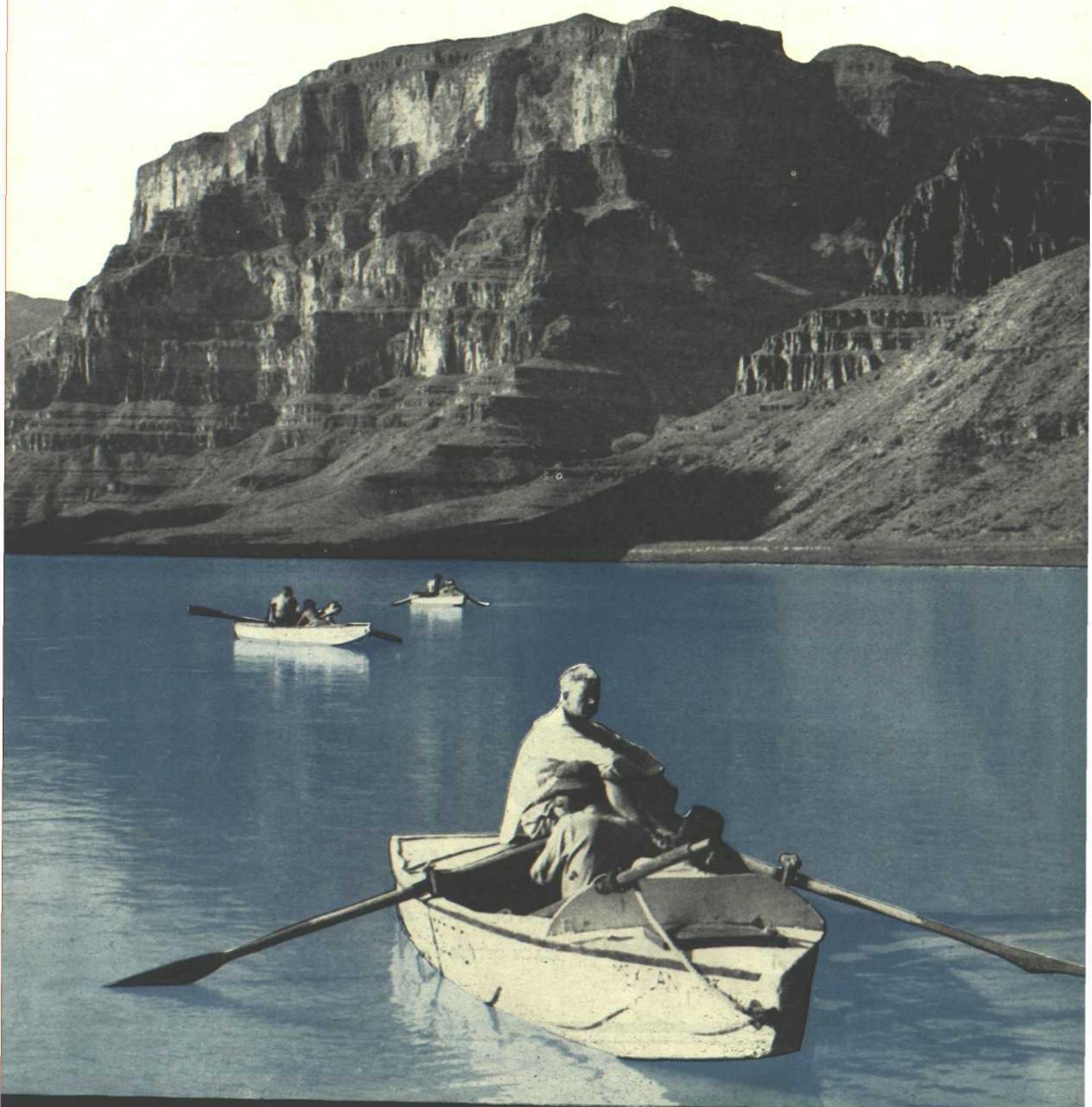


THE

# Desert

M A G A Z I N E



NOVEMBER, 1947

ANNIVERSARY NUMBER

25 CENTS

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# DESERT CALENDAR

The Desert Calendar keeps readers informed of the important events scheduled to be held in the desert country. Civic groups and committees are invited to send dates and pertinent information about state conventions, fairs, rodeos, fiestas—in fact, anything of civic, cultural or commercial nature which has more than local interest. There is no charge, but listings must be in by the first of the month preceding date of publication.

- Oct. 31—Celebration of the passage of the Gila project bill, with programs at Wellton and Yuma, Arizona.
- Nov. 1-2—Annual rodeo and parade, Blythe, California.
- Nov. 6-7—New Mexico farm bureau convention, Roswell, New Mexico.
- Nov. 7-16—Arizona state fair, fair grounds, Phoenix, Arizona. Includes first competitive mineral exhibits.
- Nov. 12—St. James' day annual fiesta and dances. Jemez pueblo, New Mexico.
- Nov. 12—St. James' day fiesta and dances, Tesuque pueblo, New Mexico.
- Nov. 14-16—Second annual Greenlee county rodeo, Apache Grove, between Clifton and Duncan, Arizona.
- Nov. 15-16—Old Tucson Days, dances, fiddling contest, Tucson mountain park, Tucson, Arizona.
- Nov. 16-21—Ogden Livestock show, Ogden, Utah.
- Nov. 23-26—Convention, New Mexico Educational association, Albuquerque, New Mexico.
- Nov. 28-30—Desert Peaks section of Sierra club to climb Picacho peak in Southern California and Castle Dome in Arizona. Niles Werner, leader.
- Nov.-Dec.—Exhibition, paintings of the Southwest by the late Edgar Alwin Payne, Southwest Museum, Los Angeles, California.

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THE *Desert* MAGAZINE  
El Centro, California



Volume 11

NOVEMBER, 1947

Number 1

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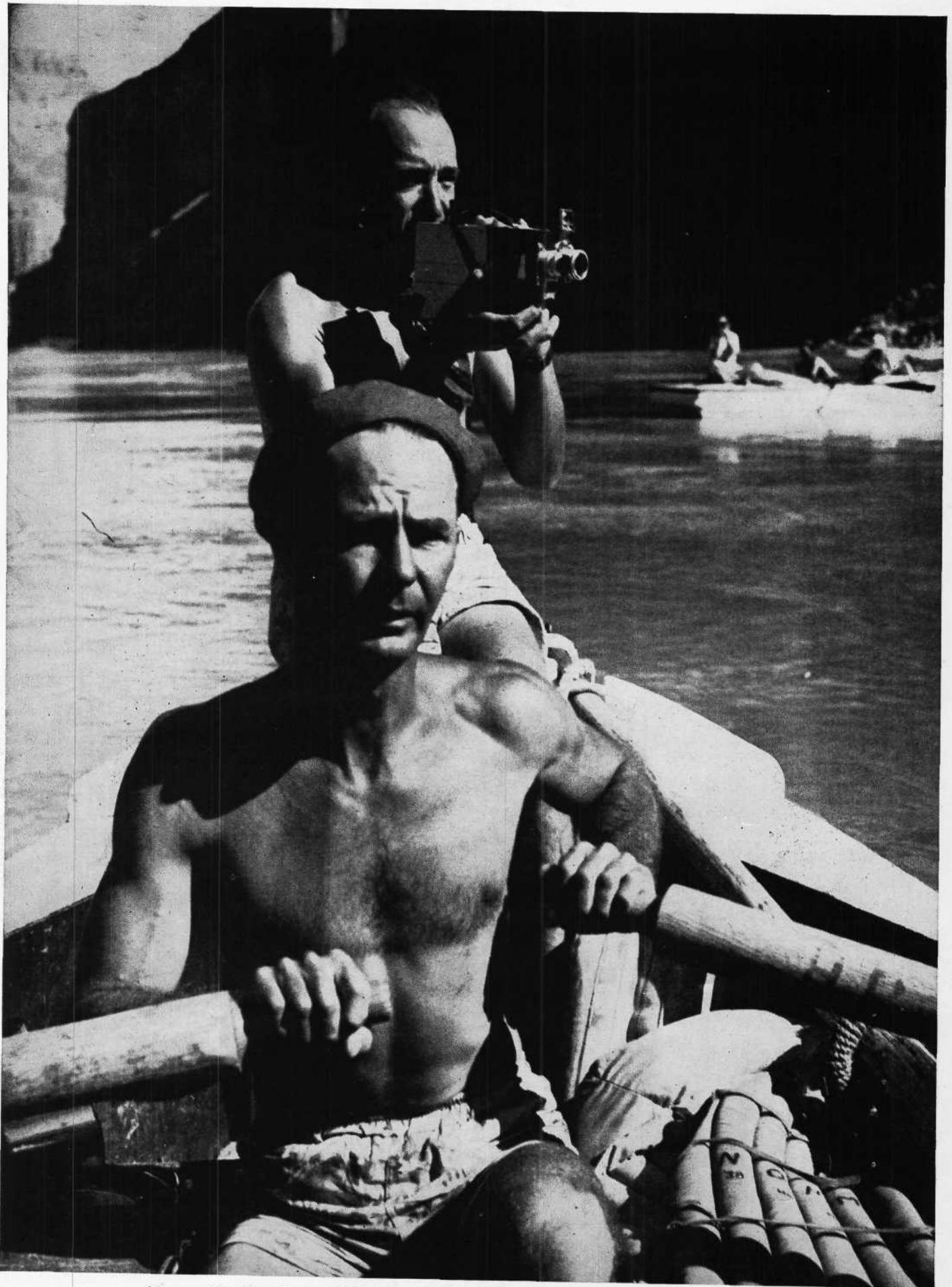
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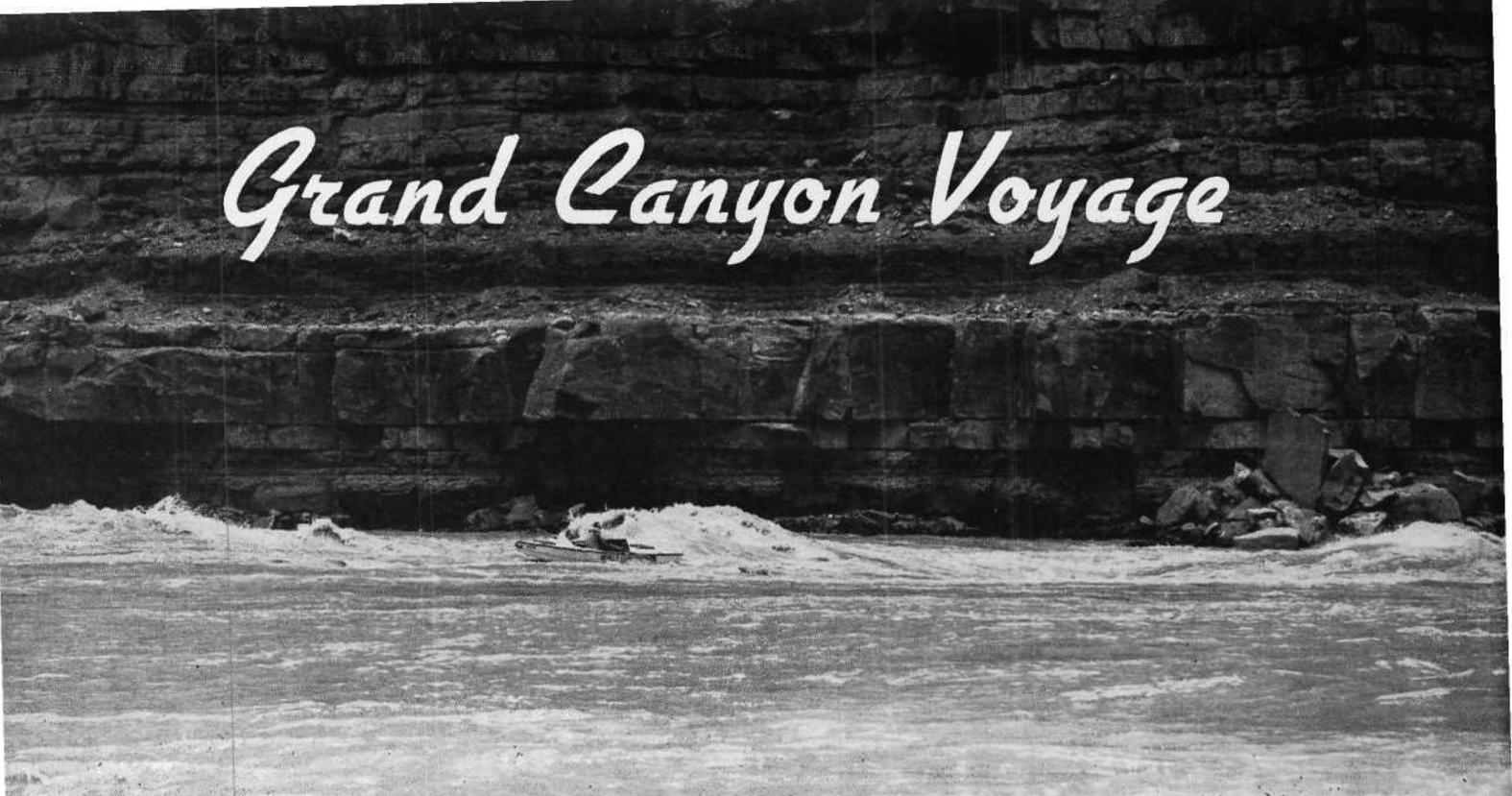
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*Norman Nevills, skipper of the Colorado river expedition, and Al Milotte, with the camera, were the author's companions in the veteran cataract boat Wen on the trip through Grand Canyon.*

# Grand Canyon Voyage



*Norman Nevills running North Canyon rapids with Margaret Marston as passenger.*

**With Norman Nevills as skipper, Randall Henderson and 10 other companions spent three weeks last summer running the Marble and Grand Canyon rapids from Lee's ferry to Lake Mead. The trip was made in four cataract boats designed and built by Nevills. The story of how this river party faced and surmounted the treacherous cascades which have claimed many lives since Major John Wesley Powell made the first voyage through the gorge in 1869, will appear in four consecutive issues of *Desert*, beginning with this November number.**

By RANDALL HENDERSON

**O**UR RENDEZVOUS for Norman Nevills' 1947 boat run through Grand Canyon was Art Green's Marble Canyon lodge, situated on the bluff where Highway 89 crosses the Colorado river on Navajo bridge. Lee's ferry, where our boats were moored for the start, is seven miles away.

Twelve of us were scheduled for the trip—four boatmen and eight passengers. Our start was scheduled for July 12. But there was to be one cool refreshing night's sleep in the comfortable cabins of Art Green's lodge before we began our 20-day adventure in the sultry depths of Marble and Grand Canyons, for the party had assembled for preliminary briefing the previous day.

There was no confusion in the final hours before the start, for Norman and Doris Nevills had been planning this expedition a year in advance. They are a good team, those Nevills. They are frontier people. Most of their mature lives have been spent at Mexican Hat, Utah, where Norman is a hydraulic engineer employed by the U. S. geological survey to take daily water readings on the San Juan river.

Norman engineered and built the special type of cataract boats which were to be our safeguards against the powerful

waves and rocks and holes and eddies in the gorge that lay ahead of us. And Norman had trained the boatmen who were to pilot the craft. Doris' part of the preliminary planning was less spectacular perhaps, but not less important than that of her husband. She planned the commissary, and bought the provisions. This was no simple task for an expedition that would have only one contact with the outside world in three weeks. Weight and bulk must be kept to a minimum. And since mid-day temperatures in the bottom of the gorge range from 102 to 130 degrees at this time of the year, it was necessary to plan three meals a day for 12 people for 20 days practically without perishables. You do not realize the extent to which we Americans depend on fresh meats and vegetables and fruits in our daily menu until you attempt to schedule 60 consecutive meals without them.

