

THE

W. F. Goddard
Desert
M A G A Z I N E



NOVEMBER, 1940

ANNIVERSARY NUMBER

25 CENTS

Glendale, California

Dear Mr. Henderson:

I have been immensely interested in the arguments appearing on the "Letters" page of the last three issues of Desert Magazine regarding the much disputed Pegleg mine.

As I have been following up clues, stories, newspaper and magazine articles concerning the Pegleg for 40 years, and have made many trips into the desert in search for the elusive nuggets, perhaps a few words from an old-timer would interest some of your readers.

It is evident that neither Jackson C. Hill nor Bradley R. Stuart are aware of the fact that there were two Pegleg Smiths. They probably never knew each other, but had two things in common—their last name and a wooden leg.

The name of one, I understand, was John O. and the other Thomas.

Now one of these far from mythical characters discovered black gold on the surface of the ground in the early '50s. This was John O. Smith. The other, Thomas, had a mine and seems have been given considerable publicity after his demise. Nothing is known of him prior to that event.

So—the verdict of the jury at this point is that Hill and Stuart may both be right.

How do I know this? Well, the story of John O. Smith which I have partly verified by actual contacts, was written in considerable detail in the Los Angeles Express of July 13, 1900. A very similar account appeared in Munsey's magazine for December, 1901. The main facts from these stories are that the gold was black, there was lots of it, and Pegleg picked it up from the surface of the ground near three hills.

The late Joe Chisholm, who used to write for the Sunday magazine of the Los Angeles Times, told me of the two Peglegs, and that the Munsey story was true. Also, he told me much about the mine that Thomas Smith worked. This account had appeared in the Times of January 3, 1932. He places the location contiguous to the Chocolate mountains which would agree with Hill's location.

It was the John O. Smith gold that I have looked for—and am still looking for. I never did try to locate the Thomas Smith mine.

From the information I have gathered these many years I cannot place the location of the black gold in the place described by John D. Mitchell in the Desert Magazine—though his was a good story.

H. E. W. WILSON.

• • •

Inglewood, California

Dear Editor:

We all enjoy the Desert Magazine. My 13-year-old boy and his dad have quite a scramble to see which shall get it first. Even the dog goes around in circles when we speak of going to the desert.

MRS. D. N. PUSH.

• • •

Moorpark, California

Dear Sir:

In your September number Louise Eaton in her Turtle mountain story expressed a desire to keep the desert clean—especially the out-of-the-way places. We would like to add a suggestion on the same subject.

While in Yosemite national park attending the school of Field Natural History conducted there we learned to dispose of trash in one rather easy way—by burial. Starting fires promiscuously was taboo, so, instead, trash was either covered with a quantity of earth, or where that was lacking, it was cached carefully under rocks where it was inconspicuous.

Again, for Desert Magazine—let's keep up the good work and keep it clean—like our deserts!

GEORGE H. MERRIKEN.

LETTERS

Los Angeles, California

Dear Sirs:

Please don't have any more Phainopeplas darting past on page 24 of future issues. I can't find out what the darned things are.

L. E. PRICE.

Friend Price: The Phainopeplas mentioned by Hulbert Burroughs in his Lost Palm canyon story last month are birds—a crested little black bird that is a true son of the desert. I hope you get better acquainted with him. His wife is mouse-grey.

—R. H.

• • •

Sacramento, California

Dear Mr. Henderson:

In glancing over the "Letters" on page 37 of the September 1940 issue of the Desert Magazine, I was amazed and disgusted to read the letter from Christopher Young of Drifton, Pa.

Surprised in that he is able to relinquish the sum of \$2.50 for a magazine which he so frankly states is "not very interesting or informative and rather too sentimental."

Disgusted in that he who claims to "know and like the Southwest desert country" cannot appreciate or understand the affection or sentiment of those of us who know and love the desert and who write so eloquently of its beauties for your magazine.

Thanks be that such subscribers are few and far between—keep up the good work of excellent articles and fine photographic studies. Yours for continued success,

R. F. LATTA.

• • •

San Diego, California

Dear Mr. Henderson:

In a recent issue of Desert Magazine, there appeared a short notice to the effect that a prospector named Jackson Hill had discovered the Pegleg Smith gold mine in the Chuckawallas 14 miles southwest of Desert Center.

An article also appeared in a newspaper of May 27 in which Mr. Hill is quoted as saying that the mine was seven miles west and seven miles south of Desert Center. This would place the mine about 10 miles southwest of Desert Center.

In your September issue, Bradley R. Stuart, of Moapa, Nevada, has a very interesting letter in which he states that the discovery made by Jackson Hill was not the Lost Pegleg mine, and in which he points out that the find of an old shaft by Hill could not possibly be the Pegleg.

I agree with Mr. Stuart.

During the last few years I have made an extensive study of the Pegleg mine story and have heard dozens of versions of the affair from pioneers and prospectors in southern California, Arizona, New Mexico, and Lower California. These stories are included in my book of lost mines which was published in late September under the title GOLDEN MIRACLES.

After studying all of these stories I am convinced that Pegleg did not have a tunnel in the side of a hill, but did have, as Mr. Stuart claims, a place where nuggets of nearly pure gold could be picked up without the aid of mining tools.

Regarding the find of Mr. Hill in the Chuckawallas he may have discovered an old mine that was worked in 1877. The follow-

ing article was published in a newspaper of April 5, 1877:

"Mr. J. C. Brown writes from Cañon Springs on the Southern Pacific Railway line in San Diego county:—An important mining discovery has been made with valuable rich ore on the backbone of the Colorado desert. The first discovery was made four or five months ago by John Bullock, the discoverer of the celebrated Castle Dome mine on the Colorado. The name of the new district is the Southern Pacific railroad district. Nat Small, an old Comstock miner stationed at Cañon Springs as keeper of the station, is the leading spirit, together with Hank Brown, a veteran stage driver and freighter between Southern California and Arizona. The district is 19 miles northeast of Cañon Springs, and 35 miles from Dos Palmas station on the railway, at an elevation of 2500 feet. There is a road from Dos Palmas. The formation is slate and granite."

As you know, Canyon Springs is not on the railway line as the article intimates, but is about 20 miles east of where the railway passes the northern end of the Salton sea. Also, Canyon Springs is in Riverside county, which in 1877 was a part of San Diego county. Canyon Springs was once a station on the old Bradshaw stage line that ran from San Bernardino to La Paz on the Colorado river in 1862. I believe that a stage line was operated by the railway from Dos Palmas to Ehrenberg, Arizona, (six miles south of La Paz), in 1877 as a part of their system.

It is possible that the discovery made by Jackson Hill was the old mine discovered by John Bullock, and worked by Nat Small and Hank Brown, as Hill's mine is in the general locality of the Bullock find.

It is very doubtful if it is the Pegleg mine, as it does not meet any of the situations under which Pegleg was known to have found gold.

P. A. BAILEY.

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Los Angeles, California

Dear Mr. Henderson:

I read "Cochise No Steal Cattle" with interest. It's a good story. The funny old fanciful sketching of "Cochise" is typical of the illustrations in so many books of the period prepared without any regard to facts. No Apache ever wore that kind of a breechcloth, carried that type of bow, dressed his hair that way, wore that kind of feathers or wore a ring in his nose. In fact I never saw an Apache with that kind of nose!

If one imagines the white man's clothes taken off "Nachise" on page 5, leaving only his headband, his long white breechcloth and his deerskin boots, the result, I imagine would be a pretty good picture of his father. I knew this man in his later years; he called himself, Naiche.

I'm glad to see DESERT still keeps up its high standards. Long may it wave!

M. R. HARRINGTON.

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Ventura, California

Dear Mr. Henderson:

Yesterday I visited Red Rock canyon, one of the most beautiful of California's many scenic beauties. The public has made a regular garbage dump of the place, you cannot find a decent place to have a lunch, the whole place is littered with beer cans and all kinds of cans, rubbish of all descriptions. The place is a disgrace to the state and desert community.

You can stand back and admire the beauty and grandeur of the mighty crags, but when you try to get a near view, you have to go through a garbage dump to get to the base of them.

I am writing you about it thinking you might call the attention of proper authorities to the condition of the place.

Expect a subscription soon.

J. H. IMHOFF.

DESERT Calendar

- NOV. 1 Week-long convention of New Mexico Education association ends in Albuquerque.
- 1-15 Arizona open hunting season on quail.
- 1-DEC. 14 California, Nevada and Utah duck hunting season. Began October 16.
- 2-DEC. 31 Arizona duck hunting season. Buy federal migratory bird hunting stamps at any postoffice.
- 7 Meeting of Arizona Mineralogical society, Arizona museum, Phoenix.
- 7-9 Arizona Education association meets, Tucson. Miss Alice Vail, president.
- 8-10 State chamber of commerce secretaries meet, Phoenix, Arizona.
- 11 World premiere of "Arizona" film, Tucson, Arizona. Reconstructed Old Pueblo to be open Nov. 11-16.
- 12 Fiesta of San Diego at Jemez and Tesuque pueblos, New Mexico. Indian corn dance at Jemez, Indian buffalo dance at Tesuque.
- 8-14 Ogden, Utah Livestock show. E. Fjeldsted, manager.
- 9-17 Arizona State fair, Phoenix. W. A. Thompson, chairman.
- 10 Second annual air show, sponsored by Southern Nevada Aero club, to be held at Western Air Express field, Las Vegas. Class one show, featuring professional fliers. Admission free.
- 13 Dr. Frank C. Lockwood: "Lorenzo Hubbell, Trader to the Navajos." Lecture at Arizona museum, Phoenix.
- 14-16 Arizona Days, in Yuma. Annual fiesta of Elks lodge. Eb Lawler, Exalted Ruler.
- 15 Fiesta of La Mesilla, at Las Cruces, New Mexico, featuring Spanish and Anglo folk dances, music and customs.
- 15-17 Convention of Arizona Hotel association, Phoenix. Major John F. Murphy, executive secretary.
- 18-19 Central district federation of Business and Professional Womens clubs meets in Globe, Arizona. Pearl Davey, chairman.
- 18-DEC. 10 Elk hunting season in Arizona. Special permits, \$15 to residents, \$25 to non-residents.
- 21 Mineralogical society meets at Phoenix, Arizona museum.
- 21-23 Convention of Southwestern section, American Medical association, Tucson, Arizona. Dr. Kohl, chairman.
- 22-23 International Relations club convention, campus of Arizona State Teachers college, Tempe. Speakers: Dr. A. S. Raubenheimer, dean of college of liberal arts, University of California; Hugh Matier, internationally known geologist, journalist.
- 28-29 Annual Fiesta, Brawley, California.



Volume 4

NOVEMBER 1940

Number 1

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Cactus Clan

By DuBOIS CORNISH,
Tucson, Arizona

Winner of the first prize this month is the photograph of a group of Arizona Giant Cactus taken in the Saguaro national monument, east of Tucson. The camera was a Rolleiflex, Panatomic X film with Aero No. 1 filter. Exposure 1/10 at f22.

Special Merit

The following photographs entered in the September contest were considered by the judges to have more than usual merit:

"The Lord's Candle," by Roy Miller, Los Angeles, California.

"Navajo Shepherdess," by Sampson T. Yazzie, Shiprock, New Mexico.

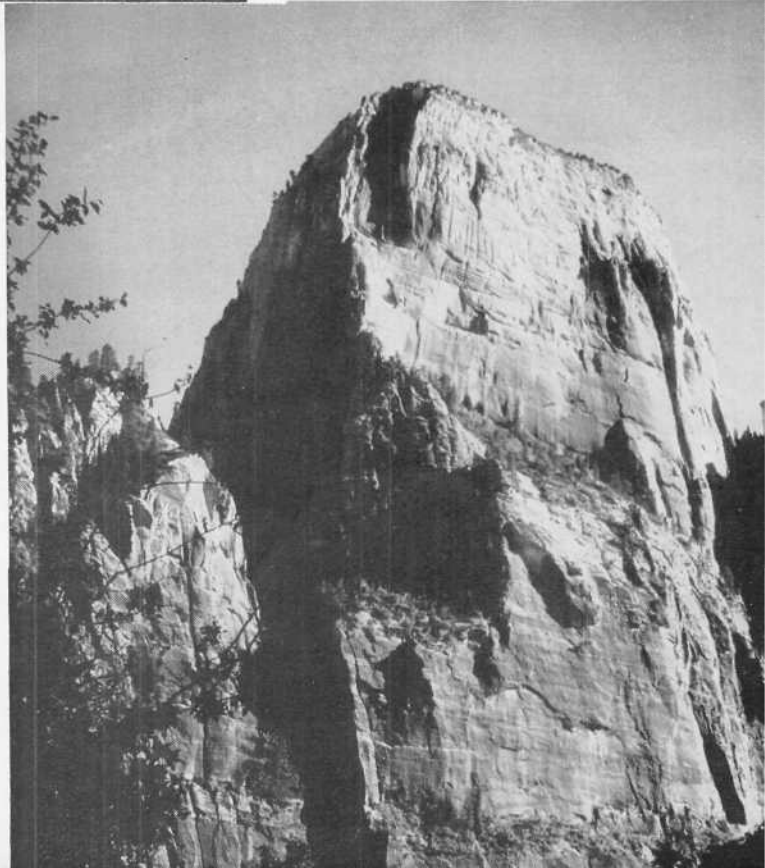
"Desert Evening Primrose," by Miss Catherine A. Sargent, Los Angeles, California.

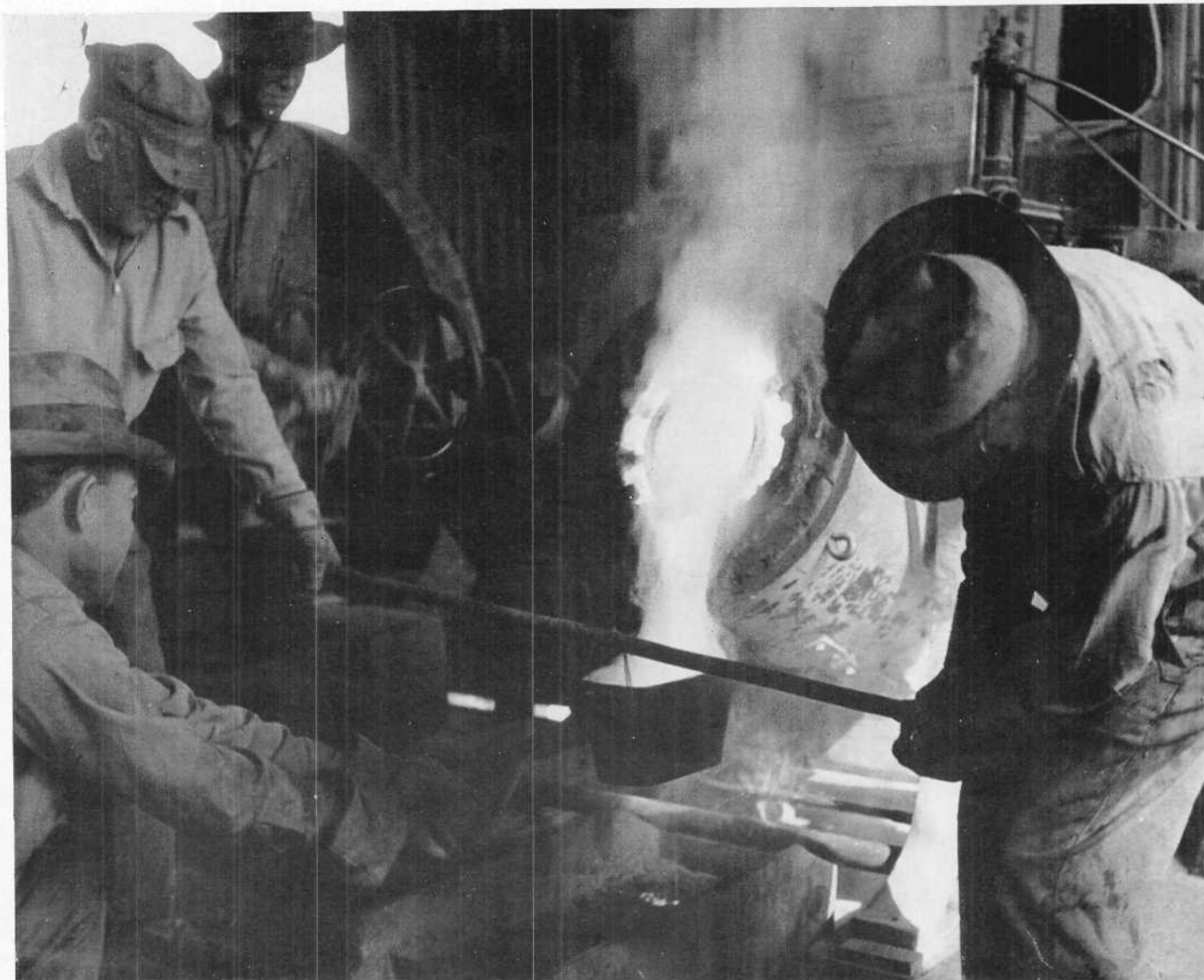
Great White Throne

Zion Canyon, Utah

By GENE O. PARKS, Las Vegas, Nevada

Awarded second prize in the September photographic contest. Taken with Korelle-Reflex camera, 2 1/4 x 2 1/4; 1/25 sec. at f16; K2 yellow filter, on superpan supreme film. Taken at 4:30 p. m. on a clear September day.





This gold brick poured recently at the Vulture mill where low grade ore is still being worked, is worth between \$12,500 and \$15,000.

Gold on the Banks of the Hassayampa

By CHARLES C. NIEHUIS

Photographs by the author

THE retort was red hot. I could see that from where I stood just outside the door. One of the men inside smiled an invitation and I stepped in as the other men tipped the retort forward. Two others held a mold under the spout. Molten gold flowed out in a living stream. Heat drove the men back and we all stood fascinated by the sight.

It was a ladle mold full of liquid gold, cherry-red with heat.

For years I had heard old men's tales and authentic bits of stories of the old Vulture mine. So finally, this day I had driven 17 miles—two miles west and 15 miles south—out of Wickenburg, Arizona, to see for myself just what kind of place in the desert could give up \$15,000,000 in gold. Now I was on the spot

Many of the old mining camps of the West produced their millions—and then gave up the ghost. But not so the old Vulture mine at Wickenburg, Arizona. Discovered by Henry Wickenburg in the 'sixties, the old diggings are still producing low grade gold-bearing ore. And there are many veteran prospectors who believe that sooner or later the original high grade quartz vein which was lost many years ago at a fault line will be rediscovered and that the Vulture will see a revival of the golden boom of 75 years ago.

seeing with my own eyes gold from the historic site.

I had gleaned the story of the Vulture mine from old newspapers, manuscripts and books. It was like something out of a Western story writer's mind. A story of greed, gold and the unbelievable fulfilling of an old prospector's dream.

It was in the early 1860s that the discoverer of the Vulture came to America.



Few photographs ever were taken of Henry Wickenburg, but this copy of one of the surviving prints was obtained from Frasier's studio at Pomona, California.

His name was Heinsel. He came from Germany around the Horn and landed at San Francisco. It was the beginning of a new life, so he adapted a new name. He took his mother's maiden name as surname and became Henry Wickenburg.

Mineralogy was his one passion. It was this deep interest in the science that was

the real cause of his coming to the Americas. On his father's estate near Essen, Germany, young Heinrich Heinsel had discovered a vein of coal. Before he could develop it, however, the government seized and claimed the mine. Young Heinsel, bitterly resentful, left the country.

He had hardly stepped off the gang-

plank of the sailing ship before he began to hear stories of the Southwest. They were fascinating tales of gold and other precious minerals to be found in the mysterious desert. He was a man of direct action and wanted to investigate the reports so he went immediately to La Paz, a little settlement on the Colorado river in southwestern Arizona.

There the current talk was of the Pauline Weaver party explorers. Weaver had just left for Tucson. When Wickenburg heard that the miners with Weaver intended to prospect the country on the way he paused only long enough to outfit himself for desert travel and set out after them. After traveling 200 miles alone through hostile Indian country he caught up with the Weaver party in People's valley in central Arizona.

There, while the party rested in the green little valley, he heard the famed King Woolsey tell yarns of gold-bearing ore in the Harquahala mountains.

In less than six months Wickenburg had completed the trip to Tucson with Weaver and had returned to People's valley. Immediately he organized a party of prospectors to go and look over the Harquahalas.

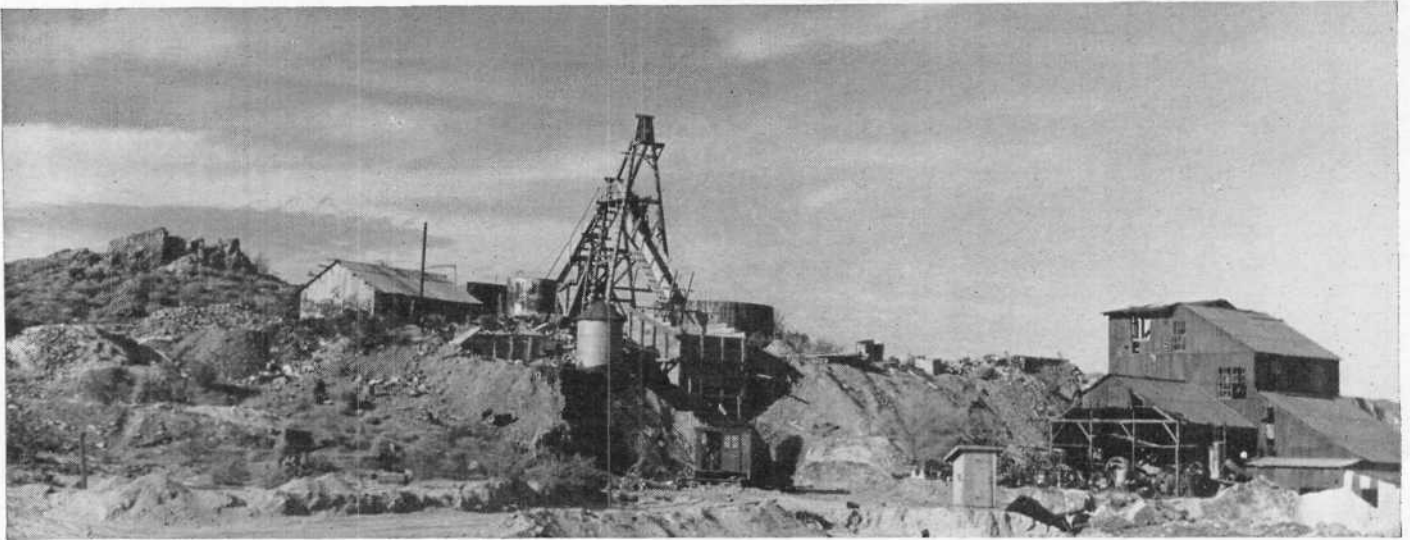
It was a dry 50-mile trek from the Hassayampa river across the desert to the Harquahala mountains. Water had to be packed for both the trip in and the return, but still the men were optimistic. King Woolsey had told his story well.

So well, that when Wickenburg sighted some outcroppings on the top of a high hill along the route the others of the party refused to delay long enough to look at it. It was a high rocky hill on the edge of the Hassayampa plain which lies about 12 miles southwest of the Hassayampa river, just east of the Big Horn mountains.

The men found no prospects in the Harquahalas, at least none worth developing. On the return trip Wickenburg again sighted the same outcroppings on the distant hill. Again he asked the others to go over and take a look at it. They refused! First, their goal had been the Harquahalas. Now it was the river, where they could drink their fill and splash in the cool stream — the precious, flowing "Hassayampa!"

Wickenburg, with characteristic persistence took his share of the water and left the party to examine the outcropping. (His companions were later to regret their refusal to accompany him, even to the extent of bringing suit against him. He won the court battle, after many months of litigation, by establishing the fact that they had refused to have anything to do with Vulture hill until he uncovered the gold.)

