saguaro. On their first trip they flew to a nearby ocotillo.

Elfs of the Saguaros

Although among the most common denizens of the desert, the elf owl is a comparative stranger even to long-time dwellers in the desert country. During the day they remain in hiding, generally in an old woodpecker cavity in a saguaro cactus. At night they dart through the air and are often mistaken for bats. The author spent many sleepless nights getting the pictures and facts for this story.

By LEWIS WAYNE WALKER
Photographs by the Author

IT WAS while camping at Budwieser spring at the base of the Kofa mountains in Arizona that I got my first glimpse of elf owls. A Coleman lantern was illuminating the goat-nut and greasewood bushes that hedged the campsite. It had been placed well to one side to lure the night insects away from our bedrolls.

Suddenly from the darkness there emerged a fast flying bird

which darted to the ground under the light and then vanished as abruptly as it had appeared. Periodic visits continued as long as the illumination remained and throughout the rest of the night we could hear plaintive whistles from the underbrush.

Several months later, in early May, I returned to the region equipped with extension ladder and blind-building materials fully prepared to pry into the home-life of these secretive desert owls.

That first day's search for the ideal nest was back-breaking. Practically every saguaro had one or more holes which were suitable for elf owls—and there were thousands of saguaros. I disturbed sparrow hawks, screech owls and red-shafted flickers, as well as a few elf owls, but it was not until late afternoon that I found an occupied cavity—perfect for the planned photographic study.

The hole was like the hundreds of others that I had probed but a little to one side of the opening there was a patch of grey fluffy down impaled on a cactus spine. My hopes rose on seeing this tell-tale mark of a bird of prey. With a tiny mirror, used in conjunction with a flashlight, a beam of light was directed

in and down. Huddled at the bottom of the cavity there were several young elf owls and crouched above them in protective attitude stood their diminutive parent.

Two-by-fours and a ready-made platform were brought from the truck but despite our haste daylight vanished before the blind was completed. However, even as we worked, the owls showed themselves to be trusting characters and not afraid of flashlights. The rasp of saws and the hammering of nails did not keep them long in seclusion when the time came for them to forage over the desert. A motion drew our attention to the nesting hole. There, hovering on rapidly beating wings, was one of the adults. He stayed for several seconds then flew a few

feet away and landed on a nearby ocotillo. Then calling softly, he lured his mate from the nesting hole and she passed within inches of my face as she flew off to join him.

This show of bravery made us alter the plans for our blind. We had expected the birds to be very shy and assumed it would take both patience and skill, as well as luck, to out-wit them in this photographic endeavor. Now, however, we omitted the tightly enclosed box we had planned to build and instead placed the cameras, tripods and silvered reflectors in plain view on the open platform.

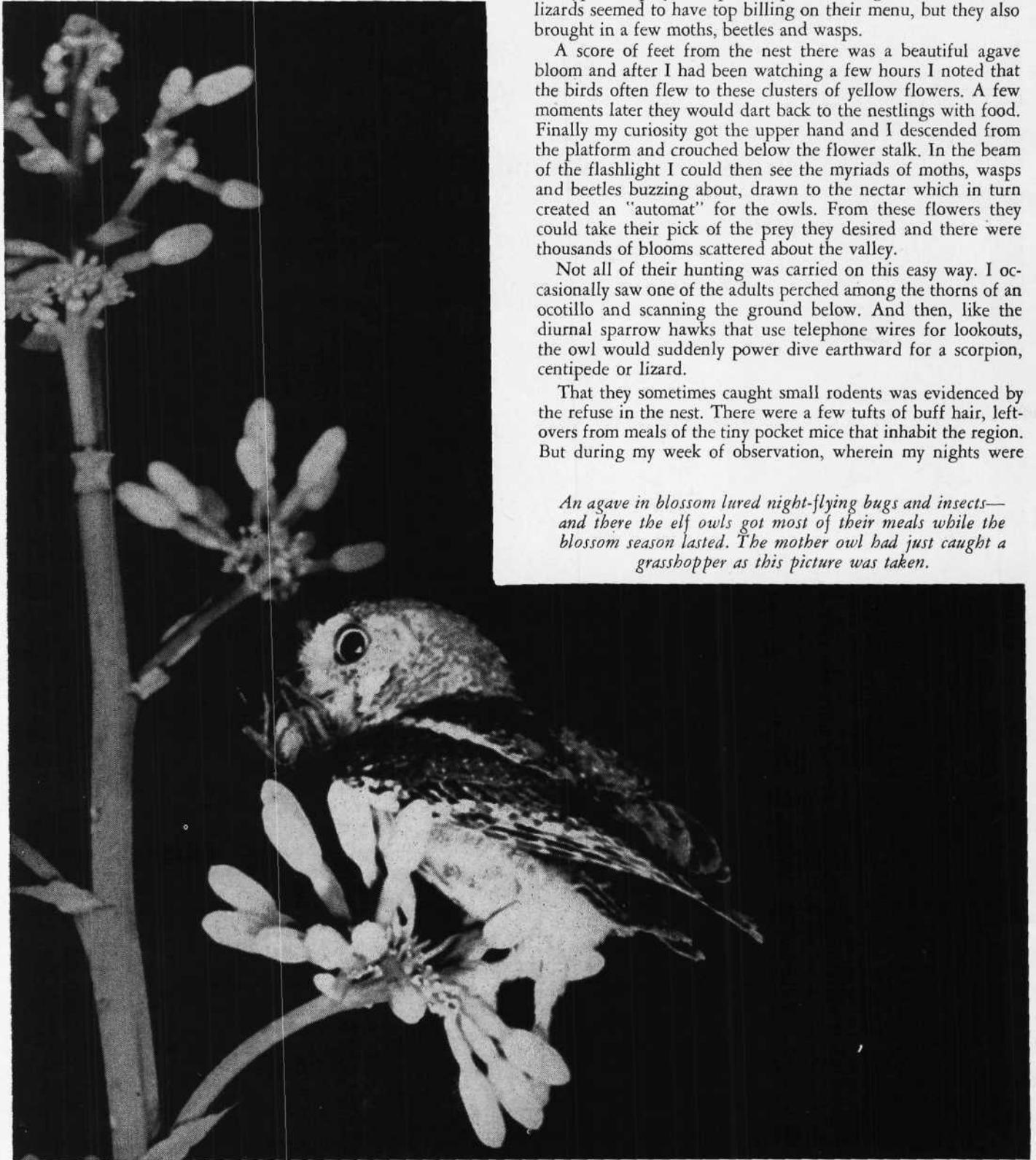
Even when I crouched behind this imposing array, the birds maintained their fearless attitude and flew to the nest with varied types of prey. Scorpions, spiders, vinegaroons and small lizards seemed to have top billing on their menu, but they also brought in a few moths, beetles and wasps.

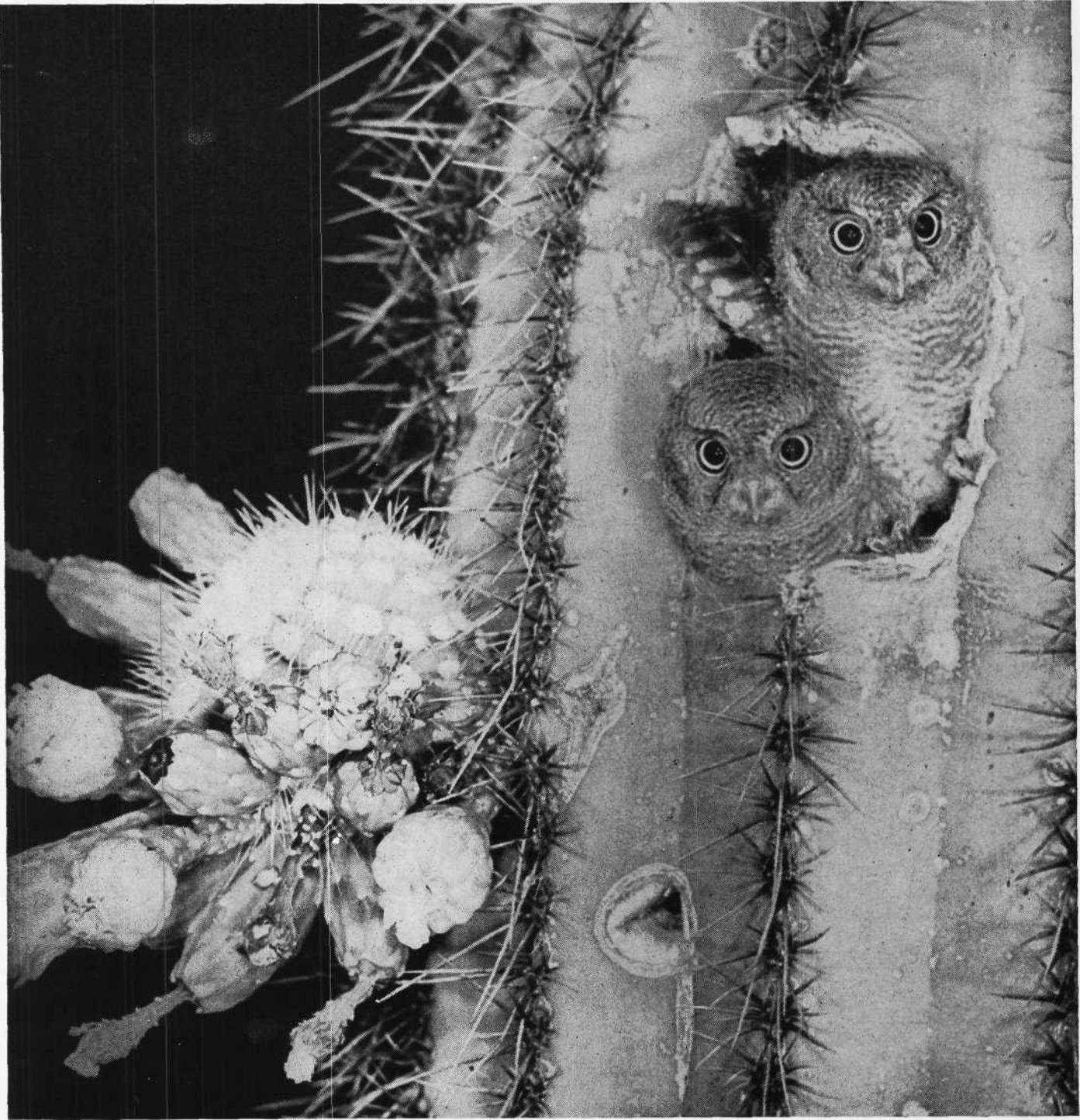
A score of feet from the nest there was a beautiful agave bloom and after I had been watching a few hours I noted that the birds often flew to these clusters of yellow flowers. A few moments later they would dart back to the nestlings with food. Finally my curiosity got the upper hand and I descended from the platform and crouched below the flower stalk. In the beam of the flashlight I could then see the myriads of moths, wasps and beetles buzzing about, drawn to the nectar which in turn created an "automat" for the owls. From these flowers they could take their pick of the prey they desired and there were thousands of blooms scattered about the valley.

Not all of their hunting was carried on this easy way. I occasionally saw one of the adults perched among the thorns of an ocotillo and scanning the ground below. And then, like the diurnal sparrow hawks that use telephone wires for lookouts, the owl would suddenly power dive earthward for a scorpion, centipede or lizard.

That they sometimes caught small rodents was evidenced by the refuse in the nest. There were a few tufts of buff hair, leftovers from meals of the tiny pocket mice that inhabit the region. But during my week of observation, wherein my nights were

An agave in blossom lured night-flying bugs and insects—and there the elf owls got most of their meals while the blossom season lasted. The mother owl had just caught a grasshopper as this picture was taken.





The photographer made elaborate plans to get night shots of the elf owl family from concealment—but found it wasn't necessary to hide. Their attitude was one of curiosity rather than fear.

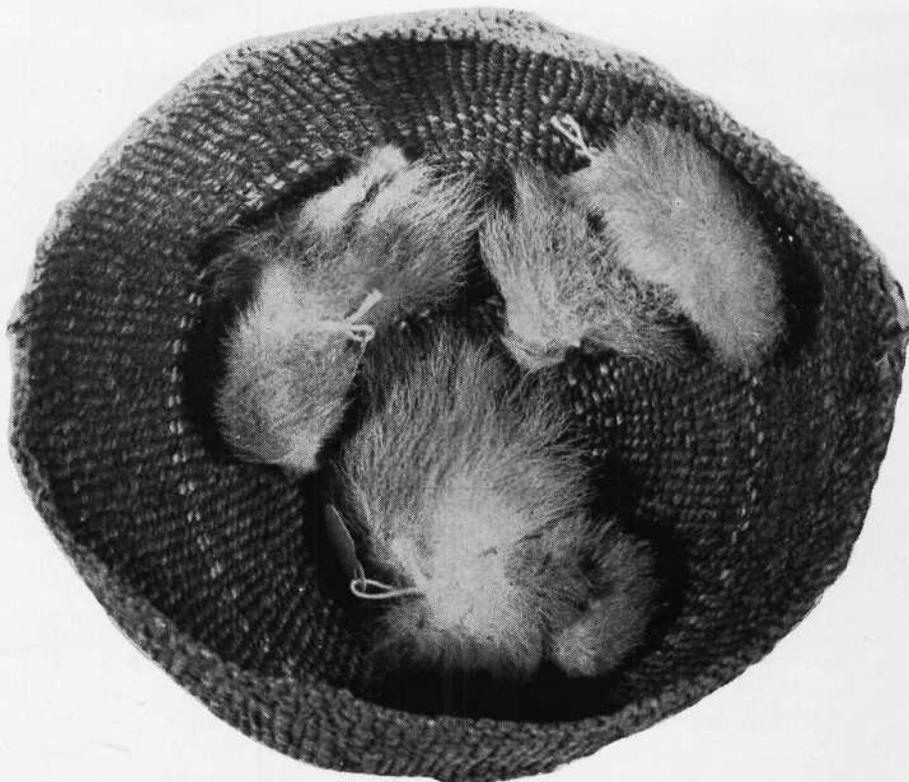
spent with the owls—my days in quest of shade—they brought in nothing but cold-blooded prey. The growth of the fledglings was phenomenal. In this short period of time they practically doubled in size from two to about four inches. Such development would be infinitesimal if it concerned just any old owl, but with these "elves of the saguaros" it meant they were almost on their own.

It seems incongruous that the smallest and most delicate of the American owls is confined to desert areas where the fight for survival is never easily won. The elf owl, however, is almost a part of the giant saguaros and during the summer months is never found far from their towering branches. So secretive is this nocturnal bird that the old time desert residents, people

who consider the sight of coyote, kit fox and sidewinder, a common occurrence, look upon these numerically common owls as extreme rarities.