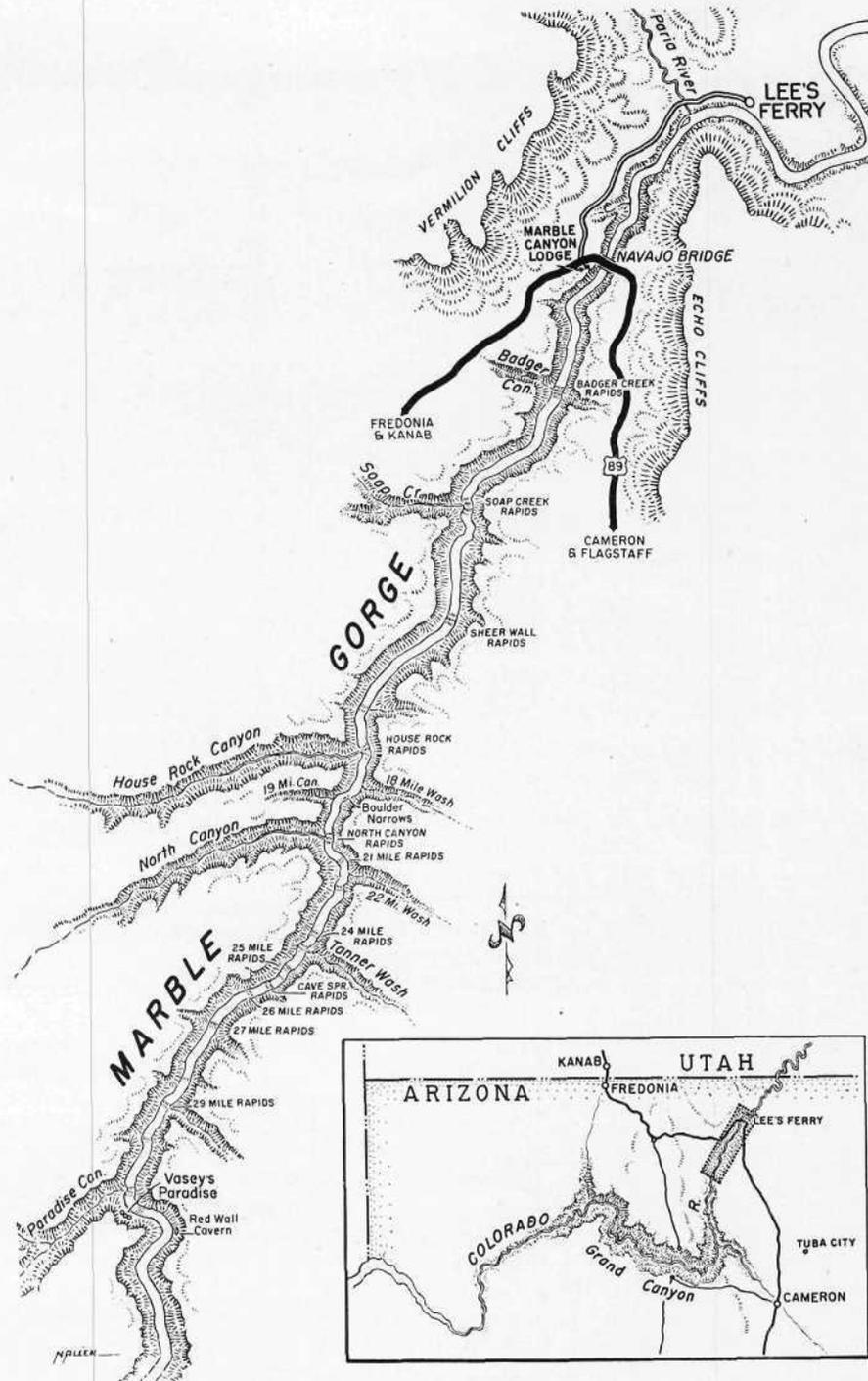
We were eager to be on our way—but knowing that the days ahead would be spent under a sizzling desert sun without shade, and the nights on sandbars and rock ledges with the roar of a great cascading river nearly always in our ears, we were doubly appreciative of the luxury which Mr. and Mrs. Green and their family provided at the lodge. Three daughters with

their husbands—to be joined later by a G.I. son who now is in school—have created out here on the northern Arizona desert one of the most delightful hostleries it will ever be your privilege to visit. Art developed his water supply from a little spring up under the Vermilion cliffs. Most of the cabins are built of native rock. There is air-cooling in every room. The place is kept spotless—and always there is a friendly smile and a cooling drink for the wayfarer who rolls in off the hot paved highway.

Recently a landing strip was installed for planes—and when the last members of our party arrived the evening before departure in a 3-motored plane—the first big plane to land on the new runway—Art felt amply repaid for the months of hard work he and the boys have done to prepare this landing strip.

Three members of our party had been through the canyon before. For the others it was to be a thrilling adventure on waters which have claimed many lives since Major John Wesley Powell and his half-starved boatmen first ventured through what was then, in 1869, an unknown canyon.

Norman announced the boat assignments. He would pilot the flagship *Wen*,



named in honor of his father, William Eugene Nevills, mining man whose interest in oil seepages near Mexican Hat had brought Norman to that remote Utah region just after he had finished high school at Oakland in 1925. The elder Nevills passed away many years ago, but it was his interest and encouragement which started Norman on a hobby and eventually to recognition as the top-ranking white water boatman of America, perhaps of the world. For Norman now has completed 13,400 miles of navigation on the San Juan, Green, Snake, Salmon and Colorado rivers without losing a boat or passenger. Actually he never has capsized a boat in his long career on the toughest rapids to be found in North America. Riding with the skipper in the *Wen* were Al Milotte of

Hollywood, free lance photographer whose best films are purchased by the Walt Disney studios, and the editor of *Desert Magazine*.

Number two position in the little 4-boat fleet was assigned to Kent Frost in the *Mexican Hat II*, young bean farmer of Monticello, Utah, and veteran of the navy. If Kent Frost had lived 100 years ago, he would have been a Mountain Man. He is a woodsman at heart, and when work is light on the ranch he shoulders his rifle and heads into the southeastern Utah wilderness where he lives off the land for days at a time. This was Kent's first trip through the Grand Canyon, but he has served with Norman on the San Juan and Green rivers and knows what to do when the 10-foot waves are breaking ahead. He

has all of a woodsman's reticence—and also the sterling qualities of a true outdoor man. Riding with Kent were Elma Milotte, wife of the photographer, and Pauline Saylor, elementary school teacher in Covina, California.

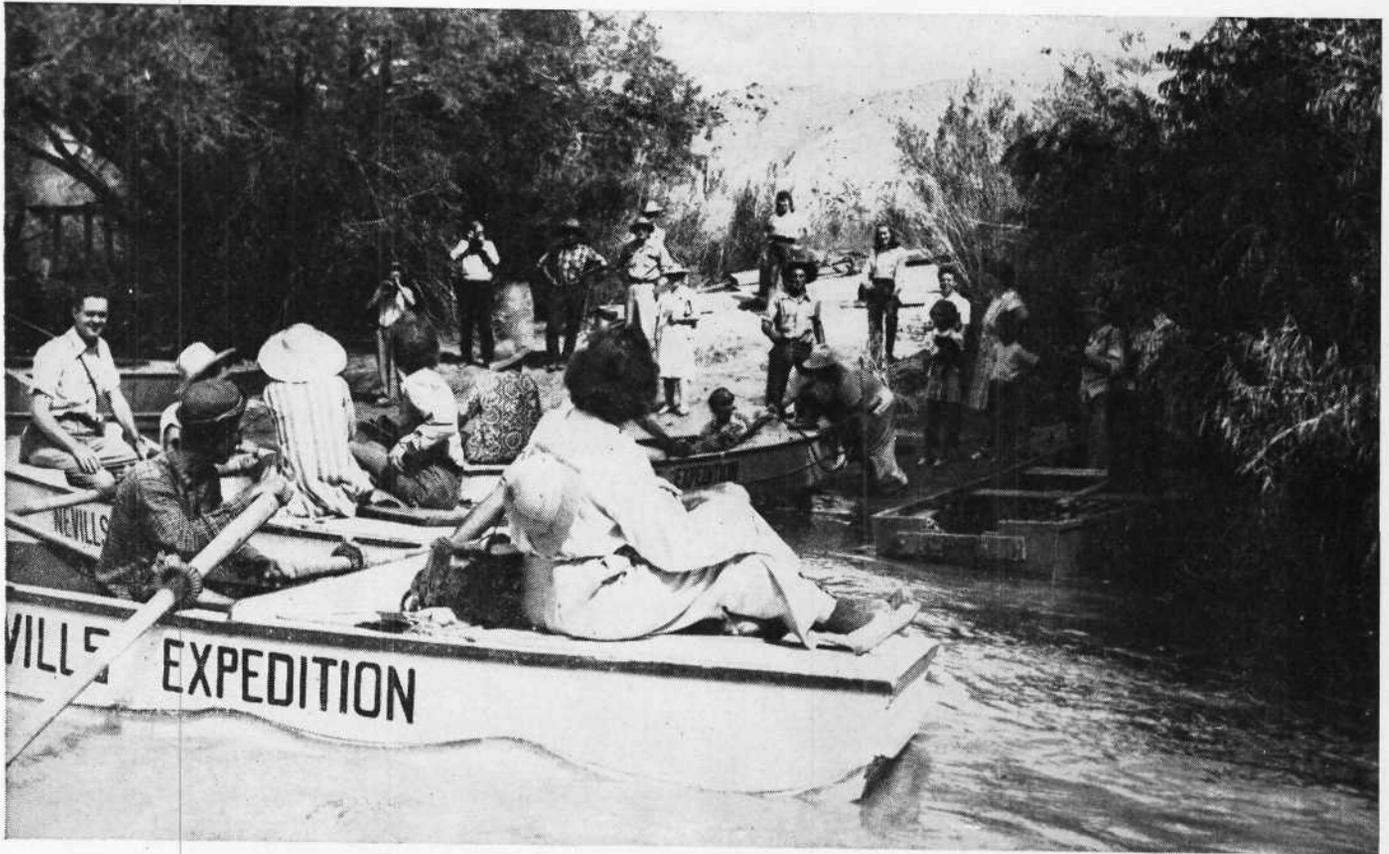
Garth Marston, 22-year-old G.I. student at the University of California was boatman in the *Sandra*, third in line. Garth went through the canyon as a passenger with Nevills in 1942. Big, strong Garth not only proved a capable boatman, but his good-natured clowning was at its best when the going was toughest. Riding with Garth were Marjorie Farquhar, top-ranking mountaineer of the Sierra club, and wife of Francis Farquhar, who rode in boat No. 4, and Rosalind Johnson, noted riding instructor and steeplechase expert of Pasadena, California.

The *Joan*, No. 4 in the line, was piloted by Garth's father, Otis R. (Doc) Marston, investment counsellor of Berkeley, whose life-long hobby has been swimming and boating. He was a passenger with Nevills on the 1942 canyon expedition, and this year became a full-fledged boatman, and a top hand in any kind of water. His passengers were his wife Margaret, and Francis Farquhar of Berkeley, past-president of the Sierra club of California, who divides his time between his public accountant business in San Francisco and his many hobbies which include wildlife conservation, writing, mountaineering, travel and photography.

Five women and seven men! Some of them good swimmers and others only mediocre, but all of them lured to this rendezvous by the same impulse that causes humans to climb difficult mountains and visit cannibal islands and explore the unknown wilderness. And if you ask why people go out of their way to achieve difficult and hazardous feats, I cannot tell you the answer. But I am sure that if the time ever comes when human beings are content to follow only the beaten paths and do things the easy way, this will be a dismal and decadent world in which to live.

Zero hour for departure was 10 o'clock the morning of July 12. Norman and Kent Frost had brought the boats down from Mexican Hat in trailers earlier in the week. The provisions had been stowed away in the watertight compartments, so distributed that if a boat was wrecked and lost we still would have balanced rations, even if the loss would leave them somewhat skimpy.

This was to be the *Sandra's* maiden voyage. The boat was built at Mexican Hat this year, modeled after the other three which already had proved their stability in rough water. Six-year-old Sandra, youngest daughter of the Nevills, was at the Lee's ferry landing with her mother for the christening. A bottle was filled with river water, and since there is little metal on these river boats, a stone was placed



*As the boats shoved off at the historic old landing at Lee's ferry.*

on the bow for breaking the bottle. And while everyone took pictures Sandra smacked the bottle on the rock—and broke the rock instead of the bottle. So it had to be done all over again. But the little ship *Sandra* was too young to be superstitious about the miscue in the dedication ritual, and performed beautifully throughout the trip which followed.

An hour before we were to leave, Barry Goldwater of Phoenix arrived in his plane. Barry was on the Nevills' 1940 expedition and flew in to bid us bon voyage. He was accompanied by his friend Bill Saufley. Norman invited them to ride with us as

far as the Badger creek rapids, where there was a trail by which they could climb out. Doris Nevills also accompanied us to Badger, the first major rapid we would encounter that day.

James E. Klohr, hydraulic engineer for the geological survey at Lee's ferry, told us the Colorado was running 37,000 second-feet. Our start was at an elevation of 3170, and the temperature was 86 degrees.

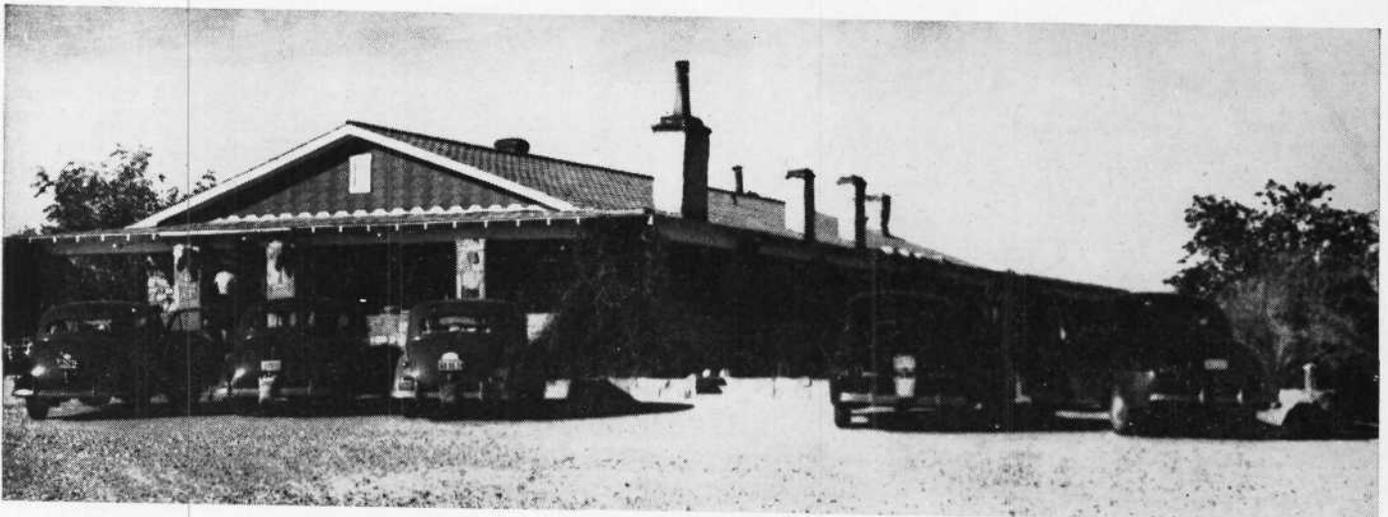
Dr. Harold Bryant, superintendent of the Grand Canyon national park, and Mrs. Bryant had driven the Farquhars from Grand Canyon to Lee's ferry, and remained for our departure. Being a very

active outdoor man I think Dr. Bryant would gladly have changed places with any of those in the boats.