When Wickenburg reached the rocky hill he stopped at the bottom to pick up a rotten bit of quartz. As he turned it in



his hand his eye caught the yellow gleam. Free gold!

He looked up. The float had come from the outcropping above him. He started to climb, feet slipping in the loose rock on the steep incline as he fought his way upward to the outcropping ledge. It was wide. How long, he could not see from where he stood. He swung his pick. The oxidized rock shattered under the blow. He knelt and picked up first one rock then another. In each fragment he

This is the Vulture mine as it appears today. Henry Wickenburg's original strike was in this hill. The operators frequently encounter small tunnels and drifts made in the cave when miners were "coyoting" the hill and paying Wickenburg \$15.00 a ton for the ore they took out.

found what he sought. Gold, free gold! He had found what every old desert

dreamer lives in hope of finding — a bonanza.

Finally he stood up. As he did so a passing shadow caught his attention. Wickenburg looked up and saw a vulture banked in a tight circle over the ledge. The bird floated down and landed on a rocky point. So the prospect was named, The Vulture.

Henry Wickenburg left his claim only long enough to ride to Prescott and file on it, May 21, 1864. Robert W. Groom,



Prospectors still wash the tailings of previous operations at Vulture mine — and find enough gold to make fair wages.

who also laid out the town of Prescott, surveyed it.

By the middle of June Wickenburg had packed out a ton of gold-bearing quartz, to his camp on the Hassayampa. He then set to work building an arrastra. Wickenburg knew little about masonry and had difficulty building this primitive type mill for grinding the ore.

Later, in June, 1864, Charlie Genung dropped into Henry's camp. Genung, who had a prospect farther north, had been chased out of his claim by Indians.

"That's a poor arrastra," commented Genung when he saw Henry's crude mill. "I'll build you a real one."

July 4, 1864, the two men celebrated Independence Day by having a cleanup. The first ton of ore had been run through the new arrastra. It yielded seventeen and one-half ounces of gold.

The news spread and miners flocked to the new field. In less than a year 40 arrastras were in operation—all grinding Vulture ore. Henry quit mining, sold his ore at \$15.00 a ton to whoever wanted to mine it. They paid for the ore in the ground, mined it, packed it to Wickenburg's camp on the Hassayampa, and processed it in the primitive arrastras. Even at that price men made money. Many even grew rich!

A 20 stamp mill was crushing Vulture ore by 1866. Three years later the camp roared into a new high by increasing its capacity to 80 tons every 24 hours. Vulture ore was running \$40.00 to the ton!

Sometime during this period the Goldwater brothers, Michael and Joe, constructed a mill for a New York concern that had leased the mine. The company was unable to pay the Goldwaters the \$90,000 for the construction of the mill. But, the brothers agreed to take over the mine, run it until the bill was paid off out of the profits. It was easy. Thirty days later, at the rate of \$3,000 a day, the lien was cleared up!

Thomas Price, noted western assayer, estimated that the Vulture company crushed 118,000 tons of ore in six years and recovered \$2,500,000.

But the tempo of the booming Vulture camp was too fast and wild for Wickenburg. He was essentially a simple, quiet man, who had learned to know and love the peace of desert solitude. He sold four-fifths of his interest in the mine to a Mr. Phillips of New York for \$85,000 and turned to homesteading.

Governor McCormick, in a message to the fifth legislature of the Territory, called the Vulture "The Comstock of Arizona."

Superintendent Mudge, at the Vulture in 1872, wrote in a report, "We have paid out \$600,000 for freighting of ore 15 miles from the mine to the mills on the Hassayampa."

Miners, teamsters, contractors and millmen "higrated" a fortune out of the

mine. Ore, some pieces almost half gold, replaced sandwiches in the lunch pails after the day's work was done.

In 1879 the lessees of the property built an 80-stamp mill at the mine. Water was pumped through 12½ miles of six-inch pipe against a 500-foot head.

Men worked furiously to mine enough ore to keep the mill running at capacity. They even tore down the rock houses built by earlier miners, and poured them into the hopper. These rocks from which the houses were built ran \$20.00 a ton!

Vulture bullion, weight-stamped, was accepted as legal tender throughout the territory. It helped to settle the country, but it also attracted bandits and Indians. It is reported that 400 men were killed by savages during the first 15 years of production.

Each year the Vulture mining camp roared louder, grew lustier and larger. Then in 1890 the Hassayampa whose water was the life blood of the mine went on a rampage. The quiet desert stream became a red, rolling torrent, sweeping everything in its path. The Vulture pipeline crumpled and went with the rest.

Early in the development of the mine a series of faults in the vein had been discovered. Each time the body of ore was located again. But just prior to 1890 the Talmage fault was encountered. It cut the vein off completely. This catastrophe together with the flooding Hassayampa closed the mine. So ended the first period of the life of the great Vulture.

Fifteen years went by. Then one sunny afternoon some children found the body of "Uncle Henry" under some mesquite trees on his homestead—the same trees under which Wickenburg had camped when he first came to the region 40 years before. He lay on his back, a pistol was clutched in his hand. These circumstances, together with the loneliness and disappointments that came along with the gold from the Vulture, indicated suicide, and such it was called. However, rumors of murder still persist. At any rate, the discoverer of the miraculous mine was dead.

The Vulture found new life in 1908, however, when a new ore body was found on the property. In seven years, \$1,839,357 worth of gold was brought out. But water began to seep into the lower levels and again the mine was closed. The old machinery and even what was left of the water pipe were sold for junk during the years of the first World War. And that was the end of the second phase of the historic mine.

But the Vulture isn't through yet! Since 1931 low-grade ore has been mined and milled. Even the old arrastras, like the rock houses before them, have been dug up and fed into the present mill, yielding \$20.00 a ton.

The East Vulture Mining company is now operating the old mine. A 200-ton

capacity mill is crushing ore. The plant consists of one jaw crusher as a primary and a Kennedy-Van Saun gearless crusher as a secondary. These are in an enclosed circuit, with a trommel screen having half-inch apertures. The fine grinding plant has two ball mills, a 54-inch Akins classifier and Denver precious metal jigs.

Two huge diesel engines, one a 240-horsepower Chicago Pneumatic Benz and the other a 300-horsepower Union, turn generators which supply the power.

All this technical data may mean more to mining men than to laymen. But everyone can appreciate the fact that today, 75 years after Henry Wickenburg first began mining the Vulture ore, the mine still furnishes employment for 35 men 24 hours of the day.

Perhaps one of these days the original ore body will be found again and more millions added to the \$15,000,000 the Vulture has already produced.

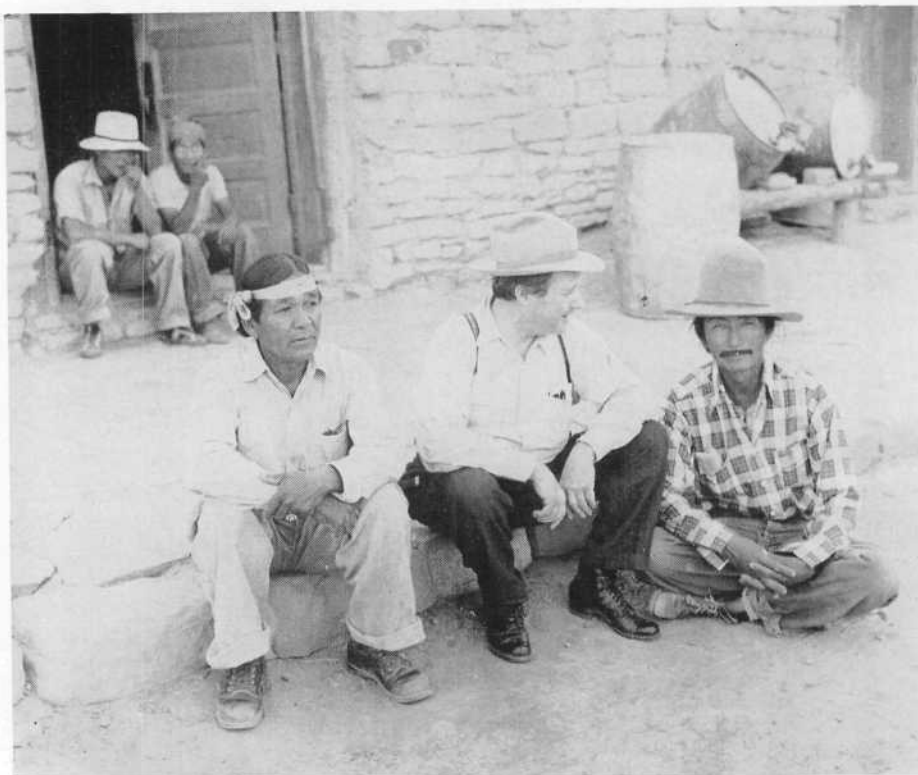
But whether the mine booms again or not, the old campsite lives and thrives. Henry's old homestead became Wickenburg, Arizona, where each year thousands of desert travelers with Packards instead of pack mules refresh themselves by the magical waters of the Hassayampa.

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NOT ALL TENDERFEET ARE AS DUMB AS THIS ONE

Uncalled-for panic of a "greenhorn" recently sent local, county and state officers on an all-night wildgoose chase. Temporarily stranded in a public camp ground near center of the Valley of Fire, nine miles from Overton, a motorist who thought his battery had gone dead penned this note: "If anyone sees this I am heading toward Overton — my car is stalled. I am about to go crazy. Please pick me up. Thursday about September 20." The motorist then apparently walked the quarter of a mile to where the camp road joined the main highway. At the intersection he posted this note: "I am stranded in the camp ground." Then he returned to the camp ground. Tinkering with the battery, he discovered a loose cable connection was the trouble. He tightened it and drove away, leaving the notes to be found by Jay Carpenter, director of the university of Nevada school of mines, and Carpenter's son. After backtracking to Overton, the Carpenters continued to Las Vegas and reported to authorities. Searching parties were organized. The posses spread out, scoured the Valley of Fire and surrounding territory, finally winding up at Overton at 3:00 a. m. A garage owner, roused from his sleep, cleared up the mystery. Weary and disgruntled, the officers returned to Las Vegas at 4:00 a. m. The motorist, they said, could not have been in any danger. Water was plentiful, he was only a quarter of a mile off the main highway. Besides, he should have retrieved his scare notes.

Through the doorway of the comfortable stone house where Lorenzo Hubbell lives at Oraibi, Arizona, passes a strange medley of visitors. World travelers come here to meet a man whose name is better known perhaps than that of any other Indian trader. Navajo Indians enter the door without formality—knowing that here is a man who speaks their language and is always their friend. Students seeking a more intimate knowledge of tribal history and custom come here because Lorenzo is a recognized authority on these subjects. Hopi craftsmen come to exchange their wares for food and clothing. All are welcome—for Hubbell likes people, all kinds of people. Here is the story of a man who is truly a product of the Great American desert.



Lorenzo Jr. with two of his Indian friends. This photograph taken at the trading post at Oraibi.

'He is our Friend'

By MRS. WHITE MOUNTAIN SMITH

IN 1876, when most men were finding excuses to keep away from the territory of Arizona and its restless Indian population, Don Lorenzo Hubbell, half Connecticut Yankee, and half Spaniard, moved into the remote valley of the Pueblo Colorado, near the present mission settlement of Ganado. There among the Navajo he built a home for his growing family. For more than 60 years that sprawling comfortable old ranch house has been the meeting place of earth's noted men and women. Don Lorenzo was dean of pioneer traders, and today his son, Lorenzo Hubbell, Jr. carries on the work his father left in his capable hands.

Against the incredibly blue sky of northern Arizona the Hopi mesa of Oraibi towers unchanging through the centuries, and close to the foot of the trail leading into the oldest village in the United States, is the trading post of Lorenzo Jr. Oraibi's dwellers cling to the traditions and primitive ways of their forefathers and do not go out of their way to be friendly to white people. There are a few exceptions, and one of them is—Lorenzo Hubbell. He is free to come

and go as he pleases in their village and in their homes.

"Why do you Hopi regard Mr. Hubbell so highly?" I asked an old man lolling in the sunlight beside his wife's doorstep.

"He's our friend!" And he looked at me as if I had asked a very foolish question.

Lorenzo Hubbell was born in 1883 at St. John's, a little town in Apache county, northern Arizona. That town is much closer to the homes of the Zuni and Apache than the Navajo, but the little son of the trader found his greatest happiness among the latter. Each winter Lorenzo, senior, moved his family away from the Ganado home back to St. Johns where they could secure schooling of a sort. Young Lorenzo says he went to school but he learned no English. All his companions spoke the Spanish language. Lorenzo remembers that he was lonely until his father began taking him on trading trips into the Navajo reservation. Then Life, with a capital letter, really began!

Six years isn't a very mature age for a trader but that was exactly when Lorenzo Hubbell began his 'swapping' with the

Indians, and he hasn't taken a vacation from it since. With his father at Ganado he hung around the old trading post watching the Indians ride out of the dusty distance with their blankets, turquoise, piñon nuts and sheepskins for barter. Soon he was behind the counter trading striped sticks of candy for copper bracelets and learning every Navajo word uttered in his hearing.

At that time no real money was used in trading with Indians. The accepted medium of exchange was copper wire, in eight inch lengths, bent to fit the arm of the Indian. Each bracelet was worth 25 cents in trade, and when merchandise was chosen, bracelets worth the amount of the purchase were removed from the buyer's arm, and piled on the counter until the trader said 'enough.' Or if the Indian brought in native wares to trade for 'cash' enough eight-inch lengths of copper wire were cut off the spool to satisfy the seller.

Young Lorenzo learned even in those days that his father always gave the Indian the best of the bargain. It was his creed that educated white men must never take advantage of unlettered people.

Lorenzo, Jr. and I were standing one day outside the old trading post at Ganado talking about the years he'd spent among the Navajo. Lorenzo lifted his eyes to the little hill across the desert stream where his father sleeps in the lands he had made his own.

"My father was never happy away from the desert and the Indians. And

I'm the same way. When as a small boy my father would lose track of me for awhile, all he had to do was follow his nose to where horse meat was being roasted by the Navajo and there I was feasting with the best of them!"

When Lorenzo was nine years old he first saw Canyon de Chelly, the place every old Navajo mentioned when he came to the trading post. It was here the tribe fled from the wrath of Uncle Sam when their murdering, raiding sins overtook them and United States troops were sent to administer punishment. Kit Carson bottled them up in their favorite retreat and they were marched away to exile. Later when they returned to their own country they resumed weaving and silver craft, so Don Lorenzo loaded goods for trading and went up there to spend a couple of months. Probably the merchandise could all have been piled on one wagon, but in those days one thought only of impressing the native and so the caravan consisted of two huge wagons and trailers and 12 teams of horses to pull the load.

Those two months sped by like magic. So many interesting things were to be seen by a small boy led by Indian companions. He went into Mummy cave where scores of Navajo perished at the hands of vengeful Mexicans, and he explored the mystic White House where no small white lad had ever been before him. While trading with the wily Navajo of that region the customers were not allowed to come into the room where merchandise was for sale. Too often they darted out with coveted articles and dis-

appeared in the desert leaving the trader vainly looking for his pay. So the goods were displayed in a room with a shoulder high window through which the buyer looked from the outside and made his selection. When the hat or saddle or axe or calico was chosen and the price agreed upon, copper bracelets covering the cost were passed to the trader and then the buyer had the articles placed in his hands.

This same year, 1892, Lorenzo Jr. saw his first Snake dance among the Hopi. He went down into the Snake kiva with his father and was thrilled to see little boys his own age fondling live rattlers. He watched the reptiles being washed and prepared for the dance, and he could probably give more accurate information about this exciting Indian ceremony than any living person, should he so desire. But that is one thing he doesn't do—give away tribal secrets of his Indian friends.

The years slipped away and in spite of his lusty protests the young trader was sent to Notre Dame to be educated as a gentleman's son should be. He finished high school there but most of the time his mind was not occupied with Latin or literature. He was longing to be back in Arizona trading with the Indians, riding races with them, joining them in their holiday "chicken pulls" and eating roast horse meat under the spicy juniper trees. His father's home at Ganado was the mecca of every worthwhile visitor who came to the Southwest. Here Remington and Charley Russell sketched and dreamed and despaired of getting the stark

blue shadowed beauty of Ganado on paper. Theodore Roosevelt slept under the gracious roof and lounged before the great open fireplace in the enormous living room, where the walls are hidden by priceless canvases and the ceiling studded with thousands of dollar's worth of rare and beautiful Indian baskets and plaques. Here books were written, plays born and perfected, and on the soft toned old rosewood piano in a distant corner the first notes of that deathless ballad "The Sunshine of Your Smile" came into being. An old world charm and hospitality hung over the luxurious ranch home in the Navajo reservation wastelands. Young Lorenzo absorbed those ideals as he grew to manhood. He spoke again of his father:

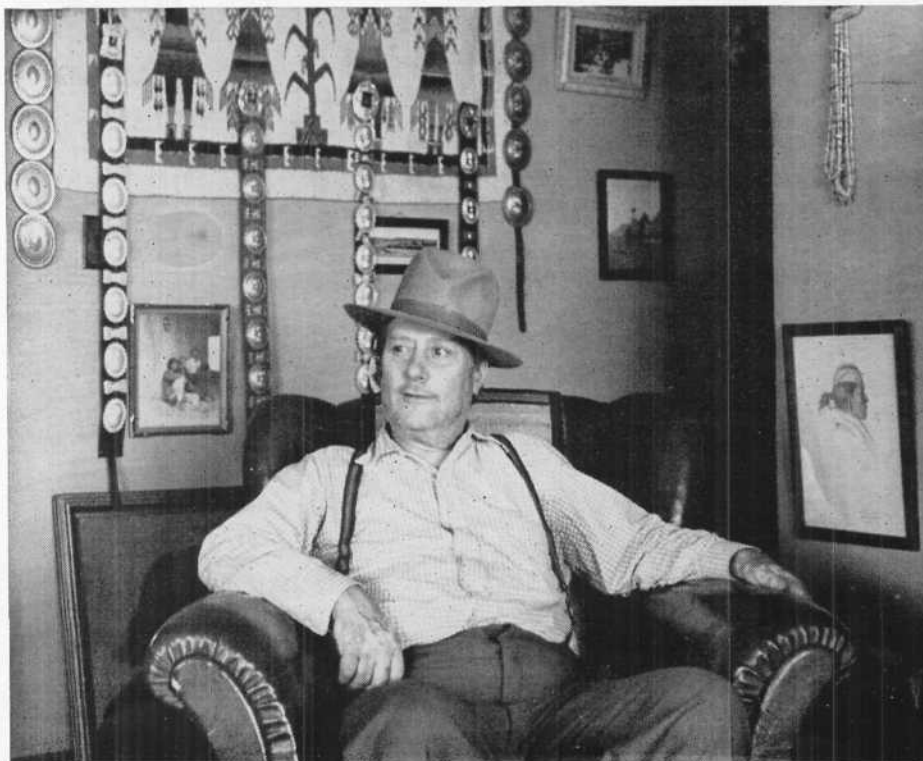
"He never wanted money, not for money's sake. Rather his idea was to work for beauty and to bring about the preservation of native arts and crafts. My father spent his life bringing the work of Indians to the attention of the American people, and I like to feel that I have taken up the work where he left off. I feel that the Navajo Indians are making better blankets now than ever before. They have the experience of their best old time weavers, and they have the scientific aid of modern dyes and designs.

"It was in May 1902 that I went to Keam's canyon and bought the trading post from Thomas V. Keams. It was there I bought my first blanket. I remember distinctly that it was an old diamond and lightning design without a border, and I bought it from The Man Who Doesn't Talk. He was quite a character, that Navajo. I'll tell you more about him later. Anyway I've wished a thousand times I'd kept that blanket just for comparison."

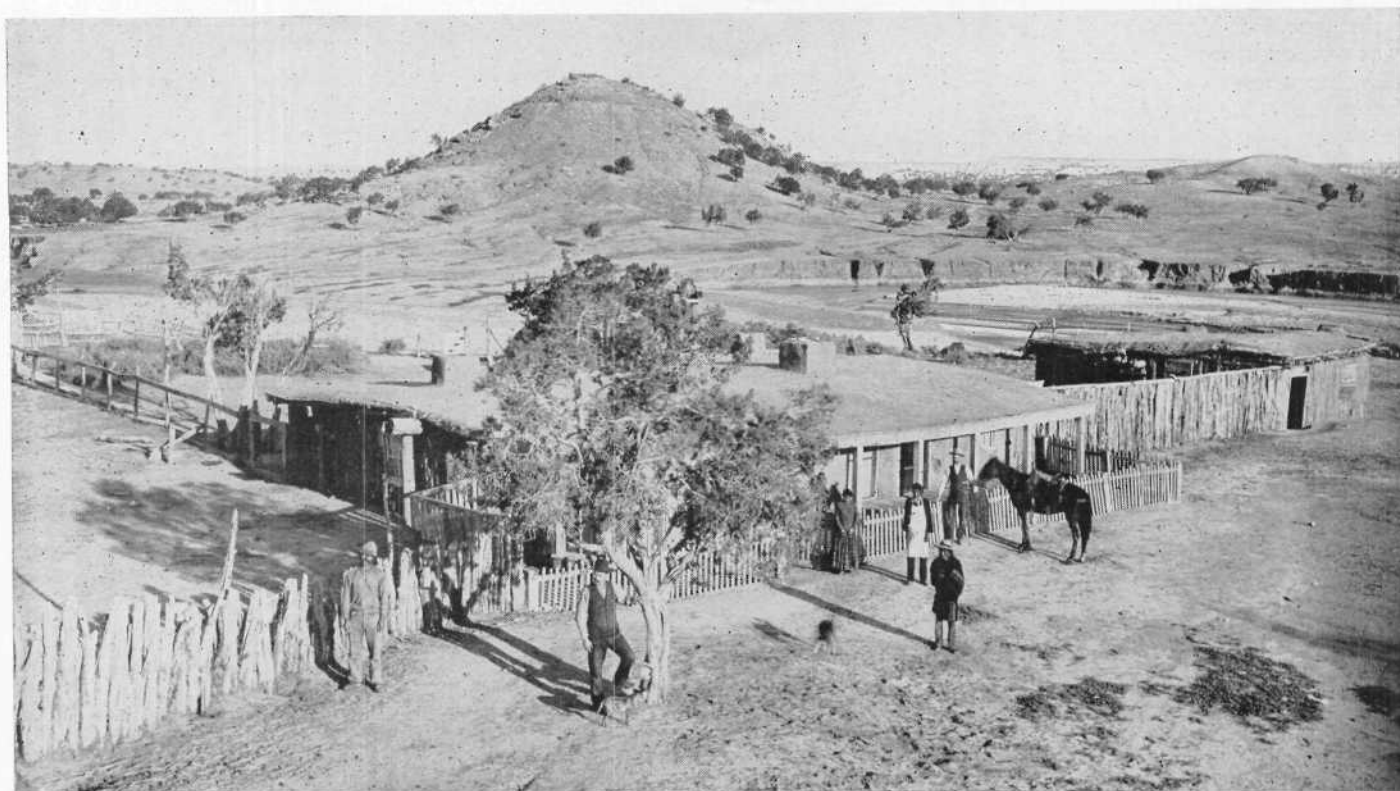
"When you went to Keam's canyon were you not trading mostly with the Hopi?" I asked.

"No. There were plenty of Navajo around the Hopi country even then, and they were unruly. They'd come into the post, sell whatever we would buy, spread a blanket on the floor and gamble until we put them out at closing time. It was a relief when the agent ordered gambling stopped. I stopped it around the store right away. Some of our customers grumbled but they all came back to do business with us."