Several factors tend to keep these birds from being observed and recognized. First and foremost is their sparrow size. It just doesn't seem possible that an adult owl could be so tiny. Hence when their flitting forms are seen passing over a desert campfire, they are usually mistaken for a species of bat. During the daylight hours they resort to the deserted holes of Gila woodpeckers, high in the branches of green saguaros. And—unlike some of the owls which are crepuscular or even diurnal in habits—the elves won't venture forth until darkness completely blankets the area.

Doris and Frank Payne, whose adventure in field archeology is told in this story, live on their 120-acre Bar-O ranch on the semi-desert mesa near Aguanga, California. Frank's hobby — Indian cultures and artifacts—was begun many years ago in Oregon when they lived at Klamath Falls near the Klamath reservation. Frank's Indian relics, said to be one of the most beautifully mounted private collections in America, were exhibited at the San Francisco World's Fair. It is now in storage, but the Paynes are planning an adobe fireproof building at the ranch where it will be on display later. Doris is a newspaper and magazine writer, and the author of "Captain Jack, Modoc Renegade," a popularized story of the Modoc Indian war.



The three rabbit feet which formed the very center of the cache, shown in the basket in which they were found. Photo from Carnegie Institution of Washington Publication 538.

Tale of Three Rabbit Feet

By DORIS A. PAYNE

FRANK crouched on the floor of the cave, his lean body tense. By the light of a lantern, he was peeling back layers of rat-dung, dirt and straw from a small area. Suddenly a metallic sound signalled that his trowel had struck something hard.

It was a large, flat rock. He lifted it to find—another large, flat rock. Painstak-

ingly he brushed it clean and explored with his fingers around the edges. I was craning my neck over his shoulder and, as he lifted and laid it aside, we both sucked in our breath simultaneously. After a look at what lay beneath, all I could say was, "Yipes!"

"A cache!" said Frank.

So our insignificant clue was about to pay off! I felt in my pocket. Yes, it was still there: a tiny stick of wood three inches long, smoothed and shaped to a sharp point on both ends. Ever since my husband and I had made a previous trip to Massacre lake in northwest Nevada it had been acting as a double-ended goad, impelling us back to this place.

A profile view of the escarpment on which a den of rattlesnakes defied the Paynes in their attempt to reach and excavate the shelter and cave near the top.





As the author and her husband examined the artifacts screened from the occupation debris in the cave, they realized that not a single piece suggested the remotest relationship with the white man. Photo by the author.

Two things had lured us originally to this desert country. The name of the lake was one, especially after we learned that it was acquired when a roving band of Paiute Indians massacred a train of emigrants who had camped on the lake shore as they followed the southern route into Oregon. A rumor that an abundance of Indian artifacts was to be found there was the other lure. Collecting them was our hobby.

A golden eagle had led Frank to discovery of the clue-stick on that previous trip. We were searching for arrow points among sand dunes bordering the shallow lake when the magnificent bird drew our attention. He returned again and again to a certain section of the rim-rock that rose 200 feet above us. The possibility of finding the eagle's nest spurred Frank to climb the rugged slope.

The nest was never found. That tiny stick of wood, now in my pocket, had completely erased it from Frank's mind.

"Doesn't look like much, does it?" he grinned. "But it tells me a lot."

"Tells you a lot?" I echoed.

"Sure. Found it on the floor of a shelter formed by that overhang in the lava. Don't

you see? It means that it's been occupied by primitive man. No animal could have shaped a stick like that. It *had* to be a man!"

Two years had elapsed since then. During that time, our work in helping to reconstruct the life of early man in the northern Great Basin had been recognized by the University of Oregon. The time was ripe for us to attempt a strictly scientific cave investigation on our own. With the clue-stick pointing the way, we packed up our gear, took our 16-year-old son, Ward, and set out to try our luck.

So it was that early one morning in September we left our dry camp at the base of the rim-rock, loaded down with hand-picks and trowels, screening box and lantern, brushes and shovels, camera and flash bulbs. We had toiled perhaps half way up the treacherous lava talus toward the shelter when from above came a barrage of sound—the spine-tingling rattle-snake warning that means "No Trespassing." I jumped at least a foot, landed on sharp-edged volcanic rubble, scrambled to regain my footing and came to rest on the steep slope yards below.

"Rattlers! Dozens of 'em!" I shouted.

Frank and Ward, who had left camp after I did, were soon beside me. "A nest of 'em, for sure!" Frank said, breathing hard. "No use trying to kill 'em. Too risky. Take too long."

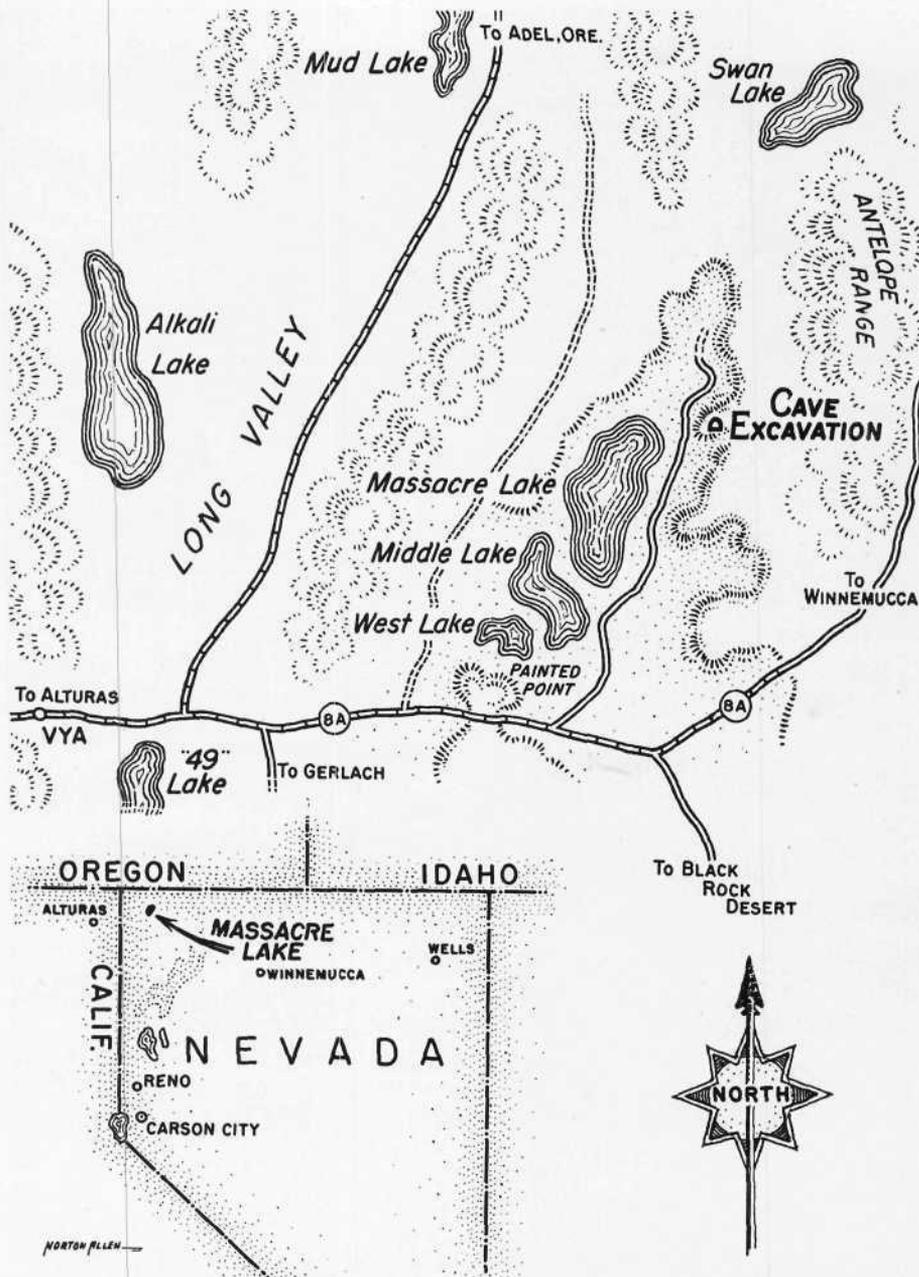
"But this is the only approach to the shelter! They're scattered all over it!"

"We'll get past 'em some way!" Frank vowed.

A quick reconnaissance suggested that our best bet was to hug the face of the basalt ledge bordering the rubble-strewn slope. As we edged along, two rattlers challenged our progress, only to fall victims to Ward's shovel. Their buttons were the first of 23 sets which bulged his pockets before we started homeward!

A half hour later, we had settled down to work in earnest, our dust masks giving us the appearance of strange beings from another world. Shovel after shovel full of dirt was removed from the floor of the shelter and screened.

Then Frank's shovel sank deep into an ash deposit toward the rear of the shelter. The bottom of the screening box became barren of anything except charcoal. The more he shoveled, the more ash appeared. Probing about, he discovered that



it was coming from a hole in the face of the shelter wall. He moved some large wedges of rock. The hole became larger. He shoveled more ashes, removed more rock. At last the hole was large enough for Ward to wriggle through.

Our eyes didn't leave that opening until we heard his muffled voice saying: "Gee, it's a regular cave!"

I squeezed my way in. Frank followed with the lantern. The light revealed a room approximately 10 by 14 feet. The jagged dome-like ceiling was so low one could not stand upright, and so blackened with smoke that only here and there did the bare basalt show through. An accumulation of rat-dung covering the floor to an average depth of three inches, combined with the fine wind-blown dust of centuries! The musty odor was far from pleasant.

Our impulse was to start scratching at random, like dogs turned loose in a flower bed. Instead, we restrained ourselves in favor of the scientific approach. After en-

larging the opening still more, we marked off the area with pegs and string into two foot squares. Then test holes were dug to determine the direction most likely to bring results when we began trenching in from the entrance.

The first test hole yielded a glistening dart point of black obsidian, that volcanic glass so perfectly adapted for the arrow-maker's craft. Three more test holes produced nothing but straw and refuse. When we started our two-foot wide trench it immediately turned up the nock end of an arrow shaft, its sinew binding still in place.

Slow, steady troweling extended the trench deeper into the cave. No layering of occupation levels was apparent. Throughout the depth of the accumulated debris, averaging two feet from the surface to the red cinder floor, we found artifacts in their original position. Such were a hollow bird-bone awl, a hide-scraper, a fire hearth, part of a rabbit snare, and a sinew-bound sec-

tion of an atlatl dart shaft, a weapon used prior to introduction of bow and arrow.

Scarcely a screening box of material but revealed small bits of apocynum fiber cord, charred split bones of birds and mountain sheep, twisted split tule fragments of basketry and matting, more dart and arrow points.

Becoming clearer with each additional piece found, a picture began to take shape in our minds: Dark-skinned hunters, their quivers and bows or atlatls laid aside, sat cross-legged or sprawled on mats around the fire. Odors from their supper of game, roasting on the coals, mingled with that of burning sage, to give them a sense of anticipation and well-being.

Occasionally a bead, or pendant, or feather, forming part of the personal adornment of these men, would be highlighted by the glint of firelight upon bird-bone, shell or coyote tooth. And when the meal was over, and the dying coals permitted the penetrating cold to seep into the cave, each one wrapped himself in a blanket of rabbit skin and stretched out to dream of the deer, or antelope, or mountain sheep that had fallen that day to his prowess.

When the shadows were stretched almost to the limit, we stopped work and assembled our findings neatly in hosiery boxes, savoring the unique quality of each. Only then did we realize one important fact: Among them was not a single piece suggesting relationship with the white man!

Too tired to start immediately for camp, we sat and watched the setting sun summon colors from nowhere on this earth and spread them over the blue wash of sky.

As if startled by the nearby yap of a coyote, Frank leaned forward from his boulder back-rest. "I'm going back into that cave," he said. "Maybe I'm balmy, but just as we left it, I saw something that gave me a hunch. If I don't go back, I won't sleep for thinking about it!" Since there is no logical answer to one of Frank's hunches—not even food and rest—I began pumping up the lantern.

Back in the cave, he pointed out a spot where ash had sloughed away from the profile of the trench. Protruding from the bank, was an edge of charred matting.

"Probably just another fragment," he said, "But I've got to find out."

Inch by inch, troweling, brushing, he removed ash and debris until a section of coarse woven-work as large as your hand was exposed. As he continued, no edge other than the selvage appeared.

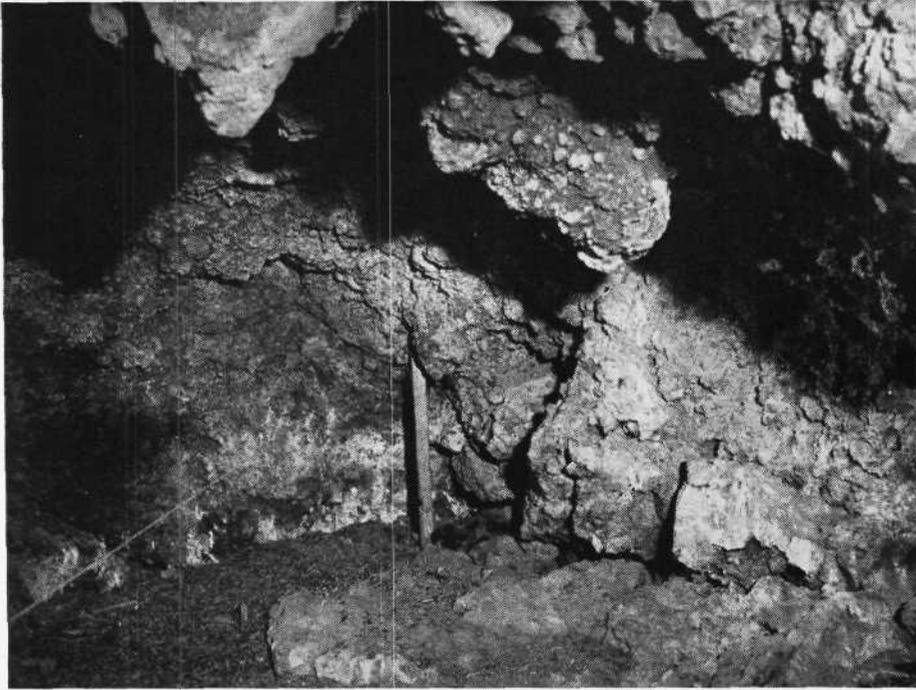
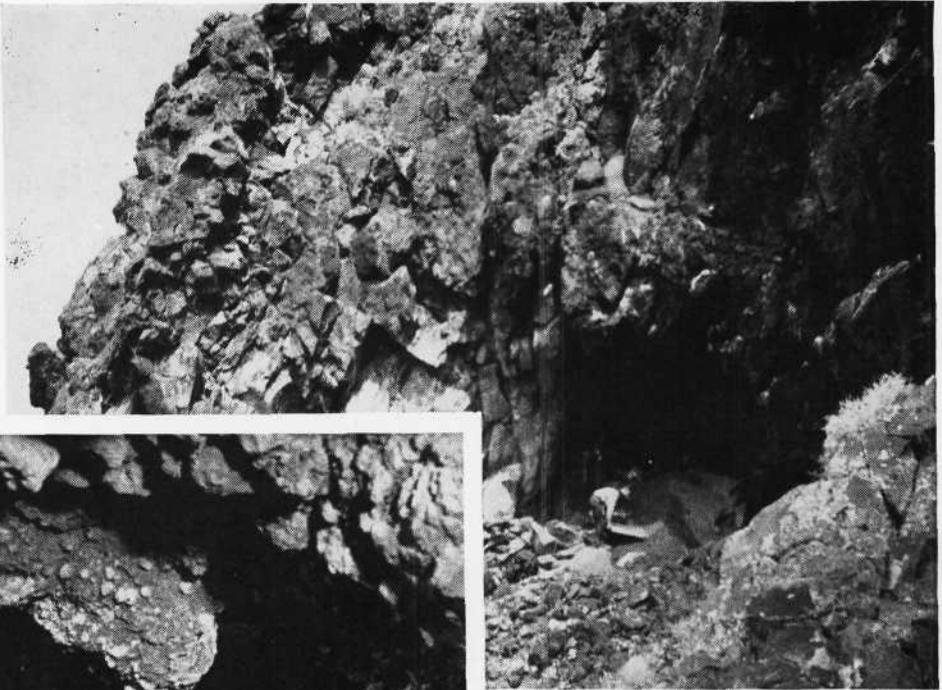
Suddenly Ward, who had been busy killing rattlesnakes, stuck his head in the entrance. "I'm hungry!" he announced. "When do we eat?"