Everything was in readiness at 9:40—20 minutes ahead of schedule—and Norman gave the starting signal by shoving the *Wen* off the little beach and heading out into the stream. Below Lee's ferry there were three riffles—miniatures of the big rapids which lay ahead, and in 45 minutes we passed under the Navajo bridge where the personnel and guests of the lodge could be seen along the rail 467 feet above us.

Here the old Arizona-Utah feud which

*Marble Canyon lodge—where Art Green and his family maintain friendly roadside hospitality for desert travelers.*



Norman and Barry Goldwater carry on incessantly when they are together flared up. "I understand the Arizonans built this bridge," Norman shouted across to his old antagonist, "so the dry Arizonans could go to Utah, the land of milk and honey." Barry's reply was equally sarcastic.

Twenty minutes later we reached the riffle at Six-Mile canyon where there were two huge piles of driftwood piled on the rocks at the mouth of the dry creek. We pulled to shore long enough for Norman and Barry to touch a match to the wood. Years ago reclamation bureau officials suggested to Norman it would simplify their operations at Hoover dam if, whenever convenient, he would burn the drift along the Colorado. Later, when we reached Lake Mead, I saw the reason for this request. Driftwood on the lake is a constant threat to the propellers of the hundreds of small craft on the lake, and the removal of the drift before it gets into the penstocks at the power plant is an expensive chore for the reclamation service.

Distance from Lee's ferry to the headwaters of Lake Mead is 243 miles. While this gorge is referred to in general terms as the Grand Canyon, actually it is divided into two major canyon systems. From Lee's ferry to the mouth of the Little Colorado river is Marble canyon, and from the Little Colorado to Grand wash at Lake Mead is Grand Canyon.

We were hardly beyond the noise of the Six-Mile riffle when a deeper-toned rumble of falling water became audible. "Sounds like Ol' Man River talking to himself down there," Norman remarked as we drifted along on the 6-mile current. Then we rounded a bend and the rumble became a roar. The boat was on smooth water, but less than a quarter-mile below us the river dropped out of sight. We could see the spray of water dashing against rocks below the rim of smooth water where the river disappeared. But at Badger creek the river drops 20 feet in less than 300—and from an upstream boat it is impossible to see the rapids until one is on the brink of the cascade.

"Badger creek rapids," Norman shouted. "Landing on the right." Kent, in the next boat, passed the order back to Garth who in turn relayed it to his father in the *Joan*. This was a procedure repeated many times as we continued through the canyon. At every major rapid the boats landed above and the boatmen assembled on a high point overlooking the cataract to study the tumbling torrent for rocks, eddies, whirlpools. Norman made the final decisions—first, if the boats should run the rapid, second, who should take them through, and third, whether passengers should ride or detour the falls on foot.

There were several variations in this procedure. At some of the lesser rapids Norman's order would be, "Stand by for possible landing." Then he would stand up in the boat as it floated along the placid

waters always found above a cataract, and if he could see the falling water below and spotted no serious obstacle, his command would be, "Let's go!" and the boats would plunge ahead.

Norman was eager to reach Badger and Soap creek rapids. "When I get the feel of the water in those rapids I'll know what Ol' Man River has in store for us ahead," he said. Every stage of the river creates a different set of problems. At low water the rocks are exposed and the current is more sluggish. At high water more of the rocks are submerged, but the waves are higher and the current faster and more powerful. On his 1940 expedition the discharge at Lee's ferry on zero day was 3000 second-feet. In 1941 it was 25,900 feet, in 1942 the reading was 19,400. With 37,000 feet, this was the highest river Norman had faced in his cataract boats. Badger and Soap creeks would reveal the pattern for navigation at this stage.

Badger was rough. A long tongue of smooth water in the center of the stream ended in a series of six and eight-foot waves. On both sides of the tongue and below, great boulders were piled in the stream. With 37,000 second-feet this was a high water stage, and most of the rocks were submerged, but the maelstrom of breakers around them, and the hole immediately below where the water poured in to fill the vacuum created by the rock, made it easy to spot them.

But Norman saw a way through, where skillful work at the oars would miss the pitfalls. He ran the *Wen*, *Joan* and *Sandra* through himself, taking his wife Doris as passenger on the first run, Barry Goldwater on the second, and Pauline Saylor on the third. Kent Frost ran his own boat through. The rest of us climbed over the rocks and driftwood that lined the shore, and met the boats below.

It was 12:30 when the boats were all through Badger, and we ate lunch on a sand bar—rye bread and pressed meat sandwiches and grapefruit juice.

At 2:20 we arrived at the second major rapid—Soap creek. With few exceptions the rapids in the Colorado river occur at the mouths of side canyons, where cloud-burst torrents on the rim above have brought an avalanche of rocky debris down from the plateau and deposited it in the river. When such debris includes boulders as big as a house, the result is a sort of weir that partially dams the stream. The water pours over and around and through these great deposits of loose rock—and therein lies the baffling problem of Grand Canyon navigation.

In the books written about previous expeditions through the canyon, the most widely circulated being the reports of Powell, Stanton, Dellenbaugh, Stone, Kolb, Freeman, Eddy and Goldwater, there has been some difference of opinion as to the most favorable stage for running the rapids. Norman has tried them all, from 3000

to 37,000 feet. His first choice is a 25,000 foot river. The dates for his canyon runs are set months in advance when it is impossible to predict what the run-off will be. But the odds favor July. In June, which often is the peak month in the annual run-off from melting snows in the Rocky mountain watershed, the discharge may be 50,000 or 75,000 second-feet, even higher. In August, the odds are it will be under 25,000. In 1940 when the Nevills' party left Lee's ferry August 4, the flow was only 3000 feet. It was a hard trip. The rapids were strewn with projecting boulders, and in the intervals between rapids the current was so sluggish it was necessary to row almost continually to maintain the schedule. The schedule is important, for there are no grocery stores along the way to replenish the food supply if progress is delayed.

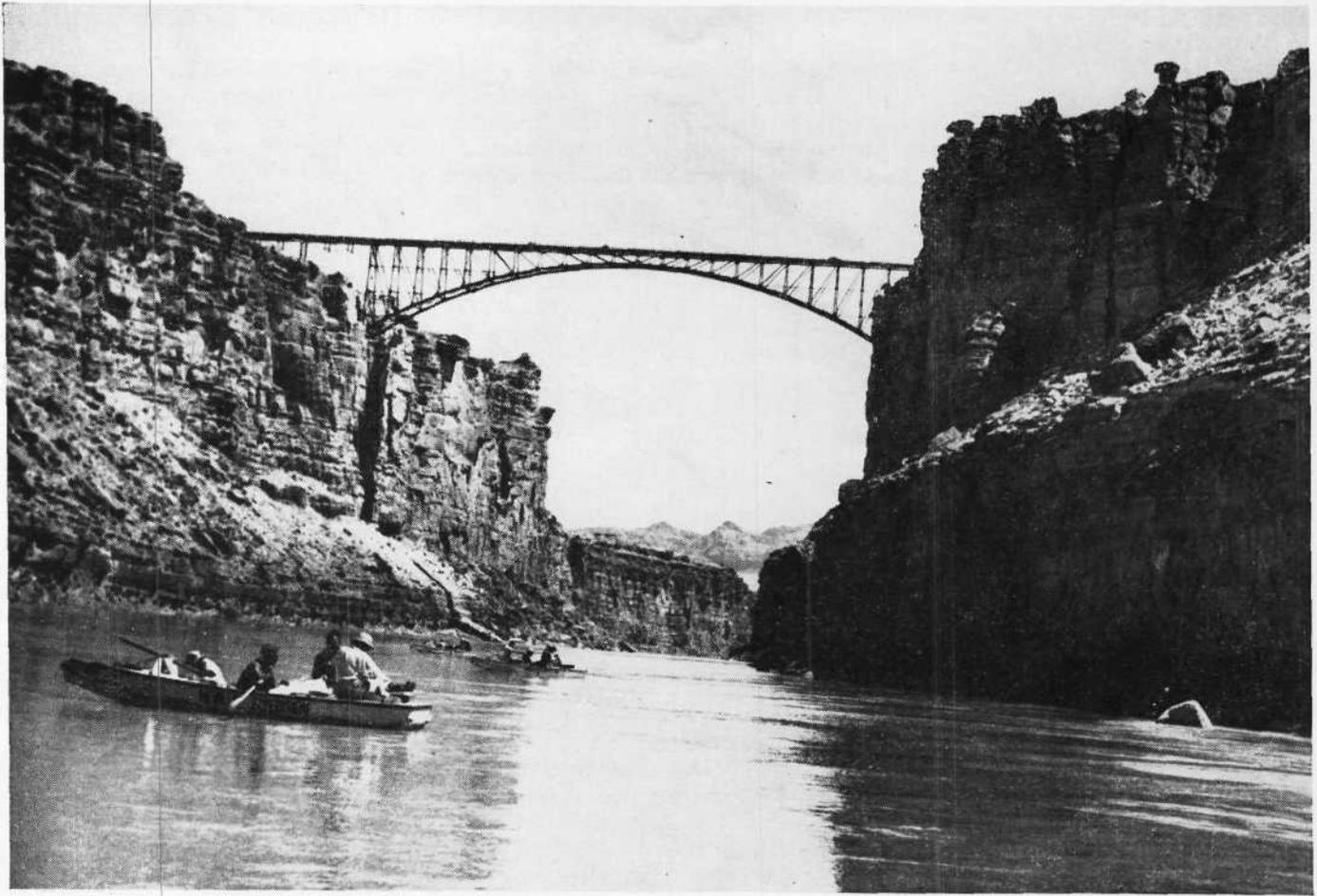
Jacob Hamblin, the Mormon missionary, camped along the Colorado river at this point in the 1850's. According to Mormon folklore he killed a badger along the creek which now bears that name. That night he camped downstream two miles on another tributary creek. The badger was put in the pot to boil. Next morning the badger stew was crusted with soap, due to the combination of animal fat and alkali water. I'll not vouch for the chemistry of this incident, but anyway that is how Soap creek got its name.

Landing for inspection of a rapid always is on the side of the stream where it is easiest for the passengers to make their way along the shore. At Soap creek this was on the right side where the creek had poured a great avalanche of rocks into the Colorado. On July 10, 1889, Frank M. Brown of the Brown-Stanton party, engaged in surveying a possible railroad line through the Grand Canyon, was caught in an eddy and his boat upset. His companion, Harry McDonald, swam out, but Brown was sucked into the vortex of the whirlpool, and never seen again.

On this 12th day of July, 58 years later, Norman entered in his notes: "Soap creek—rough but not difficult." He invited me to ride through as passenger, and I did not get as wet as I did two years ago when I rode with him through 13-foot rapids on the San Juan river. The other boats ran through without passengers.

A mile and a half below Soap creek we landed on a bar on the left for night camp. We carried perishables for the first two days, and that night had a steak dinner with mashed potatoes and gravy. For desert, canned apricots. Kent Frost served in the double role of boatman and camp cook. We liked Kent's steak dinner—and subsequent meals confirmed the high opinion we formed of his cooking skill that first evening.

He follows the traditional camp style of the woodsman and cowboy. He doesn't bother with Coleman stoves and stone fireplaces. He simply builds a roaring fire of



*Seven miles after leaving Lee's ferry the boats passed under Navajo bridge, 467 feet overhead. Six miles below this point the voyagers encountered their first bad water at Badger Creek rapids.*

driftwood, and after it has burned to red-hot coals, rakes them out and puts the cooking vessels on the coals. With a big frying pan, a couple of stew pans, a coffee pot and a pair of pliers to manipulate them, Kent would have the meal ready by the time the boats were unloaded and the bedrolls spread out for the night.

Then, when the meal was over Garth Marston would take over. Garth was the happiest dishwasher I have ever known. Also he proved that a laugh and a song pay dividends, even on a rapid-shooting expedition. For somehow, when he tackled that big pile of cooking utensils and aluminum plates, he always had two or three volunteers from among the women members of the party to give him a hand. For the morning and night meals, water was heated to wash plates and cups. The heavy utensils and all the kitchenware used for the cold lunch at noon were washed in the sand and rinsed in river water.

That evening I established a precedent which was continued at each night camp during the entire trip. I had my portable typewriter in the boat, and prepared a typewritten summary of the day's progress, put it in a bottle, and built a cairn for it on a bench above the high water mark.

That night the canyon walls around us

were lighted by the flames of a huge bonfire when Kent touched a match to a great pile of driftwood on the bar above us.

Norman announced that rising time would be when the sun touched the rim of the 1500-foot canyon wall opposite camp. When morning came the sky was overcast—but that did not give us any extra sleep. At 5:45 Kent whanged a reveille on the bottom of his frying pan—an instrument somewhat less musical than a cowbell, but very effective.

I carried an altimeter—one of those inexpensive automobile instruments—to keep a record of our daily loss in elevation. At the end of the first day it showed we were 80 feet higher than when we left Lee's ferry. When it played the same trick the second day I chucked it overboard. I have no doubt that on an automobile it is a trustworthy instrument. But obviously it had not been able to readjust itself to travel on the rough water of that river.

The river came up an estimated 500 second-feet during the night. At 7:50 we shoved off for the second day's run. At 8:15 we ran Sheer Wall rapid without even putting on our life belts. This is believed to be the place where Peter Hausbrough and Henry Richards of the Brown-Stanton expedition capsized and were

drowned in 1889. The big waves tossed their boat against the canyon wall, and when they shoved it off a whirlpool turned it over. Hausbrough was never seen again. Richards, one of the two Negro members of the expedition, came up, but the current carried him downstream and he was unable to make shore. Following this second tragedy in five days, Stanton decided to abandon the project. Several months later he returned with a reorganized party and completed the railroad survey. Backers of the project looked over the reports and decided a railroad in Grand Canyon was not practicable.

We ran a heavy riffle and then came to House Rock rapid. There are three types of rapids in the canyon—the straight away, the S-shape and the C-shape. The shape of the rapid, however, gives no indication of its ferocity. It is the number and size and location of the big rocks in and under the water which make the difference between a bad cataract and an easy one. House Rock was an S-rapid, but in high water it presented no serious problems and we ran through without landing.

At 18½ miles from Lee's ferry we passed Boulder Narrows where a great block of stone sits in mid-channel. There was plenty of water to go around it on

either side, and Norman chose the right side.

At 9:15 we came to North Canyon rapids, the meanest looking S-rapid we had encountered. We landed above while Norman and his brain trust, the boatmen, looked it over. It had some tricky-looking holes where water eddied around huge submerged boulders, and the decision was that the boatmen would ride, the passengers walk. The ¾-mile detour was rough going for the hikers and it was necessary to do some hand-and-toe climbing to work down from a ledge to the point where the boats were landed below.

Twenty-One mile rapid proved to be no more than a heavy riffle at this stage of the river and we ran it without stopping. At 11:15 we arrived at 25-Mile rapid, the third of the 17 major cataracts we were to encounter on this expedition. This was a long C-rapid extending around a bend in the river. Before running it Norman wanted to walk around the bend to look at the lower end, so he and I worked our way over the boulders and along a series of shelves a quarter-mile downstream. And that was where I stumbled into one of the prettiest fields of agate, jasper, banded onyx, carnelian and chalcedony I have ever seen. While Norman looked the river over, I was exclaiming over the rare coloring of the rocks that lay underfoot and all around me.