Lorenzo Hubbell, Jr. was the first trader to pay real money for the things he bought from the Indians. It was hard to get them to accept a small gold coin instead of a huge pile of copper brace-



Lorenzo Hubbell Jr. in his home at Oraibi, greets all visitors with an informality that puts them immediately at ease.



lets. But as soon as they saw that the coin would buy as much goods as the copper wire they took it readily.

He was also the first trader to deal in Hopi pottery extensively. He would take a light wagon and go to the First Mesa and purchase all the pottery Nampeyo made. For a long time she was one of the few women who made pottery for sale. Most of them made only what they needed for household use. Fred Harvey was always on the lookout for authentic Indian material and Lorenzo sold him the best of everything he bought from both the Navajo and Hopi. He always emphasizes the fact that Fred Harvey did more to bring Indian art before the eyes of the world than any other factor. Hubbell says Harvey always handled Indian crafts with good taste and dignity and considered the human element involved.

One gathers that the first years at Keam's canyon were rather tempestuous. Ill advised officials ordered all Navajo men to have their gleaming black hair cut short like white men wore theirs. The Navajo have always gloried in their well kept long hair and trouble was expected to follow the order. One man, The Man Who Doesn't Talk came into the trading post and asked for the best butcher knife in stock. "I have a purpose" was all he would say. He bought the knife and went to the office of agent Burton. Looking that official directly in the eye he threw the dangerous knife on the desk and said:

"You have said my hair must be cut. Take this knife, cut my throat first and then cut my hair!" There was nothing more said about cutting hair. This same

This is the old ranch home of Don Lorenzo Hubbell near Ganado, Arizona, established in 1876. Don Lorenzo, whose body now rests with that of his wife and his Navajo friend Many Horses in a nearby shrine, is standing by the tree in the center of the photograph.

Navajo was so indignant when an agent invaded his part of the reservation looking for children to take to school, he and others captured the official and held him two days until Chee Dodge and some of the cooler heads persuaded them to let their prisoner go.

Lorenzo and I returned to the living room of the house and were seated in front of the fire when the door opened and down the long room, with the light stealthy tread of a mountain lion, came one of the tallest Navajo I've seen. He looked at no one but Lorenzo Hubbell, who had risen and walked with outstretched hand.

"Ya-tab-hey, Na-tab-ni!" The Navajo's arm went around the shoulders of his shorter friend in a rare gesture of Indian affection.

"Who is he?" I asked Lorenzo's sister, Mrs. Goodman.

"That is Slender Man, nephew of Many Horses who is buried on Ganado hill beside our father. You know Many Horses and my father were the greatest friends. Each, at different times, saved the life of the other, and when Many Horses knew that his time to die had come, he asked that he might be buried close to where my father would be laid."

So the friendship of those two grand old men continues with their descendants.

Lorenzo Jr. has traded with the Navajo and Hopi for 38 years. He is said to be the most widely known Indian trader in the United States. His blankets and baskets and pottery go to every big city this side of the Atlantic. Wool from his warehouses is used both here and abroad and carloads of the tasty little piñon nuts, sale of which means life or death to the Navajo at times, are shipped everywhere. Purchasers know they are taking no chance when they order Indian arts and crafts from Hubbell. He will send them nothing but genuine Indian work of good quality. True, Lorenzo never turns down any rug or bit of pottery brought to him by its maker. If the article is inferior he says so plainly and pays accordingly. Then it is stored away in the gaping maw of a huge warehouse and I doubt if it ever again sees light of day. Once I watched him buy a crooked ill woven blanket from a very old Navajo woman. It was fit for nothing but a door mat.

"Why did you buy that worthless thing?" I asked when the old woman had spent her money and gone.

"Did you not see that she is very old, and her eyes almost sightless? Could you not see how her hand trembled while she waited for me to tell her I'd buy the rug? And you ask why I bought it. Once she was the best weaver in this part of the country, and now her people are all dead and she herds sheep for strangers in exchange for a little food. If it had taken my last dollar I'd have bought that

blanket from her!" Lorenzo will never be rich as we count worldly treasure.

He has several trading posts on the Navajo reservation, and many of the Indians ride long distances to trade with him. At Piñon 31 miles from any white residence his store serves at least a hundred Navajo families. He has posts at Tenebito, at Na-ah-tee canyon, Ganado and Winslow. And above his store at Oraibi the one word "HUBBELL" serves as a magnet for hundreds of Navajo bringing their trade to the man they trust. When ready money is needed they pawn their treasures of silver and turquoise with him knowing that years may pass and the pawn will not be sold, not as long as they are living and have hopes of redeeming it.

"The Indians must prosper or the traders will vanish," says Lorenzo, and his wise advice has saved the tribe from many fatal blunders.

Only Lorenzo, Jr., the sister, Barbara Goodman, who keeps the old home always ready to receive Lorenzo and the other brother Roman, are left of the original family of Don Lorenzo.

Roman Hubbell never cared so much about trading with the Navajo as he did exploring their beautiful country and taking visitors to the hidden away spots no casual traveler could find. His comfortable cars with Indian symbols painted on the doors carry hundreds of people each year to the beauty and grandeur of the Southwest within half a day's trip of the railroad. Just as Lorenzo sells Indian arts and crafts to the public, Roman sells the charm and magnificence of the Southwest to those who want to leave the world behind for a few hours or a few days.

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DESERT POPULATION WILL BE GROWING THIS WINTER

More than 1000 applications have been received from persons seeking to obtain government land under the Five-Acre Tract law which became operative August 9, according to Paul B. Witmer, registrar of the Los Angeles land office.

Mr. Witmer stated this week that field men probably will begin active work in the field within the next two weeks, inspecting and making recommendations as to the granting of the individual applications.

The Los Angeles registrar was one of the original sponsors of the Five-Acre law, and is giving all possible assistance to those who desire public lands under this program. Recently he has made a number of recommendations to the department for the purpose of simplifying the procedure under which the "Jackrabbit homesteads" can be obtained. A majority of the applications received at Los Angeles are for land in the Twentynine Palms area and Morongo valley area.

DESERT QUIZ

Not every Desert Magazine reader can score a high mark in this monthly Quiz. But every student of the desert can gain a new fund of information by spending a little time with this list of questions and answers. The questions are designed to cover a broad field—history, geography, botany, mineralogy, and general lore of the desert country. Those who can answer half of the 20 questions correctly are better informed than the average person. A score of 15 gives you rating as a "Desert Rat," and those who exceed 15 correct answers belong to that small and very select fraternity known as Sand Dune Sages. The answers are on page 37.

- 1—Agave, jojoba, juniper and nolina are characteristic shrubs of the—
Lower Sonoran plant zone..... Upper Sonoran plant zone.....
Hudsonian plant zone..... Alpine plant zone.....
- 2—The old Bradshaw stage road was built primarily to—
Connect San Bernardino with the La Paz gold fields.....
Provide transportation between Yuma and Prescott.....
Carry mail from Los Angeles to Phoenix.....
Haul gold-seekers from Sonora to the California gold fields.....
- 3—The Lehman caves are located in—
Utah..... Arizona..... California..... Nevada.....
- 4—The desert screwbean grows on the—
Mesquite tree..... Ironwood..... Smoke tree..... Palo Verde.....
- 5—In making Katchina dolls the Hopi Indians prefer to use—
Yucca wood..... Juniper..... Cottonwood..... Clay.....
- 6—Blossoms of the desert senna are—
Purple..... White..... Yellow..... Pink.....
- 7—The Cedar Brakes national monument in Utah is noted for its—
Dense forests of cedar..... Gorgeous waterfalls.....
Colorful sandstone erosions..... Herds of antelope.....
- 8—Parker, Arizona, is entirely surrounded by the—
Mojave Indian reservation..... Yuma Indian reservation.....
Chemehuevi Indian reservation..... Colorado river Indian reservation.....
- 9—The Spanish padre who accompanied the De Anza expedition in the 1775-76 trek from Tubac to the Pacific ocean was—
Father Font..... Father Garces..... Father Escalante.....
Father Serra.....
- 10—Smoki People hold their annual snake dance at—
Oraibi..... Flagstaff..... Gallup..... Prescott.....
- 11—Tuzigoot national monument Indian dwellings were built by—
Cliff dwellers..... Pit dwellers..... Pueblo dwellers.....
Cave dwellers.....
- 12—Chimayo, New Mexico, is noted mainly for its—
Weaving industry..... Ancient ruins..... Warlike Indians.....
Fine silverwork.....
- 13—Softest rock in the Mohrs scale of hardness is—
Calcite..... Talc..... Sandstone..... Mica.....
- 14—The "Mountain Men" of the early days in the Southwest were primarily—
Goldseekers..... Indian traders..... Trappers..... Army scouts.....
- 15—If a Hopi Indian gave you some *piki* he would expect you to—
Burn it as incense..... Hang it over the door for good luck.....
Use it to charm snakes..... Eat it.....
- 16—Virginia City, Nevada, was famous for its production of—
Copper..... Gold..... Lead..... Iron.....
- 17—Purpose of Father Escalante's trek from Santa Fe in 1776 was to—
Explore the Colorado river..... Find a new route to Monterey.....
Christianize the Pahute Indians..... Found a mission at Great Salt Lake.....
- 18—The 20-mule team wagons in the early days of Death Valley hauled—
Gypsum..... Gold ore..... Rock salt..... Borax.....
- 19—Cactus fruit most popular with the Papago Indians for food comes from the—
Cholla..... Organ Pipe cactus..... Saguaro..... Prickly pear.....
- 20—Chief industry of the Hualpai Indians of Northern Arizona is—
Weaving blankets..... Stock raising..... Silversmithing..... Game hunting.....

Sand has a very important place in the desert landscape—but to the artists who come out into the arid region to paint pictures in oil it is very annoying to have a twister come along and fill the air with the tiny particles. They don't like sand on their canvases. That is, the majority of them do not. But here are a couple of artists who even go to the extent of grinding up rocks so they will have sand to put on their paintings. They borrowed their art from the ancients—and find it fascinating and profitable.

They Borrowed their Art from the Ancients

By G. CARPENTER BARKER

ROCK collecting is a popular hobby on the desert—and Mae and George de Ville of Gallup, New Mexico, are veterans in the pastime of gathering pretty stones.

But they are not ordinary rockhounds—these two collectors of Gallup. Instead of arranging their specimens in cabinets to show to admiring friends, they take them home and grind them up.

The reason is simple. The de Villes are artists, and the pretty stones they bring in from all corners of the desert are the materials they use in depicting vivid scenes of the Southwest and its people on canvas. So skillfully do the de Villes grind their rocks and reassemble the sparkling colored sand in brilliant landscapes and life-like Indian designs, their work has attained national recognition.

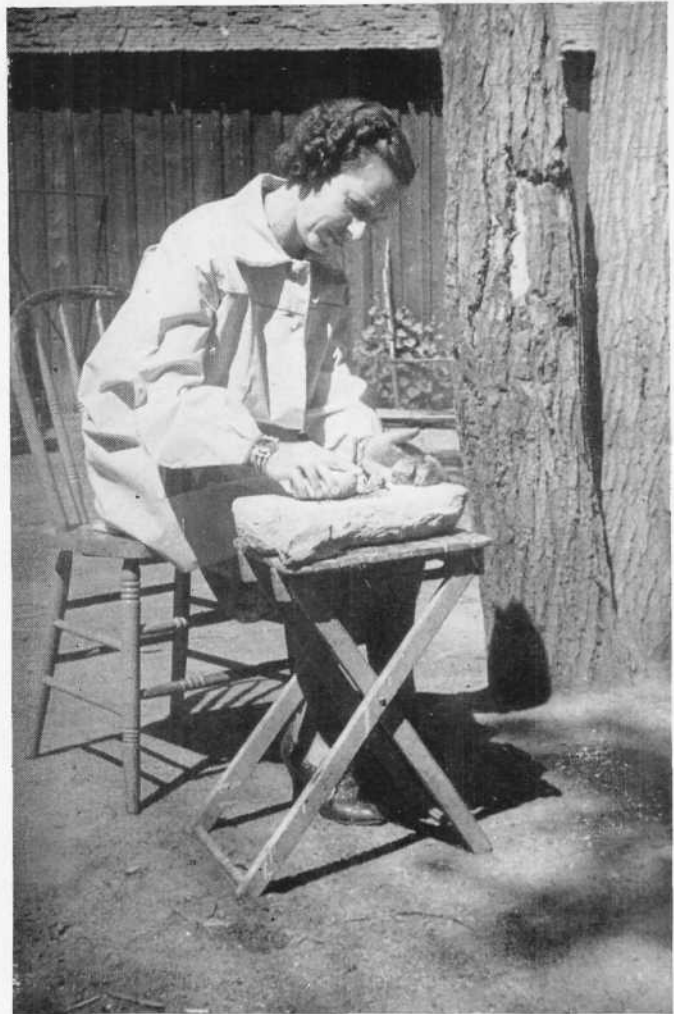
During my travels in the Southwest I had seen the unusual art work of Mae and George de Ville exhibited in many places. And when the opportunity came, I called at their modest home in Gallup to learn more about these artists and the work they are creating.

I found George in his shirt sleeves and Mae in the kitchen wearing a yellow smock that apparently served double duty, for cooking and painting. They are friendly folks, happy in their work, unaffected by the acclaim they have received, and genuinely hospitable.

"When and how did you become interested in this unusual type of art," I asked. "Is the idea original with you?"

George de Ville smiled. "It's hardly a new art," he said.

"The Navajo Indians, you know, have made ceremonial sand paintings for hundreds of years, and in the Old World the Byzantine mosaic painters made beautiful sand pictures many centuries before America was discovered by the white man. In our household the inventor was my wife."



Mae de Ville grinds the pigments for their sand paintings on a prehistoric Indian metate.

Eight years ago, he explained, Mae and he were stranded in Gallup. They had come out to New Mexico because they wanted to paint the southwestern desert, and they had spent months in portraying in oils the life and environment of the Indians. But in 1932, at the bottom of the business depression, oil paintings had no sale. Then Mae had her inspiration. Why not, she suggested to her husband, try making some souvenir sketches of the Painted Desert with the native Indian medium—desert sand? She believed her idea was practical, for she already had succeeded in gluing sand to canvas to reproduce the brilliant ceremonial sand paintings of the Navajo.

George was skeptical about using raw sand to portray the subtle effects of desert light, and from an oil painter's standpoint, the first sketch was indeed crude. Done in simple unblended shades, the result of hours of patient experimentation, it resembled a poster more than a painting. But the little particles of sand caught and reflected light in a way that was amazingly true to nature's own handiwork. Mae knew they had captured the spirit of the Painted desert. The proof came when the first little group of souvenir sketches were shown in Gallup store windows. Tourists bought them and tourists wanted more of them. So the de Villes put away their oil colors and began painting entirely with sand.

I had an opportunity to watch them at work in their studio. They led me to a large living room table on which were clustered a bewildering assortment of glass vials and paper containers, each filled with a different kind of sand. Seated at this table and holding his paint brush like a pencil, George looked more like an editor than an artist. The impression was heightened by his literary-looking pipe, which

he clenched, unlit, between his teeth while he applied a sticky white liquid to an Indian design outlined on his canvas.

Mae, meanwhile, took her place at the other side of the table and began applying the liquid adhesive to another design. Then, using her hand as a palette, she mixed some of the sand pigments to the desired color and sprinkled it over the prepared section of the design. This done, she applied the adhesive to another section and poured the sand colors on that also. In this way she gradually covered each part of the design with clear, fresh colors.

Detailed as is this process of painting, it is only the final stage of an arduous task which begins far out on the open desert. Periodically, the de Villes make rock-hunting expeditions to gather raw materials suitable to be ground into pigments. The rocks they select are alike in one respect—they must have been exposed to sun and storms of the desert for at least half a century. Only by choosing rocks which have been so exposed, can they be sure that their colors will be permanent.

Returning home from a desert rock hunt, George and Mae sort out their accumulated stones according to variety and color and then begin preparing the pigments. In this work, Mae's deft fingers excel. "In fact," George told me, "she considers the job too important to be handled by anyone else."

Using a prehistoric Indian metate or grinding stone, Mae carefully breaks up

each rock, then sifts the sand particles through cheese cloth and finally through muslin to obtain a consistently fine quality of pigments. The different colors then are placed in separate containers, ready for application. From the four or five crude shades used in the making of their first "Painted Desert," the de Villes have expanded their stock to more than 50 different hues of sand ground from such minerals as cinnabar, azurite, turquoise, copper, lapis and many other kinds of rock and ore. Some of their best materials come from ore dumps outside abandoned desert mines. The older the mine, the better for their purpose, for the rocks must have stood the test of weathering.

Equipped with this wide range of pigments, George now does sand portraits and character sketches, but his favorite subjects continue to be desert landscapes, particularly the Grand Canyon of the Colorado. Although the canyon for generations has been the despair of artists who have tried to paint it, George finds in this theme the ideal opportunity to display his medium to best advantage. The projection from the canvas of each tiny grain of sand seems to impart a vibrancy which only Nature herself can surpass.

While Mae now divides most of her time between preparing sand colors and producing exquisite small sketches, she hopes that eventually she will have enough leisure to return to her own special interest — making permanent reproductions of the Navajo sand paintings. It's not only the Indian designs that interest her, she says, but the stories be-



E. George de Ville—by himself.

hind the designs. Through long acquaintance with several medicine men she already has learned the symbolic meanings of many ceremonial paintings.

I had suspected that Mae was interested in Indian art, but not until I took time to explore the studio more thoroughly did I find out how keen a student she is. On shelves and tables around the room were many beautiful Indian vases and jars which came from the sites of ancient villages near Gallup. Inspecting some of the larger bowls more closely, I saw that their surfaces were criss-crossed by scores of tiny lines. These bowls, I found, she had carried home in fragments, bound up in a handkerchief, and then bit by bit had pieced them together.

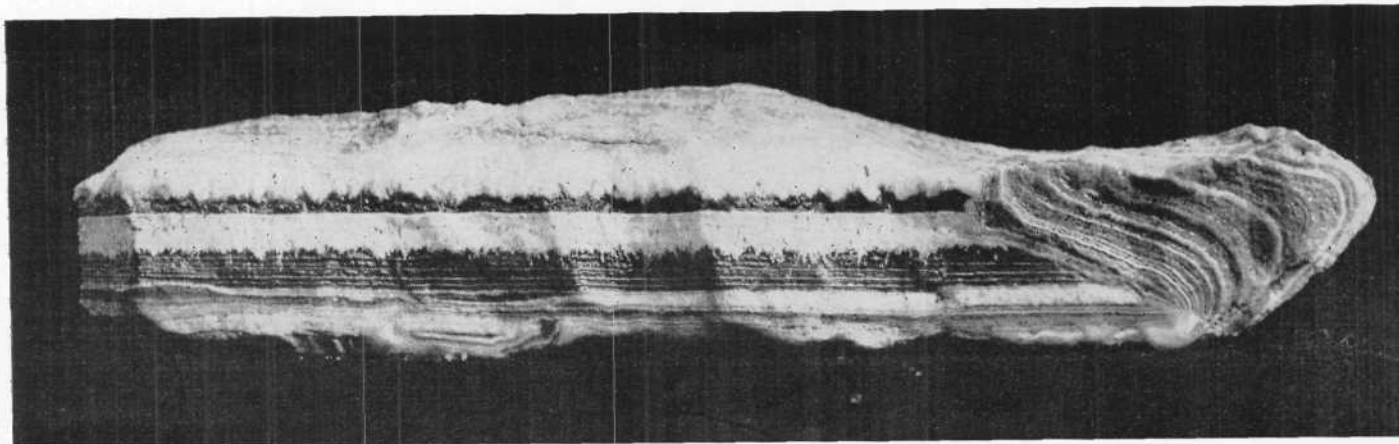
"Nowadays," she said, "we haven't much time for archaeology." And small wonder, for in the past few years more than 4,000 of the de Ville sketches and paintings have gone out to dealers and art collectors in many parts of the nation. Such wide interest has their work attracted that a large Hollywood motion picture studio recently sent cameramen to Gallup to film a feature of the de Villes.

"We're glad our work is gaining recognition," Mae told me, "but we don't intend to allow our reputation to interfere with our way of living—at least not more than we can help. This part of the country has become our home, and we intend to remain here."

They had chosen a good location for their headquarters. I find it hard to think of any other setting as appropriate for the development of their art. The veteran Navajo sand painters of this desert region have two worthy colleagues in E. George and T. Mae de Ville.



Tribal Life in the Canyons—done in sand by the de Villes.



Specimen of "petrified bacon" onyx from the Orocopia field. The colors in this slab are white and brown.

'Petrified Bacon'

By JOHN W. HILTON

"**G**OLD NUGGETS as big as potatoes!"

This was the rumor that reached the sleepy pueblos of San Bernardino and Los Angeles in the early 'sixties.

"Gold on the Colorado river—at La Paz! It may be a bigger strike than Sutter's Mill!"

There was the story of the Sonora miner who had found a single chunk of yellow metal worth \$800. Such reports were bound to start a gold rush, even in times of civil war, for the year was 1862 and California was in turmoil.

People were frantic to reach this place on the Arizona desert. The problem was how to get there. There were neither maps nor roads. The only known transportation route was up the river by boat from Yuma.

Blustering Bill Bradshaw solved the problem. He knew something of the country, and he believed a feasible route for a road could be found through San Geronimo pass and thence across the trackless wastes of Coachella valley. He was sure he could find a gap leading through the Chuckawalla mountains and into the river valley near the present site of Blythe. Then it would be a simple matter to ferry across the river to the newly discovered gold field.

It was Chief Cabezon of the Cahuillas who told him about Salt creek wash, that great sandy arroyo which divides the Orocopia and the Chocolate mountains and provides an easy grade and ample supply of water. Water was essential in those

days of slow travel—and still is for that matter.

With his Indian friend as guide, Bradshaw mapped his route—the old Bradshaw stage road. It has long since been abandoned, and is barely passable today, but three of the most strategic waterholes along the route are still there — Dos Palmas, Canyon springs and Chuckawalla wells.

Bradshaw planned well, estimating the distances between water, calculating the strength and speed of man and beast, and working out a solution for every obstacle.

In August, 1862, with the desert temperatures approaching 120 degrees, the first big caravan of gold-seekers went over the new route. There were 150 well equipped travelers in the party—and it is to Bradshaw's credit that they made the 250-mile journey through this hot and almost unknown land without loss of man or beast.

In August this year, within a few days of the 78th anniversary of Bradshaw's famous trek, Henry Eilers of Date Palm beach and I set out along the route the pioneer road-builder had opened up east of Dos Palmas. No, we were not seeking gold. I wanted to revisit and map an old onyx deposit I had located many years ago near the east end of the Orocopia mountains.

We left the floor of Coachella valley early in the morning loaded with bedrolls, grub box and plenty of water. We followed the paved Northshore road from Mecca to a point just east of Date Palm beach, then dipped under the Southern

John Hilton braved the temperatures of a mid-August day to visit an old onyx claim in the Orocopia mountains of Southern California. The rock there has little value except for specimen purposes—but the trip is full of historical interest for those who like to explore the out-of-the-way places on the desert. Wear your old clothes if you go on this field excursion, and take a shovel and plenty of water—it is not a place for tenderfeet.