Frank straightened up. He stared for a moment at the section of matting he had exposed. "Boy, we've got something here," he said. "Something too big to be

worked out tonight. Jeepers, how I wish it were morning!"

Morning ordinarily would have come all too soon. But not this time. We were out of our sleeping bags before daybreak, surprising not only ourselves, but a prong-horned antelope. His curiosity, and per-

Interior of the cave showing the jagged lava ceiling and a section from which the solidified rat dung had been removed to expose the occupation debris in which the cache and scattered relics of prehistoric man were found.



An eagle led to discovery of this shelter in the rim-rock near Massacre Lake, Nevada, by Frank Payne, shown screening material from the cave connected with it. The black spot at the right rear of shelter is the entrance to the cave.

haps the smell of coffee and bacon, had brought him within the glow from the greasewood fire we had lit for warmth.

The light was still grey when we started the tramp up to the cave. But not so grey that we couldn't see distinctly, slipping off through the brush, a coyote that had punctuated our sleep with his howling.

This morning, instead of extending the trench sideways, Frank started at the surface and began peeling off layers of rat-dung and occupation debris over an area two feet square. Then it was that the cache came to light! The hole exposed beneath the flat rocks had been lined with large pieces of matting—the charred edge of which had attracted Frank's attention the night before. Thus we were able to lift the contents out whole and take them into the sunlight where we could examine them.

My usually legible handwriting deteriorated into a scribble as I recorded the necessary data concerning the find. "You're nuts!" I kept telling myself. "People just don't get like this over a dirty mess of old matting and basketry that's about to fall apart. What's it to you? Now if it were a chest of jewels . . ."

Looking at the contents of the cache,

when at last it lay spread out on the floor of the shelter, I knew, suddenly, what it was to me. It was a glimpse behind the veil of mystery that hides the past, an insight into the private life of the ancient one whose roughened hands had taken such care to hide his personal property.

I fingered the pieces of matting that had lined the hole, each of a different material and weave. I noted the small twigs, with which a break in a tightly-woven circular tray had been mended. I held to the light a large, loosely-woven bag made of reddish-brown sagebrush bark. I felt the smooth texture of the overlay design decorating a smaller twined basket which its owner had placed inside the larger bag. Then I stared, without touching them, at three rabbit feet in the bottom of the smallest basket.

Three rabbit feet! What did they mean? Why did they, of all things, lie at the very heart of these personal treasures representing the day-to-day life of someone who had hoped and despaired, loved and hated, known struggle and final peace in some dim past? Were they a tribal symbol of the owner's desire for rapport with the spirit that gives and takes away all things, including luck? Or were they cherished for

some obscure reason known only to the individual, much as we would treasure a souvenir? How long had they lain in the dark cocoon of the cache?

We can only speculate concerning the significance originally attached to the three rabbit feet. Their age, however, has been determined with reasonable accuracy. Evidence is sufficient to indicate that they had lain unmolested in this cave, preserved by the desert-dry air, for 1500 years!

This conclusion was arrived at by Dr. L. S. Cressman, head of the department of anthropology at the University of Oregon. In his book, *Archeological Researches in the Northern Great Basin*, (Carnegie Institution of Washington Publication 538), he has correlated our Massacre lake cave findings with the results of many other studies of that region. He believes that the culture represented was antecedent to, or coincident with that of the Basketmaker II period of the Southwest—a culture dated by tree rings as having reached its height between A. D. 300 and 500.

On our homeward trek, I remarked to Frank: "An experience like this sure stretches one's ideas of time, doesn't it?"

"Yeah," he mused, "That's what I like about this sort of thing. Makes a fellow see his own experiences as being of one piece with everything that's ever happened. Yes, and everything that's going to happen." Then his eyes twinkled. "Just happened to remember that my life insurance is due. But why worry? I've got three rabbit feet!"

LETTERS . . .

The Moab Petroglyphs . . .

Albuquerque, New Mexico

Dear Desert:

Thirty-five years ago I took a trip with the late E. A. Sherman, then regional forester at Ogden, down the Colorado from Moab, Utah, to the Indian inscriptions described and pictured by Beej and Paul Averitt in the Desert Magazine for August. In Moab we had asked "Old Wash," an aged Paiute, as to history of the inscriptions, but he replied: "Me no ketch 'em; me father no ketch 'em; too many snows." Mr. Sherman and I felt that these inscriptions, like highly illuminated manuscripts, were left for the information of future visitors. The largest one seemed to say that game had been plentiful, and there had been a feast, perhaps in connection with a wedding, for a standing couple held hands.

Sometimes one of these sketches includes a line, apparently directing a traveler how the sheer canyon wall can be scaled—undoubtedly better by an Indian in moccasins than by his less surefooted successors. I was told that a "wall-map" on the north side of the Colorado river crossing near Moab gave accurate direction to a spring, the presence of which would otherwise have been unknown.

Q. R. CRAFT

Lost Mine Hunter Census . . .

Long Beach, California

Dear Mr. Henderson:

I've had 45 inquiries about my lost silver ledge in the Chocolates (Desert, June, '47) and all of them intend to go and look for it. It's possible that some one out of the bunch may be lucky enough to locate it. Two fliers have tried to locate it from the air by taking pictures. They are going to make another trip over the area soon.

You called the turn when you said a stampede would happen.

L. HARPENDING

More of the Same . . .

Fallbrook, California

Dear Desert:

So someone thinks there are too many palm trees, huh? Personally, I enjoy each and every "count" and hope the jeep keeps taking R.H. into the far places—and brings him back so he can report through DM pages. Just between you'ns and me, though I'm a semi-hound myself, it seems as though a lot of pages are devoted to rocks and affiliated activities. Not that I don't read and enjoy all of it. The only improvement that I can think of for DM is "more of the same," even if it includes some of the "bales" of discarded poems.

KATHERINE McEUEEN

The Padres Led the Way . . .

Banning, California

Dear Randall:

Every so often we are told, as repeated in a recent Desert, that the Mormons were the first to introduce irrigation in the U. S. Nowise wishing to dim the splendid achievement of the Saints in watering their mountain valleys, we should bear in mind that irrigation was practised in California a generation before Joseph Smith received the plates of the Book of Mormon.

In Mission Valley, San Diego, there are ruins still standing of a masonry dam the Franciscan padres built across the bedrock of San Diego river before 1800. It was 224 feet long and 12 feet thick. Water from it was carried to the Mission crop lands through ditches and a tunnel, and supplied irrigation water at all seasons.

TOM HUGHES

Wanted—Some Desert Tea . . .

Hot Springs, Arkansas

Gentlemen:

I was told at Desert Center, California, that you might put me in touch with a source of supply for Desert tea, also called Squaw tea, Indian tea, Mormon tea—and by its correct name, Ephedra. If you know where I can get this, please advise me.

A. C. COOK

NOTE—If any Desert reader can supply this tea, Mr. Cook's address is 701 South Avenue, Hot Springs.

—R.H.

Tale of Tall Cholla . . .

Long Beach, California

Editor, Desert Magazine:

Forty-two years ago we came to San Diego. Walking around on the edge of town I saw a straight stalk of cholla cactus about three feet long, but dead.

Figuring it would make an odd cane for my aged father back east I pulled it up by the roots, cleaned, sandpapered and varnished it and sent it away. On a recent visit, I saw the cane again, newly varnished and just as good as ever—a fine souvenir.

During the last 40 years I have looked all over the Southwest but never found another stalk of cholla with a straight joint half as long as that. I am wondering if this may not be some kind of a record.

C. BARGSTEN

A good record for San Diego, but not for Arizona where one occasionally finds a straight cholla trunk four or five feet long. The base of the Kofa range in northern Yuma county is good hunting ground.—R.H.

Democracy at Rawhide . . .

Denver, Colorado

Editor:

I enjoyed reading your write-up on Rawhide in the June issue of Desert, and seeing the pictures of my good friends the Grutt boys.

In my opinion Rawhide was the most colorful camp of all, and I followed all the booms. It contained as fine a body of men as ever got together anywhere in the West. They represented true democracy of character, which our civilization has failed to produce in our cities of today, always living up to the "boomer's" creed of helping a down and out brother or sister along the rocky highway of life.

Give us more about the old Nevada mining camps. You have a fine magazine, one that appeals to all the old-time boomers.

"THE GUMSHOE KID"

Mojave is Still Dry and Hot . . .

Doyle, California

To the Editor:

In the spring of 1891 I went to work as a track-walker at Rogers section on the Santa Fe railroad 20 miles east of Mojave.

I remember reading in the Examiner about a mysterious sea that was forming in Salton Sink. No one seemed to know where the water came from and the article said an expedition was being organized to investigate.

The article also stated that if a big inland sea was formed the evaporation would change the climate of that part of California by causing plenty of rainfall, and it would become a prosperous agricultural region.

I worked there all through the summer but not a drop of rain fell. Had the climate changed that summer I would have taken up a homestead in the Mojave desert. However, the climate did not change and I came to Lassen county and have made my home here.

H. F. SMART

Reader Smart used good judgment. There has been a sea in Salton Sink since 1906—and the climate hasn't changed yet. It was 110 degrees yesterday and it hasn't rained for six months.—R.H.

From an Old "Rawhider" . . .

San Diego, California

Dear Sir:

Your historical article on Rawhide brought back memories of days long gone. For I was a "Rawhider" from the fall of 1910 to the spring of 1912. Thanks to Harold Weight for a fine well-written story.

I would like to get in touch with anyone who was in Rawhide during its active days. My address is 4236 University avenue.

F. W. LIANG

Floral Butterflies and Sunbonnets of the Desert

By MARY BEAL
Photos by the Author

AFTER the early spring annuals have passed the climax of their colorful parade over the desert, the dainty ornately-patterned *Langloisias* come along. The stiff little plants are so scantily leaved and so lavish with blossoms that they remind one of swarms of little butterflies hovering over the ground. This is one of the typically desert species that puts all its vigor into flowering, and makes a delightful success of it with little mounds of enchanting pink posies. It is easy to scrape acquaintance with them for they are common over widespread areas. Little Butterflies is the pet name but in botanical language it is classed as *Langloisia mathewsii*, or given a niche among the numerous members of the genus *Gilia* of the Phlox or *Gilia* family.

Langloisia mathewsii

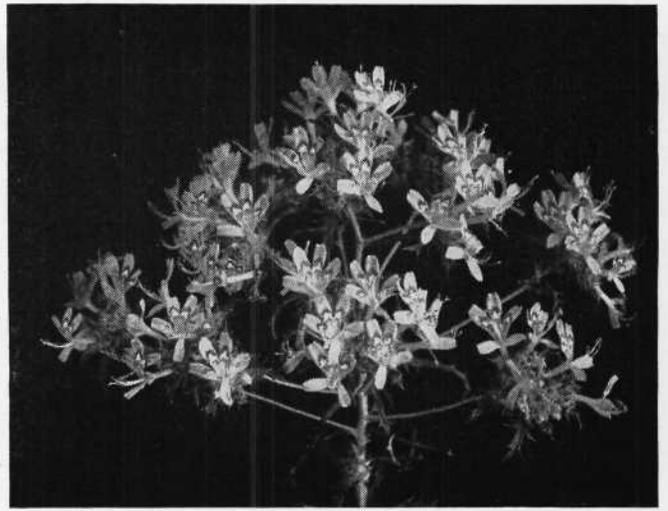
Varying from 2 to 6 inches high and 2 to 14 inches broad, the stems are whitish and stiff, the herbage softly hairy and armed with bristles. The narrow leaves, mostly at the ends of the branches, are cut into remote teeth tipped with a long bristle, the older leaves often red or red-tinged. The bristle-tipped calyx lobes are plushy with long white hairs and the bracts subtending the flower-cluster are bristle-tipped and bristle-margined. The 2-lipped corolla, $\frac{1}{2}$ to $\frac{3}{4}$ inch long, varies from light to bright pink or occasionally light salmon-yellow. The upper lip usually is 3-lobed, the lower with 2 spreading lobes, the upper lobes patterned with a double arch of deep purple-pink dots. The stamens are curved and protrude conspicuously.

Little Butterflies foregather in late spring—myriads of them—over most of the Mojave desert and adjacent regions, often over-spreading acres of sandy plains and mesas and washes with soft rose-pink. Somewhat similar but noticeably smaller and less elaborately marked is the following species:

Langloisia schottii

Usually less than 2 inches high, or even less than 1 inch, the herbage clothed with long soft hairs, the leaves and calyx lobes

Although the plants seldom are more than two inches high, the tiny flared flowers of Lilac Sunbonnet form beguiling mats of spring color.



In late spring myriads of these pink Little Butterflies appear to hover over much of the Mojave desert.

bristle-tipped. The delicate 2-lipped corolla is pale pink or lavender or yellowish, with purple streaks in the throat, the 3-lobed upper lip purple-spotted, the lower with 2 spreading lobes, the lobes only half as long as the tube or less. It blossoms with the early spring flowers on sandy plains and washes of the Colorado and Mojave deserts, western Arizona, western Nevada and southern Utah.

Langloisia setosissima

Low and tufted or with spreading branches, from $\frac{1}{2}$ to $2\frac{1}{2}$ inches high and up to 8 inches broad, the herbage finely woolly-hairy. The grey-green leaves enlarge abruptly upward to the apex of 3 bristle-tipped teeth, with 1 or 2 pairs of bristle-tipped teeth at the sides and the narrow base with more bristles. The corolla is light lavender-blue to white, about $\frac{3}{4}$ inch long, its nearly regular lobes almost as long as the tube. It frequents gravelly hills, sandy mesas and washes, from valley to mountains in the California deserts, western Arizona, western Nevada, and southwestern Utah.