I had seen much fine jasper and onyx along the way, but here was an area with enough of it to build a castle, ranging from tiny round nodules to great blocks as big as a freight car.

I showed some of the specimens to Norman. "I wouldn't dare bring an expedition of rockhounds down this river," he remarked. "They'd throw all the grub away and load the boats with rocks."

That is one prize mineral field I can dream about with the assurance that no one is going to disturb it.

Norman decided to run the boats through while the passengers took a walk. When the boats were through at 12:45 we spread lunch on a ledge. Temperature in the shade was 96 degrees.

Below 25-Mile rapid we ran Cave Spring rapid, 26-Mile rapid, 27-Mile rapid, 29-Mile rapid and four heavy riffles without stopping and at 3:30 landed on a bar above Vasey's Paradise for night camp. We traveled 20½ miles that day, ran two major rapids, six minor rapids and 12 heavy riffles. The passengers walked around two rapids and had to do some bailing in six of those we ran. Bailing water became a regular daily chore—often many times a day. Every boat was equipped with two buckets and a supply of empty cans—and it was part of the unwritten code of the river that passengers should help the boatman bail out the boat when one of those big waves piled into the cockpit. Margaret Marston, who undoubtedly is a fastidious housekeeper at home,

even kept one of Doc's discarded shirts in the bottom of the *Joan* to mop up the remaining drops of moisture after the cans had scraped bottom. In the *Wen* there are two places where the paint has been scraped off the floor—proof that Al Milotte and I did our duty as bailer-outers.

Before writing about the lovely campsite we found at Vasey's Paradise, I want to clear up certain discrepancies regarding the number of rapids in Grand Canyon. Julius Stone reported his party ran 318 rapids between Lee's ferry and the present site of Hoover dam. Dellenbaugh reported 204 rapids between Lee's ferry and Kanab canyon. Clyde Eddy said his party ran 245 bad rapids in Grand Canyon. The U. S. geological map based on the survey made in 1923 lists 70 rapids by name and indicates rough water at many other points. One of the Grand Canyon park rangers in his daily lecture at Yavapai Point announces "there are said to be 365 rapids in the Canyon—one for every day in the year."

I started on this expedition with a fine resolution. I was going to count those rapids very carefully—and settle that dispute once and for all time. I took along a mechanical counter—one of those gadgets that add one every time you press a lever. I would have a mechanical record that could not be questioned.

And now I want to offer my apologies to all my rapid-counting predecessors. Their figures vary from 70 to 365 rapids—and as far as I am concerned every one of them is telling the truth, even including the park ranger who admitted he had never been on the river in his life.

There are several reasons why the figures do not agree—and why they will never be reconciled. In the first place the character of the rapids changes with every variation in the flow of the stream. A 35,000 second-foot river may flow over a rocky obstacle with only a big ripple on the surface, and at 5000 feet that obstacle may be a nightmare to boatmen. The changing character of the river is one factor—and the Colorado never carries exactly the same volume of water two days in succession. During the 19 years from 1902 to 1920, the records at Yuma, Arizona, show a discharge varying from 1800 second-feet in January, 1919, to 240,000 second-feet in January, 1916. The average annual maximum flow is 108,464 feet, and the average annual minimum is 3849. The flow at Yuma of course has been stabilized since Hoover dam was built.

Then, who is to define a rapid? Counting rapids in Grand Canyon is like counting the branches on a tree. Who is to decide whether a 3-inch sprout is to be classified as a twig or a limb? That's the way it is on the Colorado. The rapids, at every stage of the river, vary from a tiny riffle that barely rocks the boat, to a roaring cataract that puts goose-flesh on a seasoned boatman.

Norman and I discussed this question many times as we rode along in the *Wen*. For the purposes of my own records I classed the white-caps in the Colorado under three categories—major rapids, minor rapids, and riffles—and I did not count the riffles unless the waves were at least 2½ feet high.

When I totalled up my figures after we reached Lake Mead my records showed 17 major rapids, 51 minor rapids, and 178 riffles. There were at least 150 smaller riffles I did not count—some of which at lower stages might give a boatman considerable trouble. These figures are offered merely for this stage of the water—37,000 second-feet at the start and 16,000 second-feet when we reached Lake Mead.

Like everything else in Nature, the Colorado is a changing stream. There always is the possibility that a cloudburst torrent on one of the rims may send down a new avalanche of rock which will change a riffle into a troublesome rapid. Norman says this has happened at the mouth of Clear creek in Marble canyon since his last trip through in 1942.

And after all else is said, Norman suggests that "the hazard of running the Colorado is largely a state of mind. When the day is bright and spirits are high and everything is going well, none of the rapids frighten you. And by the same token, when things have been going badly and you're feeling a little low, a minor rapid may scare the daylights out of you."

*(Randall Henderson's story of his voyage through Marble and Grand canyons will be continued in the December issue of Desert.)*

## MANY NAVAJO CHILDREN WILL HAVE NO SCHOOLS

By train and bus, 1000 Navajo children left their desert homeland during the last week in September for off-reservation schools in New Mexico, Arizona, California, Nevada and Oklahoma. All of the children were over 12 years old, and below the fifth grade. Many had never been to school before.

There are an estimated 10,000 Navajo children between the ages of 13 and 18, but current funds and facilities were sufficient to take only 1000 in the off-reservation school program this year. Of these, 200 went to Albuquerque, 200 to Phoenix, 100 to Chilocco, Oklahoma, 350 to Sherman Institute, Riverside, California, and 150 to Carson Indian school, Stewart, Nevada. Thirty children of high school age went to Indian schools at Ft. Sill and Anadarko, Oklahoma.

The reservation schools opened during the first week in October. They were expected to take 4500 of the estimated 12,000 Navajo children who are between the ages of six and 12. Ft. Wingate will be the only reservation school taking older students this year, and 75 war veterans were expected to be among the students there.



The Old Overland Stage Station at Vallecitos  
Before Its Restoration.

## Tracks of the Overland Stage

By MARSHAL SOUTH

Sketches by Norton Allen

There's a valley I know in the wastelands  
Where, down through the greasewood and sage,  
Like a dim, ghostly thread from the years that have fled,  
Stretch the tracks of the Overland Stage.

Lone, ghostly and dim in the starlight;  
Grey, desolate and pale in the dawn,  
Blurred by heat-waves at noon—still o'er mesa and dune  
Wind the tracks of the wheels that have gone.

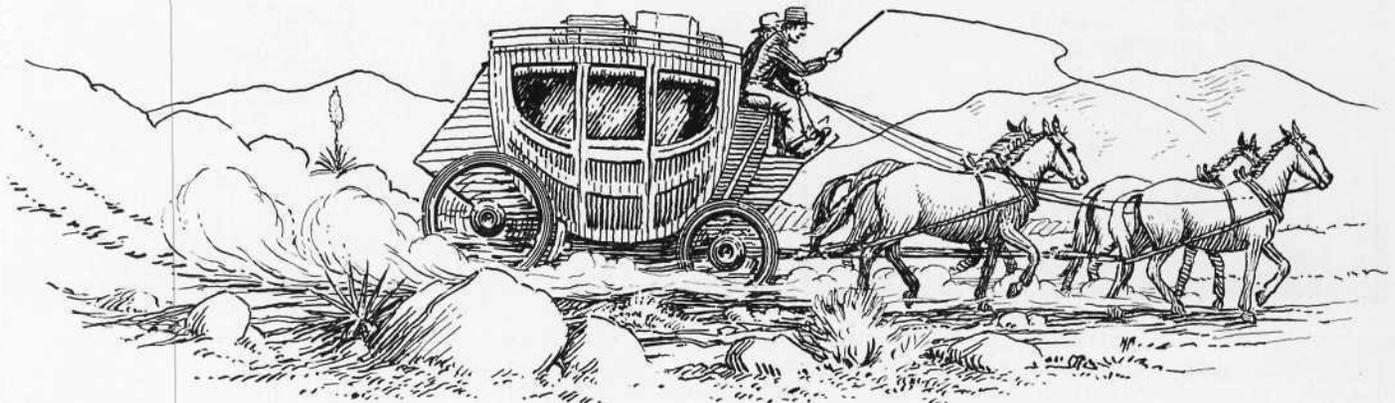
Old coaches whose wheels long have mouldered,  
Old stage-teams whose hoofs long are dust;  
Still, faint and age-greayed, wind the old wheel-ruts made  
By tires long since crumbled to rust.

And down where the silence lies deepest—  
Like a lone, crumbling bead on a thread—  
In the mesquite-grown sands the old stage-station stands,  
Hushed with memories—and ghosts of the dead.

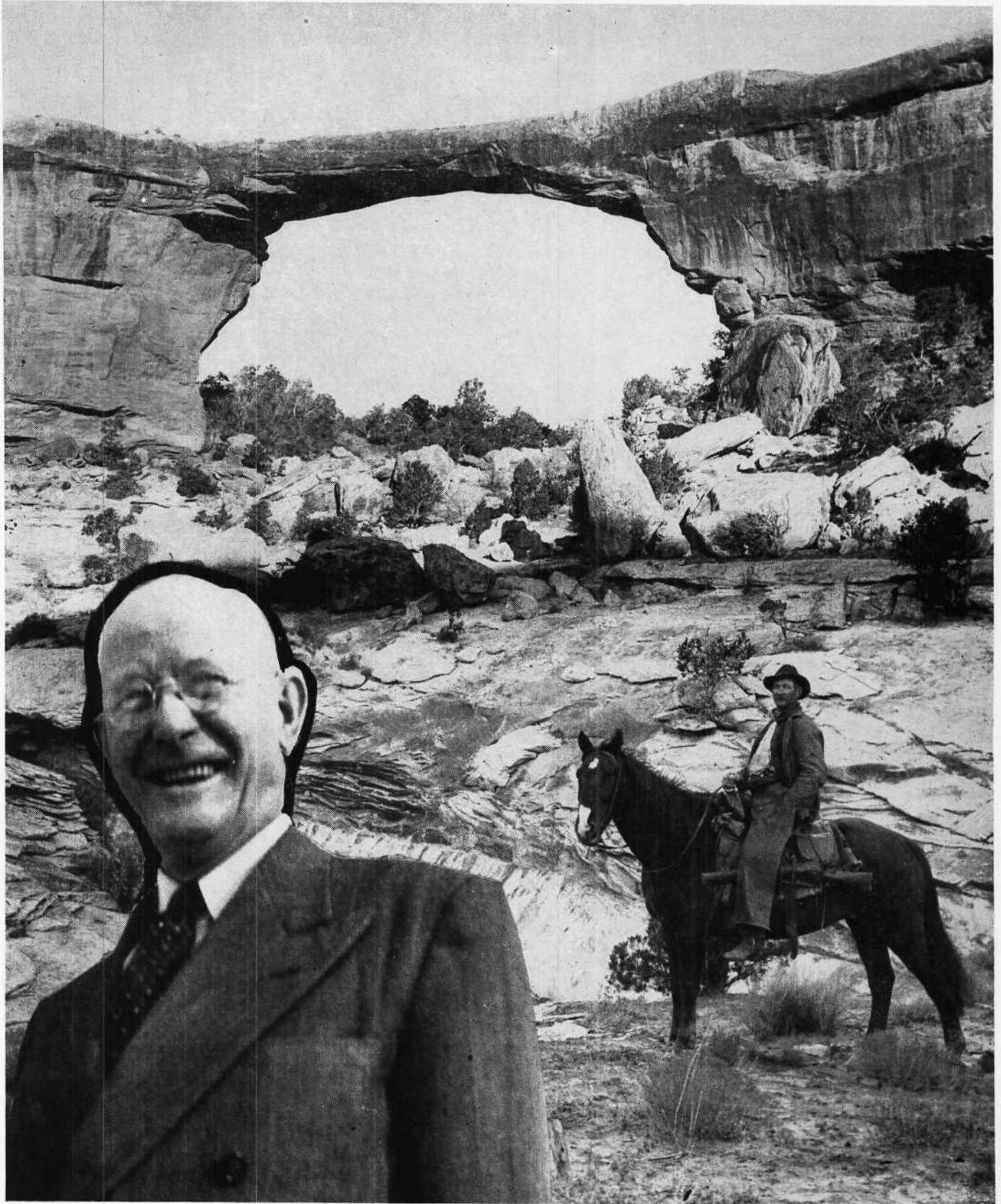
The desert rays wake not its brooding.  
But oft 'neath the star-powdered sky,  
Round the walls on dark nights there move dim, ghostly  
lights,  
As once more the old stages sweep by.

And again, across dune, wash and mesa,  
As the dead years turn back on their page,  
Pass the dim, racing teams from a ghost-world of  
dreams,  
Down the tracks of the Overland Stage.

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# *Zeke Johnson's Natural Bridges*



*Zeke Johnson, and the most spectacular of the three bridges in the monument. This is Owachomo, formerly known as Edwin bridge. The horseman also is Zeke—in 1916.  
Photo courtesy Dr. W. H. Hopkins.*



*Zeke Johnson's packtrain in Comb wash. This was taken before a good road was built to the monument. Photo courtesy Dr. W. H. Hopkins.*

By CHARLES KELLY and  
CHARLOTTE MARTIN

**W**HILE George Dern, former secretary of war, was still governor of Utah, he made a trip to San Juan county in the southeast corner of the state to deliver a political speech. That thinly populated section was not often visited by state dignitaries and the welcoming committee was determined to show the governor what the county had in the way of scenery.

They jolted him over miles of rough trails, winding up the festivities by arranging a trip to Natural Bridges national monument, 50 miles west of Blanding. Dern was not very enthusiastic but agreed to go when told he could travel most of the distance in a car. Zeke Johnson, famous southern Utah guide in charge of this expedition, had arranged for saddle horses at the end of the incompleting road.

After transferring to the horses Dern's party started off in high spirits, being assured it was only a short ride to the bridges. After two and a half hours the governor became a little saddle weary.

"How much farther is it to these bridges?" he asked Zeke as his horse scrambled up a rocky slope.

"Oh, about a mile and a half," Zeke replied innocently.

At the end of another two hours, with their destination still nowhere in sight, the governor again inquired how much farther they would have to ride.

"Just about a mile and a half from here," Zeke said, spurring his horse to avoid further questioning.

**No, Zeke didn't build the bridges. Nature has been working at that job probably for millions of years—but more than any one person, Zeke deserves the credit for making these great natural wonders of Utah accessible to those who like to prowl the out-of-the-way places in the West. Here is the story of a big man and a rare place to visit.**

This was repeated several times and each time Zeke's answer was the same. Finally, after eight hours in the saddle they rode out on a rocky point and dismounted opposite Edwin bridge, first of the three majestic structures in White canyon; but Governor Dern was too weary to enjoy the spectacle.

"Why did you keep telling us it was only a mile and a half, Zeke, when you knew it was at least twenty-five?" Dr. A. L. Inglesby inquired.

"Well, Doc," Zeke explained, "I knew the governor would never come if he knew how far it was, and I sure wanted him to see these bridges."

"You and your mile and a half!" Doc exclaimed. "We ought to nickname you 'Old Mile-and-a-Half' Johnson." That's just what they did and the name still sticks.