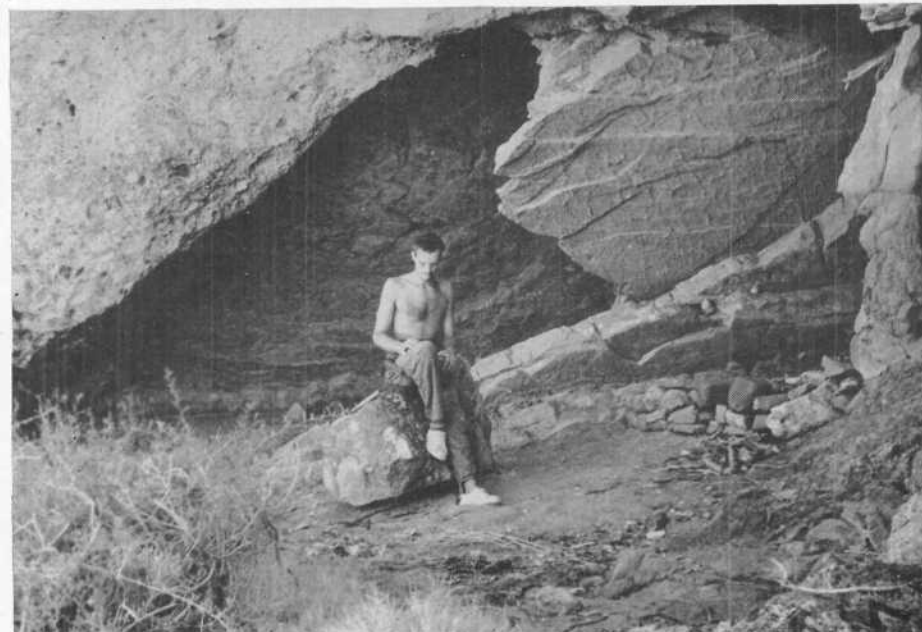
Pacific railroad tracks and followed the winding trail toward Dos Palmas. From this point east to the Colorado river the trail follows almost the exact route taken by Bradshaw. In fact, the deeply rutted tracks made by early day stage coach and freight wagon are visible for long distances.

First rays of the sun were breaking through the gap in the eastern mountains as we topped the rise near the site of the Spindle Top oil well — a prospect hole long since abandoned for the reason that no oil was found.

We passed the Dos Palmas ranch, a lovely oasis on the floor of the great bajada that extends from the Orocopia mountains to the edge of Salton sea.

Presently we came to the historic Dos Palmas springs. Here are the charred remains of the little cabin occupied by Frank Coffey for many years. Frank came to this region in the 'eighties. He and his burros prospected the Colorado desert for nearly 50 years, until his death in 1936.

This spot holds pleasant memories for those of us who have lived long on the Colorado desert. Frank Coffey was a mining man—but he was also a philosopher and story teller. No one ever thought of going through Dos Palmas without stopping for a chat with the veteran prospector. A stop meant a stay of at least an hour, for Frank liked to talk. He was always grateful for the magazines and papers I brought along when I was going that way. He would follow me out to the car, plant his foot on the



Above—Hilton and Henry Eilers stopped to inspect the ruins of the old Canyon Springs stage station—used in the 'sixties by the Bradshaw stage line.

Below—"Bradshaw cave" in the west bank of Red canyon where stage drivers and passengers once found shelter in bad weather. The rockhound sans shirt is Henry Eilers who accompanied Hilton on this field trip.

running board—and there I was anchored until he had finished his story. From those chats I learned much history and geology and legend that has never been written in books.

It was Frank who first showed me the cave in Red canyon where the stage passengers once stopped for shelter during bad weather in the days before the Canyon Springs stage station was built.

Frank left this world and the desert he loved at a time when it was beginning to change too rapidly for him. The last few years of his life brought disillusionment. Strangers began coming this way who did not so much as wave at the old man as they rode by his little shack.

"Now what do you s'pose I did to hurt their feelin's?" he would ask in a hurt voice. "Why they jest passed by without so much as lookin' in."

He never could understand why anyone would be in too much of a hurry to

stop and chat with an old man who had lived by the side of this road for 30 years.

"If felks are in that big a hurry, I don't see why they wasted their time comin' out here in the first place," he would say.

Cloudbursts in September, 1939, played havoc with the road through this region. Beyond Dos Palmas no effort had been made to repair the trail and there were frequent short detours when the first car along after the flood had turned out to avoid an impassable gully in the road.

So many detours were encountered along the way that my speedometer showed three-tenths greater mileage than over the same route a year and a half ago. This is a reason why travelers on unimproved desert routes cannot always depend on the accuracy of previous maps. Heavy rains do not come often on the

desert—but they generally change the mileage figures on these unsurveyed trails.

At the edge of Salt creek wash a faint trail leads off to the left to Orocopia mine. Although a fortune is said to have been produced by this mine in the early days, it is so little known today that few of the desert natives are aware of its exact location.

I had heard there were geodes a mile beyond the old mine, and decided to do a little exploring in that region. The little used trail up the wash to the mine is very sandy, but we kept our momentum and had no trouble.

The old mine camp is about demolished. The tool house and blacksmith shop which survived many years of weather and vandalism were blown down in recent times by a desert twister. Some tunnels, inhabited by bats, the tailings and the foundation of the mill are all that remain.

The sun was high and the rocks were almost too hot to hold on to for support when we had completed our inspection of the mine and started to climb the hill behind it.

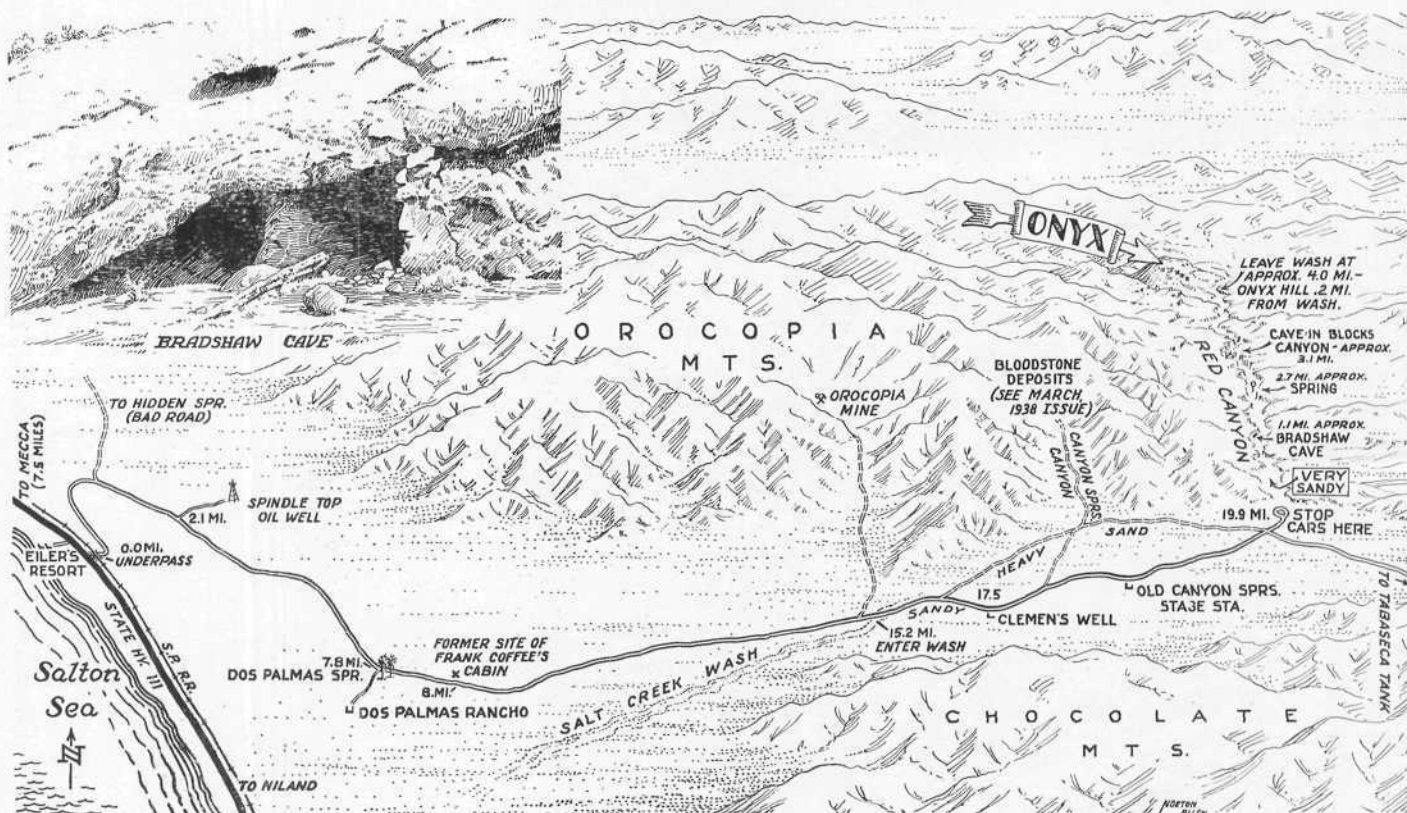
We reached the top and in a little valley below was a banded plutonic formation which might carry geodes. It appeared nearly two miles away, but after coming this far we were determined to go on.

The distance actually was close to three miles and our canteens were nearly empty when we reached the banded rock. It was a fruitless trip. There were geodes in the rock, but they were too small and soft to be of much interest. We separated and explored the area a quarter of a mile each way, but found nothing worth taking home.

There may be geodes back of the Orocopia mine—but we simply did not find them. It is a wild and colorful region, but I would not recommend it for a mid-summer hike. We returned with empty canteens, but there was ample water in the car.

It was easy going down grade to Salt creek wash again. We resumed our trip along the old stage route and stopped at Clemens well. The water was foul with the bodies of trade rats, but we bailed it out for the benefit of the next traveler who comes this way.

Our next stop was at the old Canyon springs stage station on the south bank of the arroyo. The old rock house is in ruins, due partly to the elements but more largely to the excavations of those fools who imagine there is treasure buried beneath the foundations of every historic landmark. I wish those thoughtless persons who invent tales of buried treasure for campfire entertainment would pick on something besides these old stage buildings. If some restoration work is



not done soon the old Canyon springs station will be only a memory.

Across the wash from the stage station is the tributary wash in which the springs are located, and it is up this arroyo where the bloodstone deposit described and mapped in the *Desert Magazine* of March, 1938, is located.

Red canyon, the tributary wash which was the objective of our trip, enters Salt creek arroyo from the north, and is the second canyon beyond the stage station. Turning left up the side wash we were soon pulling in heavy sand. All went well until a sharp jog in the watercourse slowed us down — and then we were stuck.

The sun was low and we were tired and hungry, so we concluded this was an ideal spot for a camp. We could dig the car out in the morning when we were fresh.

It wasn't as hard a job as we had anticipated. Flat slabs of flagstone were abundant, and they solved the problem very readily. We continued our way up the arroyo by a method that is slow but sure—on foot.

The geology of this canyon is interesting. It has been eroded in upturned beds of red sandstone which evidently had formed in the bottom of an ancient lake. Patterns made by mud worms crawling on the bottom, and the ripple marks of the waves on the beach help tell the geological story.

Here and there these sandstone beds are cracked, and hot lime-bearing waters have deposited aragonite in the form of limestone onyx in the seams. Other

larger crevices following the bedding planes of the uplifted stone are filled with plutonic rock that must have forced its way to the surface through fissures caused by the upthrust of the land blocks. It is in such bands of plutonic rock that bloodstone and geode fields occur.

Presently we came to a cave. Several names have been given this cavern by prospectors who inhabited it at various times. One visitor even named it after himself and proclaimed the fact by scratching it in the sandstone. As far as I am concerned it is Bradshaw cave. Bill Bradshaw, more than any pioneer of this region, deserves the honor.

When Frank Coffey first guided me to this cave eight years ago he explained that in the early days of the Bradshaw route there was no time to erect shelters. Red canyon was a watering place for travelers, and it was only natural that the cave should be used as shelter by those who camped here.

Coffey said that within his memory the cave had been much deeper than it is today. He explained that the Hemet earthquake many years ago shook a great block off the canyon wall and subsequent cloudbursts carried it away, leaving only the rear portion of the cavern intact. L. S. Barnes who has known the cave for many years, confirmed Frank's statement as to the previous depth of the cavity.

A hard layer of sandstone that has resisted erosion bisects the cave at a sharp angle, forming two rooms. Both Coffey and Barnes told me that on those rare occasions when there were women in the party one room was assigned to the

ladies, and the other reserved for the men.

A short distance up the canyon beyond the cave we came upon recent evidence of the changing desert landscape. A great mass of the canyon wall had fallen into the streambed and formed a natural dam. This had happened since my last visit here. In fact it was so recent that the dust on the rocks had not been disturbed. The earth movements accompanying the earthquake in Imperial valley this year may have caused this fall. It will be interesting to see what happens when the next cloudburst sends a torrent of water down this arroyo—whether the obstruction is washed away, or a desert tank formed here. Eventually erosion will clear the obstacle.

We continued our hike up the canyon and reached a point where a dike of bedrock crossed the floor of the arroyo. Above the natural dam there were salt grass and other signs of water.

Henry and I decided to dig for moisture. Not that we needed the water, but we were interested to know if the underground tanks here retained their supply of water through a summer in which there had not been a thunder shower to replenish them.

With our prospector's picks for tools we began excavating. First we came to damp sand, and then a little deeper the soil was dripping with water. Soon the hole began to fill. On such a day as this it is always consoling to know that a natural water supply is available, even when the canteens are full.

It was noon when we reached the base



Above—The X's mark the general area where the onyx is weathering out of the Orocopa field.

Below—Flagstone slabs were used to get the car out of the sand in Red canyon. Desert Magazine readers who visit this field should park their cars in Salt creek wash at the entrance to the canyon and hike to the onyx field.

of the hill where my old onyx claims are located. We stopped in the shade of the canyon wall for lunch, then entered a small side canyon on the left. There was onyx float in the bottom of the wash, and as we climbed higher the limestone rocks became larger and more frequent. The outcropping of the stone is near the top.

The claim monuments were still standing, although I abandoned the deposit as a commercial enterprise years ago. The onyx seams are too narrow to be of any value other than the carving of small objects. The place is so inaccessible as to make it doubtful if even a large deposit could be worked with profit.

We found many shades of color here and on the surrounding hills. The colors ranged from snow white through pale yellow to dark reddish brown. Perhaps the most interesting type from this field is marked like a slab of bacon. When such a piece is sliced on a diamond saw the effect is quite striking. In fact one

of my friends with such a specimen promptly labeled it "petrified bacon," and was dismayed to find that some of his visitors believed it.

From the onyx deposit we wandered over the surrounding hills to another intrusion of plutonic rock. There we found some larger geodes, but they were very soft and not especially attractive.

Time flies too fast on a rock-hunting trip. Before we realized it the shadows were growing long—and our canteens were nearly empty. We started the long walk down the canyon—and before long we were grateful that there would be additional water available when we reached the hole we had excavated earlier in the day.

Our throats were parched and that little trickle of muddy water became an important goal. We knelt to drink—and discovered that our waterhole was alive and crawling. We were not the only thirsty beings on the desert. Wild bees

had found the new waterhole, and were making the most of it.

Gingerly we scraped them away to fill our canteens. They resented our intrusion, and we each left with a sting or two as a souvenir of this adventure.

On the trip home that evening we talked about Bill Bradshaw and the frontiersmen who blazed this old trail across the desert. There have been tremendous changes on the desert horizon during the intervening 78 years. And yet Salt creek wash today is just about as they found it. Clemens well has been dug; the Orocopa mining boom flared up and passed; the old rock house is going back to desert and the cave is not as deep as it was—but the hills are as silent and majestic as when Bill Bradshaw first followed the white ribbon of sand that is Salt creek wash.

Stage coaches no longer rattle over the bumpy road and parties of wild-eyed gold seekers come no more to this region, but in their places come others seeking treasure—treasure that cannot be spent—specimens of rock that carry with them memories of sun shot canyons, breathless climbs and star-studded desert nights. They are treasures that, in terms of health and real happiness, probably have far greater buying power than the gold that was mined by those old-timers nearly a century ago.

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4200 NAVAJO INDIANS REGISTER FOR DRAFT

To take care of the registration of 4200 Navajo Indians who were required to enter their names under the army conscriptive service measure, Superintendent E. R. Fryer of the Navajo agency arranged to have 125 registration places opened on the huge reservation in Arizona and New Mexico. Indian service and volunteer interpreters were required at all the registration stations to explain the meaning of the draft forms.

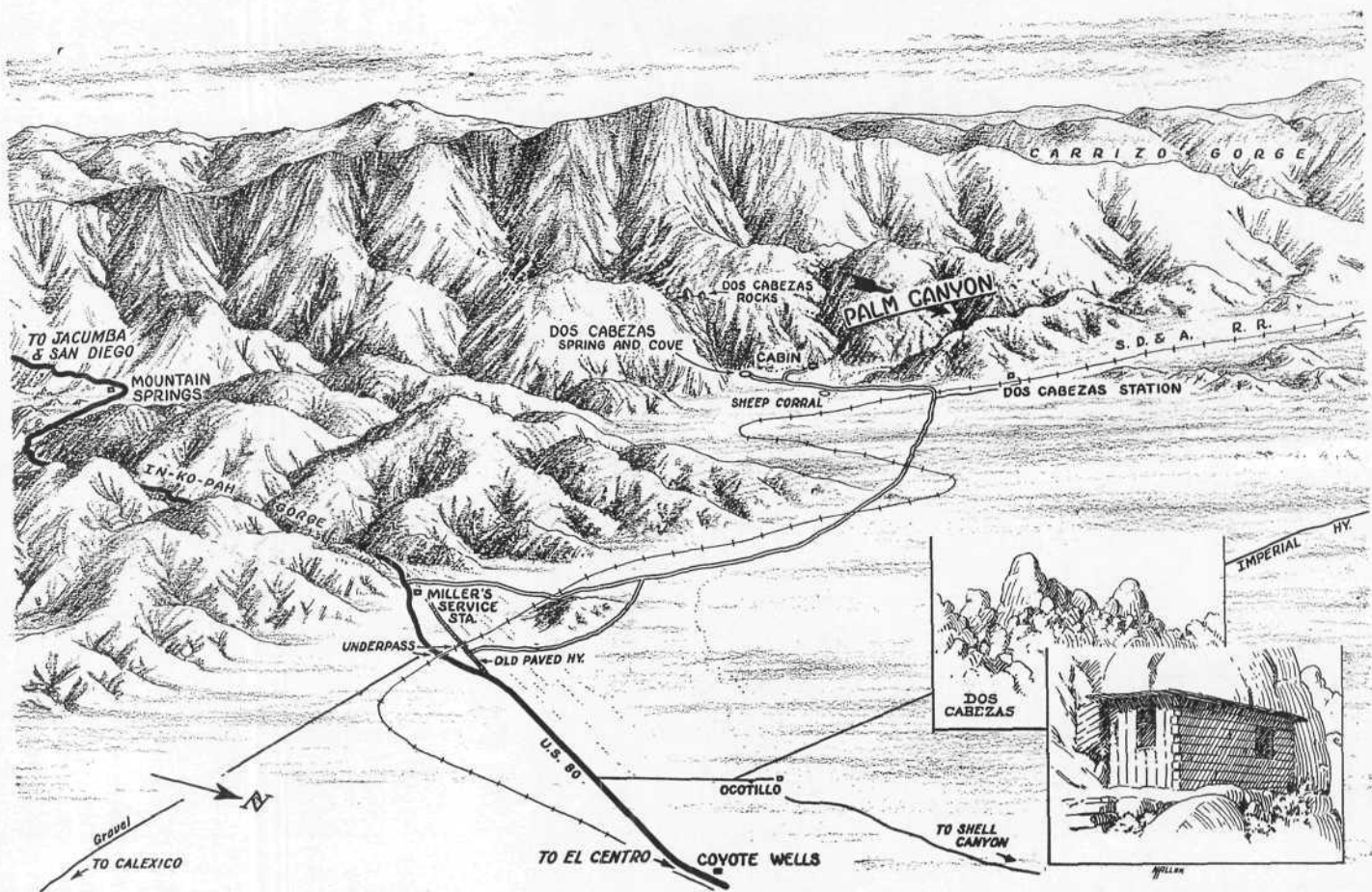
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MONUMENT TO HONOR CORONADO IS PROPOSED

Senator Carl Hayden introduced a bill in congress the last day of September to set aside an area along the Mexican border as the Coronado International monument.

Under plans sponsored by Arizonans a similar park area will be set aside on the Mexican side of the line so that the proposed reserve will be truly an international park.

A bill previously introduced by Hayden to withdraw 50,000 acres from the present limits of Saguaro national monument in Arizona passed the senate, but a presidential veto was predicted in Washington.



Cahuilla tribesmen camped in Mortero canyon long before the white man came to western America—but because of its inaccessibility few white people have visited this oasis since the ancients departed. The Indians left behind their grinding mills—and it is from these that the canyon derives its name. Here is a weekend trip for Southern Californians who like to follow the winding trails that lead to remote corners of the desert.

Palm Oasis in Mortero Canyon

By RANDALL HENDERSON

ONE of the old-timers told me many years ago about a little palm oasis he had discovered in a desert canyon in Southern California not far from Dos Cabezas in eastern San Diego county.

"The palms are hidden away in a little side canyon," he said. "You'll come upon them suddenly, in a place where you would never expect to find palm trees."

His directions for reaching the place were confusing. But that was of little importance. I had tramped the Dos Cabezas area many times—and if the oasis was there, surely I could find a landmark as

conspicuous as a group of Washingtonia palms.

Eventually I did find them—but not until I had spent several weekends in quest of this remote little oasis. I came upon them suddenly—just as my prospector friend had said.

I was following an obscure canyon that seemed to fade out against the rocky slopes of a ridge a short distance ahead. But there is nothing on earth more deceiving than a desert canyon. The huge jumble of rocks which seemed to mark the end of the canyon was just a blind.

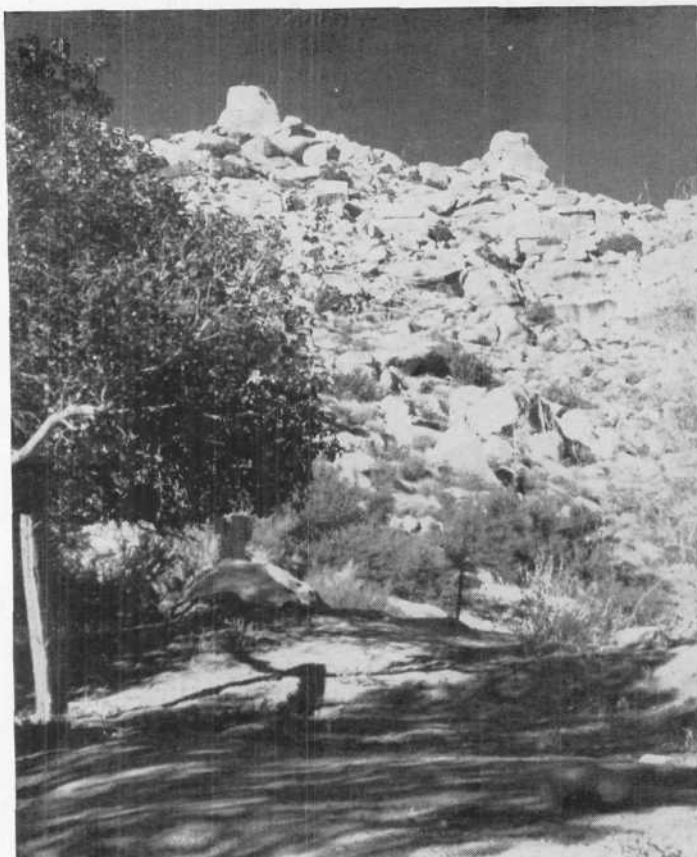
I had worked my way up over the loose material for perhaps 300 feet—

DOS CABEZAS LOG

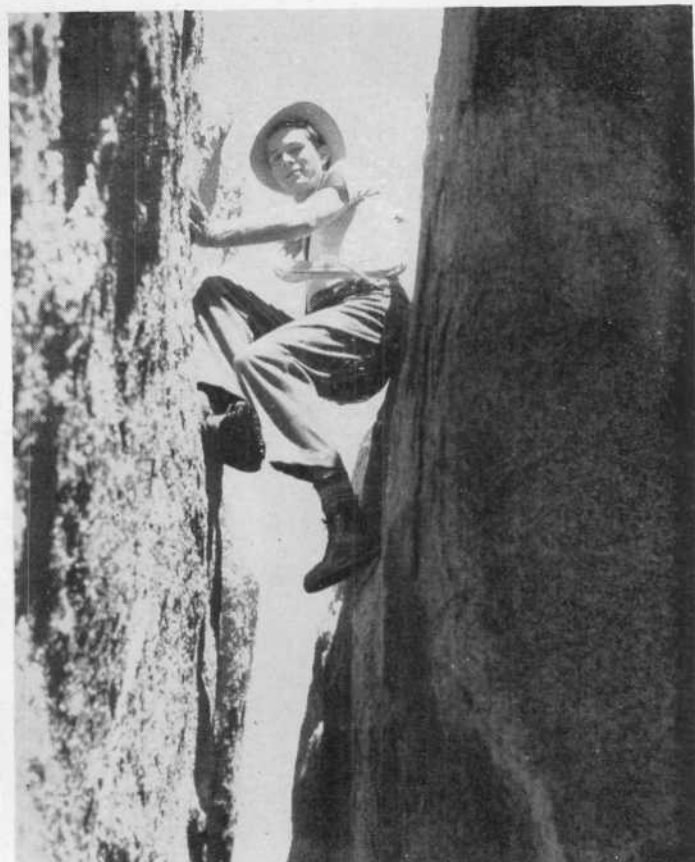
- Miles
- 0.0 Miller Service Station, Hwy 80
 - .7 Leave pavement. Turn right on gravel road crossing In-ko-pah wash.
 - 1.4 Cross S. D. & A. tracks at Sugarloaf mountain quarry.
 - 2.1 Junction. Take left road.
 - 4.0 Cross railroad tracks.
 - 4.6 Cross railroad again.
 - 6.3 Cross tracks again.
 - 6.4 Junction. Take left road.
 - 7.9 Pass old sheep corral.
 - 8.6 End of road in Dos Cabezas cove.

and then as I raised my head for a breathing spell I saw the green fronds of a tall palm just a few feet ahead. This tree was the outpost on sentinel duty. Beyond it in an amphitheater-like cove was a veritable jungle of palms and desert shrubbery.