Langloisia punctata

One of the desert's most beguiling charmers in the floral procession, known to its friends as Lilac Sunbonnet. It is blest with delightful individuality but seldom is more than 2 inches high, often less, widely branching into leafy tufts enlivened by bonny lilac blossoms. The grey-green leaves broaden to a wide 3-toothed apex tipped by long bristles, often with a pair of bristle-tipped teeth below, the calyx lobes similarly toothed and bristled. The corolla flares from a slender tube into 5 oval lobes, pale to bright bluish-lilac patterned with lines of purple dots and a double yellow streak leading to the purple throat. They respond to ample rains with lively cooperation, spreading out into flower-adorned mats several inches broad. My notebook records a walk over gravelly hills with "millions of Lilac Sunbonnets in bloom. One amazing plant with 88 blossoms." Even with usual rainfall they add charm to many gravelly hills, mesas and mountain slopes of the Inyo and Mojave deserts, western Arizona and western Nevada.

An oil that is chemically almost identical with sperm oil can be extracted from seeds of the native Southwestern shrub, *Simmondsia californica*, more commonly known by the Mexican name of jojoba; also bucknut, coffeebush, goatberry, goatnut. University of Arizona chemists found only a slight difference between the jojoba seed oil and sperm oil, which comes from certain whales and is indispensable for lubrication of delicate machinery. Jojoba bushes are valuable forage plants found at elevations of 2000 to 4000 feet in Arizona and Southern California.

Mines and Mining . .

Ely, Nevada . . .

Workmen are driving a 600-foot tunnel on property of the Sound State Mining company in the Silver Mountain district of northeastern White Pine county, according to Ralph Morgali, company secretary. Development by means of prospect shafts exposed high grade lead ore at several points on the 10 claims comprising the property. A camp boarding house and change room have been constructed and a three-mile road built.

Beatty, Nevada . . .

Yellow Gold Consolidated Mining company has been organized to operate a property 27 miles north of Beatty. Plans have been completed to build a 100-ton mill on the property, President John J. Carr declared. At the present time a face of 10 feet of \$40 ore is available for milling, and it is said that the entire vein filling, ranging from 80 to 300 feet, is mill ore which can be handled without selection.

Goldfield, Nevada . . .

Pete Moser of Goldfield sold five gold lode and placer claims near the head of Tule canyon, 54 miles west of Goldfield, to M. Goering, Nevada miner. Goering, who has operated placer properties from Battle Mountain to Manhattan, is sampling the ground and plans to start his placer operations as soon as the sampling is completed. For some years past he has been mining talc in the Lida area.

Salt Lake City, Utah . . .

Wartime searches for strategic minerals showed that the Pinto-Iron Springs district in Washington and Iron counties, Utah, is the most important known source of iron ore for western steel mills, according to a report issued by United States bureau of mines. The greatest concentration of ore occurs in the margins of Iron mountain, Granite mountain and Three Peaks, in a belt three miles wide and 23 miles long, W. E. Young, mining engineer of the Salt Lake City division reported. The area is the present source of ore for the Geneva steel plant.

Boulder City, Nevada . . .

Only bid for the government-built manganese oxide pilot plant at Boulder City was made by the Morse Bros. Machinery company of Denver. Morse brothers offered \$102,400 for the plant and accompanying 446 acres of land. Plant was built early in World War II by the federal government, at a cost of \$1,519,238. The site was chosen because it was close to large manganese oxide deposits. The material is used in production of steel alloys.

Silver City, New Mexico . . .

Santa Rita open pit copper mine in Grant county will be enlarged by removal of millions of tons of overburden, Horace Moses, general manager of Kennecott Copper company's mine has announced. Company officials said the big project would in no way disturb the Kneeling Nun, a pinnacle rock formation which is a local landmark.

Reno, Nevada . . .

Western producers have organized the Perlite Standards association with the purpose of establishing standard tests for perlite rock and its products and to help meet requirements of building codes in western states. Jay A. Carpenter, director of the state bureau of mines, has been requested to act as consultant for the association's research committee. Director Carpenter has issued a request to prospectors and claim owners to list their deposits at his office.

Victorville, California . . .

Victorville Limerock company has completed its new all-electric-powered mill and full production was resumed on July 1. The old plant on the banks of the Mojave river at the Narrows was completely dismantled in 1946, and new construction has been going on for eight months. The new mill will handle any type of limestone grinding. The company operates its own quarry six miles north of the mill and trucks the crude limestone to the mill for primary crushing and storing.

Death Valley Junction, California . . .

Great Lakes Carbon company has taken a 35-year lease on a big acreage of clay-bearing ground near the old Fairbanks ranch at Ash Meadows, a few miles across the Nevada line from Death Valley Junction. The overburden will have to be removed before the clay can be mined, but it is said that the company will start operations soon and that several thousand tons a month will be shipped when full production is reached. Owners of the property are Mr. and Mrs. E. V. Thomas and P. W. Prutzman.

Tonopah, Nevada . . .

Output of the rich fluorspar property 30 miles south of Warm Springs on the Tonopah-Ely highway is being shipped to the Kaiser steel mills at Fontana, California, where it is used as a flux. The fluorite is reported 97 per cent pure. It occurs in four parallel and one cross vein on the property, which is owned by Mayfield and Eason of Tonopah and is being operated by James Corlett, Don Walters and Bob Corlett.

Bisbee, Arizona . . .

Rich copper ore, carrying values in gold and silver, has been discovered on the property of Grace and Ira Taylor off highway 92 at the east edge of the Huachuca mountains. The Taylors, who have been developing their claim, using an automobile to hoist ore buckets, have cut the rich vein running the full width of their inclined shaft. Compressor, drilling machines and a water-pumping outfit are being installed. Water in the shaft amounts to 3000 gallons daily. Taylor served as a sergeant in the Pacific during the war, while his wife was a WAC in Europe.

Hawthorne, Nevada . . .

A short course in prospecting was given this summer at Hawthorne, with 80 attending. The class, meeting six times a week, was established with the assistance of D. C. Cameron, state director of vocational education, and Robert Best, principal of Mineral county high school. The course discussed practical geology and the relation of igneous intrusions to mineralization. Prospecting methods and simple geological mapping were stressed, with field trips and laboratory periods for mineral identification included. T. D. Overton was instructor.

Bishop, California . . .

The largest magnetic separator in the United States has been installed at the tungsten mill of Bishop Concentrate and Cleaning company, seven miles south of Bishop. The new firm plans to process concentrates for tungsten producers in the area. According to Glenn E. Benweare, the company also has installed complete roasting facilities for upgrading the concentrates.

Washington, D. C. . . .

The public lands subcommittee of the house of representatives plans to hold at least two hearings in California late this summer. One hearing will deal with the question of opening Joshua Tree national monument to mining and the other will take up controversies regarding the Inyo-kern navy range in Inyo county and the land sale in Mono basin. Dates for the meetings have not been set. The committee will consist of Frank A. Barrett of Wyoming, chairman, and Representatives Harry Sheppard and Clair Engle of California.

Tiger, Arizona . . .

Proven ore deposits in the San Manuel mine of the Magma Copper company, near Tiger, now exceed 354,500,000 tons. W. P. Goss, Magma general manager, says that the ore body is the largest copper deposit found in Arizona in more than 35 years. Development of the mine calls for construction of an entire new town to house workers and their families. Churn drilling on the property is still under way.

HERE AND THERE . . . on the Desert

ARIZONA

Million Dollar Highway Opens . . .

TUCSON—Catalina highway, which cost the government \$1,000,000 and was built with federal prison labor, has been turned over to Pima county by the United States bureau of public roads. The new road, which took 10 years to build, runs directly through the mountains and cuts travel time from Tucson to Mount Lemmon from about a day, by way of Oracle, to an hour and a half. The bureau told county supervisors that the stretch from Soldier Camp to Summit, now largely one-way, would be completed by July 1948. Pima county has appropriated \$30,000 to be spent jointly with the United States forest service on recreational areas along the new road.

White Medicinemen Make Rain . . .

PHOENIX — Man-made rain poured down on the Roosevelt dam watershed on July 21, according to a copyrighted story in the Arizona Republic, when dry ice was dropped from an airplane into a cumulus cloud. Amos Hoff, professor of meteorology at Phoenix junior college, and a party of observers dropped 500 pounds of dry ice pellets from a DC-3 into the cloud-bank and thousands of tons of water poured out, it was reported. The process was developed by Vincent J. Schaefer, scientist of the General Electric company, and this was its first large scale application.

Canyon Museum Reopens . . .

GRAND CANYON — The Wayside Museum of Archeology, located at Tusayan Ruin, 18 miles east of Grand Canyon village is open to the public daily except Sunday and Monday, national park officials have announced. Lectures on archeology will be given at 11:15 a. m. and 3:15 p. m. The museum had been closed since 1942. The park service also reported reinstallation of campfire programs, nightly except Sunday, at the South Rim campground.

Quechan Agency Closes . . .

YUMA—The Indian sub-agency office on Fort Yuma Indian reservation closed July 30, due to curtailment of funds. The agency handled the affairs of 900 Quechan Indians, who have been placed under the jurisdiction of the Colorado river agency at Parker. The tribe, formerly known as the Yuma Indians will, as a result of the closing action, appoint its own police force and judge and handle its own leases. The hospital on Indian hill will continue to operate, since the health department budget was not cut seriously. The agency was established in 1887.

Tso is New Vice-Chairman . . .

WINDOW ROCK — Zhealy Tso, councilman from Chinle district 10, was elected vice-chairman of the Navajo Tribal council, to take the place left vacant by the death of Chee Dodge. Tso won the position by standing vote over Clyde Lizer, Howard Gorman and Roger Davis, at the end of the opening day's session of the summer meeting of the council.

Hamblin Memorial Planned . . .

ALPINE—Mrs. Levi S. Udall, granddaughter of Jacob Hamblin, is sponsoring a movement among his descendants to raise a new monument over the grave of the great Mormon trailblazer who is buried at Alpine. Mrs. Udall, wife of an Arizona supreme court justice, already has contacted more than 100 of Hamblin's relatives. A group of them made a pilgrimage to his grave, late in June. Hamblin pioneered in southern Utah, marking roads, founding towns and striving for peaceful relations with the Indians.

Harry Wetzel, Indian trader for the past 40 years, died at Ganado Presbyterian mission on June 23. In 1906 he went to Oljato, Utah, a point on the Navajo reservation north of Kayenta, and from that time operated trading posts among the Indians.

Quonset huts will furnish living quarters for 100 Navajo Indian families before the summer is over, according to Indian Superintendent James M. Stewart. Stewart is buying the huts from army surplus and intends to use them for families living near Window Rock and Ft. Defiance.

CALIFORNIA

Wild Horse Hunt . . .

DEATH VALLEY—At the request of the national park service, Pete Peterson, Ash Meadows rancher, has been trapping the horses running wild at the head of Emigrant canyon in Death Valley national monument. The animals have ranged the area since Indian Tom Wilson abandoned a horse ranch which he started in the early 1930's. Peterson and his riders established a camp at Emigrant springs, set a trap and captured 32 head of unbranded horses. Peterson expects to round up most of the estimated 23 remaining, and the horses will be taken to his ranch to be broken and sold.

Postoffice for Palm Desert . . .

PALM DESERT—The desert's newest postoffice, at Palm Desert, the new community between Indio and Palm Springs, was opened on July 16. W. L. Myers, postmaster, received the first truck of mail and handled between 4000 and 5000 pieces of outgoing mail. The new postoffice is located on Highway 111 and Larkspur Lane and contains 130 boxes. First development at Palm Desert was started a year ago.

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Classified advertising in this section costs 7 cents a word, \$1.00 minimum per issue

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THE BROKEN ARROW DUDE RANCH in southern Arizona now open. 1000 acres on old Apache village site. 5 miles north of Mexican border. Cool climate 5000 feet. Individual cottages. Private airport with hangar space. Excellent hunting—deer, bear, lion, javelina. Cocktail bar and lounge overlooking the beautiful San Pedro Valley. Riding horses. Wonderful food. A rockhound's paradise. For reservations and rates write The Broken Arrow Dude Ranch, Hereford, Arizona.

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HANDCRAFTED HORSESHOE door knockers of iron and copper, made for the desert, mountain and country ranch home, \$2.00. No C.O.D.'s. C. V. Hicks, Route 3, Box 586, Hemet, California.

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Power from Owens River . . .

BISHOP—Los Angeles department of water and power has been authorized to construct three hydro-electric plants in the Owens River gorge, at a cost of \$40,526,000. The new plants will utilize the 2375-foot drop between Crowley lake and Birchim canyon. Each of the three units will contain a single 37,500 watt electric generator. Power will be delivered to Los Angeles over a 250 mile, 230,000 volt transmission line to San Fernando valley. Design and construction work will start immediately.

Desert Rocket Mail . . .

WINTERHAVEN—The first successful rocket mail flight in United States history took place on June 28 when a six-foot rocket, fired from Winterhaven, arched a mile into the air and landed in Yuma within 100 feet of the spot where it had been aimed. The projectile carried 350 covers for stamp collectors, which were taken to the Yuma postoffice. The first rocket, sent up half an hour earlier, exploded and the mail compartment fell into the Colorado river and floated down stream. The flight was sponsored by a group of rocket enthusiasts from Glendale, California.

Ghost Post in the Mojave . . .

BARSTOW—Camp Irwin, great army anti-aircraft firing range isolated in the Mojave desert 36 miles northwest of Barstow, is reported to have become a ghost town, with only armed guards remaining to protect government property. Camp Irwin was a complete city, with more than 350 buildings, water system, refrigeration plant, butane gas system, and a network of roads. The camp had a commissary, stores, theater, fire department and hospital. An army-paved road reaches the camp, which is along the old route traveled by Garcés, Jedediah Smith, Fremont and the 20-mule teams, but cloudbursts already are working to return the road to the desert.

New Desert Highway Planned . . .

TRONA—The Cross Country highway bill, passed by the California legislature, has placed Trona on a transcontinental highway. The new road, when completed, will run from Norfolk, Virginia, to the California coast near Morro bay or Pismo beach. It will follow the 35th parallel and will be the shortest route between coasts. In the desert area, the highway will cut through Walker Pass to Freeman Junction and Trona, across Death Valley through Salisbury pass to Shoshone, then to Pah-rump and Las Vegas.

Preliminary construction on the last 7.8-mile stretch of the 144-mile Coachella extension canal got under way early in July with Otto B. Ashback and Sons, Minneapolis, contractors.

They Change the River . . .