For 40 years Zeke Johnson was the best known guide in southern Utah. For 34 of those years he was custodian of Natural Bridges national monument. He guided thousands of persons to the monument and everyone he met became a friend. Be-

cause of his uncontrolled enthusiasm for these wonders of nature they are often called "Zeke Johnson's bridges." No story about them would be complete without the story of their first custodian. His only regret is that he was not the original discoverer.

That honor appears to belong to Emery Knowles who first saw them while searching for cattle in 1895. Al Scrup, Utah's cattle king (*Desert*, Oct. '40), who made and lost fortunes in the White canyon country, heard of the bridges from Knowles and visited them about five years later while hunting new range. Being more interested in grass than in rock formations, neither of these men publicized their find.

In 1889-90 Robert B. Stanton made a railroad survey down Colorado river canyon. In the Glen canyon section below Hite he found placer gold and later transported a big dredge to the river to recover it. When his company failed, Horace M. Long was sent out from Boston to wind up its affairs. During the year he spent on the river he met Scrup and learned about the bridges in White canyon. In 1903 he persuaded Scrup to guide him, and together they visited the bridges, where Long made the first photographs and was first to ride across the flat span of Edwin bridge. They found three, naming the largest Augusta after Long's wife, and another Caroline for Al Scrup's mother. The third was called Little Bridge. In August, 1904, Long's story and photographs were published in *Century* magazine and through that article the area was set aside as a national monument by Theodore Roosevelt

in 1908. Mrs. Long, who was an artist, made the first painting of the great bridge named for her, a fine piece of work of which she was justly proud.

In 1905 Col. Edwin F. Holmes, of Salt Lake City, sponsored a second expedition, led by the artist H. L. A. Culmer, who sketched, photographed and measured all three bridges. At this time Little bridge was renamed Edwin in honor of Col. Holmes.

Three more years elapsed before Zeke Johnson saw the great formations with which his name has become so closely associated. He had just started a small cattle ranch near Blanding and wanted to visit his mother who lived in Tropic, near Bryce canyon. Zeke believed he could save several hundred miles by cutting directly across country. Indians told him no white man could do it; there were too few water-holes and most of the water was bad. They said there were no trails a white man could follow in the 100 miles between Blanding and Colorado river.

But Zeke Johnson came from a line of hardy slick-rock pioneers and was determined to explore a new route which would pass by the natural bridges reported to be somewhere in White canyon. He finally persuaded old Piute Mike to draw a map in the sand. After memorizing it he selected two of his sturdiest horses, filled a grub sack, and started west across what is probably the roughest country outdoors.

Crossing Comb wash and skirting the base of Elk ridge he passed the mouth of Arch canyon, struck upper White canyon and on the afternoon of the third day found one of Al Scorup's cattle trails which led him directly to Edwin bridge. Before sundown he had walked across its broad span and found water in a little pocket known as Zeke's bathtub.

When he returned to Blanding, Parley Redd introduced him to H. W. Wanmaker and Thomas E. Giddings, the latter ex-governor of Michigan. These men were anxious to locate a feasible railroad route from Taos to San Francisco and asked Zeke to guide them through the country he had just explored. They spent 60 days on the trip, visiting all three bridges and examining the surrounding country, again aided by the accurate descriptions of Piute Mike. This experience gave Zeke a thorough knowledge of the country and from that time on his cattle were neglected for the more exciting business of guiding men to the bridges, canyons and cliff dwellings of San Juan county.

When Park service officials began looking for a custodian for Natural Bridges national monument, Zeke Johnson was their natural choice. He served 12 years at the munificent salary of one dollar a month, plus the privilege of renting horses to what he always called "sightseers." He spent two years laying out 12 miles of trail, part of which was through a dense growth of

cedars. In order to reach Augusta bridge during flood season when White canyon was full of red mud, he built a trail down the face of a high cliff, constructing several short ladders. In one place he laid poles from the cliff to the top of a tall pine and visitors had to scramble down the tree, an experience to which some of them strenuously objected. "Zeke's tree" still stands, but modern visitors now use a long ladder placed nearby.

A cabin was built on a small flat opposite Edwin bridge, where Mrs. Johnson served chocolate cake, apple pie and cool drinks to famished hikers. Water in that country was always a problem of first importance. At first it was hauled or packed 21 miles from Kigalia spring, but later Zeke developed a small seep in the canyon near Edwin bridge, built a concrete tank and collected enough water for domestic use. He says he has "jackassed enough water out of the canyon from this spring to float the battleship Maine," which is not necessarily a Zeke Johnson yarn.

In 1920 Zeke was given a regular salary and remained as custodian until 1942, when he was retired and pensioned after serving two years beyond the prescribed age limit. But his retirement was not due to physical infirmities, even though he was then 73 years old.

During his very active lifetime Zeke guided many famous persons through his

beloved slick-rock country, including such men as Rex Beach, Zane Grey, Harold Bell Wright and Horace M. Albright, director of the National Park service. After 1918 he guided Charles L. Bernheimer and Earl H. Morris on thirteen expeditions through southern Utah for the American Museum of Natural History and Peabody Institute. From two men and two packhorses these expeditions were increased to nine men, 36 pack mules and 11 saddle horses, visiting hundreds of cliff dwellings and exploring many square miles of red rock desert which had never seen the imprint of a white man's foot. His largest group was Governor Mabey's party of 1921, when he took 42 people and 35 pack mules to the bridges. On this trip Dr. Frederick Pack, geologist, discovered and named the "Goblet of Venus," now one of the best known landmarks of the state.

During his explorations of this area Zeke has discovered a great many hidden cliff dwellings and prehistoric burials. "One day," he says, "a sudden storm forced me to seek shelter in a shallow cave. Running my hand idly through the sand I uncovered a piece of charcoal and after digging a little while I uncovered a mummy's head. The two of us had quite a visit before I covered him up again. The old fellow has been dug up and photographed many times by sightseers eager to locate a burial. Guess he's still there and I

## Hard Rock Shorty of Death Valley . . .



The sun beat down on Inferno, and the tourist crawled from the heated seat of his car to the scant shade of the store porch. He fanned his face with his hat.

"Do you have many days as hot as this?" he asked.

Hard Rock shifted his cut plug. "Comes the hot season it's a mite warm," he admitted. "Today's cool."

"What is the average rainfall here?" the stranger persisted.

Hard Rock considered the question judicially. "Couldn't say," he admitted at last. "I only been here 50 years. Ain't seen no rain in that time. This here's dry country."

"But I've heard of storms and cloudbursts in the desert," the tourist persisted.

Hard Rock sighed and reached for a whittling stick. "Wal, if yu mean storms, I do rec'lect one. Happened

one day it wuz so hot yu could smell burnt feathers. And dry! It's allus dry here. But that day it wuz so dry even the patches o' shade withered up an' disappeared.

"Long 'bout four in the afternoon a whoppin' big cloud showed up. Hail it looked like, an' gettin' closer. I couldn't figger how it could hail on a hot dry day like that there. Still, I wuz hopin' for a little wettin' down.

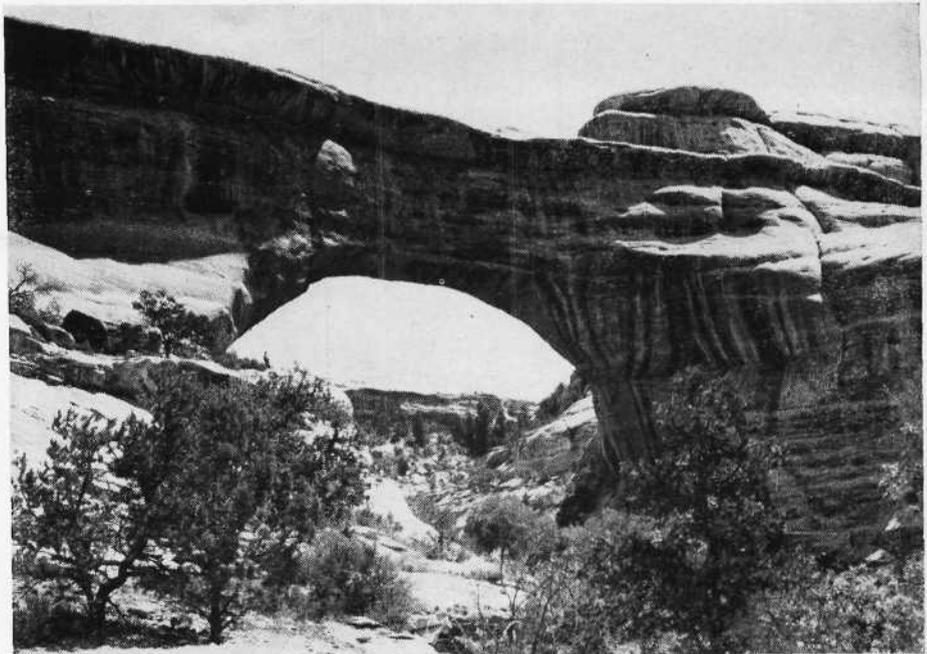
"Wal, that storm hit in about 15 minutes, and she wuz hail all right. But not reg'lar ice. No sir-ee. Weather wuz so dry that pore blasted cloud hailed dry ice. I made a mint o' money out o' that storm, too. Canned all them dry ice hailstones an' sold 'em to eatin' houses. They put 'em with sugar in the sugar bowls so customers could cool their coffee without saucerin' an' blowin' it."

wouldn't mind seeing his homely face again. His perfect teeth always made me envious."

Under President Taft's administration the monument boundaries were enlarged and at that time names of the bridges were changed by William B. Douglas of the general land office. Augusta became Sipapu; Caroline became Kachina; and Edwin was renamed Owachomo. The new names were Hopi words, bestowed under the mistaken impression that inhabitants of nearby cliff dwellings had been of Hopi origin. Certainly Indian names are appropriate; but they should have been Paiute rather than Hopi, since the latter never occupied San Juan county. The original names are still preferred by old-timers, particularly those who knew the artist, Augusta Long.

When Zeke Johnson became custodian it was necessary to make a hard two-day ride on horses to reach these natural bridges and the experience was one to be long remembered. In 1929 a road was built to the monument but it was rough and often impassable because of mud. Zeke wore out five of his own cars and two government trucks carrying passengers over this early road. Now a good desert road is maintained from Blanding, 50 miles, and has recently been continued to Colorado river at Hite and on west to Capitol Reef national monument.

After Johnson's retirement J. Wiley Redd, also of Blanding, was appointed custodian and lives at the monument during five or six months of the year, where he maintains horses for those who prefer

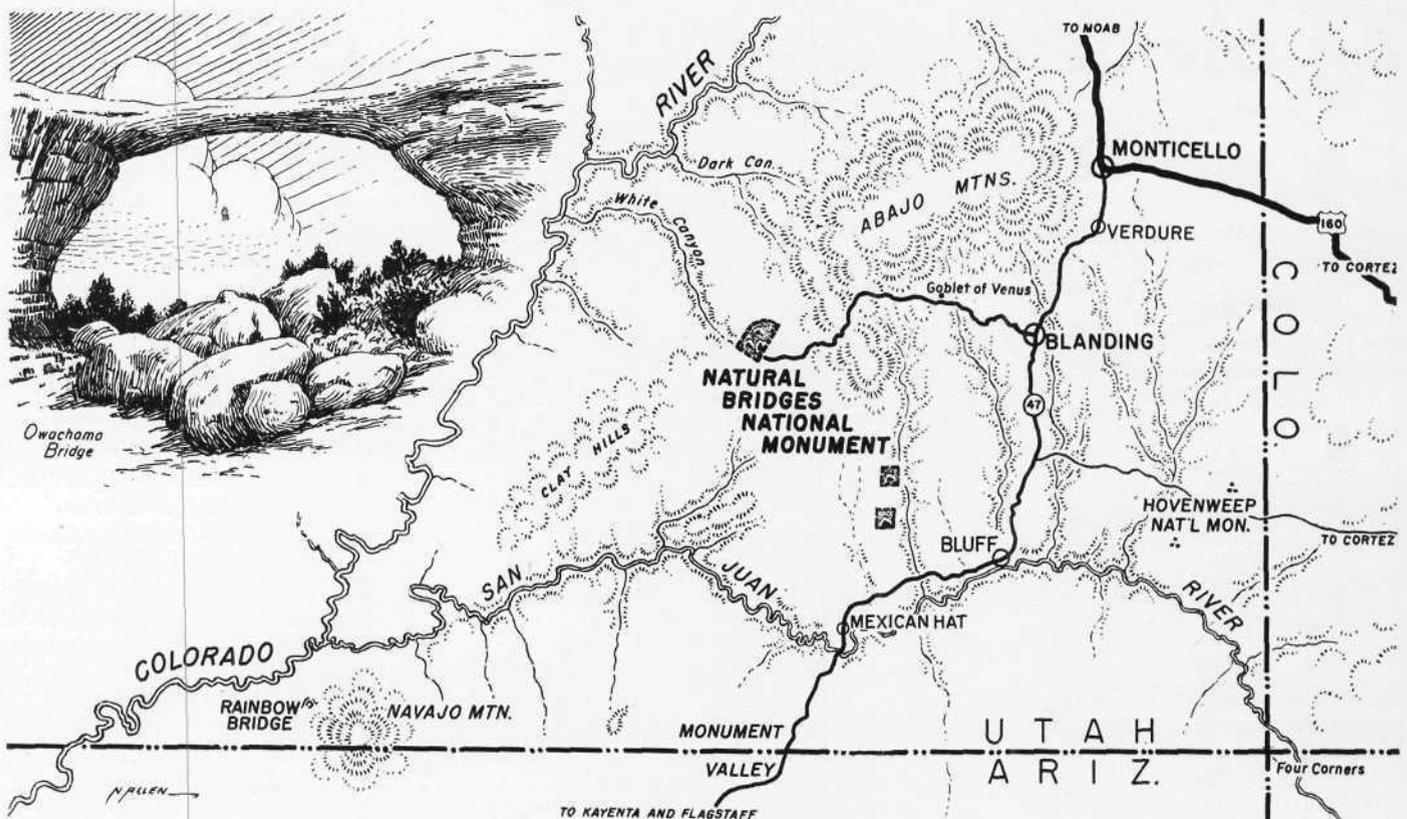


*Sipapu bridge. Park service photo.*

to ride the 12 miles of trail. While Edwin bridge can be viewed from a car, no road can be built to Augusta or Caroline; but the ride or hike is more than worth the effort involved.