That was my first glimpse of the oasis in Mortero Palm canyon. I have returned there many times since that first visit. Native desert palms have a fascination for those who like to explore the remote canyons. For, where there are palms there is always water — generally a clear cool spring or a running stream. And where there is a natural supply of water on the desert, Indian tribesmen once lived. Wind and rain and erosion may have covered up or removed most of the evidence of



This photograph, taken from the floor of the cave, shows just the tops of the towering bald-headed boulders known as Dos Cabezas.



To reach the top of one of the Cabezas it was necessary to work our way up a crevice between two great boulders of granite.

aboriginal life — but a diligent search sooner or later reveals that ancient redskins once camped nearby. The evidence may be pottery shards in the sand, or broken chips of a foreign chalcedony or obsidian. Sometimes it merely is a weathered prayer stick buried in the dust of a cave, or the faint trace of glyphs on the eroded face of a rock. I know of but one exception to this rule. That is at Palm canyon in the Kofa mountains of Arizona. I have yet to find tribal relics in that spot. But the water supply there is so far beneath the surface, and the canyon so precipitous that I can understand why Indians ignored the place.

My most recent trip to Mortero Palm canyon was in September this year. My companion was Rand, my 20-year-old son who is now a member of the Desert Magazine staff.

We packed our bedrolls and grub box in the back of the car on a late Saturday afternoon and left El Centro on U. S. Highway 80, heading toward the mountain range that forms the western rim of the Colorado desert.

Less than a mile beyond Miller's service station, at the foot of the Mountain Springs grade, we left the paved highway and dropped down into the dry sandy bed of In-ko-pah arroyo. The rough road crosses the wash to Sugarloaf mountain, then turns west along the tracks of the San Diego and Arizona railroad.

A wide desert valley extends back into the Peninsular range west of Sugarloaf and the road across this valley is a winding ungraded trail bordered by a luxuriant growth of upper Sonoran vegetation — ocotillo, jojoba, cholla, ephedra, agave, and on the higher levels juniper.

The rain gods were kind to this section of the desert this September. We came along two weeks after the showers, and the ocotillo already had thrown out shaggy coats of green leaves. Even the burroweed, which does not usually respond to rain as quickly as ocotillo, was leafing out. When ocotillo and burroweed are both in leaf the whole aspect of the desert changes. The browns give way to a horizon of green. The traditional desert — the land of pastels — takes on a rich deep coloring that is a contradiction of the very word desert.

Just before reaching Dos Cabezas cove we passed a pile of huge boulders and in the shelter of these rocks is an old sheep camp, constructed about 1920 by Bob McCain, who now runs cattle in the range to the west. There are too many dry years to make sheep raising highly profitable in this area, and the camp is deserted most of the time.

It is possible to get a first glimpse of Mortero palms from the sheep corral. A tiny cluster of green fronds may be seen in a little canyon far off to the southwest. Note the location well if you plan to hike

to the palms—for it is the last time you will see them until you reach the oasis.

We camped that night in Dos Cabezas cove with the bald-headed boulders that gave this place its name, towering in the moonlight above. Dos Cabezas is Spanish, meaning "two heads."

It is a lovely camping spot. The trail comes to a dead end here. The place is too remote for paved-road tourists, and you'll feel as far removed from the rest of the world as if you were camping on the planet Mars.

Take plenty of water, for it is a dry camp. Twenty years ago when the railroad was being built across the mountains from Imperial valley to San Diego the springs were capped and the water piped to Dos Cabezas station several miles away. Water can be obtained at the station.

Desert willow is the predominating tree in the cove, but there are also mesquites, and a trio of mountain sumacs that have grown to tree-like proportions.

The railroad construction crew built a picnic table under the sumacs. It is still there, covered with the initials of visitors. Since the urge to carve their initials in public places seems to be uncontrollable in many humans—the table is the best place to put them. Certainly it is better than mutilating the trees. I've often wondered if the problem of the initial-carvers might not be solved by erecting



Above—Looking down into Dos Cabezas cove from the slope that leads to the bald-headed rocks.

Below—Mortero Palm oasis is hidden away in an amphitheater-like canyon that few white people have discovered.

a heavy plank slab or oak or walnut at such places—as a sort of whittling post for the jackknife fraternity.

We were eating our breakfast flapjacks the next morning as the first rays of the sun came over the eastern horizon. Of course the two Cabezas on the top of the hill were the first rocks to be lighted—and for a few moments they stood out like white monuments on a ridge of black granite.

It is a strenuous climb to the top of the saddle where the Cabezas are located. The huge boulders and slabs of rock which cover the steep slope bear the watermarks of a stream which poured down

from above at some comparatively recent period in pre-history.

When the white man first came to this cove the springs were gushing from the rocks near the bottom of the slope. But it is quite certain that during a previous period they were pouring their crystal stream from cavities high up on the ridge near the base of the bald knobs. The evidence of waterfalls and pools still remains. In crevices on the shady side of some of the boulders are hardy little ferns that have clung to life as the water supply diminished—and now have adapted themselves to an arid environment.

We planned to climb the two Cabezas

—but it was confusing when we reached the top of the ridge to discover that there is a whole park of bald-headed knobs. We climbed the two highest—but are not sure yet whether or not they are the two which stand out so conspicuously when seen from the floor of the cove below.

Wind and sand and water have eroded little tanks about the size of washtubs at the top of one of the knobs. Natural bird baths they are—but unfortunately for the birds the rain does not come often enough to make them a reliable source of water.

Frost and water and sun and sand have created strange freaks among the boulders in the natural park on the top of Dos Cabezas ridge. Great cavities have been hollowed out of some of the rocks, and it is possible to climb inside of one granite pedestal and look out through a natural window carved by erosion in the hollow shell. It is a perfect lookout for an Indian warrior—but quite evidently is Nature's handiwork.

It is possible to reach Mortero palm oasis from the Cabezas by climbing over a couple of ridges to the west, and then dropping down into Mortero canyon from above. The more practicable route is to go from the floor of the cove as shown in the accompanying map.

Visitors to Dos Cabezas will observe two little cabins at the base of the boulder-strewn ridge which encloses the cove on the west. These cabins—now deserted—were built and are owned by Harry Cross of El Centro, California. Harry took an apiary into this region 20 years ago, and has been keeping his bees there in good flowering seasons ever since. The cabins are his bee camp, where he lives and extracts his honey when he is operating in that region.

To reach Mortero palms the motorist should take the faint trail that leads to these cabins, and park just beyond them—but not too far beyond, for there is heavy sand ahead.

From this parking spot hike straight ahead to an arroyo. Follow up this wash. Another arroyo comes in from a canyon on the left. There is one lone palm up this canyon just beyond the first bend. But to reach the Mortero group continue in the main wash to the second tributary which comes in from the left.

My directions are explicit because it is impossible to see these palms until you are in the midst of them. Nature hid them well—and that is one of the reasons for the fascination of this oasis.

It is a steep and rocky route, up that second tributary, with no trail. There is nothing hazardous about it—just a hard vigorous climb for those not accustomed to the mountains.

About half way from the mouth of this tributary to the palms are the old Indian mortars from which the canyon derived its name. They are in the bottom

Sez Hard Rock Shorty of Death Valley . . .



By LON GARRISON

"LAZY," demanded Hard Rock Shorty. "Yuh think I'm lazy? Great Jumpin' Jack Hammers! Me lazy? Why only last week—but Shucks! I knowed a guy oncet that was lazy though."

Hard Rock settled back in the shade and chewed on his pipe stem until his blood pressure went down, before he went on with his tale of the man he knew once who was really indolent.

"I'll tell yuh about this Do-Nothin' Jones. He'd a little claim over here on Thirsty crick, an' it was really dry. No more water over on it than there is in the Cactus bar. But Jones was a prospector, an' the color was good so he staked 'er out. One day Pisgah Bill an' me got to wonderin' how things was goin' so we meandered over to look. Couldn't find no trace o' the owner. Do-Nothin' Jones 'd skipped. Had things rigged up kind o' complicated though an' me an' Bill couldn't figger it out so went home.

"After I'd set an' think about it a few days I decides to go back an' take another look. This time I got it, an' say! This Do-Nothin' Jones must o' been a top hand at

figgerin'! All this gold was in a little box canyon an' up to the head of it Jones'd rigged up a big sheet iron shield. Had one o' these here little carbon dioxide seeps under it to keep it cold an' nature done the rest.

"The hot air rushin' up the canyon'd hit the cold iron an' this'd condense the water out. This water'd run down the crick an' wash the sand out over some natural pot holes they was there. Down below was a mercury deposit and Jones'd set some o' this rock out in the sun 'til the mercury cooked out an' then carry the high grade down an' mix 'er up a bit. Then he'd set the amalgam back in the sun and let the mercury all cook out again an' shovel up the gold. Purty nice—an' it worked too!

"But as I was sayin', this Do-Nothin' Jones was about the laziest cuss, outside a jassack, I ever seen or hearn about, an' after it was all set up he was too gol-blamed lazy to run it. Just walked off an' left ever'thing. Didn't even clean up the last time. An' that gold'd be there yet if I hadn't hired a guy to go out an' shovel it up for me!"

of the canyon on the flat top of a great slab of rock which forms a dike across the water course. Probably a stream of water poured over this dike at one time forming a waterfall. It is easy to visualize the women of an ancient tribe sitting on the flat rock beside the stream, chatting about their domestic affairs as their pestles crunched the mesquite beans in the bottom of the mortars.

At a later date a white man came here, and just upstream from the mortars, built a concrete water tank for cattle he was running on the desert below. But a cloudburst wrecked the tank, and the rainfall in this area is too sparse to make stock grazing a profitable venture. The morteros probably will be there long after the last vestige of the water tank has been swept away by floods.

The catsclaw will pick at your clothing and the loose rocks slip from under your feet as you ascend that steep 300-foot slope above the morteros. But when you reach the top, the hard part of the trip is over. The palms are just ahead.

The Washingtonias in this group still wear their shaggy skirts. Some of them show evidence of ancient fires—perhaps started by Indians, or by lightning. But few feet have trod that jungle of palms and arrowweeds in recent years.

There is a little spring in the center of the oasis, but it is not very accessible due to the jungle of shrubbery that has grown up around it. Visitors should take their canteens to be sure of their water supply.

One of the striking landmarks here is sea lion rock—located on the hillside just above the little pile of slabs where nearly every visitor stops to eat lunch. I have followed this water course some distance beyond the palms, but as far as I know it is the only group of Washingtonias in the canyon.

Mortero canyon is included within the proposed boundaries of the greater Anza desert state park. Political and uninformed persons in San Diego have been seeking to block the reservation of this land for park purposes. My opinion is that if they were better acquainted with this region their objections would be withdrawn. Cattle raising has proved unprofitable here. There is not sufficient water for agriculture. It belongs to the public as a playground—a playground whose beauty will be reserved for those who have the hardihood to venture off the paved highways and explore the real desert that lies behind the austere mask of the arid region.

There is a rugged fascination about Dos Cabezas and the Mortero palm canyon that cannot be measured with dollars nor bought with gold. They belong to Nature-loving Americans of every creed and color and race.

Prizes to Amateur Photographers

Each month the Desert Magazine offers two cash prizes for the best camera pictures submitted by amateur photographers. The first award is \$5.00 and the second \$3.00.

Pictures are limited to desert subjects, but there is no restriction as to the residence of the photographer. Entries may include Indian pictures, rock formations, flowers and wild animals, canyons, trees, waterholes — in fact everything that belongs to the desert country.

Following are the rules governing the photographic contest:

1—Pictures submitted in the November contest must be received at the Desert Magazine office by November 20.

2—Not more than four prints may be submitted by one person in one month.

3—Winners will be required to furnish either good glossy enlargements or the original negatives if requested.

4—Prints must be in black and white, 3 1/4 x 5 1/2 or larger, and must be on glossy paper.

Pictures will be returned only when stamped envelopes or photo-mailers are enclosed.

For non-prize-winning pictures accepted for publication \$1.00 will be paid for each print.

Winners of the November contest will be announced and the pictures published in the January number of the magazine. Address all entries to:

Contest Editor, Desert Magazine, El Centro, California.

Desert Place Names

Magazine is indebted to the research work done by the late Will C. Barnes, author of "Arizona Place Names;" to Betty Toulouse of New Mexico, Hugh F. O'Neil of Utah, and Marie Lomas.

ARIZONA

CASSADORA Gila county
Spring and mountain named for San Carlos Apache sub-chief whose small band lived in the Gila valley now covered by the waters of Coolidge dam. In 1873 several whites were killed by Apaches in the vicinity of Cassadora's camp. The chief said his people were not responsible, the killing was done by "bad Indians." When settlers refused to believe him, troops were ordered to hunt the killers and to take no prisoners. Fearing death, Cassadora and all his band fled to the hills, men, women and children on foot. As Capt. J. M. Hamilton's cavalymen tracked down the fugitives, a squaw walked into the bluecoats' lines. Her people wanted to give up. Hamilton told her none would be allowed to surrender. Despite this ultimatum the entire band appeared next morning, their hands in air as a sign of peace, and asked for mercy. Cassadora spoke: "We were afraid because some bad Indians had killed white men, so we ran away. That was wrong. We cannot fight. We have no arms or ammunition. Our food is gone. We suffer from hunger. Our moccasins are worn out. You can see our tracks on the rocks where our feet have left blood. We do not want to die. But if we must, we prefer to die by the bullets of your soldiers' guns than from hunger. We come asking for peace." This was too much for Hamilton. He swore he would rather lose his place in the army than kill these Indians in cold blood. He fed the tribesmen, sent a plea to headquarters asking that the order to take no prisoners be rescinded. This was done. Cassadora's band surrendered on February 18, 1874, troopers escorted the Apaches to the homes from which they had fled.

SALOME CREEK Gila county
Rises north of Roosevelt lake on west slope of Sierra Ancha and flows southwest into lake. Stream originally named for the daughter of Herodias. Spanish pronounced it "Sal-oh-may," accent on the last syllable and this the early American settlers turned into "Sally May." By 1886 the name was commonly attributed to two daughters of an old (and mythical) settler, "Sally and May," whose existence is very unlikely, Barnes comments.

NEW MEXICO

ST. VRAIN Curry county
From Cesari St. Vrain, pioneer trapper who went to New Mexico with Kit Carson in 1826.

For the historical data contained in this department the Desert

CALIFORNIA

FISH SPRINGS Imperial county
One and a half miles south of Riverside county line between highway 99 and Salton sea, artesian springs fed by escape of Coachella valley water. Named from the fact that a certain kind of fish has long lived in the tepid water, which has a temperature of about 90 degrees. C. R. Orcutt, in Western American Scientist, vol. 5, September 1888, under the title Fishing on the Colorado desert, describes catching *Cyprinodon californiensis* there and gives water temperature as 100 degrees. Main spring occupies a pool once measured as 20 feet or more in depth. U. S. geological survey reports origin of springs of this type may be due to softening and carrying upward of fine silty soil by rising currents of water. These and similar springs may represent dying phases of vents kin to mud volcanoes south of Salton sea and their openings may have more truly explosive origin. Fish springs are best example known of the type, but Figtree John (see Desert Magazine May 1940 p 42) and Dos Palmas (Desert Magazine Jan. 1940 p40) are of the same type.

NEVADA

GOLDFIELD Esmeralda county
In November 1902 Harry Stimler and Billy Marsh, two young Tonopah prospectors, entered the district now known as Goldfield. First they stopped near Rabbit springs. On Columbia mountain they opened ledges that later produced hundreds of thousands of dollars. Finding gold float about a mile north of the town of Columbia, they struck out into the surrounding country. When they hurried into Tonopah their samples assayed \$12. in gold. They returned to camp, made 19 locations and named the district "Grandpa." A gold rush followed, somebody put out the slogan, "Once a desert, now a gold field" and the original name "Grandpa" was forgotten in the more glamorous title, Goldfield.

UTAH

BEAR RIVER CITY Box Elder county
Alt. 4,498. Pop. 436. Settled 1866. Derived its name from Bear river, near which it is situated. Region at headwaters of this stream once abounded in black bears.

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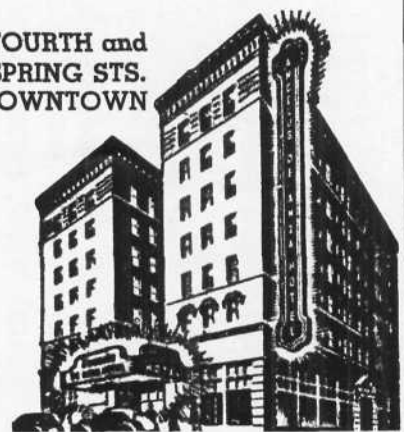
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Opuntia Erinacea

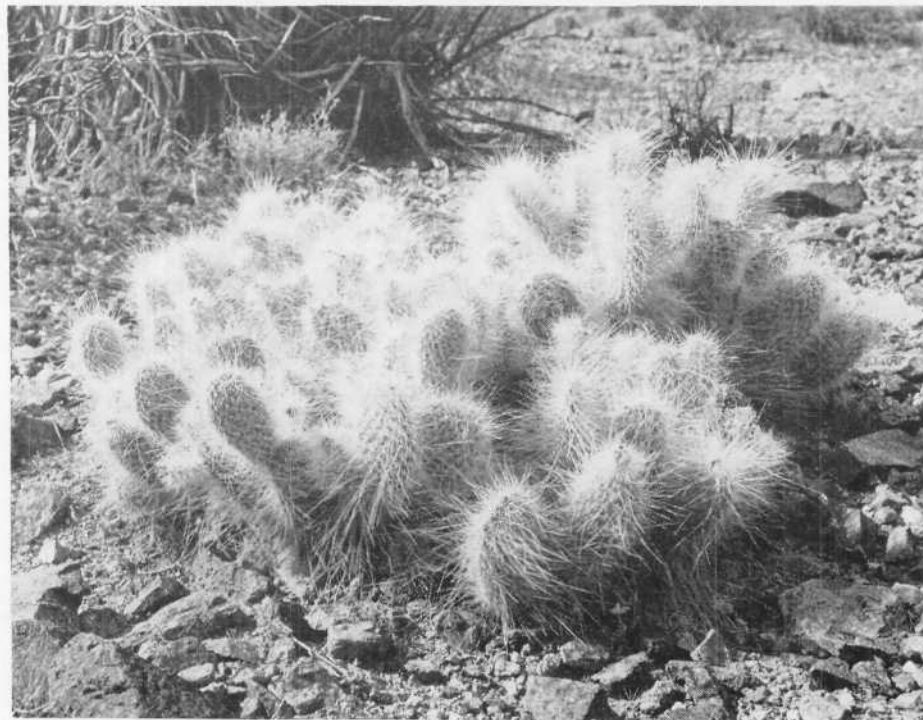
By ROY MILLER

Belonging to the same genus as the common prickly pear cactus, *Opuntia erinacea* is strikingly different in appearance. Instead of having vicious spines, the joints or pads are covered with long flexible bristles or hairs which are usually white or light grey in color. Nature must surely have been in a prankish mood when she designed a woolly looking coat for this desert dweller.

Opuntia erinacea ranges over a rather

Ord mountain district south of Daggett, California, there are some with bristles up to 12 or 14 inches in length! This variety has long been sold by cactus dealers under the name of "Grizzly Bear" cactus, and is sometimes called *Opuntia ursina*.

Members of this species have no fear of cold weather. Growing as they often do at very high altitudes they encounter low temperatures and sometimes are snowbound most of the winter. This does them no harm as they prepare for the cold early in the autumn by going dormant and drying out, losing most of their succulent nature. Many of the pads then lean over until they are practically



Colony of Grizzly Bear Cactus. Photo taken by the author at Ord mountain, Mojave desert.

large territory and—as usual in the cactus family—varies considerably in different localities. Plants have been found in California as far north as Bishop and as far south as the San Jacinto mountains, along the Palms to Pines highway. From here they range north and east through southern Nevada and northwestern Arizona to the southern part of Utah.

Variations in this species need not be confusing, even to the beginner, as they consist only of differences in the size of the joints and in the length and color of the spines. The joints or pads are light green in color and rather flabby in texture and may be from two to eight or ten inches long. The spines or bristles run from snow white to grey or yellow and may or may not have the tips colored red or black.

Among cactus collectors, the longer the bristles the more desirable the plant. Some very fine specimens have been found. In the

prostrate and thus spend the winter under the snow. In the spring the prostrate pads form roots and send up new shoots and so the clump spreads year by year into a tangled mass of pads and bristles.

The flowers are large for the size of the plant. They grow along the upper edge of the pads—sometimes three or four on a pad, and are usually 2 or 2½ inches across. They vary in color from light yellow to red, occasionally with a double row of petals. The seed pods are covered with short stiff bristles.

This is another species which was named in 1856 by that pioneer desert botanist, Dr. George Engelmann, and although hairsplitting botanists have quibbled over the name many times since, it is still recognized by most authorities.

In cultivation this plant is very satisfactory—the only objection being that the spines may turn to a rather dirty grey in some cli-

mates. Collectors in northern states report that it is very hardy and withstands severe frosts. Cuttings require only the usual precautions necessary with cactus to become established in the garden; that is, dry the fresh cut thoroughly for about two weeks after which it can be rooted in sand and then transplanted to a medium rich soil that is well drained and in partial shade.

...

Cleveland, Ohio . . .

New officers of the Midwest Cactus and Succulent society are John Bock, Sharon, Penn., president; Kenneth Kline, Cleveland, 1st vice-president; Grace S. Rodgers, Lorain, Ohio, 2nd vice-president; John E. C. Rodgers, Lorain, secretary-treasurer.

...

Cincinnati, Ohio . . .