BLYTHE—The course of the Colorado river eight miles below Palo Verde was changed when 700 pounds of powder were used to blast a two-mile-long pilot channel across an acute angle on the Cibola side of the river. The angle had caused a bar, made up of material eroded from the Cibola valley side, to form at the mouth of the outfall drain from Palo Verde valley. The bar eventually would have stopped the drainage completely and allowed the water to back up on tillable land, so bureau of reclamation engineers, working with officials of the Palo Verde irrigation district blasted to change the river course.

NEVADA

New Laws for Sportsmen . . .

RENO—New fishing and hunting laws went into effect in Nevada on July 1. Licenses went up in price and cost for deer tags for non-residents rose from \$10 to \$25. Deer tags for residents remained at \$1. Deer hunting with pistol or revolver, or with rifles firing .22 rim-fire cartridges became illegal, as did the use of service ammunition. It became illegal to hunt any big game with dogs or from an airplane without a special permit and the waste of either fish or game will be prosecuted as a gross misdemeanor. Out of state sportsmen were advised to study copies of the new regulations.

Beatty Improvement association has asked the federal government to open several thousand acres along Highway 95, north of Beatty, as a farm area for veterans. They want the section tested to determine how much of it has sufficient water for farming purposes.



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Would Save Old Courthouse . . .

PIOCHE—Local residents are seeking funds to block destruction of the old Lincoln county courthouse at Pioche, and to make it into a museum to house relics of the days when Pioche was the West's wild-est mining camp. The building, constructed in 1872 at a reputed cost of \$1,000,000, was built of bricks brought from England. It was vacated in 1938 when a new courthouse was completed, and no provisions were made for its maintenance.

Low Bid for Gabbs . . .

GABBS—Only two bids have been received by the War Assets administration for Gabbs magnesium oxide plant, mines, townsite and hotel. Pacific Rock and Gravel company of Los Angeles bid \$259,001 and Morse Bros. Machinery company of Denver bid \$199,750. The installation cost the government \$8,479,000. The government wrote off nearly \$6,000,000 of the cost, placing a valuation of \$2,788,755 on the plant, but bids were far below expectation.

Burros for Tourists? . . .

BEATTY—A plan that started as a joke in Beatty is nearing realization. Local residents informally have pledged sufficient funds to bring a herd of 18 to 20 burros down into Beatty and pasture them in a corral on the north side of town. Backers of the plan believe that most eastern tourists have never seen a burro and would welcome the chance to study and photograph the quaint animals who are credited with being responsible for discovery of many of the great mines of the West.

Tracing the Pony Express . . .

AUSTIN—The exact locations of the five Pony Express stations between Jacobsville, in the Reese river valley west of Austin, and Cold Springs, about seven miles north of Eastgate were found and identified recently by Gerald Kane, William T. Maestretti and Dr. F. G. Tagert. The trio, making the trip in a Model A, followed the old express route. Identification was made by Maestretti, who had ridden the entire area many times when young, while he was a cowhand on his father's ranch.

A TWO AND THREE-QUARTER MILLION DOLLAR POWER BUSINESS

Imperial Irrigation District's power revenue for 1946 totaled almost TWO AND THREE-QUARTER MILLION DOLLARS.

TOTAL REVENUE for 1946 was \$2,719,499.25, recorded by the District's publicly-owned Power Division—an increase of \$306,263.85 over 1945. MORE IMPORTANT is the total of \$932,744.28 In NET REVENUE as compared to the 1945 total of \$827,058.89 — Likewise the net power sales for 1946 amounted to \$2,688,325.50, as compared with net power sales of \$2,413,235.40 in 1945—an increase of \$275,090.10.

This large increase in power revenue was made possible by greater consumption of electricity — and intelligent planning, which is continuing to provide for expanding power needs of rapidly growing communities.

Imperial Irrigation District

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Ghost Town Dies . . .

ELY—Flames destroyed the major portion of the ghost camp of Osceola on July 3, when a range fire spread to the camp buildings. The town, once among the leading gold producers of eastern Nevada, is located 40 miles southeast of Ely. Lee Marriott, sole resident of Osceola, was injured when overcome with smoke while fighting the flames. He was rescued by Pete Hansen, miner. The Doyle assay office and five other buildings in New Moon Gulch, south of the highway, were completely destroyed. Marriott's home, on the north, was not burned.

THE LOST DUTCHMAN

Fact or Fable?

Before spending any time or energy prospecting for The Lost Dutchman, or any other mine reputed to be in the Superstitions, send 25c for a copy of the April issue of The Earth Science Digest. In this issue is an article by noted mining engineer Victor Shaw which literally explodes the fable surrounding The Dutchman. He points out sound geological reasons why there could be no metallic deposition of any extent in this area.

Before prospecting or investing—
Investigate!

THE EARTH SCIENCE DIGEST

P. O. Box 57, Dept. 5 Omaha 3, Nebraska

NEW MEXICO

De Vargas Vow Fulfilled . . .

SANTA FE—Hundreds of Santa Fe residents fulfilled a vow made by Captain-General Diego de Vargas more than 250 years ago, when they marched in a block-long procession to return the statuette of "La Conquistadora" from Rosario chapel to St. Francis cathedral. De Vargas made the vow in 1692, when engaged in the reconquest of New Mexico from the Pueblo Indians. He declared that, if he were granted a bloodless victory, the procession would be held annually. "La Conquistadora" remains all year in a side chapel at the cathedral except for a week's stay in Rosario chapel before the procession.

. . .

The board of trustees of the Laboratory of Anthropology at Santa Fe has appointed a committee to meet with members of the Museum of New Mexico and the School of American Research, with the object of affiliating the organizations.

. . .

The sixth annual Chaco Anthropological conference was held at the University of New Mexico research station in Chaco canyon on July 28-30.

Atom Crater Still Closed . . .

ALAMOGORDO—The crater in the desert near Alamogordo where the first atom bomb was exploded two years ago is still a forbidden zone to the public. Plans have been made for eventual proclamation of the spot as a national monument, but it is expected that years will pass before the park service takes over. In the meantime, according to officials of the atomic energy commission, continuing studies are being made at the crater, which still is radioactive.

Cross Removal Suggested . . .

SANTA FE—The city council has been asked to consider removal of Santa Fe's Cross of the Martyrs to a new spot. The reason given was that the hill northwest of the Puente de los Hildalgos, where the cross now stands, was becoming built up with dwellings and the open space around the cross was becoming too small to accommodate the Fiesta crowds. The Cross of the Martyrs was erected a quarter of a century ago as a monument to the Franciscan fathers killed in the Pueblo Indian uprising in 1680. A feature of the annual Santa Fe Fiesta is a candlelight procession from St. Francis cathedral to the cross.

Little Dinosaurs Found . . .

LINDRITH—Six complete skeletons of reptiles about three feet tall, ancestors of the giant dinosaurs, have been found north of Lindrith near the Colorado border by the expedition sent out by the American Museum of Natural history. George Whitaker discovered a dinosaur claw embedded in a piece of rock in a wash and prospected in the surrounding hills until he made his find, described by Dr. Edwin H. Colbert, museum curator of fossil reptiles, as one of the most important discoveries yet made of the continent's early life. These are the first complete skeletons found since the creature was identified from bone fragments in 1889. The small dinosaurs, which lived 200,000,000 years ago, are being quarried out in six to eight ton blocks and will be shipped to New York.

DESERT RUINS . . . Photo Contest

Throughout the whole sweep of the desert country lie the weathering ruins that mark the spots where Southwestern history was made—Southwestern life lived. Old stage stations, forts, ranches, missions, the habitations of cave and cliff dwellers—many of them make perfect subjects for the photographer and all of them will furnish acceptable entries for Desert Magazine's September photographic contest.

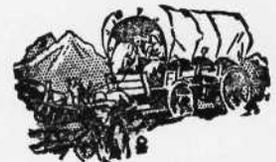
First prize is \$10, and second prize \$5. For non-prize winning pictures accepted for publication \$2 each will be paid. Entries must reach the Desert Magazine office in El Centro, California, not later than September 20, and the winning prints will be published in the November issue.

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

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DESERT SPOTLIGHT
Box 162-D Yucca Valley, California

Apache Maids Make Debut . . .

MESCALERO—Rites stemming from primitive days were celebrated by the Mescalero Apaches, July 2. The occasion was the coming to marriageable age of two girls of the tribe, Jane Botilla and Dianne Tortilla. Tents rose around the agency as 800 Apaches came in from their 500,000 acre reservation. Events, besides 72 hours of day and night dancing, included a rodeo and baseball games. Robert Geronimo, youngest son of the old warrior was expected to take an active part, but failing health barred his mother, 90-year-old Kate Cross-Eyes, Geronimo's third wife, from participation. Not all girls receive the expensive "coming out" party, since their fathers must pay the cost, which includes food for all visitors.

Bell Ranch Sold . . .

TUCUMCARI—The great Bell ranch near Tucumcari which was established by an English syndicate in the early days of the West has been broken into parcels and sold. The ranch once covered 450,000 acres of eastern New Mexico. Col. R. Leland Keeney of Connecticut bought the 126,000-acre headquarters of the ranch for a price reported over \$1,000,000. The deal included all equipment, the Bell brand, 500 registered Hereford cattle, 2000 head of grade Hereford cattle and 600 horses. George L. Sims and John L. Hill of Texas purchased 65,000 acres for \$420,000. Jessie E. Chappell of Texas took 35,000 acres for \$218,000. Tracts previously sold were 117,000 acres to Dr. Thomas B. Hoover of Tucumcari and 80,000 to Sam Arnett of Texas.

Funds are being raised to restore Elephant rock in Tijeras canyon east of Albuquerque. The 100-ton balanced boulder, a landmark for centuries, was toppled into the arroyo in June to make room for a building being moved through the canyon.

UTAH

They Took Brigham's Trail . . .

SALT LAKE CITY—Covering in little more than a week a distance that had taken the pioneers of 1847 nearly a year and a half, the Utah Centennial caravan arrived in Salt Lake on July 22, 100th anniversary of the day advance parties of the first Mormons reached the valley. The caravan, sponsored by Sons of Utah Pioneers, covered the old Mormon trail from Nauvoo, Illinois, to Utah, re-enacting scenes of the first emigration. An even greater contrast between oxen days and the present was shown when Lt. John R. Rawson, descendant of Utah pioneers, flew his P-80 jet plane from Omaha, Nebraska, to Hill field, Utah. This section took Brigham Young's party 111 days. Lt. Rawson made it in 123 minutes.

Utes Dance for the Sun . . .

FORT DUCHESNE — Indians from the Uintah-Ouray agency held their annual Sun Dance early in July at the Sun Dance grounds between Neola and White-rocks road. The dance began at sundown and ended at the third sunrise. It was held in a brush enclosure with only men participating. The dancers rested about half the time, but took no food or water. The reservation is occupied by the White river, Uintah and Uncompahgre bands of Ute Indians.

Seagulls Are Fed . . .

SALT LAKE CITY—Seagulls are being encouraged to frequent the This Is the Place monument, which was unveiled and dedicated on July 24. Stale bread, contributed by city bakers, is being fed to the birds each morning. The gulls saved the Mormon crops, 99 years ago, when there was a cricket plague—and there is a bronze gull on the \$300,000 monument.

Hospital for San Juan . . .

MONTICELLO—For 67 years, residents of San Juan county have been striving to build a hospital at Monticello. Through the cooperation of the War Assets administration, which donated the staff house and a large home from a wartime vanadium mill project, the hospital was completed in June. Before that time the nearest hospitals were at Moab, 60 miles north, and Cortez, Colorado, 80 miles east. The new hospital, which will serve a vast area in southeastern Utah, has space for 20 beds, an x-ray room, operating room, consultation rooms, kitchen, dining room and all necessary facilities. Two maternity cases were accepted even before the hospital was officially opened.

Charles W. Stoddard, owner of some of the sheep flocks now grazing on Fremont island in Great Salt lake, has received delivery on a U. S. navy combat vessel, a landing craft, vehicle and personnel, which he plans to use to transport his sheep from island to shore.

Chester A. Thomas is the new assistant superintendent of Zion and Bryce Canyon national parks in Utah. He was custodian of Bandelier national monument.

More than 4000 Boy Scouts from 28 states, Canada and Mexico attended the Centennial Pioneer Scout camp on Ft. Douglas reservation, Salt Lake City, July 21-25.

Salt Lake City's streets were jammed by 100,000 persons on July 23, to witness the three-mile-long parade commemorating the 100th anniversary of the arrival of the Mormons in Salt Lake valley.

County Maps...

CALIF: Twnshp, Rng, Sec, MINES, All road, trail, creek, river, lake, R.R., school, camp, mgr. station, elev., ntl. forest, land grant, pwr. line, canal, etc., boundaries.

Size range 20x30 to 73x100 inches.

All Counties \$1 except as listed: Tuolumne, Santa Barbara, Plumas, Placer, Modoc, Madera, \$1.50; Tulare, Tehama, Siskiyou, Imperial, \$2; San Diego, Riverside, Mendocino, Kern, Humboldt, Fresno, \$2.50; Trinity, Shasta, Mono, San Luis Obispo, Monterey, Lassen, Los Angeles, \$3.

Inyo Co., 67x92	\$15.00
San Bernardino, 73x110	15.00
San Bernardino, No. or So. Half	7.50
N.W., S.W., N.E., or S.E. quarter	3.75

Also Oregon, Idaho and Washington County Maps.

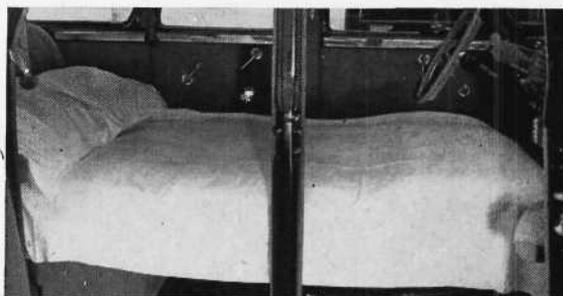
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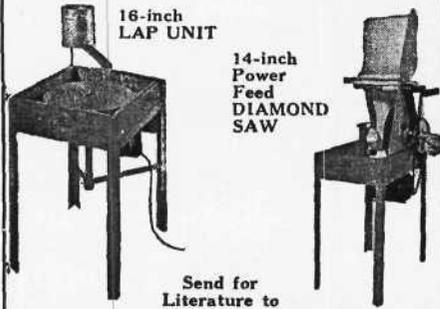
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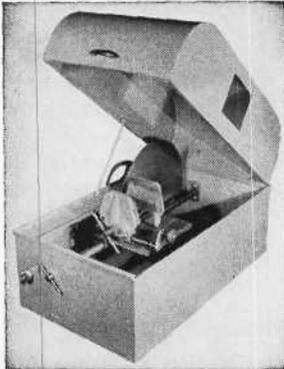
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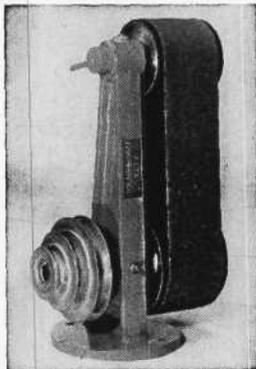
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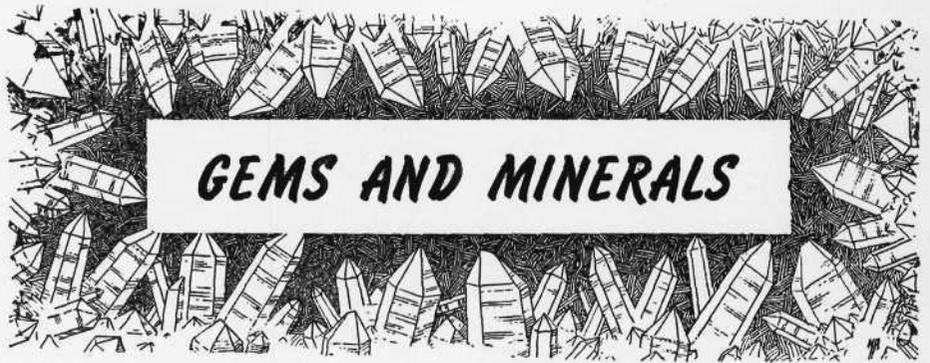


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GEMS AND MINERALS

THRONGS SEE YAVAPAI GEM SHOW AT PRESCOTT

Displays from 22 states and 25 Arizona towns and cities were on exhibit at the first annual mineral show held by the Yavapai Gem and Mineral society at Prescott, Arizona, July 19-20. A total of 739 visitors signed the register and crowds stood outside viewing the window displays during most of the two day period. The exhibit was held in the show rooms of the Arizona Power company.