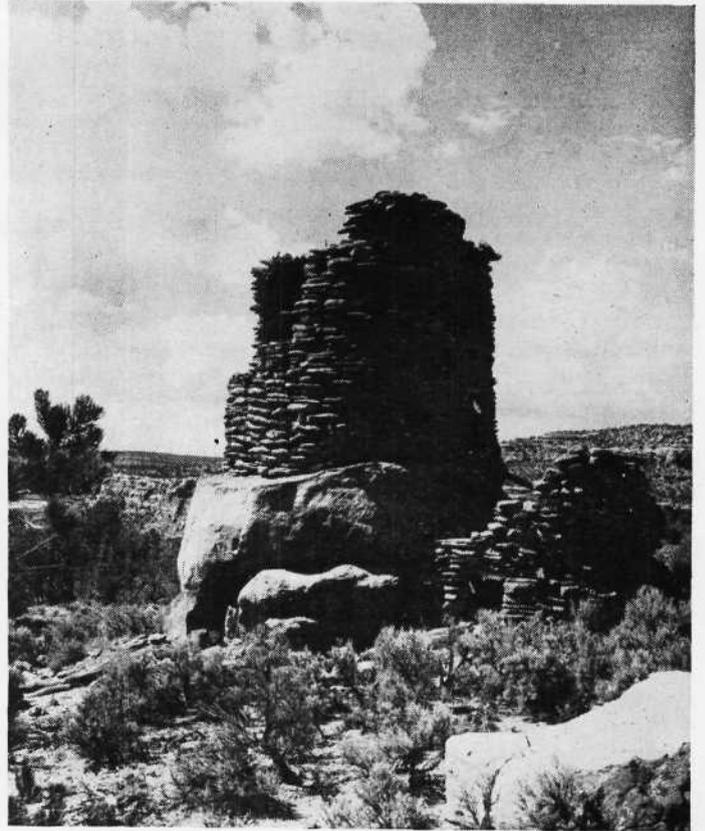
After his retirement Zeke Johnson moved to Ogden, Utah, but makes frequent trips to his old stamping ground in San Juan county. Pelakana Nez (the tall white man) as his Navajo friends call him, has indelibly stamped his personality on the natural bridges; or perhaps more ac-

curately it's the other way 'round. His friendship is treasured by men in all walks of life, men who have listened to his humorous tales and homespun philosophy around many desert campfires. His 77 years have been kind to him; the big frame is still erect, the voice just as booming, the eyes as keen and the arms as eloquent as he continues to spin tales of the days, not too long distant, when he guided sight-seers and scientists through his mysterious beloved San Juan country.





General view of the Largo canyon region. The tower is located on the mesa. Photo by Malcolm Farmer.



Tower of the Standing God, used by ancient Navajo to watch for the approach of their enemies.

# Trail to the Tower of the Standing God

By RICHARD VAN VALKENBURGH

**M**Y FIRST inkling of the Tower of the Standing God came in 1937 while I was making an archeological reconnaissance in the vicinity of Jim and Ann Counselor's trading post in the wild and remote mesa country bordering the Canyon Largo in northwestern New Mexico.

As was my custom I was loafing away the late winter afternoon in the post watching and listening to the Navajo who came to trade and warm themselves by the pot-bellied stove. That afternoon the main attraction was the treating of the sore eyes of Old Lady Sam, the matriarch of the Rainy Mountain region.

When Juli Chiquito, one of the best informed Navajo in the vicinity came in I called him to my side. After we had lighted our smokes I started to feel him out regarding a series of ancient hogan sites I

had discovered that morning on the nearby Tukohokadi mesa.

I was not aware that Jim was listening until his deep voice boomed out, "Some years ago while Ann and I were running sheep on the old Sam Lybrook place down in the Rincon Largo we ran across a number of old hogans. And near them were a number of stone towers. Maybe they're Navajo?"

Then turning to Old Lady Sam who had escaped Ann's eye dropper and had wrapped herself up in her blanket he questioned, "Grandmother—what do you know about those old towers down in the Rincon Largo?"

Not to be rushed by anything less than a flash of lightning it was some moments before the old lady answered, "Of course they're Navajo! Everything around here that amounts to anything was made or built by the Navajo or their gods. These

Slowly but surely the archeologists are unravelling the mystery which surrounds the origin and prehistoric life of the Navajo nation. In this story, Richard Van Valkenburgh has contributed a bit of new lore—thanks to the clue given him by Old Lady Sam in a remote Indian trading post.

towers were built a long time ago by the Old People for protection against the wild animals, the Utes, and the Mexicans.

"My grandfather said that there were once 12 towers. But with my own eyes I have only seen eight. One stands on the tip of Hanging Pot mesa to the west. There are two more down in the Canyon Largo near Trubey's ranch. Two guard the entrance of *Tséko*, Lesser Box Canyon, which is the real name of the Rincon Largo. And the seventh is up-canyon on the mesa above Mud Lake Rincon.

"But most important of all is the eighth. That lies on the main mesa between Mud Lake Rincon and the Canyon Arviso. For it is here, hidden in the deep pine forest, that still stands the Tower of the Standing God which was once the home of Sabildon, the great chief."

That name had a familiar ring. And a few moments later I remembered that this

was the Navajo who was the chief whom the Spaniards called Antonio. And it was he who had received from Captain Juan Bautista de Anza in Santa Fe in 1785 "a cane with silver points and a medal" as a reward for aid against the Gila Apache.

Sensing that now was the time to probe for further information I asked, "Grandmother, should one go to search for the Tower of the Standing God how would they know they had found it? Is it larger than the others? Has it a different shape? Or is there a mark on it?"

There was another long period of silence before she answered, "Why do you think they called it the Tower of the Standing God? While I have never seen this with my own eyes—my old grandfather told that somewhere on its walls there is a picture of a *Ye'ii* or Navajo god."

Soon after the sunrise of the next day Julian, my interpreter and a local Navajo from Kinbito, had us packed and ready to start toward the Rincon Largo. After giving us last minute directions Jim suggested that we climb a nearby crag and get a bird's-eye view of the country we were to explore.

Beyond, and across the Largo, we could see the gentle stepping up of the mesas to the pine forests of the Jicarilla Apache—and then on to the dim line against the sky that was the backbone of America—the Continental Divide, which at this point is called Cejita Blanca ridge.

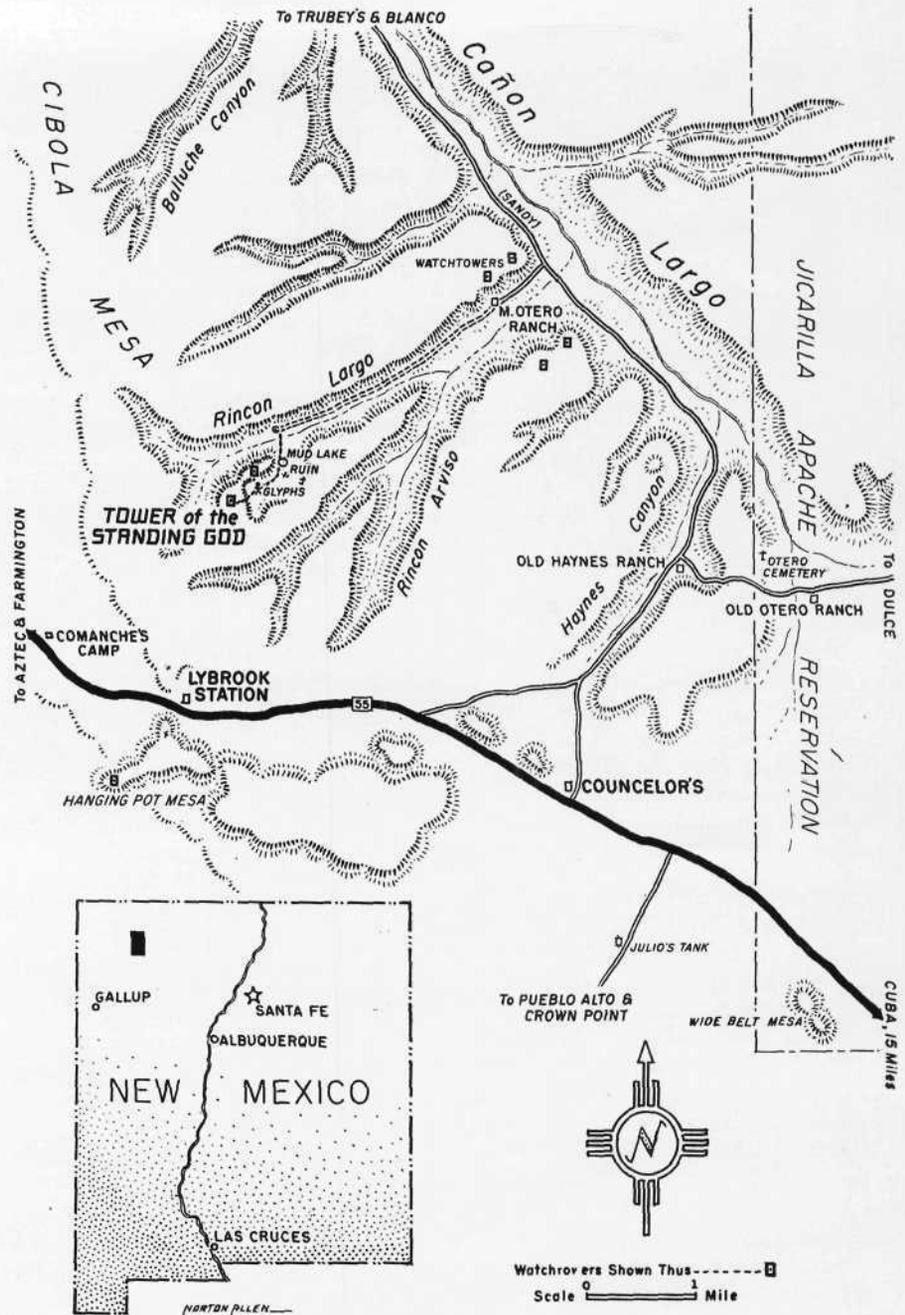
A thin snow was sprinkling our windshield when we returned to our pickup. We soon picked up the trail that wandered away from Jim's lambing corrals. Traveling northeast we bounced down across a flat two miles before entering the low piñon-fringed walls of Haynes canyon.

Following the curvature of the east wall for three miles we soon rounded a low point and pulled up in a small cove where lay the ruins of the old Haynes ranch and trading post. Following Jim's directions we left the pickup and climbed to the nearby rim to see a small spring-cave in which Indian relics had been found some years before.

After scratching around in the fill for a few moments we were lucky enough to collect a few sherds of a grey pottery which we later learned was typical of Navajo handicraft during the 18th century. Disregarding Julian's grumblings about "getting caught in a big-snow" I hustled him back to the pickup.

With our wiper sweeping off the sticky snow-flakes we went on down canyon. After a time we could see the walls were expanding. Then as we broke through its low jaws and came out on a wide expanse of sand that faded away in the pewter-colored snow-fog, Julian said:

"Tis *Abidazgai*, Where the Wide Canyons Meet. The east fork rises in the Sierra Nacimiento above Cuba while the south one flows down from the crags of the sacred mountain of Sisnateel above Po-



trero. Here really starts the grandfather of all canyons—the Canyon Largo!"

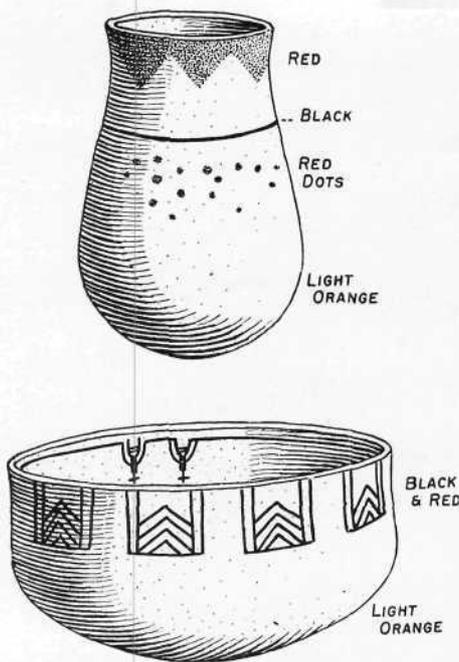
Rounding a point which nosed down into the bed of the Largo, which at this place is one-half mile wide, we crept through the snow covered ruts until we reached the mouth of a wide canyon.

Motioning for me to stop Julian said, "Hastin, here is *Tséko*. Look closely on the points and you will see the towers of which Old Lady Sam spoke. I can tell by the look in your eyes that you would like to climb up there right now. But let us go on—for the trail up the canyon to Mud Lake Rincon may be long and hard."

Reluctantly agreeing to Julian's suggestion I took one last look at the towers and started up the Rincon Largo. Skirting the talus slide of the north rim Julian said as we passed a small ranch house, "This is the old Sam Lybrook place. It was here that Jim and Ann lived when they discovered the towers."

Beyond the ranch house our trail was all of our own making. For some three or four miles we dodged gullies and dense stands of gaunt looking chamiso. When we came to a small cove Julian said, "Here it is—Mud Lake Rincon! We must leave the pickup here." And then I spotted a low knoll in the center of the cove that looked interesting. Actually the knoll was nothing more than an accumulation of debris that had settled around the walls of a prehistoric structure. Made of slabs of the local sandstone the main feature was a kiva-like structure some 30 feet in diameter. And adjoining it to the east were two 6 by 8 foot square ante-chambers.

After making a rough field sketch we found a few pottery sherds. They told us this site was definitely not of Navajo origin. Their characteristics were similar to 10th century sites which had been reported some miles eastward near Gallina, New Mexico.



Reconstruction of 18th century Navajo vessels from sherds collected in Rincon Largo. Very few whole specimens of this unusual pottery are in existence.

From this site we spotted a small but sheer ravine that slashed up to the main mesa. Heading that way we were soon fighting our way up through thick underbrush and rocks. And just before making the last sharp ascent Julian veered off and disappeared in a litter of large boulders.

Then his voice came echoing back and forth across the ravine, "Come here Hastin. I have located the old trail. And beside it there are some fine Indian writings!"

Scrambling through the rocks I joined my interpreter. Not too badly weathered, the glyphs, which had been incised and not painted on the rock, were of animal tracks, crude human hands, snake-like figures, forked lightning, a deer, and most interesting of all—a man on horseback!

The man on horseback, similar to those I have seen many times on the walls of the Canyon de Chelly, could not have been over 200 years old. And as the predominant archeology in the vicinity later proved to be Navajo it was reasonable to assume that all of these rock pictures were their handiwork.

The old trail, worn deep in the rock, led up through a thin crevice toward the top. Finally we boosted ourselves up over the last sheer stretch of rim to reach the saddle and break into the open. There perched above up on the mesa rim was a well preserved watchtower!

There was only a series of low benches between us and the tower. And soon we were at its base breathless and curious. Climbing to the top room by means of an ancient ladder, which had been made by

deeply notching a pinyon log, we began to reconstruct the story of the tower.

Located on the summit of a large rock-outcropping the tower had been erected of flat slabs of sandstone. The roof, part of which was still in place, was constructed of pinyon logs held in place by large flagstones. While no evidence remained we assumed that the whole had been weather-sealed with earth and bear grass.

Below the tower and clustered around the rock were small dwelling rooms. Their roof construction and walls were the same as that of the tower room. And from the dates we later obtained from their timbers we found they had been felled with fire and then trimmed with stone axes between 1770 and 1785.

Climbing down from the tower I began to prowl the forest. It was hard to spot anything small owing to the fallen snow. But after a half-hour's search I had located within a half-mile of the tower the sagging tripods and ceremonial door-stones of 14 of the ancient *alchindes'ai*, or forked stick hogans.

Had it not been for Julian's sharp eyes I would have missed one of the main clues to the story of the towers. Just after locating the burned rocks and depressed ring of a *tache*, or sweathouse he called down to me from his perch high in the tower.

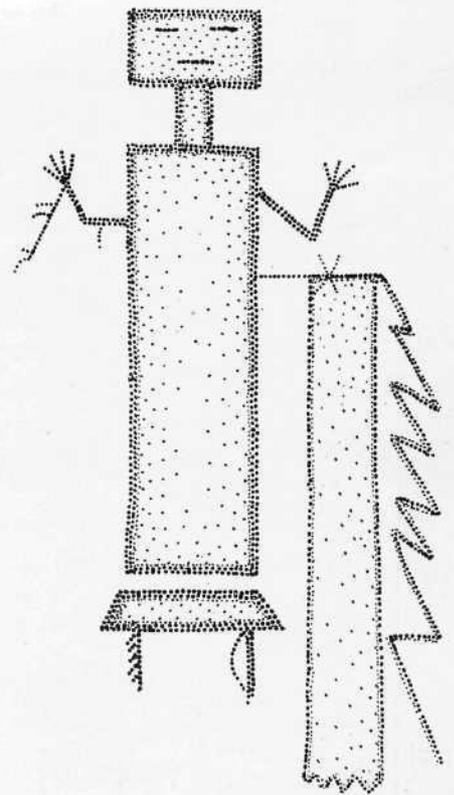
"Come up here and look, Hastin. What Old Lady Sam told me was right. From this point one can see every tower in *Tsé-keo*. She further told me that around each of the towers there dwelt an extended family or clan, and that in times of trouble all of the towers stood together against the enemy.