Newly elected officers of the K I O Cactus club are Jos. F. Schnurr, Covington, president; Rev. Neil E. Annable, Bellevue, Ky., vice-president; H. Ranshaw, Covington, treasurer; Lloyd F. Combs, Cincinnati, recording secretary; Chas. R. Cole, Cincinnati, corresponding secretary.

...

Oklahoma City, Oklahoma . . .

Cactus and Succulent society early formed plans to participate in the State Fall Flower show, held in Oklahoma City October 12 and 13. Besides competitive showings, a special cactus exhibit of all the native species was arranged as an educational feature.

H. O. Bullard of Hackensack, N. J., honorary member, has announced he is forming a society in the eastern state for those interested in cactus and allied plants.

Cultural notes from Mrs. S. P. Seela indicate success with Vitamin B-1. Using it last spring, some of her specimens flowered for the first time. Still blooming at the end of September were *Aztekium ritteri*, *Lepismium cruciforme*, *Obregonia denegri*, *Leuchtenbergia principis*, *Strombocactus schmeidyeckianus*, the Monvillias, *Gymnocylindrus*, *Harrisias* and *Astrophytums*.

...

Tucson, Arizona . . .

The spread of the plant disease, bacterial necrosis, among the Arizona giant cactus, has led to a survey by the national park service and the university of Arizona.

The disease is first noticed when the plants begin to exude a dark brown liquid. Finally rotted away, the giants break and fall in wind storms. This condition was first reported scientifically by Dr. J. G. Brown, professor of plant pathology at the state university, last spring at the Tucson meeting of the southwest section, American Association for the Advancement of Science. Cooperating with Dr. Brown in the present survey work is D. W. Egernmayer, ranger in charge of the Saguaro national monument.



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JOHNSON CACTUS GARDENS HYNES, CALIF

The clock on the shelf at Yaquitepec wouldn't run, so Marshal South built a sundial. It is a crude affair, but it doesn't make much difference—they seldom look at it anyway. Time doesn't matter greatly on the desert summit of Ghost mountain where Marshal and Tanya and Rider, Rudyard and Victoria, are carrying on their great adventure in primitive living. This is the tenth of the "Desert Diary" series which has been running in the Desert Magazine this year.

DESERT DIARY

By MARSHAL SOUTH

October at Yaquitepec

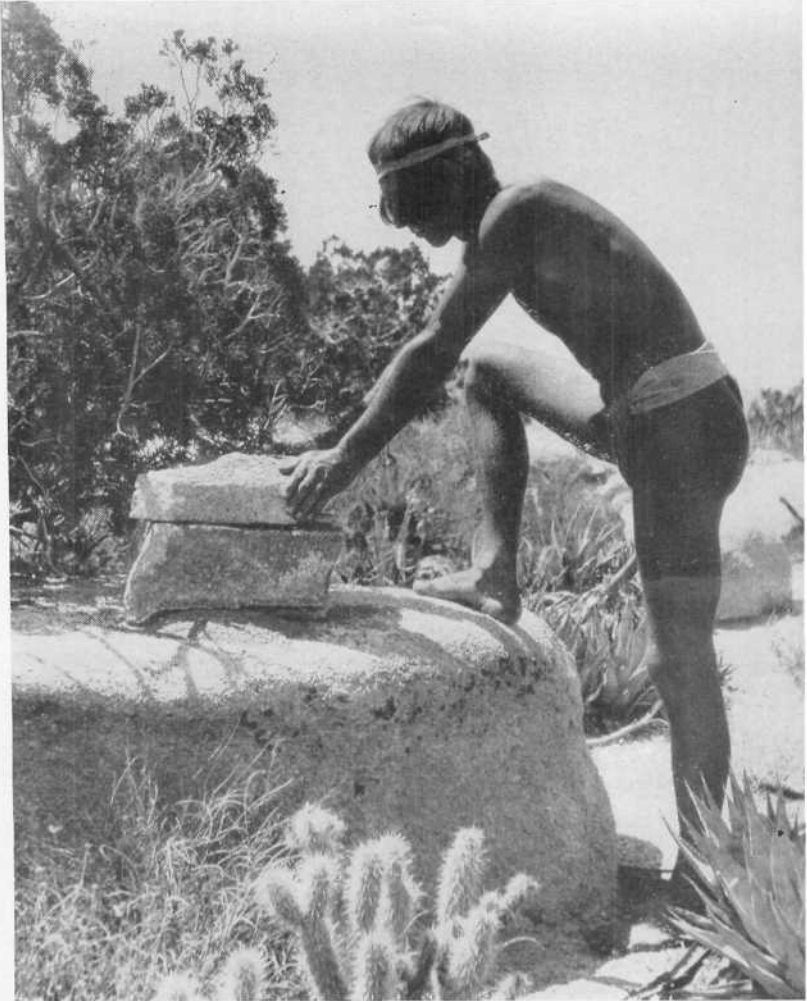
AN important event at Yaquitepec is to be recorded this month. The Thunder Bird, who for the dwellers of Indian sun-land takes upon himself the duties of the civilized stork, has made his long looked forward to visit, bringing from the Hand of the Great Spirit a precious gift—a tiny, lively little maiden whom we have named Victoria.

There is rejoicing upon the mountaintop and two "big brothers" are visibly swelled with importance at the prospect of having a little sister to look after. Rudyard, who has been automatically moved up a notch—being now no longer the "littlest" clan member is very conscious of his new dignity. Every once in a while, chest out and strutting, he lugs some treasured possession to exhibit to the new arrival. "See kid, this my bow-arrow. See!" And quite satisfied that he has made a good impression he trots off to get some other "exhibit." Rider smiles at such show-off with lofty amusement. But he is not one fraction less excited than his brother. Both of them spend most of their time hanging around watching every movement of this fascinating new playmate—and speculating on the wonderful times they will all have together when she grows up a bit.

The tall mesal stalks are dead and dry now and the seed pods have mostly all cracked open. To knock against a stalk in passing is to have a shower of the thin, jet black seeds rustle down upon you. Very carefully and marvelously packed in their seed cases, these tiny, wafer-like discs. The wind, swooping over the desert, scatters them far and wide as they shake out and fall.

There is one uncanny fact about mesal seeds which I have never been quite able to explain; you find them often, fresh and shiny looking, under the very centers of heavy flat boulders. Boulders which, until this moment of moving, seem to have lain undisturbed for centuries. How do they get there? What is the explanation? Ants, possibly. But I have never been able to discover traces of ant workings or runways under the stones where I have found these mysteriously hidden seeds.

Our bird friends are more in evidence again. A number of them drift away during the hot months, presumably summering in localities where water is easier. But they are beginning to return. And a few "visitors" with them. Yesterday we saw a bluejay. Ghost mountain holds an attraction at this season. The days are pleasant and the crest is a sheen of gold from the myriad flowers of the *ramarillo* bushes that cover



Marshal South operates the crude grinding mill originally used on Ghost mountain to crush wild seeds for the family larder.

the rocky ridges. These small crowding flowers, like little spreading paint brushes dipped in yellow, hold a lure for the bees and drifting butterflies. Other species of tiny plants are opening blossoms also. We can generally count on a few showers in October, a sort of forewarning of the approach of winter.

Night before last there was a great thump on the roof, and almost immediately a heavy scrambling along the water gutter. Rider sat up abruptly in bed. "Skunk!" he said, blinking the sleep from his eyes. "I'll bet that's another of those spotted ones!"

It was a good guess. For presently there was another thump on the awning over a little arched window that stood open. Then, against the moon, an inquisitive peering head and lifted plume of tail appeared as our visitor scrambled onto the sill and paused, gathering himself for the jump inside.

But it was *outside* that he jumped. For, just at that instant, I flung a pillow at him. It slammed against the narrow window opening with a smack that must have robbed our unwelcome caller of seven years' growth. With a thud of utter rout he hit the ground and fled for safety in a spatter of flying gravel. We don't like the little spotted desert skunks at Yaquitepec, for we share the well founded conviction of most desert dwellers that their bite is likely to cause hydrophobia. We have had several bouts with them, for they are exceedingly bold. October in particular, seems to be skunk month. They are said to range a good deal. So it may be that on this month Ghost mountain is the fashionable social center for the skunk "four hundred."

We have had other furred visitors during the past few days, who have been more welcome. Particularly the squirrel and the old pack rat. There is usually a tiny pile of food

scraps set out on the edge of the terrace at the north end of the house. An old brown squirrel who has gradually become tamer and tamer has developed a habit of coming down there to squat and stuff. Several days ago a big pack rat, evidently scandalized at such gluttony, summoned courage enough to sample the free provisions also.

But his antics were funny. Plainly he was torn between nervous apprehension and a burning desire to get hold of some plunder. He would come scooting out of the bushes with long, nimble leaps, pause, glance around, then dash for the food, snatching a morsel from under the squirrel's nose and fleeing with it as madly as a thief with a jittery conscience. Sometimes, in his haste he would drop the scrap half way and, too scared to stop, would go tumbling into shelter without it. Then, presently, his nose and bright eyes would thrust cautiously out again. With a nervous rush he would dart for the morsel and race to safety with it. Soon he would be back again for more. Back and forth, grabbing and scooting, streaking away with his loot between the mesquites and rocks. For a long while, sputtering with suppressed giggles, Rider and Rudyard watched the show through a narrow little window. Meanwhile, undisturbed and with a sort of bored air, the squirrel sat stolidly munching. When he had reached for the last scrap and stuffed it into his mouth he turned with dignity and tailed off to his own diggings.

The kitchen clock has again been under fire. Every once in a while there is an agitation to dispossess it and evict it from its niche over the stove. It is a battle between the "ayes" and the "noes"—and so far the "noes" have always won by a narrow margin. It is the only clock Yaquitepec possesses. And, as Rider points out, it is a good clock for it

never varies. There is truth in this argument, for it is one of the most constant of clocks. One can always rely on it. Without variation for five years its hands have pointed to 4:33. Tanya contends that it is dumb and static and that she is a little tired of glancing at the unchanging expression on its face. There are other things, she says, that she would like better to see in the clock niche. "It won't tick!" she says, shaking it.

"It may go in the winter," I suggest mildly, "It went once."

"You say that every year," she counters, "and in the winter you say that the works are probably frozen and that it will maybe go in the summer. What's the good of keeping a clock that won't tick?"

"The sundial doesn't tick either," Rider said mischievously. "So we ought to keep the clock, Mother. Maybe some day we'll need to check up one against the other." He giggled at his own joke.

"An excellent argument," I said. "I think Rider is quite right. One never knows what may happen; one should be prepared for every sort of emergency. Besides the clock is decorative and its presence lends a sort of social standing. And if there should be an eclipse of the sun and the sundial"


"Oh well, never mind the rest of it," Tanya said resignedly. She put the old veteran back in his niche.

So again, in peace, with neither tick nor tock time marches on at Yaquitepec and the unhurried, silent shadow moves round and round on the chisel-marked granite block that stands on the terrace. There is nothing elaborate about the Yaquitepec sundial. But it does its work with fair accuracy and we are satisfied with it. It wasn't originally intended to be a sundial. In the beginning it was part of a crude home-made grain mill. But another mill superseded it and in the course of time the upper millstone of the discarded apparatus was broken. Then one day the old clock folded its hands at 4:33 and we were without the time. Which didn't matter much, for "time" is an illusion anyway. But there is a sort of habit to the counting of it. So I resurrected the nether millstone with its central iron pin—which was a long iron bolt cemented into a hole in the stone—and set forth to make a sundial.

When you set out to make a sundial you are likely, unless you have given some study to what seems an artlessly simple matter, to discover several things. Things about angles and directions and so forth. It isn't a matter of just marking the passage of a shadow with a line denoting each hour. Oh no! Several things—simple enough things, of course—must be taken into consideration. All of which, by the aid of a carpenter's square and level, an old gun barrel and a borrowed watch, we eventually solved. It was winter when I made the sundial and I still have chilly recollections of "shooting" the North star through the old gun barrel, lashed to a post—an operation which, in conjunction with the square and level, gave me a pattern for the gnomon angle. There are teeth-chattering memories too of levelling and wedging and sighting under the chill starlight as I arranged the granite block on a big boulder pedestal in the exact position necessary, so that in the morning it could be permanently secured with cement. The cutting of the hour lines, checking with the borrowed watch, was a sunny job that was easy.

They are crude but the final result was comforting. Our sundial works. Sometimes it proves, when checked against the haughty mechanism of expensive visiting watches, to be fifteen minutes or so out. But who would worry about a little thing like 15 minutes' error? Certainly not here on Ghost mountain, where there are no "limiteds" to catch and where the golden sheen of the sun wraps the desert distances in a robe of glow and dim mystery that is timeless.

What is Time, anyway?



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TWO NEW WESTERN GUIDE BOOKS ARE OFF THE PRESS

Americans who will of necessity do their traveling on their home soil this year and probably next, will appreciate the series of state guides now being compiled by research workers and writers under the Works Progress Administration.

The most recent volumes on Southwest states are TEXAS, A Guide to the Lone Star State, and NEW MEXICO, A Guide to the Colorful State. Both are published by Hastings House, New York, who also published the ARIZONA guide reviewed in the July 1940 issue of Desert Magazine.

The guides follow the same general plan. Part One is a survey of the natural and historical setting, and of the modern social, agricultural and industrial status. The second part is a section devoted to the principal cities—their origin, growth, points of interest and detailed information for tourists.

The tours section, which makes up almost half of the volumes, should be one of the most popular features of this series. The 29 Texas and 18 New Mexico tours cover virtually all the accessible parts of their respective states. Road information, including mileages, geological formation, flora and fauna, archaeological and historical sites, and other cultural features are noted in brief and interest-

ing style. A keyed state map, sectional and city maps accompany the text.

The final section contains a chronology, reading list and index. A calendar of annual events and chapter of general information and regulations is also included.

The Texas volume was sponsored by the bureau of research in the social sciences of the University of Texas. Coronado Cuarto Centennial commission was sponsor of the New Mexico guide.

Bound in colorful buckram, illustrated by scores of halftone photographs and drawings. TEXAS, 718 pages, \$3.00. NEW MEXICO, 458 pages, \$2.50.

• • •

MARK TWAIN WON FAME ON THE COMSTOCK LODGE

Samuel Clemens at 25 had served two apprenticeships—as a printer and as a pilot on the Mississippi—and had shown little promise of success in either of them when he came West in 1861.

Five and one-half years later, he returned to the east as Mark Twain, a writer and humorist with a national reputation.

It is about those 5½ years as miner and journalist on the Comstock lode and in San Francisco that Ivan Benson has written in MARK TWAIN'S WESTERN YEARS, published by Stanford Press in 1938.

It was during his years on the Territorial Enterprise at Virginia City, Nevada, that Twain emerged from a rather crude reporter to a polished master of humor and satire.

Virginia City—a booming camp in the heart of an untamed desert, a frontier atmosphere that placed little restraint on personal freedom, and a job where he could write what he pleased as long as he was willing to assume personal responsibility for what he wrote—this was the environment that developed the genius which lay dormant in Mark Twain.

Ivan Benson has done a thorough job of searching out minute detail in the life of the Twain of that period, and incidentally, has given a remarkably clear picture of mining operations on the Comstock lode of that period.

The appendix includes many pages of reprint from Twain's newspaper writings of that period. For illustration a number of photographs of the early day period in Virginia City are reproduced. Index. \$3.25.

SMALL HANDBOOK WRITTEN FOR NOVICE PROSPECTORS

A 42-page handbook, FORTUNES IN MINERALS AND METALS, has been written recently by Howard Kegley, president of the Engineer's club of Los Angeles and past president of the Mining Association of the Southwest.

The booklet discusses briefly the opportunities that still exist for the mineral hunter, and suggests how and where to plan a prospecting trip. Forms for placer and lode location notices, and instructions for locating and filing on claims are given. Published by Hewitt-Cooke Publishing Co., Los Angeles. 25 cents.

The Desert TRADING POST

Classified advertising in this section costs five cents a word, \$1.00 minimum per issue—actually about 2½ cents per thousand readers.

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HERE AND THERE ... on the Desert

ARIZONA

Tucson ...

Rancho del Quivari, one-time home of Harold Bell Wright southwest of Tucson, has been sold to Ruth Dickenson, formerly of Santa Cruz, California. The ranch's history: originally homesteaded by the late Kirk L. Hart, former Tucson rancher-banker; operated as a cattle ranch by Harold Bell Wright and Walter Bailey; bought by the late Milton Statler and operated as a dude ranch; leased and operated for the past year by the Rancho del Quivari, Inc., of which Miss Dickenson is head.

Ajo ...

American participation in the Coronado international monument in Arizona has been approved by the senate public lands committee. United States area in the monument includes approximately 2880 acres between Bisbee and Nogales. This is now part of the Coronado national forest. Mexico has established its part of the monument across the border. Presidential approval of the inclusion is expected. Another bill approved by the lands committee would change name of the Organ Pipe cactus national monument in Arizona to the Organ Pipe national recreational area, and permit mining within its boundaries.

Kingman ...

If experiments in using fiber from yucca are successful, a plant may be established in Mojave county. A carload of Spanish Dagger yucca has been shipped by John Osterman, truck line operator, to the General Fibre Products corporation, Claremont, California, for processing.

Tucson ...

First large kiva ever found in Arizona was uncovered recently by Dr. Emil W. Haury, head of the university of Arizona anthropology department. Located at Bear Ruin in Forestdale valley near Showlow, the 11th century kiva (underground ceremonial chamber of Southwest Indians) measured 62 feet in diameter and is as large as some found in New Mexico. It has a 12-foot-wide stairway for entrance. Most kivas are entered by ladders through holes in the roof. Other Haury discoveries this summer: a seventh century 36-foot kiva with four recesses built on the four points of the compass; nine pit houses near by, with barbecue pits; some 35 rooms in the pueblo containing the giant kiva.

Yuma ...

Water, feeding grounds and resting place for migratory waterfowl will be provided by turning water into an old lake north of the No. 1 tunnel of the Gila irrigation project. Floodwaters from the Colorado used to fill the lake yearly, do so no longer since held in check by Boulder dam. Federal biological experts reported the lake was important to propagation of waterfowl, cooperated with the bureau of reclamation and the Yuma valley Rod and Gun club, Inc., to get water in the lake bed.

Florence ...

Willingness to relinquish jurisdiction over Poston butte, near Florence, has been expressed by the federal government. Florence chamber of commerce wants to make Poston butte a state park. It is burial place of W. D. Poston, first representative in congress from the Territory of Arizona.

Coolidge ...

Safeguarding publicly-owned prehistoric ruins is aim of an intensive field program by the national park service. Hugh M. Miller, superintendent of Southwestern national monuments reports erosion has endangered several famous ruins in the Southwest. Wisely planned action is needed. A general policy of preservation and restoration for Arizona and New Mexico monuments will be set up.

Window Rock ...

Navajo Indians in 1939 had commercial revenue of \$1,768,182, according to E. R. Fryer, superintendent of the Navajo agency here. Largest returns came from sale of livestock, totaling \$767,470. Other revenue: hides and pelts, \$19,362; wool and mohair, \$346,036; arts and crafts products, \$438,998. In addition the Indians had an income of \$70,573 through the livestock disposition program. Navajo slaughtered 55,618 sheep and 40,859 goats for home consumption.

CALIFORNIA

Needles ...

Someone telephoned Frank Kisinger, police chief: "There's a man's body washed up on a sandbar in the Colorado river north of town." Police drove to the river, sighted the stranded object through the dusk. The bar was far across stream and the water was cold, but Leroy E. Dixon, undertaker, plunged in. At the sandbar he found a human figure sculptured from sand.

Palm Springs ...

Up near the head of picturesque Palm Canyon a great sliding mountain has been discovered. Jim Maynard, Palm Springs police officer, and Lee Miller, artist-engineer, made the find. The moving mountain, they say, is larger than that at Pt. Fermin near Los Angeles. The slide evidently broke loose during the earthquake disturbance which did much damage in Imperial Valley last May 18. Miller and Maynard noted three separate fractures, each marked by a drop of 10 feet. The mountain is in a region not frequented by amateur hikers.

Independence ...

Mr. and Mrs. O. J. Taylor's pet trade rat left smooth, shiny pebbles in exchange for matches he took from a pocket of Taylor's trousers, but as yet has left no check to pay for the trousers, which were burned. Making the exchange, the trade rat ignited the matches in pocket of the trousers, which were hanging on a door. A new pair of overalls, hanging over them, also burned.

Coachella ...

It took more than 400 fire-fighters to put under control what threatened to develop into one of the most destructive fires of several years in the San Jacinto mountains above here near first of October. Earlier in the summer fires swept over sections of the Santa Rosa mountains.

Calexico ...

A team of oxen for Calexico's second annual Desert Cavalcade, to be presented February 20-22, 1941, has been obtained by George Luckey. The oxen have already been shipped from their birthplace in San Luis Potosi state, Old Mexico, to Crystal City, Texas, for a course in English. In the pageant the beasts are to haul a carreta, being built in Baja California, so must learn to respond to commands in English.

Palm Springs . . .

Fear of increased flood danger is slight in the south section of Palm Springs and surrounding territory as result of the Santa Rosa mountain fire which burned over thousands of acres of watershed several months ago. Forest service men and army engineers estimate after survey that not more than 10 per cent of the watershed was destroyed. Some 7000 acres in the Palm Canyon watershed were burned over in the Santa Rosa fire which devastated about 12,000 acres in all.

Holtville . . .

Arrival of first water ever to cross the desert from the Colorado river to Imperial Valley in a canal entirely on United States soil was celebrated here October 12. Commissioner John C. Page of the bureau of reclamation, and Phil D. Swing, former congressman and co-author with Senator Hiram W. Johnson of the Swing-Johnson bill authorizing Boulder dam and the All-American were honored guests and speakers. Mark Rose, Valley rancher and early leader in the fight for an All-American canal, came in for his share of public acclaim. Occasion for the celebration was turning of first water from the main canal into the East Highline canal of the Imperial irrigation district system. The All-American, biggest irrigation canal in the western hemisphere, has taken more than six years to construct.

Blythe . . .

Formal ceremonies October 1 marked dedication of the new state quarantine station at the California line here. Inspectors say the new structure will enable them to handle traffic in half the time formerly required.

Barstow . . .

King George, Queen Elizabeth and Great Britain's entire royal family may become residents of the Mojave "empire"—if they accept the invitation of Death Valley Scotty to be his guests at his desert castle in Death Valley. Scotty, here recently, said he will cable his invitation to London, making his desert domain available to the British ruling family for duration of the war.

Twenty-nine Palms . . .

James W. Cole, superintendent of the Joshua Tree national monument, has established permanent headquarters here with his family. This desert village is principal northern entrance to the Joshua Tree monument.

NEVADA

Boulder City . . .

On fourth anniversary of first opening of Boulder dam's outlet valves, the bureau of reclamation on September 28 released a mechanical Niagara from 11 of the 12 needle valves pouring 30 million gallons of water through the structure each minute in an emergency test. Under terrific pressure, water from Lake Mead shot from the valves 183 feet above the stream bed. From the Nevada side six valves spurted, five answered from the Arizona openings. When the streams met, huge sprays went high in the air. Thousands of visitors witnessed the display which dwarfed the spectacle of any natural waterfall. Engineers turned all the valves for the first time since President Roosevelt dedicated the dam in 1936.

Caliente . . .

Completion of the International Four States highway, linking Canada and Mexico, is expected next year. The north-south route traverses Montana, Idaho, Nevada and California. Contract will be let in December for completion of a 14-mile stretch of road in Nevada from Searchlight to the California line. A 42-mile link in Idaho and 41 miles in California north of the Mexican border remain to be surfaced.

NEW MEXICO

Las Cruces . . .

Cotton production in New Mexico is expected to reach 111,000 bales in 1940. This will top last year's yield by 9000 bales.

Santa Fe . . .