The fluorescent display was staged by Mr. and Mrs. Fred Wilson of Phoenix. M. R. Hagar exhibited a gold pan surrounded by gold ores from the Bradshaw mountains. The pan contained gold dust shown under a magnifying glass. Emma Andres displayed a collection of articles which had lain in a creek draining copper deposits, and had become coated with copper.

Other exhibitors included: Mr. and Mrs. E. E. Michael, polished stones and cameos; Moulton and Ida Smith, polished material and minerals; Mr. and Mrs. J. Walter Jones, cabochons; H. L. Womack, Arthur Hunter and E. H. Clark, prehistoric Indian gems and arrowheads. Displays also were presented by Bobby Surratt, Margie and Bobby De Angelis, Mrs. Peggy M. Kelley of Phoenix, Mrs. Amelia McCann, Jimmy Walters, C. W. Stephens, Marion Reese and Jeanette Michael.

Outstanding exhibits among junior members were those of John Butcher, Blaine Bowman III, and Barbara and Sidney Hagar.

SOCIETIES WILL EXHIBIT AT CALIFORNIA FAIR

Sacramento Mineral society has been assured of space for an exhibit at the California state fair in Sacramento, August 28-September 7. The society will make arrangements and handle details for other California societies who wish to exhibit. Marion E. Morton, 3009 F street, Sacramento, California, is club secretary. A film depicting the history of natural gas, which was produced by Pacific Gas and Electric company, was shown at the club's July meeting. Projected diagrams and cross-sections showed the geological occurrence of the gas and its formation in anticlines.

Arthur Sanger, in the Pick and Dop Stick, publication of the Chicago Rocks and Minerals society, has done interesting research into the origins of the names used for major divisions of the geologic table. Four are derived from localities where the formations were first found or best represented: Cambrian from Cambria, a Latin name for part of Wales; Devonian from Devonshire, a county in England; Permian from Perm, a province in Russia; and Jurassic from the Jura mountains. The Silurian was named for the Silures, a tribe of ancient Britons; Ordovician from the Ordovici, aboriginals of Wales. Triassic is for the three-phase nature of the rocks of that division in Germany. Carboniferous comes from the carbon of the coal measures. Cretaceous, from the Latin word for chalk, was applied because of the chalk beds laid down by shell-fish of the period.

LOS ANGELES LAPIDARY CLUB WILL BE PICNIC HOST

Los Angeles Lapidary society is planning to hold its first annual picnic on Sunday, September 14. Purpose of the picnic is to promote a greater interest in amateur lapidary work and to bring together the lapidary societies in and around Los Angeles. All lapidary groups are invited and requested, if interested, to communicate with the picnic chairman: Ted Bennett, 226 Hildalgo avenue, Alhambra, California.

SOUTHERN NEVADA MINERAL SOCIETY WELCOMES VISITORS

Rockhound society members are invited to contact the Mineralogical Society of Southern Nevada when traveling in the Boulder City area. Listings of names and addresses of members of the Nevada society are posted in service stations and cafes in southern Nevada. More details can be obtained by dropping a card to Box 23, Boulder City, Nevada.

SAN DIEGO LAPIDARY GROUP IS BEING ORGANIZED

Bob V. Clapp announces the contemplated organization of the San Diego County Lapidary society. Persons living in the area and interested in promoting the lapidary arts are requested to contact him at 4585 Utah street, San Diego, or call Randolph 5008 for further information.

Pegmatite dikes, according to the bulletin of the Seattle Gem Collectors' club, Nuts and Nodules, are of particular interest to students of mineralogy because of rare species, often finely colored and crystallized, found in them. As an igneous magma cools and solidifies, it shrinks in volume and cracks open through the mass. Weight of the rocks forces any still-fluid material into these cracks or into fissures in the surrounding rock. Crystals then develop. Large sections of a dike may be all or nearly all one mineral. These dikes are composed chiefly of the same minerals that occur in granite, but usually the crystals are very large. Quartz and feldspar crystals may be several feet in length, and mica plates a foot or more in width have been found.

Officials of the coast and geodetic survey have reported three submarine petrified forests discovered on the bottom of Lake Washington at Seattle. The trees at one time jutted to within a few feet of the surface. Surveyors of the department of commerce used power boats with drag lines to break off the rocky snags 20 feet below the surface, to eliminate them as a navigational menace.

The Cedar Top perlite claims, on which the geodes described in July Desert Magazine are located, are owned by Mrs. G. V. Epperson of Searchlight, Nevada, according to a letter received from Mrs. Epperson. The Creees, now mining the perlite, are leasing the property.

MINERAL RARITIES

Hiddenite

Among the rarest and finest of gem minerals found in the United States is hiddenite, a variety of spodumene. This mineral appears in many colors and forms, but only two colors or shades really have high value. The bright lilac colored kunzite from Pala, California, is valuable, as is the yellow-green variety often sold as hiddenite. But the truly fine and valuable type is bright emerald green. This emerald green stone, first found near Stony Point, North Carolina, is so colorful and rare that it is often sold as emerald. Finely colored stones are so scarce that they have become very desirable to collectors.

HOURS SET FOR SEATTLE ROCK SHOW, AUGUST 30-31

Final details for the convention of Northwest Federation of Mineralogical societies, to be held in the Seattle civic auditorium August 30-31, have been completed. The show will open at 9 a. m. on Saturday and continue until 5 p. m. on Sunday, according to the Gem Collectors' club of Seattle, host for the meeting. Displays may be unpacked as early as 6 p. m. on Friday, with the expectation that all specimens and cases will be in place when the show opens.

Out-of-town visitors were invited to write to Mrs. J. F. Murbach, 5927 49th S. W. (Zone 6) for hotel accommodations, and to C. E. Fulmer, 4855 Rainier avenue (Zone 8) for information regarding the convention.

In the group of basic sulphates of copper and lead, the Pseudomorph, bulletin of Kern County Mineral society, lists brochantite, caledonite and linarite. Brochantite has been found with chrysocolla in the Panamint mountains near the head of Cottonwood creek. Caledonite was found in the Blind Spring Hill district in Mono county. It also occurred as small emerald-green crystals with linarite and brochantite at Cerro Gordo in Inyo county. Linarite is found in Inyo and Mono counties associated with brochantite and caledonite.

In a recent lecture before the Yavapai Gem and Mineral society of Prescott, A. F. Bumpus told about protective coloration of desert animals. The pocket mice found in the White Sands area of New Mexico are white. The same mice in a nearby section where the sand is colored red by iron oxide, have red fur. Those inhabiting the dark lava beds are black.

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OFFICERS RE-ELECTED BY SOUTHERN CALIFORNIA CLUB

Officers of the Mineralogical Society of Southern California unanimously were re-elected at the sixteenth annual meeting of the group, held at Oak Grove park, Pasadena, on June 8. Officers are: Gene Linville, president; H. Stanton Hill, vice-president; Mrs. Dorothy Ostergard, secretary; Don Stevens, treasurer. Don George, Jack Streeter, Louis Vance, Ernest Chapman, Willard Perkin, Victor Robbins and Jack Rodekohr were elected to the board of directors of the society.

A rock show was held with Ernest Chapman chairman of the judging committee. Ribbons awarded were: minerals of all types, Lee Seabridge, first; Louis Vance, second. Crystals, Earl Calvert, first; Jack Rodekohr, second. Polished materials, Quita Ruff, first; Mr. and Mrs. John Clark, second. Minerals from one locality, H. Stanton Hill, first with a collection from the British Isles; Don Stevens, second with a collection from Mexico. Guest prize was won by the Dana club of Pasadena junior college and the junior first prize by Rodger Stevens, 8. A picnic lunch was eaten and in the afternoon mineral auctions were held.

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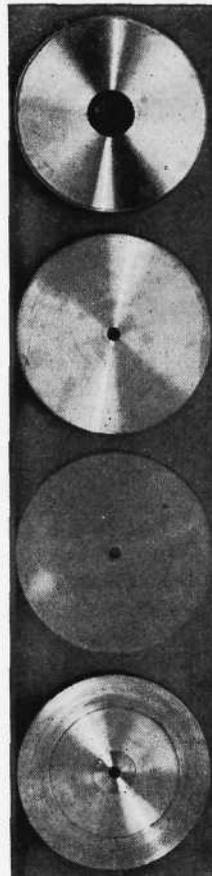


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TERLINGUA CALCITE CRYSTALS: Clusters of opaque cream to orange colored, adamantine scalenohedron calcite crystals. Thin coating of snow-white, glistening crystallized selenite around base of crystals. Pale cream to orange fluorescence. 2 1/2 x 2" — 75c; 2 x 3" — \$1.00; 3 x 4" — \$3.50 plus postage. Send for special price list of other select specimens of this group and other choice calcite crystal collections. Frank Duncan and Daughter, Box 63, Terlingua, Texas.

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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.

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\$3,000—The originator and owner of the California Mineral Map Set has left for the South Pacific on government work and has requested me to sell this unique and most talked about mineral novelty in America. It can easily be made at home, it is exceptionally profitable and will enable you to earn a living from the start. Sets are sold at wholesale and some of the finest stores sell them all the year round, both to the Tourists as a souvenir and to our own local trade. This copyrighted, educational set is well worth \$5,000, but will sacrifice same to sell at once. E. R. Hickey, Sr., 2323 South Hope St., Los Angeles 7, California. Phone Richmond 7-3222.

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ROCK COLLECTORS — ATTENTION. This summer I expect to cover 7 Western states, with the Trailer Rock Store. Send me your address, so I can notify you. Remember, I carry the finest variety of rock and mineral specimens in the west. The Rockologist, 1152 So. 2nd Ave., Arcadia, Calif.

MONTANA MOSS AGATES in the rough for gem cutting \$1.00 per lb. plus postage. Also Slabbed Agate 25c per sq. in. (Minimum order \$1.00). Elliott Gem Shop, 26 Jergins Arcade, Long Beach 2, California.

AUSTRALIAN OPALS, gem stones, all sizes, shapes and qualities. Reasonable. Ace Lapidary Co., 92-32 Union Hall St., Jamaica 5, New York.

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AMONG THE ROCK HUNTERS

Thirty members of Coachella Valley Mineral society took part in the June field trip to the tourmaline mine near Sage. The group, which was joined at the mine by 30 cars from North Hollywood, was under general direction of Glenn Vargas, Coachella club president. The Chinese who had mined the area had removed the pink tourmaline, but specimens of green were found.

Harold Rouse, of the Yucaipa rock club, discussed the fitting of stones into bracelets and rings at the June meeting of the San Geronio Mineral society. The club planned an exhibit which was to be shown at Banning Pioneer Days celebration.

With Coachella Valley Mineral society as host, rockhound clubs from Banning, Blythe and Hemet have been invited to participate in an exhibit at the Riverside county fair at Indio.

Searles Lake Gem and Mineral society planned to hold its August meeting at the Bonewit's ranch in Indian Wells valley, with Mr. and Mrs. Harry Jewell as hosts. July meeting was a swimming, dancing and dining party at Valley Wells, with a film shown as additional entertainment. July field trip was to Mitchell's Caverns near Essex, in which many NOTS and Barstow rockhounds participated.

July meeting of the San Fernando Valley Mineral and Gem society was taken up with the annual potluck dinner and auction. Field trip for the month was a beach party.

The Faceteers branch of Los Angeles Lapidary society held an open forum on the mechanics of faceting at their August meeting, with vice-chairman Thomas Daniel in charge. Each month the group selects a new cut for the ensuing month and at the next meeting, the faceted stones resulting are displayed.

August meeting of Los Angeles Lapidary society was entertained by Lillian Gaston, who gave an account of her recent three-month trip to Norway. Mrs. Gaston told of using a taxi to hunt feldspar and tourmaline there. Charles Crosby, program chairman, completed the program with a film on mineralogy and oil, produced by Shell Oil company.

Victor M. Arciniega spoke at the July meeting of the Pacific Mineral society. His subject was: "Geology of the San Diego batholith with special emphasis on the mineralization and enrichment of the pegmatites."

The NOTS Rock Hounds, at United States Naval Ordnance Test station at Inyokern, are continuing field trips through the summer. Over July 4, the club visited Greenhorn Mountain park, where smoky quartz crystals, scheelite, epidote and garnet crystals were collected. Earlier trips were to Darwin falls, where lead and other minerals were found; through the King Solomon mine at Randsburg; and through Mint Canyon to the Griffith Park planetarium in Hollywood.

Dan White was re-elected president of Glendale Lapidary and Gem society at the June meeting. Other officers selected were: Doug MacDonald, first vice-president; Luis Eilers, second vice-president; Jerry MacDonald, secretary-treasurer. The club has just passed its first anniversary, according to Jack Hadden, publicity chairman.

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Yavapai Gem and Mineral society, of Prescott, held its annual election of officers after a potluck supper held at the July meeting. Moulton B. Smith was elected president; Harold Butcher, vice-president; Ida Smith, Box 1084, Prescott, Arizona, secretary-treasurer. E. E. Michael was put in charge of field trips. Mrs. E. E. Michael was appointed hostess, Mrs. J. W. Gum, assistant secretary, and Mrs. Emma Andres, librarian. Charles W. Murdoch was appointed auditor. Retiring President A. De Angelis was given a standing vote of thanks.