"Can you see the picture of 200 years ago? High in those towers we passed at the mouth of the canyon the watchers spy the Mexicans coming from the east. Smoke signals float into the sky. And when the Mexicans come the women and children are all in the towers and the warriors are ready to fight."

This reminded me that we had not yet found the glyph of the Standing God which would identify this tower as that of Sabildon. The location was right—but possibly the story was only a tradition which had been elaborated upon as it passed around the campfires of the People from generation to generation?

First we combed the whole surface of the outcropping. All we found was a trash mound on the west side where it had sluffed off the rim. Here we collected a fine assortment of sherds which later were to play an important part in working out an early Navajo pottery sequence.

Finally, giving up the search I climbed back up into the tower. I started to remove the log ladder, not as archeological loot, but for the tree rings that might give us a date. And while I was wrestling with the heavy timber the heavy overcast opened



The Standing God of Sabildon's watchtower. Norton Allen made this sketch from the author's field notes.

and a shaft of thin sunlight came down to light up the rock below.

My eyes fell on something peculiar down near the base. Calling to Julian I directed, "Move around to the front of the rock. Find a place where is a patch of sunlight. There is something . . ."

The answer came quickly, "Hastin! Come down and take a look. I think we have found that for which we search. For here before me is the faint outline of a *Ye'ii* I have never seen before. This must be the Tower of the Standing God!"

After looking over the badly weathered glyph I took out my notebook and began to make a sketch. With its rectangular head, elongated body terminated by a short flared skirt, the technique was unquestionably similar to that used by Navajo medicine men when they make sand pictures.

Later upon showing the sketch to Navajo medicine men at Fort Defiance they agreed that it was of Navajo origin. But they could not agree as to its place in the Navajo pantheon. It was placed in the minor deity class and was associated with rain and lightning.

Thus, thanks to the guiding shaft of sunlight given up by *Johinda'ai*, the Sun-bearer we not only discovered something never before seen by white men, but were able also to substantiate the Navajo tradition that deep in the wilds of the Rincon Largo in northwestern New Mexico there once dwelt the wild *Diné* under their chief Sabildon, the guardian of the Tower of the Standing God.

Between the impoverished tribesmen of the western reservations on the one side, and on the other, a government which is never generous in its allotment of funds to the Indian bureau, stands the Indian agent. He must be an economist, teacher, farmer, psychologist, diplomat and business genius. He never has enough money to do his job adequately. There is no glamour in his role—and aside from a meager salary, his only reward is the inner satisfaction of a missionary job well done. The story of Carl Beck, so well told by Toney Richardson, is the story of today's generation of Indian agents all over the United States.

# Indian Agent

By TONEY RICHARDSON

**A**N INDIAN agent's work may be very discouraging at times, but it is never monotonous," said Carl W. Beck. "How can it be, when most of the time we are fighting?"

"Fighting what?"

"To establish schools, roads, hospitals and irrigation projects sufficient to meet basic needs; the climate and the poor land which constitutes most of our western Indian reservations; to bring wilderness and wastelands into fruitful production in order to lift the Indian's standard of living. There is the maintaining of law and order, which means battles against renegades, both white and red. And against all this, protection of the Indian from misguided whites who believe it their superior right to exploit him in one way or another."

"It is also a constant struggle to convince Anglo-Americans of the real worth of the Indian," Beck continued. "Most people have prejudiced beliefs about them, gained from lurid tales of a generation ago."

All these matters Carl Beck understands fully. As agent of the Fort Hall, Idaho, Shoshone and Bannock reservations, he is nearing the end of 25 years of work among Indians. He is, in fact, one of less than 15 old-time agents who literally grew up in the Indian service. They came up the hard way, from the days when they occupied lonesome, remote stations where



*Carl W. Beck, Indian agent.*

they stood for all the Indian knew about the white man's government.

There was a time when Indian agents were political appointees with few qualifications for the work they were to do. They sought the appointments because of the opportunity for graft and petty thievery. The records show that they often withheld supplies and appropriated the moneys of their wards to enrich themselves.

Fortunately these agents eventually gave way to a more enlightened type of appointee—men who were honest and who took a genuine interest in the welfare of Indians in their jurisdiction.

It was this thrifty, courageous type of Indian agent who cleaned up the deplorable mess after the Indian wars of the 1870's-1880's. They received no commendation, no glory. The U. S. Army got the credit for putting the Indian in his place. Yet it was the Indian agents who really accomplished peaceful settlement of the tribes. After Custer's famous "Last Stand" it was a lowly agent who finally brought the renegades in and reservationed them. The same story is behind the cruel Apache wars of the Southwest, the Ute uprisings, the massacres instigated by whites in Colorado, the famed battles of the Washita and Adobe Walls, not to men-

tion the Hopi rebellion of 1906. Army operations consisted of pursuit and forceful detention of the survivors. This meant a still restless, embittered, impoverished people. Here, then, began the real work of the agent, of rehabilitating and making the surviving warriors into peaceful wards of the United States.

To accomplish all this the Indian agent had to feed, instruct, and improve their condition to where they could take care of themselves. Now and then he went to Washington to beg for a few dollars more to carry out some of the promises made the Indian by treaty, and then as promptly forgot. Funds for the Indian service have always been extremely hard to get. In years of economy Indian service appropriations are first to be cut. Always it has been a story of too little too late. In exasperation many of them have said, "Just buy the materials. My Indians and I will do the necessary labor without charge!" and then they accomplished just that.

Who are these Indian agents of the old school? Beck is one of the best of them.

Born in a one-room adobe shack on the Mexican border west of El Paso February 5, 1902, he learned Spanish playing with the Mexican children who were his neighbors. In the years of his childhood he knew intimately the Indians of Arizona and New Mexico. At 22 he went to work at Keams canyon, Arizona, for the Indian Service. His first job was developing domestic and stock water in a land where every drop of it was worth its weight in gold.

This agency was 85 miles from the nearest railroad town. But it was 90 miles back! The extra five miles was caused by a sandhill grade which was passable only for downhill travel.

In 1925 he married Eura T. Brantley. Mrs. Beck was part Cherokee, and a teacher at the Indian school. To them was born a daughter, now a young business woman of Pocatello, Idaho. In 1931 came a son, Brantley. During the years of moving from one Indian reservation to another the Becks raised and educated their children. Assigned to Castle Butte station south of Keams as stockman, Beck learned to speak Navajo fluently. In those days only six Navajo in that area spoke any English at all.

At this outpost, Mrs. Beck assumed full partnership in the job of being Indian agent. Beck was often away from home. Other than a few roving Indians they had no neighbors. It was a lonely and dangerous place for a white family because Castle Butte station was on the short cut between Flagstaff, Arizona, and Gallup, New Mexico, for white stock thieves and bootleggers. Later they were transferred to the Cheyenne River agency in South Dakota.

In December, 1928, they were back in the Navajo country. He was attached to the Western Navajo reservation at Tuba City as special officer. Superintendent

C. L. Walker gave him the job of re-establishing law and order over five million acres of the wildest, least known area in America!

Conditions were at low ebb. Law enforcement was so lax that thieves entered Indian homes in daylight, taking what ever they wanted without fear of punishment. There were bootlegging and murder.

There was a good pinyon crop in 1928. The nuts were high in price. Growing wild, on every plateau, they could be obtained in quantity by merely shaking a tree. The nut brought the Navajo money, and that interested bootleggers and other criminal types among them.

Up to now Beck's police work had been mostly settling family and community disagreements and arresting minor criminals. His first big case at Tuba City reads like a page from the records of the Canadian Northwest mounted police.

The report to the agency said an Indian bootlegger in an ancient truck killed a Navajo on distant Black mountain. The only transportation available at the agency was an old touring car. In this jalopy Beck raced 26 miles north to Tonalea where he picked up John Daw, famous Navajo policeman and ex-army scout. They hurried on, across the gorgeous defile of Blue canyon to Teesyatoh on Dennebito wash. The radiator of the car was so damaged it leaked in streams. Beck borrowed a 50-gallon barrel, filled it with water and kept going. At sundown they reached the camp on Black mountain, scene of the murder. Two days had passed since the killing. The ground was frozen. Late December was very cold. The dead man had been shoved into a crack in the rocks, and brush piled over the body.

Aided by Daw, Beck recovered the body long enough to make an examination of it. They then returned it to the hole in the rocks because digging a grave in the frozen ground was impossible. They obtained a description of the fugitive and of the truck.

On the second day the killer discovered a white man was in pursuit. He left the trails, taking out cross-country over the rugged terrain. But Beck was a trained desert man, and Daw a master tracker.

In the far areas where never had a white officer ventured, the bootlegger decided he had given them the slip. That proved his undoing. Beck and Daw figured they were close to him, reasoned he would strike for the railroad to the south for a new supply of whiskey. They cut south themselves, and picked up fresh tracks coming into the road to Salina Springs.

At this lonely trading post they found the truck, and the man accused of the slaying. During four days and three nights constant traveling in a remote wilderness where few roads existed they covered more than 1000 miles.

To guard five million acres of desert,

mountain, unknown canyons and forested plateaus was a hectic job for one officer. Yet in a year Beck had law and order established. Murderers were corralled and captured. Thievery, rustling, witchcraft and bootlegging were stamped out.

The agency made him 1930 census taker, giving him one Indian and the noted guide, Ben Wetherill, to help. By car when they could, but mostly by horseback, they covered every acre of the vast country, registering for the census every person in it.

The Indians did not understand the purpose of the census. Many of them objected violently. At Cottonwood Springs at the base of Navajo mountain a band of Paiute Indians refused to be counted. The leader of this group was a crippled man, maimed in native punishment for incest. He was feared by Indians and whites alike. His strength was that of two men. He ordered Beck away, with the warning never to return else he would be killed.

This is the only time in his life Beck was ever forced to lay a hand on an Indian. But he knew if he was bluffed here, he might as well pack up and leave the Navajo country. He disarmed the belligerent Paiute, but found himself clutched by superhuman strength the next instant. Locked in each others arms they rolled down an incline. At the bottom Beck wound up sitting on his adversary. The bad Paiute admitted his mastery. He arose to shake hands and be friends. There was never any more trouble in this district.

In the 1930's a new administration brought great changes to the Indian country. Now there was money for long needed roads, bridges, irrigation projects, schools, hospitals and other improvements the Indian agents had begged for in past decades.

When the entire Navajo reservation was consolidated under one administrator at Window Rock in 1935, Beck became sub-agent at Tuba City. The following year he went to Window Rock in charge of the Navajo tribal livestock program.

For weeks he was away from home in the reservation because he felt he must accomplish one more badly needed job. Because she knew he loved his work, and was effectively trying to better the conditions of the Navajo, Mrs. Beck never complained of the long periods when the problem of caring for the children fell upon her shoulders alone. It was her part in the family partnership.

Then emerged a policy in the stock program Beck felt to be to the immediate disadvantage of the Navajo. So far he had worked hand in hand with Navajo tribal leaders, the late Chee Dodge, last of the war chiefs, and such men as Jake Morgan, Sam Ahkea and Henry Tallman. This new ruling he could not wholeheartedly support. So, sorrowing, because of what he knew it would do to the Navajo, he asked

for a transfer from the wild, remote red land he had come to love so well.

John Collier, then commissioner of Indian affairs, could not spare a man of Beck's ability. He sent him as superintendent to Owyhee, Nevada, where he took over administration of the Western Shoshone agency in August, 1938.

This reservation was only partly developed. Indian economic conditions were at bedrock. They couldn't have been worse. With the aid of the Civilian Conservation corps, Beck plunged into the work of bringing wastelands to fruitfulness—a haggard, tired people to happiness. New water holes were developed, fences, roads, and improvement of the tribal cattle herds followed. Poor families were established on purchased lands. Irrigated farms on which they could be self-supporting were made available. Previously, many of them hung around the Nevada towns existing on intermittent employment, a hand to mouth living.

Gradually, Beck put the reservation affairs in order, some of his Indian families enjoying an unheard of income of \$2500 a year. But he found there would be no resting on past laurels. Near the end of 1943 he was sent to his present post, the Fort Hall Indian agency, Idaho.

For years the Indian stock program here has been recognized as tops. Beck found opportunity for further improvement. Today the Fort Hall agency has the largest beef cattle program in the entire intermountain country. There is in connection with it 50,000 acres of land under irrigation. The tribal stock program has become so efficient nearby livestock associations are patterning their work on that of the Indians.

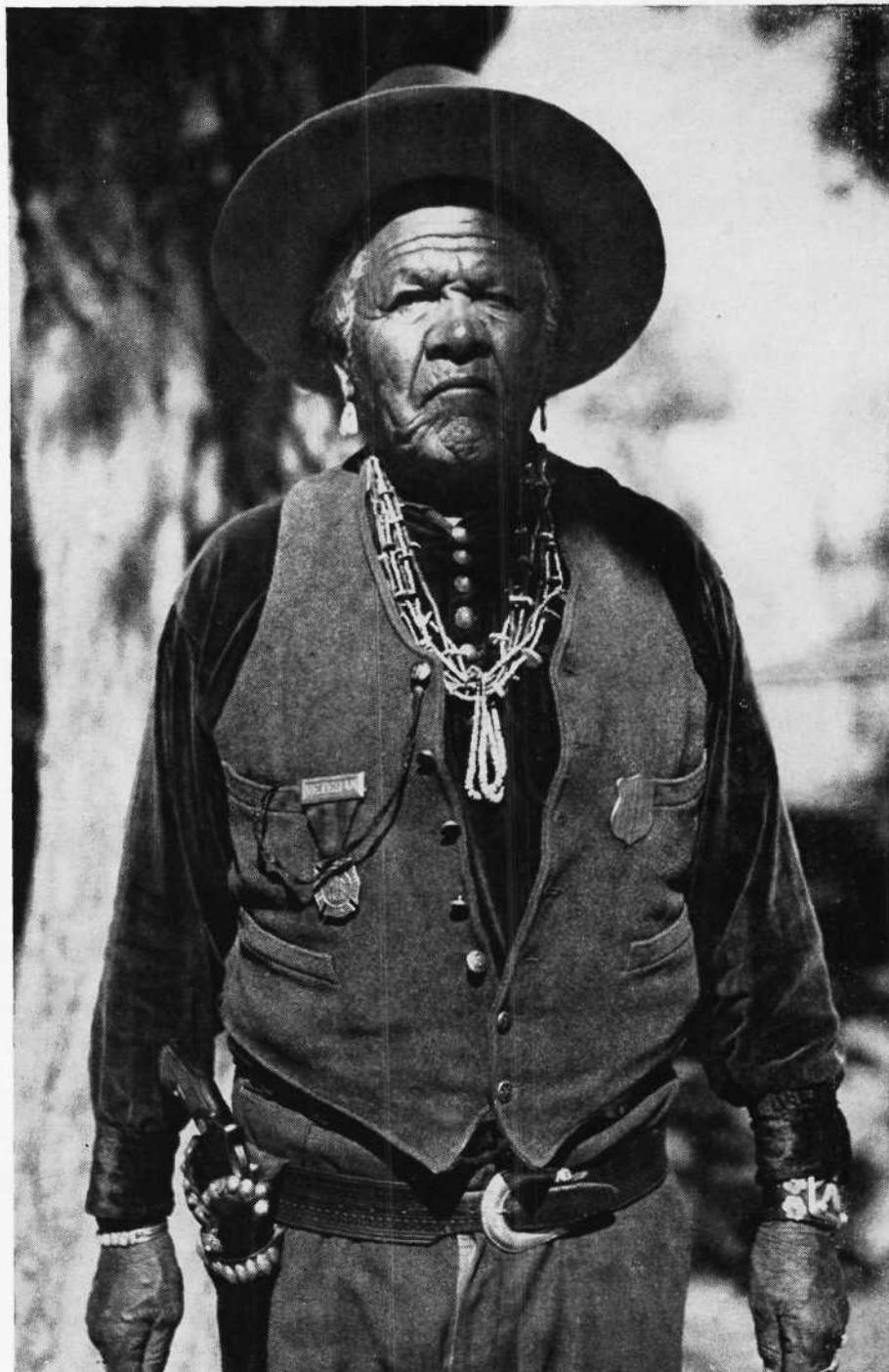
At Fort Hall, Beck encountered the inevitable health problem. It had been with him among the Navajo—venereal disease, tuberculosis, trachoma and various others. Sick people are seldom happy people. At Fort Hall the situation was worse than he had seen before. In Idaho cities the Indians had contracted syphilis. It was estimated 80 per cent of them were infected. Beck made plans to stamp it out.