"I was at Fort Union at the time and know I am not mistaken." With this positive statement George C. Crocker, Alameda, defies war department records that Apache Chieftain Geronimo was never imprisoned at old Fort Union, in northeastern New Mexico. "It makes no difference what these government records show," Crocker declared recently. "I am positive that Geronimo was taken to Fort Union after he was captured in Arizona in the fall of 1886."

Fallon . . .

"Many pinenuts, hard winter; no pinenuts, not hard winter," is an old Indian saying. This region, accordingly should look for little snow and mild weather during coming months. Paleface experts, however, say the crops run in cycles, last year's bounteous yield naturally being followed by this year's comparative failure. But life of the Indian is not so dependent these days upon the pinenut crop, what with ration distribution by the government and pensions from the Great White Father. The pinenut gathering is a great annual event.

Madrid . . .

Inquiries are already coming in about this coal mining community's now famous Christmas illumination. This year the annual observance will be more pretentious than ever. The celebration, started by a few families who wanted to spread Yuletide spirit across the coal-bearing mountains of the Madrid area, now attracts thousands of visitors from all over the United States. Viewed from surrounding hills, the little city presents a brave picture during the Christmas season.

UTAH

Moab . . .

An increase of 683 visitors to Arches national monument is reported for the travel year ending October 1, 1940. This is 37 per cent above last year. Custodian Henry G. Schmidt listed 2518 visitors, compared with 1835 last year. Travelers from 35 states, Alaska, Puerto Rico, Patagonia, Norway and Germany saw the Windows section of the monument.

Salt Lake City . . .

Ninetieth anniversary of settlement of Springville was observed by Sons and Daughters of Utah pioneers late in September with unveiling of a monument at sites of the first Utah cotton mill and first Utah flour mill. First cotton mill was built in 1860. In 1880 it was converted into a woolen mill, operated until 1914. The flour mill was constructed in 1851, year following arrival of first Springville pioneers.

Zion National Park . . .

First detailed study of administrative problems in connection with development of the Zion national monument (Kolob canyon area) has been started. The area is said to include some of the most spectacular geological formations of any southern Utah section. It was made a national monument three years ago. The region is inaccessible to automobiles or wagons, has been explored a little by hiking parties. Park service

29 PALMS INN

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officials are now making first attempt to study the area for scenic and geological resources.

Moab . . .

Descendants of the Bluff pioneers, first settlers of San Juan county, recently staged a 10-day pack train journey over the route taken by their forefathers in the memorable trip from Escalante, Utah, to Bluff by way of the "Hole in the Rock" crossing of the Colorado river. The party of 175 traveled with 300 horses and pack animals, retracing every step of the pioneer journey from Bluff to the Colorado. At the river boats were ready for crossing the stream on the "Hole in the Rock" trail blasted out of solid cliffs to enable the pioneers to descend to the river canyon.

Mines and Mining . .

Tucson, Arizona . . .

Price stiffening for copper, lead and zinc as Uncle Sam's defense program gains headway has already brought improvement in small scale mining in Tucson's trade area. With copper at 12 cents per pound, higher than any monthly average in 1940 and zinc up approximately 2 cents a pound since February, reduction of stocks means stepping up activity in the mines. Livelier demand for tungsten and manganese is stimulating small operators, too, and marginal properties in southern Arizona, idle for many years, now have better prospects.

Goldfield, Nevada . . .

Congress has passed a bill authorizing RFC loans to small mine operators for development of strategic minerals. Approved by house and senate, the measure provides for loans up to \$20,000 each. This legislation was introduced in the senate by Senator Pat McCarran of Nevada and he says the law "will make possible the securing of small loans to develop deposits of strategic metals with gold and silver as byproducts, or vice versa, to develop other deposits with strategic and critical materials as byproducts." McCarran expected the president to sign the bill as "a vital cog in the wheel of national defense."

Kingman, Arizona . . .

Historic claims in the Mineral park area have been acquired by Mrs. R. R. Ward of Prescott and V. F. Ryan of Kingman, it is reported here. Six claims of the George Washington group are included in the deal. Electric power facilities have been installed and work will be started at once on dewatering the 200-foot shaft, it is announced. Workmen will clean out the 1300-foot tunnel. Track is being laid and a compressor will be set up, for a program calling for development on a three-foot vein of gold-silver ore. A new road to the property takes the place of the old burro trail formerly leading to the location. This property was originally located in the 60s. Highgrade was sacked and sent to smelter. Old-timers say smelter returns from sacked ore netted \$50,000 each on three carloads shipped. Operations were closed in 1904 and the property has been virtually idle since then.

Pioche, Nevada . . .

Railroad has been completed to the Caselton mine, nine miles from here and a new 450-ton zinc reduction mill will be finished there within a few months, according to R. L. Richie. Operations will make the Pioche district the most important lead-zinc producer west of the tri-state district in Kansas, Oklahoma and Missouri, says E. H. Snider, head of the Common metals reduction company.

Boulder City, Nevada . . .

First step of the United States in a program to become independent of foreign sources for manganese is disclosed in announcement that under direction of the federal bureau of mines a \$325,000 test plant will be erected here. Manganese deposits are found in Mohave county, Arizona, not far from the site of the proposed plant.

Needles, California . . .

Searchlight, across the Nevada line north of here, is brighter since reports that the Holmes family—George, Kenneth and their father M. A.—have leased the famous M & M property. Ten claims of the Consolidated Peerless group are involved. Lichtenberger brothers have owned these claims 30 years, operated them during the Tonopah-Bullfrog boom. Water trouble and litigation are blamed for suspension of work. Now the legal tangles have been unsnarled, it is said, and water problems will be solved, it is planned, by using cheap Boulder dam power for pumping. It is said the Holmes interests will move to the M & M mine from Ogilby the 100-ton mill erected near there by Holmes & Nicholson to operate the old Cargo Muchacho dump and later to handle the ore from the Padre mine. Meantime, the lessees are diamond drilling on the Consolidated Peerless claims to locate ore bodies. According to the Lichtenbergers, M & M ore runs from \$25 to \$100 per ton, hand-picked samples testing up to \$1500 per ton. They say that during litigation engineers testified the property was valued at probably \$3,000,000 to \$5,000,000. When they operated it, they report they took out nearly half a million dollars in gold. There are two shafts, neither of which has been driven below 300 feet.

Tucson, Arizona . . .

Highest grade silver-copper ore found in recent years in the Pima mining district has been discovered on property of the Victor consolidated mining company, says Miles M. Carpenter, field engineer for the Arizona department of mineral resources. Center of the district is about 25 miles south of here. The ore is said to assay as high as 1,705 ounces of silver per ton and 42 percent copper. Equipment is being assembled by lessees of the Victor claims.

Littlefield, Arizona . . .

Much work must be done before determining the commercial value of the nickel deposit near here under investigation by the U. S. Bureau of mines. Samples of ore are being tested in the mines bureau laboratory at Boulder City, Nevada. Utah interests hold claims covering a belt 500 to 1500 feet wide and extending from Frehner canyon southwest to Lime Kiln canyon. Exploration is chiefly in Hancock canyon, six miles southeast of Littlefield.

El Centro, California . . .

Placer mining activity in a new district along the desert side of Picacho mountain in eastern Imperial county is reported here. Don C. Bitler, deputy district attorney, who owns mining interests in the region, says between 100 and 150 claims were staked, after a prospector struck pay dirt on the western side of Picacho.

Goldfield, Nevada . . .

Specimens of strontium ore have been found at an abandoned camp on the south side of Gold mountain by Ernest Moross of this city. In time of peace strontium is used chiefly in refining sugar, but during war it is used to make flares for illumination. "Very lights," which lit up no man's land in the war of 1917, used strontium. The mineral is again in demand during the present war.

Reno, Nevada . . .

Government engineers are investigating reported occurrence of tin ore in the Jumbo Extension gold mine at Goldfield. Spectrographic analysis is said to show up to one percent tin in selected samples of mine ore. Flotation concentrates are said to assay 3.62 percent tin. Geologists report similarity in geological formations with those of tin mines of Bolivia and Cornwall. Commercial bodies of tin ore might be proven by drilling through 300-foot shale beds to the granite contact underlying the Jumbo Extension at 1,300 feet. This country now depends entirely on foreign production for tin.

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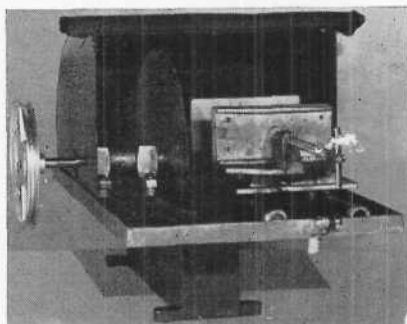
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Gems and Minerals

This department of the Desert Magazine is reserved as a clearing house for gem and mineral collectors and their societies. Members of the "rock-hound" fraternity are invited to send in news of their field trips, exhibits, rare finds, or other information which will be of interest to collectors.

—ARTHUR L. EATON, Editor—

RARE COLLECTION IN MOJAVE MINERALS BEING DISPLAYED . . .

Mineral and gem exhibits at the Mojave desert mineral show October 19-20, are confined to specimens found in the Mojave desert area. This area, according to the society, extends from the summit of Cajon Pass to Mojave, Baker and Needles, and the mountain districts south of U. S. highway 66.

Exhibits are divided into 12 classes, including polished flats, mineral specimens not larger than three by four, faceted and cabochon specimens, vertebrate and invertebrate fossils. One interesting display is a mineral "dinner" by Kent Knowlton, Randsburg editor.

W. Nelson Whittemore, of Santa Barbara, assisted the exhibit committee in an advisory capacity. Philip Orr of Santa Barbara museum aided in arranging the fossil classes. The committee for exhibits is: Robert H. Greer, Jr., of Yermo, chairman; Walter Reinhart, Walter Lauterbach, James C. Reilly, F. V. Sampson, Robert N. Iverson, Ray Langworthy, J. W. Bradley and James H. Lucas. Fred C. Meyer is second vice president of the show.

Tom R. Wilson, manager of Beacon Tavern, Barstow is secretary-treasurer of the sponsoring society and of the show. Frank Miratti Jr. came from Santa Barbara to assist Tom Wilson as host. The exhibits are displayed in the lounge and adjoining rooms of Beacon Tavern. Week end dates were chosen to assure a large attendance of miners, collectors and exhibitors.

COAST COLLECTORS VISIT OLD DIGGINGS AT TONOPAH . . .

Members from Pasadena and Los Angeles mineral societies made a trip in September to Tonopah and Goldfield, Nevada, mining districts. C. C. Boak of Tonopah guided the group to points of interest.

Boak told an interesting story of the discovery of the Mizpah vein, in Tonopah. Mr. and Mrs. Jim Butler were going from Belmont to Klondike, Nevada, early in 1889 for supplies. The trip took them across the desert country, depending entirely upon their burros for transportation. One night they camped at a spring—now Miller's—about 14 miles northwest of the present site of Tonopah. In the morning, as is the way with burros, the beasts came up missing. The Butlers separated and, after long searching, Mrs. Butler found the animals standing very quietly and unobtrusively on a hillside near an exposed ledge of quartz. She took some samples of the quartz, but encountered great difficulty in persuading anyone to assay it. Finally in the spring of 1900 an assay was made showing the ore to be worth from \$150 to \$200 a ton in silver.

Tonopah sprang up over night. In 1901 there were, according to Boak, 1700 pack animals in town. By 1904 the population reached 10,000, and the mines were operated in three eight-hour shifts. Five hundred thousand tons of ore per day were shipped to Miller's, the nearest available water for reduction. But mines are not like field crops. When once the harvest is in, there is no replanting. The Tonopah vein is the largest surface exposure ever worked. There is still ore to be found on the 2800 foot level, but it would cost \$1,000,000 to reopen.

Misnamed Minerals

Nevada Black Diamonds

"Nevada black diamonds" appear on exhibit or for sale at several places in the west. Most of these stones are translucent and of a beautiful golden brown color. Facet cut stones are very striking, but they are not diamonds! The uncut stones come as small rounded pebbles. The color can be seen by holding them to a light.

It is sometimes claimed locally that the hardness runs from seven to nine. This is not at all unusual in desert stones as weathering often affects the outside hardness and even color of many stones. But only true corundum is nine. The outer surface has a false hardness, but a sawed slab shows only 6.5 hardness at the center. These stones are identical with Arizona's famous "Apache tears." They are balls of obsidian and the core of each answers to every test for obsidian.

MINING EXCHANGE FORMED

Los Angeles mining exchange incorporated July third, 1940, "to meet the need for a national clearing house for the mining industry, and to organize and effect logical coordination of the various related interests." A folder published by the exchange states that the basic purpose is the extension and promotion of trade and commerce in connection with the mineral and oil industries, and the development of these strategic, critical and essential resources. Members are investors, prospectors, engineers and assayers.

STAR ROSE QUARTZ

Frank Garaventa, a member of the Nevada highway department, proudly displays beautiful specimens of star rose quartz. Some of these are rose pink and some are amethystine in color, but all show fine stars when polished, without mirror backing of any kind. Some of the stars are six rayed, some eight and some 10. As the deposit is not yet fully developed, Garaventa is not ready to market his find.

FAMATINITE

From Goldfield, Esmeralda County, Nevada, come samples of the rare mineral famatinitite. Beside the copper sulphide and antimony sulphide for which it is well known, it also contains gold, silver and tin. The color of famatinitite is usually a dark grey, with sometimes a tinge of red from the copper, and white from a slight mixture of limestone. Enargite is another mineral very similar to famatinitite both chemically and physically, except that it contains arsenic sulphide instead of antimony. Tin is rare in the United States and every ounce of supply at this period is welcomed.

SULPHUR

In the hills west of Goldfield, Nevada, is a large deposit of fine sulphur. No crystals have been reported as yet, but many fine massive specimens are obtainable.

AMONG THE ROCK HUNTERS

Robert A. Allen, state highway engineer, Carson City, Nevada, supervised the collecting and exhibiting of Nevada's minerals and gem minerals for the San Francisco world's fair.

Writes O. L. Butts, 1131 Hayne, Ottumwa, Iowa: "I would like to trade agates and geodes from this state for agates in the west. We have geodes here from the size of a dollar to as big as a boat. If you know any one who wants to trade have them write me."

Gordon Funk, member of the West Coast society and field trip manager for Los Angeles society, addressed Long Beach mineralogical society on the borate minerals, illustrating his talk with specimens from his private collection.

Los Angeles Mineralogical society resumed meetings September 19. Walter Zimmerman addressed the group on "Telescopes for Amateurs."

San Diego Mineralogical society held its annual exhibit at the Y. M. C. A. auditorium, San Diego, October 12th at 7:30 p. m. W. Scott Lewis, speaker of the evening, chose as his topic "Mineral Origins." A new class in mineralogy was organized.

New officers of the Orange Belt Mineral society at San Bernardino are: R. A. Crippen, president; Frank R. Wilkins, vice president; Walter Hadley, treasurer; Vera L. McMinn, secretary, and Kenneth Garner, Howard Fletcher, Ralph Eells and W. M. Snow, directors. M. J. Holmes of Los Angeles addressed the club on the subject of Strategic Minerals at its September meeting.

Officers of East Bay mineral society, Oakland, for 1940-1941 are as follows: Orlin J. Bell, president; B. E. Sledge, vice president; Marjorie Welch, secretary; Mrs. W. C. Matthews, assistant secretary; H. W. Hansen, Wilfred C. Eyles, and George Higson, directors. East Bay began the year with an informal round table discussing vacation experiences, interesting specimens, and summer trips of interest. George F. Young, civil and mining engineer and geologist, addressed the group September 19 on "Some experiences in oil and oil geology."

Charles R. Correl was elected president of the Imperial Valley Gem and Mineral society at its annual election of officers October 1. Correl, who was secretary during the preceding year, succeeds Dr. Warren Fox, first president of the society. Other officers elected were: Sam Payson, first vice-president; Mildred Richardson, second vice president; Betty Simon, secretary and treasurer; Arthur L. Eaton, advisor, and Charles Holtzer member of the board of directors. Guy Hazen, field paleontologist for the American Museum of Natural History was present and told about some of the Southwestern fossil fields he has explored in recent years.

Long Beach Mineralogical society made a two day field trip September 28, 29 to the vicinity of Lompoc. The society secured permission to enter property upon which occur black sands bearing gold in sufficient quantities to be readily panned. Beach pebbles were gathered enroute, as well as fluorescent limestone nodules.

East Bay Mineral society held its opening session October 3rd at Oakland. George Higson led the round table discussion on "Agates." Each member was requested to study up on the subject in advance. As an aid to the study of the subject, four card tables of specimens were provided. At each table one of the more experienced members took his place to answer questions.

Francis J. Sperison, expert engraver and finished speaker, gave a lecture on "The History and Development of Engraved Gem Stones" at the October 17 meeting of the East Bay mineral society.

Kern county mineral society met September 9th for its first fall session. Members reported their vacation experiences in rock collecting. T. V. Little submitted field trip schedules for the year. Preliminary work of incorporation of the society under California state laws has been completed, according to reports in the Pseudomorph, their official publication.

At the Nevada state fair, Fallon, Nevada, August 30-31, a very wonderful display of Nevada minerals and gems was on exhibit, sponsored by the state highway department. Also on view was "Oscar," a partially mummified Indian skeleton unearthed by S. and Georgie Wheeler in caves east of Fallon. "Oscar" is about two thousand years old, his age having been ascertained from bones of the eohippus or three toed horse found on the same level as the burial.

Due to many causes, the water level of Walker Lake in Mineral county, Nevada, has dropped 21½ feet in the past 10 years.

It is reported that if the underground workings of the Mizpah mine in Tonopah, Nevada, could be put end to end, they would reach from Tonopah to a point 165 miles beyond San Francisco.

Cogitations . . .

Of a Rockhound

By LOUISE EATON

● Rockhounds know their districts. If you want to know about roads or weather conditions or camping places, ask a rockhound. His information is reliable than anyone's, cause he gets around. A farmer or a service station is tied to his cows or his pumps, but the rockhound goes places an' observes things accurate. He knows all the good roads, the poor ones, the bad ones, an' besides that how to get to locations where there's no roads at all. He doesn't just estimate distances to turnoffs an' landmarks—he measures on his speedometer to fractions of miles. An' his descriptions of ocotillo clumps an' distinctive rocks is so good that you shure can recognize 'em when you comes ther.

● Rockhounds don't mind rain — much. They crawls outta their sleepin bags an' puts sugar, matches an' flapjack flour under cover—forgettin the soap, if any. They goes to sleep rejoicin that when the sun shines in the mornin, they'll be better able to see specimens, becuz all the desert'll be washed clean an' sparklin. Life is kinda like that, too. It takes storms an' dark moments now'n then to highlight the joy of everyday livin'.

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WILL FINANCE DEVELOPMENT. Wanted: Malachite, Azurite, Chrysocolla, Agate, Geodes, Opal, Turquoise, Gold ore, Silver ore—Any type gem stone FOR CASH. Send sample and full details. Columbia Foundation, 403 Broadway-Arcade Building, Los Angeles, California.

AGATES, JASPER, OPALIZED and agatized woods, thunder eggs, polka dot and other specimens. Three pound box \$1.25 postpaid. Glass floats 25c and up. Sawing and polishing. Jay Ransom, Aberdeen, Washington.

John Baxter at the Indian trading post, Schurz, Nevada, will give to anyone interested in petrified wood, definite directions for finding a petrified forest 12 miles north and east of Schurz. The wood is beautifully agatized and very dark in color. Baxter has some fine specimens in his store.

Santa Monica Gemological society continued its study of fundamentals of mineralogy at the September meeting. Charles D. Heaton was the lecturer. A film titled "Petroleum Geology" was presented by Hugh A. Matier. September field trip visited Oso Cañon, north of Santa Barbara for jasper specimens.

Among the very interesting, even though not valuable, specimens submitted for examination recently were several pebbles from rockhound A. C. Haigler of Red Lake Side Camp of Magdalena, New Mexico. They were mostly silica and were found in and around an old volcanic crater in New Mexico. One small piece of velvety black basanite in the collection would indicate the presence of that gem in the vicinity.

Washington state chamber of mines, Seattle conducts Friday afternoon field trips for boys between the ages of 10 and 16.

Columbia Geological society has all plans completed for the Northwest Federation convention, October 12-13, at Spokane, Washington. "Much credit," writes Dale Lambert, secretary, "is to be given to president R. F. Childs and convention Chairman C. B. Neal for the great amount of work they have expended to make the convention a success. Our club members also wish to thank M. F. Reed and Mrs. Lloyd Roberson, officers of the federation, and Dr. Dake, editor of the Mineralogist, for their generous cooperation and advice on convention matters."

J. F. McLaughlin, highway service station, Hawthorne, Nevada, tells how to recognize sunstroke symptoms and thus avoid a sunstroke. If you are walking in the heat and suddenly discover that your head is sailing along from 10 to 25 feet above your body, it is time to call a halt. Everything seems perfectly normal except that some sort of a telephonic or wireless system has apparently been installed between brain and body. It is quite possible to continue walking for a time in this detached and exalted condition, but not at all advisable, for if you stumble you are a goner. His advice is to wait for your head to return to its accustomed position—then rest, and if possible seek shade and water.

Kenneth B. McMahan, formerly of Yuma, Arizona, has moved recently to Jacumba, California. "Mac," who is an authority on the ores of the metallic minerals, has a collection of thousands of mineral and gem specimens. A visit to his new Jacumba shop will repay any rockhound.

Miners in the vicinity of Tonopah, Nevada, report that their silver ore invariably produces the proportion of one ounce of gold to one hundred ounces of silver.

Washington state chamber of mines, bulletin six, volume nine, reports a great deal of mining activity in the state. Old mines are being reopened, dumps are being reworked, and new fields explored.

PYROLUSITE

W. W. Trent of Garfield, New Mexico, sent to Desert Magazine, among others, a fine specimen of pyrolusite—manganese dioxide. The specimen has the general appearance of black sandstone, carrying on one side pyrolusite and on the other side a trace of iron.

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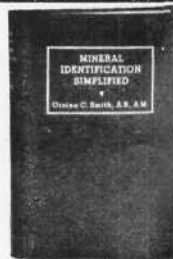
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A large fragment found recently on an old mine dump near Rincon in San Diego county, California, proved to be a fine collection of good mineral specimens all in itself. When it was carefully broken into smaller pieces, more than 10 different minerals made their appearance from the one large fragment. The micas were well represented by biotite, white muscovite, muscovite stained red with iron, sericite and lepidolite. The other minerals were white amblygonite, several small black tourmalines, a few rather poor garnets, and on one piece of rock a coating of almost microscopic pink tourmalines. This was the type of "find" of which most collectors dream, but seldom have the good luck to encounter.

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In Oregon between Sweet Home and Holly, on the old road, there is a great quantity of very excellent petrified wood. The ranchers plow up the pieces and toss them out of the way, against fence posts or into ditches. Some of the wood is of a lime or sandstone composition, and consequently not good for polishing, but many specimens are of agate or jasper and show good grain. The ranchers are courteous and readily grant permission to hunt petrified wood on their farms, provided gates are left open or shut as found, and stock is not disturbed.

Jerry B. Keeney is glad to guide visitors over his place and show them two huge tree stumps petrified in an upright position. There are probably many more stumps and sections in the heavily forested sections of Keeney's farm.

. . . .

At its first fall meeting in September the Kern County Mineral society was entertained by vacation experiences and tales of the collecting tours of members during the summer months. Mrs. Mae Chenard was awarded the prize for the most striking specimen collected by club members since the last meeting in May—a beautiful polished piece of sagenite. The Kern society has now completed the incorporation of its group on a non-profit basis, and recommends similar action by other societies.

. . . .