Gordon L. Weisenberger of Ridgecraft, California, uncovered the tusk of a mammoth, June 16, while working with a Caterpillar tractor and scraper in China dry lake, a salt deposit on the Naval Ordnance Test station. The tusk was nine feet long and ten inches in diameter at the large end. The fossil tusk was photographed from all angles before removal from the salt beds. Scientists from Cal Tech plan to probe for the remainder of the carcass and for other possible skeletons.

Obsidian from Glass buttes, Lake county, Oregon, ranges from opaque black glass to a semi-translucent variety, marked with many lines of alternating black and white, which make it fine material for necklaces, bracelets, etc.

For a July field trip, members of the Minnesota Mineral club of Minneapolis visited the Armour No. 1, iron mine in the Cuyuna range at Ironton. The group went down the shaft to the 450 foot level and visited the open pit mine. Minerals available were goethite, groutite, manganese, pyrite cubes in schist, pseudomorphs after pyrite, and serpentine asbestos.

Oregon beach pebbles generally are found as water worn, rounded pebbles on the beaches, seldom far from the mouth of some river or stream. It may not have occurred to many of those who carefully collect these stones—agate, jasper, citrine, etc.—to wonder just where they came from in the first place. But, if they will look near the headwaters of some of the fast Oregon rivers, careful searchers can find much larger pieces, before they suffer the rigorous grinding of river and surf.

Fundamental principles of geology were outlined by Harry Fuller, geologist of Boulder City, at the June meeting of Mineralogical Society of Southern Nevada. At the July meeting Mr. Fuller read a paper by Edward T. Schenk which dealt with the geology of lower Grand Canyon, Searchlight, Goodsprings and the Valley of Fire. At the June meeting, Mrs. E. L. Sapp spoke on the importance of mica. June field trip was to Petrified Hollow, near Kanab, Utah, where petrified wood was collected despite rain, wind and cold. July trip was scheduled to Mt. Charleston for trilobites and other fossils.

July meeting of Long Beach Mineralogical society featured a vacation travelog film produced by Automobile Club of Southern California. Plans for the 1948 state convention of California Federation of Mineralogical societies, which will be held in 1948, were outlined. The club sponsored an exhibit at the Long Beach Port-O-Trade exposition, which resulted in many requests for information. June field trip was to Cabrillo Beach, San Pedro, where fossils were dug and the museum visited.

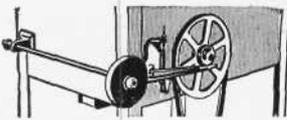
July meeting of Sequoia Mineral society was held at the summer home of Elmer and Pearl Eldridge at Lake Tahoe over the July 4 holidays. A field trip into Nevada was planned.

Talks on "The Art of Polishing Onyx" by O. C. Barnes and "Visits to Ghost Towns of the Southwest" by Mrs. Barnes, both members of Los Angeles Lapidary society, featured the July meeting of the Santa Monica Gemological society. The lectures were illustrated by displays. Mrs. Doris Baur, chairman of a committee endeavoring to discourage advertising signs which despoil the beauty of California highways, reported some progress in the work. The society's July field trip was held on the beach near Malibu.

A 1 1/2-carat diamond was found in the old gold workings at Flat Rock, four miles west of McCall, Idaho. The property is said to be almost identical with the "blue ground" in which South Africa diamonds are found.

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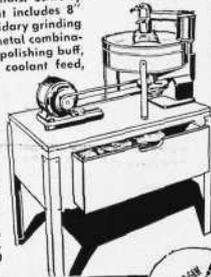
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Cogitations . . .

Of a Rockhound

By LOUISE EATON

It's queer how mutch more a trinket means to yu when it has a rok uv yur own in it—wun yu yurself found, fondled an fixed. The gem holds not only its own beauty but memories uv pleasant trips, congenial companions an intrestin scenes wunst enjoyed. Probally nearly evry rock-houn has sumwhere in his possession a stone that he points to with tender pride an sez, "That's the very furst rok I ever polished."

Rockhouns is hardy soulz, an as long as they's on a field trip they duzn't mind sleepin on the groun, doin without chairs, goin sorta dirty, etc. (Particular-ly the etc.) But o-boy! when they gets back home bath an bed shure duz look good.

Therz sumthin about a good field trip an campfire session that draws members uv rock clubs closter together than a duzen formal meetins. Yu can discuss evun politicks out under the stars without gettin too hot an bothered. Petty grudge disappears, an yu decide that the uther fella is a pritty good scout, after all. Peepul just nacherally seemz to ack decener in the presence uv lots uv space an good rox.

Besidz that, wun satisfactory field trip is equal to several theoretical lectures on how to identify specimens an rok formations.

"Gems, Jewels and Junk" was the title of the lecture Paul G. Dallwig gave at the July 12 meeting of Chicago Rocks and Minerals society, held in the Green Briar field house, 2650 West Peterson avenue, Chicago. Dallwig has given a series of lectures weekly for 10 years at the Chicago Natural History museum. The Chicago group united with the Wisconsin Geological society of Milwaukee, the Marquette Geological association and the Joliet Mineral-ists to make a fossil hunt in the strip mine area near Wilmington.

Norman Whitmore was speaker at the August 8 meeting of the Pacific Mineral society, of Los Angeles. Whitmore, a graduate of Colorado School of Mines discussed "Prospecting Goes Modern." Meeting was held at the Chancellor hotel. The club's August field trip was to the plant of the Kaiser steel company at Fontana, where members saw magnetite turned into iron and steel.

The Four Corners Rock club, of Durango, Colorado, which held its first rock show at Durango, August 8-10, was accepted into membership in the Rocky Mountain Federation of Mineralogical societies at the Salt Lake convention business meeting.

AGATE JEWELRY WHOLESALE

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Dr. Thomas E. La Fargue was scheduled to be principal speaker at the August meeting of the San Jose Lapidary society. His subject was "Ceremonial Use of Precious Stones in Ancient China." The society has a program which requires several of its members to present an exhibit of their work at each meeting, rotating through the entire club membership during the year.

The Lap Bulletin of the San Jose Lapidary society suggests that the safest way to remove a polished stone from the dop-stick is to dip it slowly into boiling water. In a few moments, according to the Bulletin, the stone will slip easily from the wax without danger of cracking.

Southwest Mineralogists attended a barbecue at the home of Harold and Gladys Eales on July 26. During the course of the evening Mr. Eales showed colored slides of the recent state federation exhibits at Santa Barbara and the club field trip to the home of Mr. and Mrs. E. R. Hickey in Mint canyon. Later he demonstrated with more colored slides the cycle of rocks and how they are carved at Zion national park, Bryce canyon, Kaibab forest, north rim of the Grand Canyon and Death Valley. Victor Arciniega lectured on "The Sequence of Erosion of Rocks."

In the Darwin region of California, the following minerals are found: anglesite, barite, calcite, cerussite, chalcopyrite, chrysocolla, fluorite, galena, andradite and grossularite garnets, gypsum, hematite, limonite pseudomorphs after pyrite, pyrite, scheelite, siderite, smithsonite, sphalerite, sulfur and black tourmaline.

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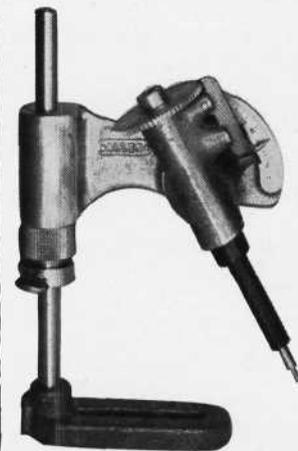
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John C. Hazzard of the Union Oil company of California is president of the Rift club, an informal organization of Southern California professional geologists interested in the study of fault structures. Kenneth C. Garner is secretary-treasurer. Last field trip of the group, in which 22 cars and 80 members participated, was to the Ivanpah district of eastern San Bernardino county. Dr. D. Foster Hewett, staff geologist of the United States geological survey, was leader of the group, while Edwin Van Amringe, assistant professor of geology at Pasadena junior college, made arrangements for the caravan. Dr. Hewett is completing a monograph on the Ivanpah region.

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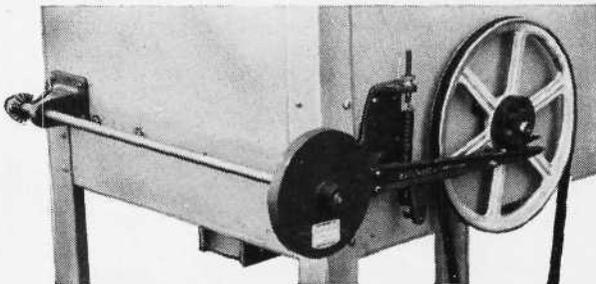
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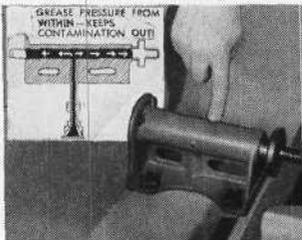


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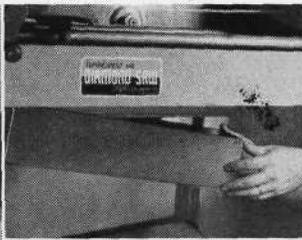
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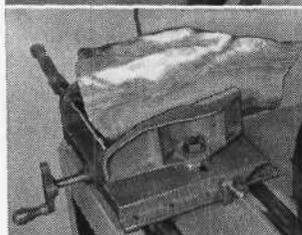
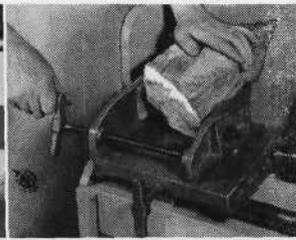
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As the results of a questionnaire sent to its membership, the Michigan Mineralogical society of Detroit discovered that gems and lapidary art were most popular with 78 per cent of the members while only 18 per cent were interested in mining. General mineralogy came second with 67 per cent, display minerals third with 64 per cent and general geology fourth with 54 per cent.

The Colorado Mineral society of Denver has more than 400 paid members. The group was founded in 1936 with Chester Howard as acting president and Richard M. Pearl, secretary. The society was active in forming the Rocky Mountain Federation of Mineralogical societies, of which Pearl was first president. Pearl is vice-president and Howard secretary of the recently organized American Federation of Mineralogical societies.

Yakima Mineral club, of Yakima, Washington, has become a member of the Northwest Federation of Mineralogical societies. Klamath Mineral club of Klamath Falls, Oregon, also has joined the federation.

The Geological Society of Minnesota at Minneapolis, sponsored a summer field trip to the Black Hills of South Dakota. Professional lecturers accompanied the tour, which lasted from June 21 through June 29.

NOTS Rock Hounds now have a membership of 130, according to Polly Winklepleck, secretary. The club meets the first Monday of each month in the community hall, at Naval Ordnance Test station. Visitors are always welcome, but they are requested to write to: NOTS Rock Hounds, Box N-81, NOTS, Inyokern, California, so that proper clearances can be made before entering the station.

Douglas Gem and Mineral club has been organized at Douglas, Arizona, with an initial membership of 25. Mrs. Ella White is president; Don Smith, vice-president; Frank Lea, secretary-treasurer.

A 10-week course on "Materials and Methods of Teaching Jewelry" was conducted at Los Angeles high school, under the auspices of the University of California Extension service. It was an evening class taught by Dwight Adams of Los Angeles City college.

TRUE OR FALSE ANSWERS

Questions are on page 14

- 1—False. A rattler adds a new button every time it sheds its skin which may be more often than once a year. And sometimes the buttons get broken off.
- 2—False. It is rare to find a gold-bearing intrusion in volcanic rock.
- 3—True. 4—True. 5—True.
- 6—False. Juniper is a coniferous tree, an evergreen.
- 7—True.
- 8—False. The capital of New Mexico has always been at Santa Fe.
- 9—True.
- 10—False. The Gadsden deal was made with Mexico.
- 11—False. White ocotillo is very rare.
- 12—True. 13—True. 14—True.
- 15—False. Dandy Crossing is on the Colorado.
- 16—True. 17—True.
- 18—False. Pinyon nuts grow on pinyon trees.
- 19—False. This year's centennial marks the Mormon trek to Utah. The tabernacle was not completed until many years later.
- 20—False. Roosevelt dam stores water for Salt River valley of Arizona.

AMATEUR GEM CUTTER

By LELANDE QUICK
Editor of The Lapidary Journal

With hundreds of new diamond saws in transit at this very minute, many of them to very raw beginners, it is probable that others may experience the grief of Ames Castle of Chicago (Editor of AIM) who writes:

"In attempting to get a new swinging-rock-holder type 16" saw going I followed directions attached to the blade respecting lubricant. That involved a 1-1-1 mix of kerosene, lube oil and penetrating oil. The saw cut, but with extreme modesty.

"I then hung a weight on the holder. The weight, off a cross-bar of an old automatic-damper furnace arrangement, pulled perhaps 10 pounds. That made cutting somewhat better but the blade began quivering so I stopped. Next I put in a commercial lube called 'Waffle Mix' or 'Hinge Lube' or something, and nothing came out but a lot of sparks. After two minutes of that treatment I shut down. I'm still shut. I'm still trying to get the first batch of lubricant out of my hair and so is my electrician, and I'm trying to convince my wife that her laundry, hanging 50 feet away, took on something from somebody's oil burner. I'll take your advice on your dressing stick technique but how much lead do you need on a saw in case you have to run? Give me some 'Look, Guy' advice on how to run this saw."

Surmising what happened by reading between the lines, I see the following picture: Mr. Castle rigged up his saw so that the blade sat in the oil maybe 6 inches deep instead of a quarter inch or so. Then he had a motor of maybe 1/2 h. p. with a speed of 1750 r.p.m. which he did not cut down through a pulley arrangement to 400 to 700 r.p.m. And then maybe he had no cover on his saw. If all of this happened it's no wonder he received an oil bath with a 16" saw blade churning up a 6 inch depth of oil at perhaps 3500 r.p.m. Oh boy! Cover the saw—reduce the speed—have the saw blade barely in the oil. The lubricants he used were O.K.

Probably the blade did not saw because he ripped out all the diamond bort on the first application to the rock. Then he changed the lubricant and got only sparks because he was trying to saw a rock with a plain piece of steel. The same thing would happen if he tried to whittle an arrowhead with a pen-knife. It seems to me he ruined the blade with too much speed and weight when he began.

After an amateur has had some sawing experience he saws by ear. Each note in the whining scale of the whirring saw denotes something to an experienced sawer. No one is smart enough to say, "Use 10 pounds weight to a 5 pound piece of agate." Here is a simple technique to which you must add experience. Attach a pail at the back of the saw to the rock vise by a pulley arrangement. If you can't pick up some old marked weights then pick out some rocks you know you'll never use and weigh them. Paint the weight on each rock for future reference. Toss a 10 pound rock in the bucket and slowly feed the rock into the saw blade until it has taken a bite. If the material saws slowly add another two pounds to the pail. The time soon will come when the amateur will establish his own standard of weights and measures and have little trouble.

Mr. Castle's quivering blade (gem cutters call it chattering) was caused by too much weight; perhaps by a loose specimen. The saw then acted like a door that sticks, and the blade chattered until it either jarred loose or stopped the saw. If you are a rank amateur with a saw on the way don't get the idea that you're going to saw through rocks the way saws cut logs in a lumber mill. Soft rocks often are thousands of times harder than hard woods. Proceed with caution and patience until you get the "feel" of your particular type of saw.

After communicating the foregoing to Mr. Castle he offered further information, viz: "My motor speed was 1720 but the peripheral speed of the saw was reduced by pulley adjustment to between 450-500 s.f.p.m.; the quivering, or blade-whip, apparently resulted from excessive pressure at the point of contact. The depth of the blade in the lubricant is perhaps 1/2 inch. I have since found that the lubricant I was using is worthless when splash fed (?) on agate and that a laterally mounted feed arm, affixed at one end to a shaft varies in terminal weight or pressure as it travels through an arc, becoming completely suspended at 180 degrees and exerting no terminal pressure at all. I destroyed the loading of the first blade by attempting to force it.

"I assure you that your summation of a typical beginner's case is not colored and I did not supply a supplementary canvas cover for the saw. The experience was equivalent to receiving a new car without a hood. If a tuning fork is a requirement for running one of these saws how about giving us a pitch on the pitch? I've had a greater variety of noises out of that saw than you'd get from a stamp mill. And then what do you do about progressive deafness of advancing age?"

All of this proves that while modern diamond saws do not need "breaking in," new sawers do. I guess the old advice of breaking in a saw with a building brick wasn't so bad after all; it didn't do much for the saw but it did for the sawer by enabling him to get the feel of the thing before he could do too much damage.

We understand that the oil companies have given serious research to the development of coolants, prompted by war industrial problems, and that one major company finally has developed a product far superior to anything that has appeared yet. It is available only in bulk by the barrel and dealers may have the details by addressing a postal to me.

On July 27th I again had the pleasure of helping organize a lapidary group. This time it was in the south coast area of Orange county, California. There are many retired persons (and others) living in those delightful sea coast towns of Laguna Beach, Newport, Balboa and Corona Del Mar who have been gem cutting a long time, and there must be many who want to learn. They have all manner of cutting material at hand and it is an ideal place for the fellowship of those with lapidary interests. Anyone desiring to join the group should communicate with "Barney" Barnes, 410 Narcissus, Corona Del Mar.

The Lapidary Journal

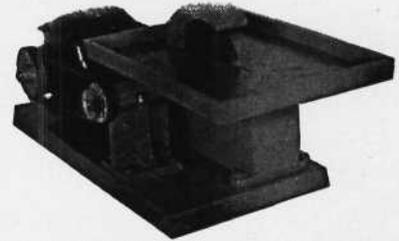
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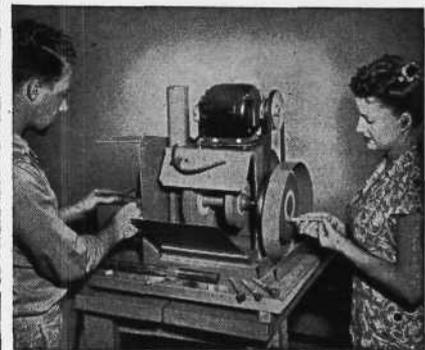


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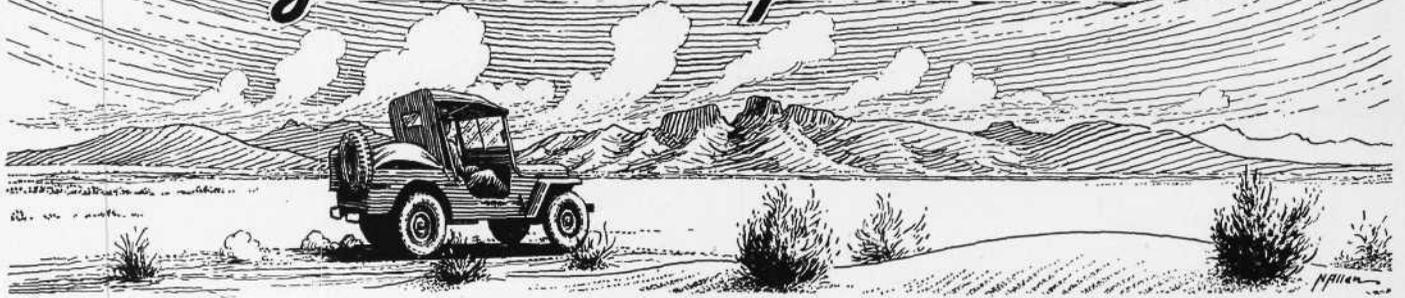
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Just Between You and Me



By RANDALL HENDERSON

THIS PAGE is being written August 4, just before the September issue of *Desert* goes to the pressroom. Three days ago I arrived at the boat landing on Lake Mead after spending 21 days running the rapids through Marble and Grand Canyons with Norman Nevills' 1947 Colorado river expedition.

The rapids in Grand Canyon are still as numerous and as rough as they were when Major Powell made that memorable first voyage down the Colorado in 1869—but the boats and the skill in managing them have been greatly improved during the intervening 78 years. The trip that in Powell's day was a grim fearsome battle for life, has now—thanks largely to the vision and skill of Norman Nevills—become a glorious adventure without undue hardship or hazard.

We battled Ol' Man River every day. There is an average of one rapid for each of the 240-odd miles we traveled. But we had boats especially constructed for those Grand Canyon cascades, and we had America's No. 1 white water boatman as skipper of the expedition. With this combination, the odds were all in our favor, and we came through without even a minor accident.

As soon as my pictures are developed and the necessary maps completed, the story of the trip will be published in *Desert Magazine*—probably starting in the November issue.

* * *

I spent a few days in northern Arizona before the boat trip was started at Lee's ferry, and met a number of old friends whose names are more or less familiar to *Desert* readers.

At Grand Canyon I spent an evening with Emery Kolb, whose pictures and lectures on the Grand Canyon boat trip he and his brother Ellsworth made in 1911 and 1912 are among the most interesting and informative entertainment features for visitors at Grand Canyon national park. Ellsworth Kolb, whose story of the trip was published in book form, is now 70 and is no longer active at the Grand Canyon studio.

But tough wiry little Emery—he weighs 110 pounds—continues his lectures daily, and carries on the manifold duties of a concessionaire in one of the most popular national parks in America. I have always regarded the mid-winter canyon trip of the Kolbs with their clumsy photographic equipment as one of the grittiest episodes in the epic of Colorado river navigation. These brothers gave the world the first complete photographic story of the Grand Canyon rapids. The story is no less interesting today than when it was registered on the plates of their old-fashioned cameras.

* * *

At Flagstaff I spent an afternoon with Dr. Harold Colton whose Museum of Northern Arizona is a model for regional museums. Any museum director will tell you that one of his toughest problems is saying "no" to well-meaning friends who want to load the place with old family heirlooms ranging from buttons off Aunt Sophie's wedding dress to the whiffletrees

from the prairie schooner in which great grandfather crossed the plains.

Such relics have much sentimental value to members of the family. But unfortunately they have only limited cultural value to those who go to museums for information, and unless the director is a firm man with an abundance of diplomacy his halls soon will become cluttered with odds and ends of meaningless litter. Dr. Colton solved the problem by building a warehouse in which to store such material, and then filled his display space with graphs and exhibits which tell a fascinating story of the geological and anthropological background of the northern Arizona of today. It is presented so graphically a sixth-grader can understand, and it is more interesting than fiction.

Dr. Colton heads the committee formed some months ago to preserve the records which John and Louisa Wetherill acquired during their years among the Indians, and to sponsor a memorial for them. Volunteer contributions amounting to \$700 have been received for the Wetherill fund, but additional money is needed. Jimmy Swinnerton and Harry James are members of a sub-committee to place a marker of native stone on the Wetherill graves at Kayenta. Dr. Leland C. Wyman of Boston university is editing Louisa Wetherill's notes on the ethno-botany of the Navajo, and Clyde Kluckhohn of Harvard is preparing the Wetherill collection of Navajo lore and legends for publication under the title *Around Hogan Fires*.

* * *

One of my most enjoyable visits was with Dr. H. H. Nininger of the American Meteorite museum on Highway 66 near Meteor crater between Flagstaff and Winslow. Dr. Nininger is one of those fortunate persons who has been able to convert a hobby into a livelihood. It is a modest livelihood, for Dr. Nininger is a scientist at heart—and that kind of folks never over-charge for their services. I looked over the fine collection of meteorites in the museum, heard the lecture, and got some tips from Dr. Nininger for identifying meteoric rocks. I have always wanted to find one of those things.

* * *

I spent four days in the Navajo country with Toney Richardson of Flagstaff whose stories of that region appear in *Desert* at intervals. Professionally, Toney is a fiction writer, but he comes from a family of Indian traders, and has spent most of his life around the trading posts. He has a wealth of fact as well as fiction pertaining to that region, and he proved to be a most helpful and entertaining guide.

We stopped for lunch one day with the Boyles who have the trading post at Tonalea. The post is situated on one of the most arid hillsides you'll find in the desert country—and yet every hour of every day at that remote little Indian store is filled with human drama. The Boyles are wholesome people and there will be a story about their interesting way of life in a future issue of *Desert*.

The Navajo live in a world of custom and religion and tradition as foreign to me as Chinese, and yet I have an instinctive liking for these soft-spoken people.



—Photo by G. E. Barrett.

DESERT CANYON

By ARCH CRAWFORD
Evanston, Illinois

It was a lonely place,
Where there were no cities,
Either beautiful or ugly,
Or scars of man-made projects,
Upon its lovely face;
Quiet because no confusion
Jarred the even-beating pulse,
Of nature, as we stood in awe,
With shallow breaths, and listened
To silence in profusion.

Our hearts, of city birth,
Could scarcely now adopt its pace,
And in our ears pulsed loud—
Amazed that such a place could be,
Upon this restless earth!

THE MAN OF DUST

By ALICE JOSEPHINE WYATT
Los Angeles, California

If flowers, smiling up at silken blue
Of skies that fraternize with clustered stars,
Spring from the conflict of the dust and dew,
Then watch the man of dust who knows life's
scars

For growth of beauty, majesty of calm.
The peace of him shall spread itself so far
That he shall scatter forth a healing balm
Like incense burning where wild flowers are.

FRIENDSHIP

By MRS. J. E. LISTER
Fallon, Nevada

All the gold is not in the place
Which marks the rainbow's end;
Nor yet in the palo verde bloom,
Spread broadcast by the wind;
Nor in the west at the close of day,
Displayed in brilliant hue.
For there's gold in the clasp of a gracious hand
And in the heart of a friend who's true.

DESERT REFUGEE

By NELL MURBARGER
Costa Mesa, California

I'm back on the desert for keeps . . . You see,
The city's no place for a fellow like me.
(When there's too many men for too little air—
What chance has a hillman to get his share?)

There's too much clatter and too much grime
And too much hurrying all the time,
On the thoroughfares where the hard concrete
Is the only trail for a man's tired feet.
There's never a song on the stage that's near

One-half so grand as the music here
When a mockingbird sings in the evening dim
Or a meadowlark carols his morning hymn . . .
The moon they see isn't like our moon,
That's friendly and close o'er the shifting dune;
And the finest drink they can mix don't gleam
Like the water dipped from a mountain
stream . . .

When I knew that the desert was all abloom,
There was no holding me in a city room;
For who could see beauty in brick and stone
Who ever had ridden the rimrock . . . alone . . .
Yucca and sagebrush and prickly pear,
Mesas and buttes and the good free air
May be common to you . . . But, Lord, they're
grand
To an exile back in his native land.

ALL THESE WERE MINE

By BESSIE SAUNDERS SPENCER
Pueblo, Colorado

All these were mine in sadness and in
laughter—

The blue of robin's-egg upon the sea,
Processionals of blooms that followed after
The fuchsia halo of the redbud tree,
The amber glints of sunrise, worn as trophies
The mediating mist before its shrine.

But these have brought no worry of
possession—
I had no restless days of strain with fear
Of loss, although they grew to an obsession.
And in the hour when I must leave them here,
I shall look earthward without tears or sorrow
And know they are for children of tomorrow!

PIONEERS

By CLARA MILLER KRAG
Pasadena, California

Not the creaking covered wagon
Nor the miner, mad for gold,
Delving deep into the hillside
For the treasure it might hold;
Not the men who plowed the valleys,
Built tall cities, worked for gain,
Are the pioneers where deserts
Spread their mystery on the plain;
But the sagebrush, yucca, cactus,
Desert holly, chaparral,
With a host of other neighbors
Long ago came here to dwell.
Still they hold their wind-swept homesteads
Knowing neither years nor change,
These are settlers time has proven,
These are guardians of the range.

Humility

By HUGH CLEVELAND ROSS
North Hollywood, California

A cactus grew near our garden wall,
'Neath a poem of vining rose;
A plain dull plant, overlooked by all
For wildflowers' colorful prose.

And it passed each dark or sunny day
O'ershadowed by glories near,
Patiently living its quiet life
With only Nature to cheer.

And then, one morning, I glanced that way
To find, instead, a gorgeous array
Of angelic bloom, so pure and white
That my heart stopped still in sheer delight!

'Twas then that I knew those years of scorn
Were lived for achievement yet unborn,
And I was thankful that I could see
The triumph of such humility.

THE WAYFARER

By HELEN L. VOGEL
Indio, California

His eyes were on the rising moon
As he trod the desert road;
The dark'ning sky and bluing peaks
And the first bright star that showed.

His hair was black and long as night,
And his beard a rugged point;
His bed-roll slung with careless ease
And he walked all loose of joint.

He did not need to watch the way
For his eyes were raised on high.
Illumined on his upraised face
Was the beauty of the sky.

DESERT DUSK

By GEORGE HOLMES MOORE
North Hollywood, California

The burnished silver dulls to grey;
Vast formless shadows wake and creep;
The glowing West entices day,
And Dusk lures all the world to sleep.

ALIEN

By PANSY H. POWELL
Salt Lake City, Utah

I had never lived with mountains. I was bred
Where rolling fields stretched far to meet the
sky.

The stars that here beam brightly overhead
Were there dim lanterns glimmering on high,
And, when on wakeful nights I lay abed,
Slow moving streams sang me a lullaby.

A stranger in this land in which I live,
I marvel at high peaks and salty sea,
But there is much of good this land can give,
And perchance it may gain some good from me,
For these tall white-capped priests have power
to thrive
My soul, and I bring them humility.

THE LAW

By TANYA SOUTH

This is the Law. And there are none
Who follow it but will succeed.
Whate'er in life we may have done
To win, the Law we had to heed!

Guard you the Law, and well obey
Its mandates and its covenants.
For what we think and do and say
Make all our Fate and its events.

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gift from
the
Desert*



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