"Field Identification of Minerals for Oregon prospectors and collectors" is the name of a bound bulletin 8 1/2 x 11, 128 pages, issued by the state department of geology and mineral industries at 702 Woodlark building, Portland. Ray C. Treasher is the author, and the book is sold for 50 cents.

. . . .

GEM PROSPECTOR

BY SETH RICE
San Diego, California

A prospector sat on a malpais rock one blistering July day;
He cursed the heat, he cursed his thirst, and his luck that made him stay;
But the lure of the desert held him fast; he fought its thrall in vain;
He was the type called desert rat, in the land that knows no rain.

Long had he sought for golden sands or a lode that carried pay;
Oft had he worked in others' mines, that he might pursue his way;
Long endured the thirst and heat o'er the arid waste of the West,
Searching the earth for the only spot where his vagrant soul might rest.

A hill he found at eventide where the sunlight seemed to play
On all the rainbows in the world—and there seemed to stay.
Myrickite, blue chalcedony, jasper and bloodstone, too;
Here was beauty that balmed his soul, not wealth that most men woo.

He lived to mine from this desert waste where the rainbows seemed to lie
Crystal rocks of gorgeous hue, so pleasing to the eye;
To cut and polish with artist's skill gems for ladies fair;
To find his fate and happiness. God keep his soul from care!

Dedicated to the memory of "Shady" Myrick, desert prospector, gem hunter, discoverer of the Death Valley bloodstone mine, who is buried at Johannesburg, California.



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Lucile Harris, Associate Editor



Tazewell H. Lamb, Associate Editor



Edna Clements, Associate Publisher

Along the Trail with the Desert Magazine

WE'VE been on the trail together three years now—the Desert Magazine and those readers who embarked with us on this publishing venture three years ago. This is our anniversary number—the beginning of our fourth year.

With few exceptions the 600 charter subscribers are still on our mailing list. Along with them are many hundreds of others who value their Desert Magazine so highly they have purchased all the back copies and are preserving their complete files for reference purposes.

Our reader family has been growing steadily. In August we passed the 10,000 mark, and at the present rate of progress the number will reach 12,000 by the first of January, 1941. Since each copy of Desert Magazine, according to a recent survey, is read by an average of 4.9 persons, there are now nearly 50,000 desert-minded folks following the trails with us each month, exploring the remote canyons, getting acquainted with the colorful personalities of the desert region, gaining an intimate knowledge of the rocks and flowers and the history and lore of the desert region.

* * *

In an editorial in the first number of the magazine we wrote:

"Nearly every creed and industry and locality has its journal—except the Desert. Here, within the boundaries of Arizona, California, Nevada, New Mexico

and Utah resides a great family of human beings—the highest type of American citizenship—with a common heritage of environment and interest and opportunity, yet residing for the most part in regions that are remote from the so-called cultural centers.

"This is the last great frontier of the United States. It will be the purpose of the Desert Magazine to entertain and serve the people whom desire or circumstance has brought to this Desert frontier. But also, the magazine will carry

Dick Older, Advertising



This is Desert Magazine's third birthday. And since it is a good old American custom to grant lusty three-year-olds a few extra privileges on such an occasion—the publishers have reserved these two pages to talk shop. Here are a few sidelights on the business of publishing a magazine on the desert.

as accurately as possible in word and picture, the spirit of the real Desert to those countless men and women who have been intrigued by the charm of the desert, but whose homes are elsewhere.

"This is to be a friendly, personal magazine, written for the people of the Desert and their friends — and insofar as possible, by Desert people. Preference will be given to those writers and artists—yes, and poets — whose inspiration comes from close association with the scented greasewood, the shifting sand dunes, the coloring of Desert landscapes, from precipitous canyons and gorgeous sunsets.

"The Desert has its own traditions—art—literature—industry and commerce. It will be the purpose of the Desert Magazine to crystallize and preserve these phases of Desert life as a culture distinctive of arid but virile America. We would give character and personality to the pursuits of Desert peoples—create a keener consciousness of the heritage which is theirs—bring them a little closer together in a bond of pride in their Desert homes, and perhaps break down in some measure the prejudice against the Desert which is born of misunderstanding and fear."

That was the goal of the Desert Magazine in 1936—and it is the goal today.

As the Magazine has gained in popularity, our staff has grown. And since this is a friendly, personal sort of journal, we are publishing the photographs of our

staff associates in this anniversary number—that the readers may feel a closer acquaintanceship with those who are devoting their energies to the task.

* * *

Many factors contribute to make the editorial work on this magazine a source of pride and pleasure to its creators. For one thing, we have unlimited material from which to draw our editorial features. There is no dearth of text and pictures. If the advertising revenue would justify it, we could just as readily be printing 96 pages of entertaining and informative features every month. We have confidence that will come eventually.

More important than all else in the progress of this magazine, however, has been the fine interest and loyalty of its readers. Approximately half of them are residents on the desert—the other half are scattered through every state in the union and at least 14 foreign countries. They are folks with ideals—men and women, young and old, with alert intelligent minds. Our daily mail has reached huge proportions. It is made up for the most part of letters and orders and inquiries from people who are broad and generous in their attitude toward life and toward those with whom they deal. It is a rare day when we find a note of pettiness in the bundle the mail man lugs in.

A practical demonstration of our reader loyalty came in August when we mailed out questionnaires for our annual reader survey. We sent out 1000 of them, to names picked blindly at random from our subscription list.

We offered no reward for filling out these question blanks, but within 30 days we had received 446 replies. They are still coming in and the number now exceeds 500. It is an amazing return in an



Norton Allen, Artist

age when most folks are too busy to be bothered with mail questionnaires.

We believe the information compiled from these replies will be interesting to our readers. The Desert Magazine folks have much in common and the figures we are quoting give a very accurate composite of the group as a whole.

First, we wanted to know which of our monthly editorial features are the most popular—for the future guidance of our writers and editors. We listed 16 of our leading subjects and asked our readers to grade them according to personal preference, marking the favorite subject No. 1, the second choice No. 2, etc. After the first 446 answers came in we tabulated all the first place selections, and here are the results:

Mapped travelogs	168
Historical features	120
Gems and Minerals	111

Indian life and lore	82
Nature subjects	68
Photography	60
Landmark features	48
Personality sketches	45
Editorial comment	45
Monthly news briefs	37
Mining features	28
Desert Quiz	28
Place Names department	24
Cactus department	20
Botanical features	14
Poetry page	7

* The total of these figures exceeds the 446 questionnaires for the reason that several readers indicated more than one first choice.

Then we checked the results by another method. We added the figures together and averaged them. For example: We took the vote on Mapped Travelogs and added the 1's and 2's and 3's etc together and averaged them. Each subject was treated similarly, and the results are shown in the following table. It varies slightly from the popularity rating given in the first table.

Mapped travelogs	2.58
Historical features	2.89
Gems and Minerals	3.98
Indian life and lore	4.06
Nature subjects	4.51
Photography	4.79
Personality sketches	5.09
Landmark features	5.59
Editorial comment	5.94
Mining features	6.13
Desert Quiz	6.80
Monthly news briefs	7.09
Cactus department	7.26
Place Names department	7.39
Botanical features	7.79
Poetry page	9.25

* * *

One of the facts disclosed by our questionnaire is that our readers nearly

Randall Henderson, Editor



Bess Stacy, Associate Publisher



Rand Henderson, Circulation



all have hobbies—89 percent of them to be exact. And they prefer outdoor hobbies. The following figures, taken from the 446 replies, show the number and kind of hobbies listed by these readers.

OUTDOOR HOBBIES

Gems and Minerals	133
Photography	87
Gardening	26
Desert exploration	20
Hiking	19
Hunting and Fishing	19
Indian crafts	17
Nature study	17
Travel	17
Geology	16
Cacti	12
Painting and sketching	11
Miscellaneous	61

INDOOR HOBBIES

Books and Reading	35
Stamps	19
Handicrafts	17
Music	10
Writing	7
Radio	5
Poetry	4
Miscellaneous	20

Readers were asked to state the vacation and leisure time pursuits they preferred. A majority indicated two or more preferences. Here are their answers in percentage of the 446 questionnaires returned:

Visit scenic places	71%
Explore the desert	66%
Collect rocks and minerals	48%
Camp outdoors	37%
Hunt and fish	32%
Hike	31%
Prospect	22%
Climb mountains	19%

Other pertinent facts about the members of the Desert Magazine reader family were disclosed by the questionnaire as follows:

36.5% of the Desert Magazine readers are professional men and women—doctors, lawyers, artists, teachers, engineers and scientists.

22.7% are business executives, ranch and mine owners and managers, utility executives, etc.

20.1% are skilled craftsmen, salesmen, clerks, artisans, mechanics, etc.

8.6% are housewives.

7.7% are retired.

4.4% belong to miscellaneous classifications.

Their average annual family income is \$3924.00.

75.4% of them own their homes.

Average value of their homes is \$7950.00.

94.4% of them own automobiles, many of them two or more cars.

Their average annual auto travel is 14,089 miles.

Their annual expenditure for car upkeep is \$106.94.

Their average annual expenditure for gas and oil is \$207.00.

During the past year they motored an average of 679 miles each on trips suggested by Desert Magazine travelogs.

They spend an average of \$32.40 annually for books.

78% of them own cameras and their average annual expenditure for photography is \$56.11.

95% of the readers are keeping their magazines for permanent reference.

3% are not keeping their copies.

2% are passing their magazines along to others.

Office records of the Desert Magazine show that:

20% of the subscriptions received are paid-in-advance orders for periods ranging from 2 to 5 years.

72% of Desert Magazine buyers renew their subscriptions within 30 days of expiration.

FREAK ROCK IN UTAH

Who can identify this picture?



CASH PRIZE OFFERED TO CONTEST WINNER

For the monthly Landmark Contest in November the Desert Magazine staff has selected a well-known and very unusual rock formation in southern Utah. The name of this rock appears on nearly all the maps, and although it is not near a paved highway, it is widely known to travelers.

For the best descriptive story of this Landmark, not exceeding 500 words, the

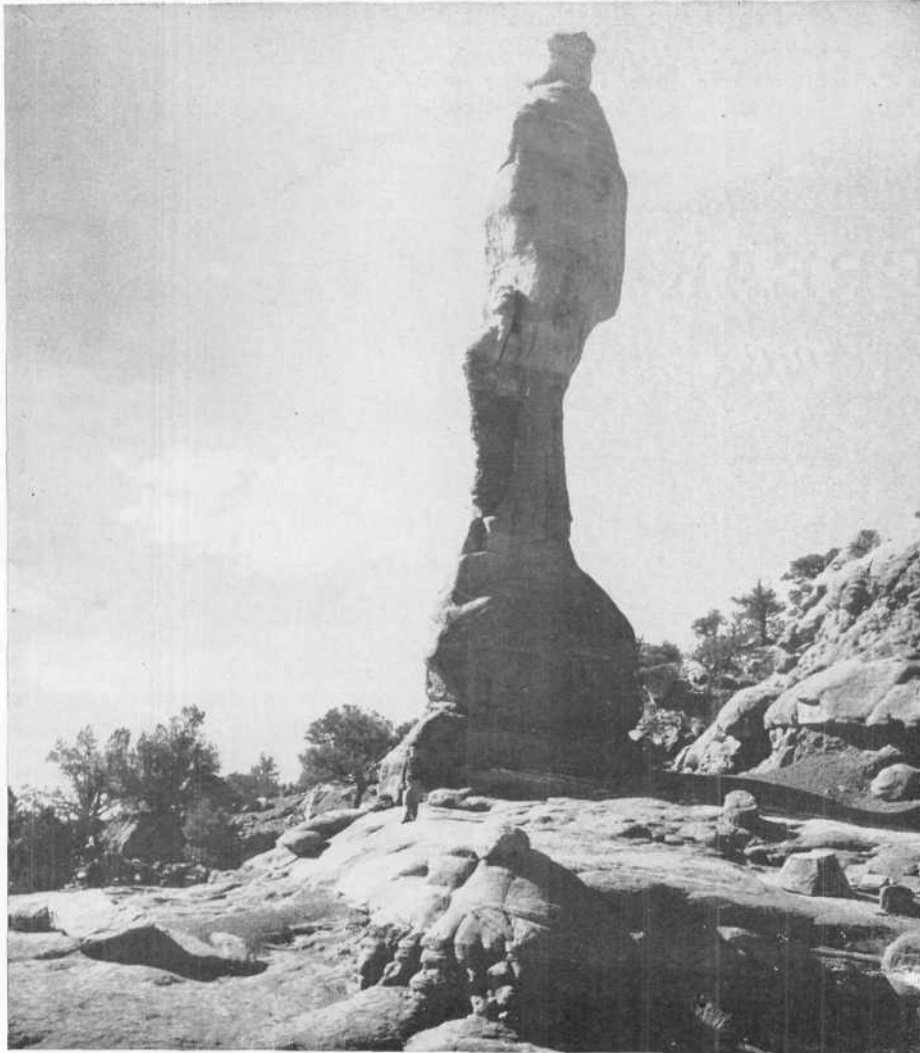
magazine will award a cash prize of \$5.00. Those entering the contest should give the exact location of the Landmark, its name, directions for reaching it by highway or railroad, geological formation, approximate dimensions, and any other historical or legendary material connected with it. Origin of the name should be given if possible.

Entries must reach the Desert Magazine office by November 20, and the winning story will be published in the January issue of this magazine.

KIT CARSON MONUMENT

Winner of the September Landmark contest of the Desert Magazine was

Marguerite Sandstrom McDowell of Fort Defiance, Arizona. She identified the accompanying photograph, which was published in the September number of the magazine, as Kit Carson Monument, a natural landmark on the Navajo Indian reservation. Her winning story is published on this page.



By MARGUERITE SANDSTROM McDOWELL

IN upper Cañon Bonito near its juncture with Blue canyon stands Kit Carson Monument. It is a rock known in Navajo as *Tse'i'abi*, which means "rock standing up."

The first historical reference to it is made in Lieutenant J. E. Simpson's Journal of 1849. He states, "Just before reaching camp a most singular looking column appears on the left of the road resembling when viewed nearby, a vase; when remotely, a statue. It is of sandstone formation and has an altitude from 30 to 40 feet." Simpson also has a plate showing the picture of what we know as Kit Carson monument.

The monument stands beside an old Navajo Indian and military trail between Fort Defiance and Canyon de Chelly. It is formed of the same sandstone which

predominates the Chinle and Canyon de Chelly region. It is a landmark known for many years and many names are carved on the rock itself. Some of them are John Stewart, 1905, blacksmith of Fort Defiance; L. L. Preston 1907, and Jim Damon 1913, son of Anson Chandler Damon, pioneer Indian trader.

Colonel John Washington, the Military Governor of New Mexico, passed by *Tse'i'abi* in 1849 as did Henry Lafayette Dodge, the first civil agent to the Navajo in 1851. Captain John Walker with his mounted rifles passed by it in pursuit of the Navajo in 1858 and Kit Carson in the winter of 1863.

Behind the monument are the ruins of a small 13th century cliff house hidden in a cave.

The spire would not be noticed if it

were not pointed out to the traveler, due to its color which blends into that of the surrounding cliffs. Its height is judged as being about 75 feet and its base about 25 feet in diameter.

One must take the by-roads to see this notable spire, the handicraft of wind and rain, and travel northwest of Gallup, New Mexico, by Window Rock, Arizona the Navajo agency, to old Fort Defiance, and to the mouth of Cañon Bonito.

DESERT QUIZ ANSWERS

Questions on page 10

- 1—Upper Sonoran plant zone.
- 2—Connect San Bernardino with La Paz gold fields.
- 3—Nevada.
- 4—Mesquite tree.
- 5—Cottonwood.
- 6—Yellow.
- 7—Colorful sandstone erosions.
- 8—Colorado river Indian reservation.
- 9—Father Font.
- 10—Prescott.
- 11—Pueblo dwellers.
- 12—Weaving industry.
- 13—Talc.
- 14—Trappers.
- 15—Eat it.
- 16—Gold.
- 17—Find a new route to Monterey.
- 18—Borax.
- 19—Saguaro.
- 20—Stock raising.

Weather

FROM PHOENIX BUREAU

Temperatures—	Degrees
Mean for month	85.2
Normal for September	82.7
High on September 9	107.0
Low on September 21	67.0
Rain—	Inches
Total for month	1.43
Normal for September75
Weather—	
Days clear	16
Days partly cloudy	9
Days cloudy	5

G. K. GREENING, Meteorologist.

FROM YUMA BUREAU

Temperatures—	Degrees
Mean for month	85.3
Normal for September	83.7
High on September 10	109.0
Low on September 19	64.0
Rain—	Inches
Total for month	0.53
71-year average for September	0.34
Weather—	
Days clear	24
Days partly cloudy	4
Days cloudy	2
Sunshine 89 percent (331 hours out of possible 371 hours).	

Colorado river — Figures on discharge and storage not available. Revised capacity tables for Boulder dam became effective September 1 giving estimated storage of 24,560,000 acre feet at that time, 1,120,000 more than the old tables indicated.

JAMES H. GORDON, Meteorologist.



By RANDALL HENDERSON

THERE is a serious threat to the California state park system in Proposition No. 13 on the November 5 ballot. The proposal would throw open all park lands to prospecting, leasing and drilling for gas and oil.

There may come a time when Americans will need the resources which lie within the park boundaries to insure adequate living necessities for themselves and their children. But we are far from that stage at the present time. The only present motive for robbing the park areas of any resources they may contain is the profit it will bring to private individuals. And those who would gain most from the enactment of this measure have the least need for that extra profit.

It is needless to say that the conservation groups—the Save-the-Redwoods league, the Sierra club, the State Park commission and scores of conservation-minded leaders are vigorously opposing No. 13. The Desert Magazine is very definitely aligned with the opponents of the amendment.

* * *

Every line of type that goes into the Desert Magazine is proof-read five times. And yet errors get by occasionally in spite of all the proof-readers. The Chinese have a philosophy which gives an editor a perfect alibi for these slips when they occur. According to Lin Yutang in "The Importance of Living," "An American editor worries his hair grey to see that no typographical mistakes appear on the pages of his magazine. The Chinese editor is wiser than that. He wants to leave his readers the supreme satisfaction of discovering a few typographical mistakes for themselves."

* * *

Rumors are current in northern Arizona that plans are on foot to promote a paved highway out to Rainbow bridge. The bridge is accessible now only over a seven-mile pack trail. Maybe I am all out of tune with the civilization in which I am living—but I am harboring a secret hope that the promoters of the paved road will stub their toes and give it up. I've sort of hoped that Rainbow bridge would be kept remote from the highways—as a shrine for those who have the hardihood to follow the pack trail. There already are a million scenic attractions for the hard-road tourists who ride around in automobiles.

* * *

Motoring along the dirt road between Holbrook and Keams canyon last summer I had a strange experience with a snake. I met the only reptile I have ever encountered that would rather fight than run. And it was a harmless gopher snake at that.

He was partly coiled in the middle of the road and I had to swerve the car to avoid him. His size and coloring were so extraordinary I stopped and walked back to have a closer look. He was a seven-footer with the most beautifully patterned black and light yellow skin I have ever seen.

As I approached he coiled and struck with the ferocity of

a rattler. It was a startling experience—I had never seen a gopher snake strike before. I gave ground, and offered him every opportunity to move on—but he only hissed and coiled for another attack. I intended no harm, but he did not know that. He was still in his fighting pose when I retreated to my car a hundred yards away, and departed.

Later, a park ranger told me this was not an unusual experience. Gopher snakes, in some instances, he said, not only have acquired the rattlesnake's defensive strike, but actually quiver their tails as if they had rattles. As a matter of fact they could hardly puncture the skin of a victim, and are without venom. But since they have started taking on the characteristics of their deadly cousins, who can tell? Perhaps in another 100,000 years Nature will have endowed them with both fangs and poison.

Anyway, he had a vicious disposition. It occurred to me that if I were a Smoki clansman, and the Snake priest handed me this fellow, I would resign from the Order then and there.

* * *

In behalf of that tribe of humans who find pleasure in following desert trails, I want to extend greetings to James W. Cole, newly appointed custodian of the Joshua Tree national monument of Southern California.

Cole formerly was junior park naturalist at Yosemite. I do not know how well acquainted he is with the desert—but I am sure Frank Bagley and some of the other old-timers around Twentynine Palms will see that he is properly initiated into the Royal Order of Desert Rats.

Until the present time the Joshua Tree monument has been a sort of orphan child of the park service—just left there to shift for itself. Cole has a big job of creative work to do there, and while funds are not sufficient to fully develop and protect the park area immediately, it is at least gratifying to know that a start is being made.

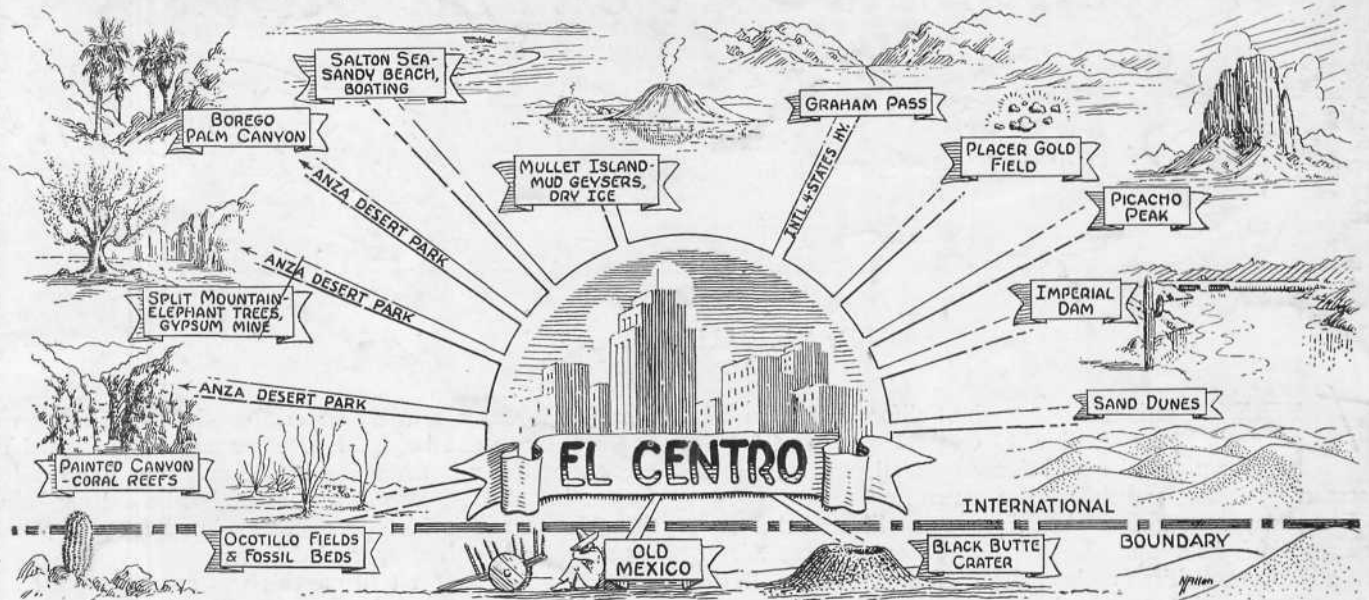
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I don't know whether Pegleg Smith ever found a gold mine or not. Some of the old-timers insist that his lost mine story is a myth, and that Pegleg got his gold by hijacking pack trains.

But fact or fiction, Ol' Pegleg surely did start a lot of arguments. Jackson Hill of Desert Center, California is responsible for the latest outburst of Pegleg propaganda. He reported last spring that he had found the original source of the Smith gold in a tunnel in Orocopia mountains. Since then I've received at least a hundred letters on the subject, and they agree on only one point—that Jackson Hill is a blankety-blank prevaricator.

It really would be quite a tragedy if some one actually found Pegleg's lost mine. It wouldn't be any fun prospecting the desert if it were not for those dreams of the bonanza that lies just over the hill.

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