His small medical staff could not do the job alone. With his own staff as leaders in this fight, he got the U. S. Public Health service and state officials to pitch in with them. When they saw he meant business these people worked enthusiastically.

Indians were rounded up, and treatment instead of being forced on them was so provided as to interest them in wanting to help themselves. Today the syphilis rate is down almost to the vanishing point.

"Health is usually a problem of education," Beck declares. "The most effective program is to teach the Indian how to help himself."

Beck deplores the prejudiced viewpoint many Anglo-Americans hold toward the Indians. For a large part of this he considers the "Railroad Indian" to blame. This



*John Daw, Navajo Indian policeman and veteran scout, respected by both Indians and whites. He wears the campaign medal of the Indian Wars, awarded for his service with the U. S. army.*

is the ragged, mis-fit Indian to be found drunk and disorderly in the towns along the railroad.

He points out that they compose not more than two per cent of the total Indian population—a percentage no greater than that of white delinquents.

How best to present the facts, the true Indian to the public? Beck has an answer for that:

"By introducing the real Indian, his culture and his accomplishments, to the general public. Show that the Indian is honest, trustworthy and has pride in himself. The best means I have found so far is through

our Indian fairs where we display their workmanship. By ceremonial dances exhibited to great crowds of people we can further tell the story. Both these outlets afford the white man individual opportunity to meet and talk to the real Indian. The greatest good, the most help I have ever obtained for Indians has been through reaching the white man in just these two ways!"

Beck is sincere in this belief. Considering his years of experience, he no doubt is correct. He has voluntarily and often at his own expense, contributed his part to that end. In Arizona he assisted in pro-



Jack Stewart at his cabin in Darwin. This is one of the last pictures taken before his death last May. (By his Friend)

ducing the Flagstaff All-Indian Pow-wow and rodeo. He did the same for the Gallup Inter-Tribal Indian Ceremonial for years. It was he who organized and produced the Navajo Tribal Fair at Window Rock, an annual event of stupendous cultural benefit to the tribesmen.

In Nevada he did the same thing, and at Pocatello continued his interest by producing the Indian ceremonial at the annual rodeo. Wherever he was stationed he has encouraged school, agency and pueblo field days, fairs and public displays of all sorts.

In Nevada his Indian assistants were George Brady and his friends. At Fort Hall among others, his principal lieutenant among the Indians is La Salle Pocatello, nephew of their great chief, after whom the Idaho city was named.

Against terrific odds Indian agents like Beck have brought the Indian wastelands to what they are today. Their better living standards are the work of the agent and his staff. They have no press agents to tell their story. Nor have they sought personal glory. For the Indian agent is a modest man who seldom seeks the limelight.

When Jack Stewart, one of the last of the old time burro prospectors, died in Darwin, California, May 16, 1947, he had spent more than half a century chasing rainbows in the Death Valley region. He had made enough strikes so that, when increasing blindness barred him from the old trails, there was money in the bank and income from mining claims to keep him going. But there was one ledge upon which Jack had never filed. He called it his "ace-in-the-hole," and just a few days before he died he told a friend about it.

The friend passed the story on to Desert Magazine. "But," he wrote, "if you publish this, do not use my name. Rocks are my hobby, not my business. I live to get fun out of life, and I don't want it messed up with goldhunters."

Here, respecting the writer's wish for anonymity, is the story of another lost ledge in Death Valley.

## Jack Stewart's Lost Ace-in-the-Hole Ledge

I LAST saw Jack Stewart about a week before he died. I was on my way to Nevada to see if I could find some crystals he had told me about, and I stopped at his cabin in Darwin. During his long years of prospecting Jack had found many deposits of minerals and gem rocks. But he had not filed upon them because transportation of ore through the desert in those days was difficult and expensive, and only gold and silver were considered valuable enough.

During the last three or four years of his life, Jack's sight was failing, and he was nearly blind when he died. But his memory was good and he knew more about the desert than any other man I have ever met. He knew about the minerals, but that wasn't all. He would talk about the origin of the desert and about the plants and animals that existed on it. He could tell stories that you would not hear elsewhere about the boom towns. He knew how and when they started and how and when they died away. He knew because he had been there. He was an educated man and a great talker, and I liked to listen to him whenever I had the chance.

He didn't look well the day I saw him last. But he told me that he felt all right, and invited me in. Thinking it over since his death, I believe that he knew he didn't have much longer to live.

When I got ready to go, he stopped me and spoke very earnestly. "I want you to know a secret that I have kept for years," he told me. "I call it my ace-in-the-hole. If anything should have gone wrong for me at any time, I could have taken pack mules and brought out a fortune in a few days."

This is the story that he told me. It was the year 1897. He had been prospecting around the northern end of Death Valley. With supplies running low he left the area near Death Valley Scotty's present holdings in Grapevine canyon, where the Castle is located. He was heading for Olancho.

The trail usually followed led down Death Valley to Stovepipe wells, up Emigrant wash and through Towne—now Townsend—pass.

As Jack neared Stovepipe wells, a desert storm was brewing. He had intended to make the wells before dark and camp there for the night. But he knew that he couldn't beat the cloudburst. He would be better off if he could find some sort of shelter. He had been traveling close to the base of the Panamints—that great chain of mountains which bound Death Valley on the west. Seeing a likely looking wash, he turned his burros into it and headed into the Panamints.

Minute by minute the storm clouds became more threatening. But before the downpour started, he found high ground in the shelter of some cliffs. He made such preparations for the storm as he could. Then the rain came, and before dark it had developed into a real cloudburst. Jack Stewart spent a wet and miserable night. By daylight the storm had passed and the runoff was over. But water still stood in scattered pools and Jack filled his canteens.

The rain water made him independent of Stovepipe wells and Emigrant spring. He decided to see if he could go on up through the canyon he was in, and reach Panamint valley without returning to the floor of Death Valley. Re-packing his burros, Jack went on up into the Panamints. As he neared the head of the canyon, he found the wash nearly blocked by a fresh slide of rock and earth.

But the cloudburst had cut a channel through the slide, and Jack and his burros followed the cut. Part way through he saw pieces of quartz in the bottom of the wash. He picked them up. They were shot through with gold.

Jack collected all the float he could find, then started prospecting for the ledge it came from. He reasoned that the landslide had carried the quartz into the wash. But,

although he searched for some time, he could not find the source of the ore.

His water and food were low, and he was forced to go on into Olancho. He intended to return immediately, but other promising projects came up, and it was not until 1902 that he found his way back to the canyon. He set up camp and set out to make a thorough search. He found a small, rich outcropping of gold ore, but it was not the source of the golden quartz he had found in the wash five years before. His supplies again low, he broke camp.

Jack Stewart never got back to the canyon in the Panamints. Always there was some new strike, some interesting lead to follow, and the need for his ace-in-the-hole never materialized.

"But," he told me, "the stuff is there, and plenty of it. When you find those crystals in Nevada, you'll know I'm tellin' the truth, and that I can still remember locations. When you get back from Nevada I want you to load me in the car and I'll direct you to the canyon. We will go fifty-fifty on the ledge."

I made the Nevada trip and I found the crystals where he said they would be. But when I got back to Darwin, Jack Stewart was dead.

There are many canyons in the Panamints and, with Jack gone, it is anyone's guess where the ace-in-the-hole is located. But it must be on the Death Valley side of the mountains and not too far from Stovepipe wells, since Jack planned to camp there that night.

I don't know if he ever told anyone else this story. He did say that he had given a piece of rich ore from the canyon to someone in Darwin.

I haven't searched for the canyon yet, because I'm more interested in crystals and polishing rock. But I am certain that Jack Stewart told me the truth. I have been able to check some of his other stories and they were true in every detail. If everyone were as careful of the facts as he was, there would be less trouble in the world.

## AHEAD

By TANYA SOUTH

Another day far spent!—And what is gained?  
Of all the dreams that I would have attained,  
Have I done aught to help them on their way?  
Or through wrong judgment only caused delay.

Oh, Soul of mine, strive on and ever strive!  
No glory won but is the step unto  
Some greater glory for which we shall drive,  
With all our hope and energy anew.

## DESERT QUIZ

Here's Desert's monthly brain exercise. Probably you won't know all the answers—but if it was a criminal offense to be wrong, we would all be in jail. So do the best you can with them, and when you have finished you will have added to your store of knowledge about the Great American desert. If you get 10 right that is an average dude score. A good score is 11 to 14. A score of 15 to 18 is excellent. Anyone doing better than that will be at the head of the class. Answers are on page 29.

- 1—Tallest tree native of the Southern California desert is the—  
Smoke tree..... Mesquite..... Ironwood..... Washingtonia palm.....
- 2—Most common ingredient found in the sand on the floor of the desert is—  
Quartz..... Manganese..... Gypsum..... Limestone.....
- 3—Highest mountain peak in Nevada is— Charleston peak.....  
Mt. Davidson..... Mt. Rose..... Boundary peak.....
- 4—Morenci in Arizona, Santa Rita in New Mexico, Ruth in Nevada and Bingham in Utah, have one thing in common. They are the sites of—  
Early southwestern forts..... Irrigation dams.....  
Open-pit copper mines..... Rich gold strikes.....
- 5—Name of the Indian who instigated the Pueblo revolt against the Spaniards in 1680 was— Geronimo..... Esteban..... Popé..... Mangus Colorado.....
- 6—Arizona Nightingale is the name often given— A rich gold mine near Tempe..... A songbird of the Arizona night..... A famous early-day singer at Tombstone..... An Arizona burro.....
- 7—One of the following desert watering places is not in the Death Valley region— Bennett's wells..... Stovepipe wells..... Pagosa springs.....  
Cave springs.....
- 8—Among the coniferous trees, the one best adapted to the land of little rainfall is the— Pinyon..... Sugar pine..... Douglas fir..... White spruce.....
- 9—Davis dam, being built on the Colorado, is not far from the old mining camp of— Rawhide..... Searchlight..... Rhyolite..... Skidoo.....
- 10—Jedediah Smith is known in desert history as— Discoverer of the Lost Pegleg mine..... Trapper and mountain man..... Conqueror of the Apache Indians..... The owner of rich borax deposits.....
- 11—The squirrel with tufted ears and white plume tail found on the North Rim of Grand canyon is known as— Antelope ground squirrel.....  
Douglas squirrel..... Kaibab squirrel..... Fox squirrel.....
- 12—The astronomical name of the North Star is—  
Venus..... Jupiter..... Mars..... Polaris.....
- 13—Ed. Schiefflin was the man credited with the discovery of—  
Silver at Tombstone..... Casa Grande ruins..... Potash at Trona.....  
Gold at La Paz.....
- 14—The dam in Gila river which stores water for the irrigation of Arizona' Salt River valley was named in honor of President— Coolidge.....  
Teddy Roosevelt..... Hoover..... Franklin D. Roosevelt.....
- 15—The flotation process is used in— Desert irrigation..... Milling ore.....  
Prospecting for placer gold..... Sorting dates.....
- 16—The state flower of Utah is— Evening primrose..... Segoe lily.....  
Sunflower..... Columbine.....
- 17—Pyramid lake is in— Utah..... Nevada..... Arizona..... New Mexico.....
- 18—Fig Tree John lived on the shore of— Great Salt Lake.....  
Elephant Butte reservoir..... Walker lake in Nevada..... Salton Sea.....
- 19—The common name of cinnabar is— Aluminum..... Tin.....  
Zinc..... Quicksilver.....
- 20—In summer the desert visitor is more likely to encounter sidewinders—  
Sunning themselves on the dunes..... Swimming in the waterholes.....  
In rocky crevices..... On the sand dunes after dark.....



## *Old Fort Seldon--New Mexico*

First prize winner in Desert Magazine's September contest, Desert Ruins, is this view of old Fort Seldon, New Mexico, taken by Bill Thomas, State College, New Mexico. Isopan film in a 4x5 Speed Graphic was used. Exposure was  $\frac{1}{2}$  sec. at f.22, 3 p. m., through a red filter. Fort Seldon, north of Las Cruces, was established in 1865 to protect settlers against raids of the Gila Apaches.

## *Ruins of Quarai . . .*

Second prize went to Clarence P. Kinkor, of Sells, Arizona, for his photo of the ruins of Quarai mission, south of Albuquerque, New Mexico. Kodak Junior camera with Super XX film were used. Exposure was  $\frac{1}{25}$  sec., f.8, through K2 filter at approximately 11 a. m. Quarai was dedicated by the Franciscans in 1629 and abandoned in 1674 due to raiding by Comanche and Apache.





*The Ground Gecko prefers rocky and canyon areas.*

## Lizard With a Voice . . .

By GLENN E. VARGAS

**E**VEN though the sound is only a faint squeak, the Banded Gecko, *Coleonyx variegatus*, is the only species of lizard known to have a voice. Found throughout the desert areas and desert fringes, it may be encountered under logs, rocks, boards, or other articles affording large surfaces which help retain a small amount of moisture. The generic name, *Coleonyx*, is translated as sheathed claws, and the specific name, *variegatus*, means varied color pattern.

This small plump-bodied lizard with strong legs and stubby tail averages about five inches in length. The coloration of grey and white spots or alternate bands is highly protective in almost any desert background.

In spite of common belief, Geckos are not poisonous but are entirely harmless and when molested offer no resistance except perhaps vocal which is of no consequence. This voice is ventriloquistic and its source may be easily overlooked.

At sundown when desert heat and intense light disappear, these lizards venture from their hiding places in search of small insects. During spring and fall when days are warm and nights

cool, Geckos may be found in the evening warming themselves on the dark-surfaced highways which retain the heat of the sun longer than the surrounding light-colored desert. After the highway cools, he will hunt cover to escape the cold of night, and the heat of the day to come.

To hold one of these gentle creatures in your hand and note the soft finely-scaled skin, the large docile eyes, and the translucent nature of their bodies, it seems miraculous that they can survive the unyielding harshness of the land in which they live.

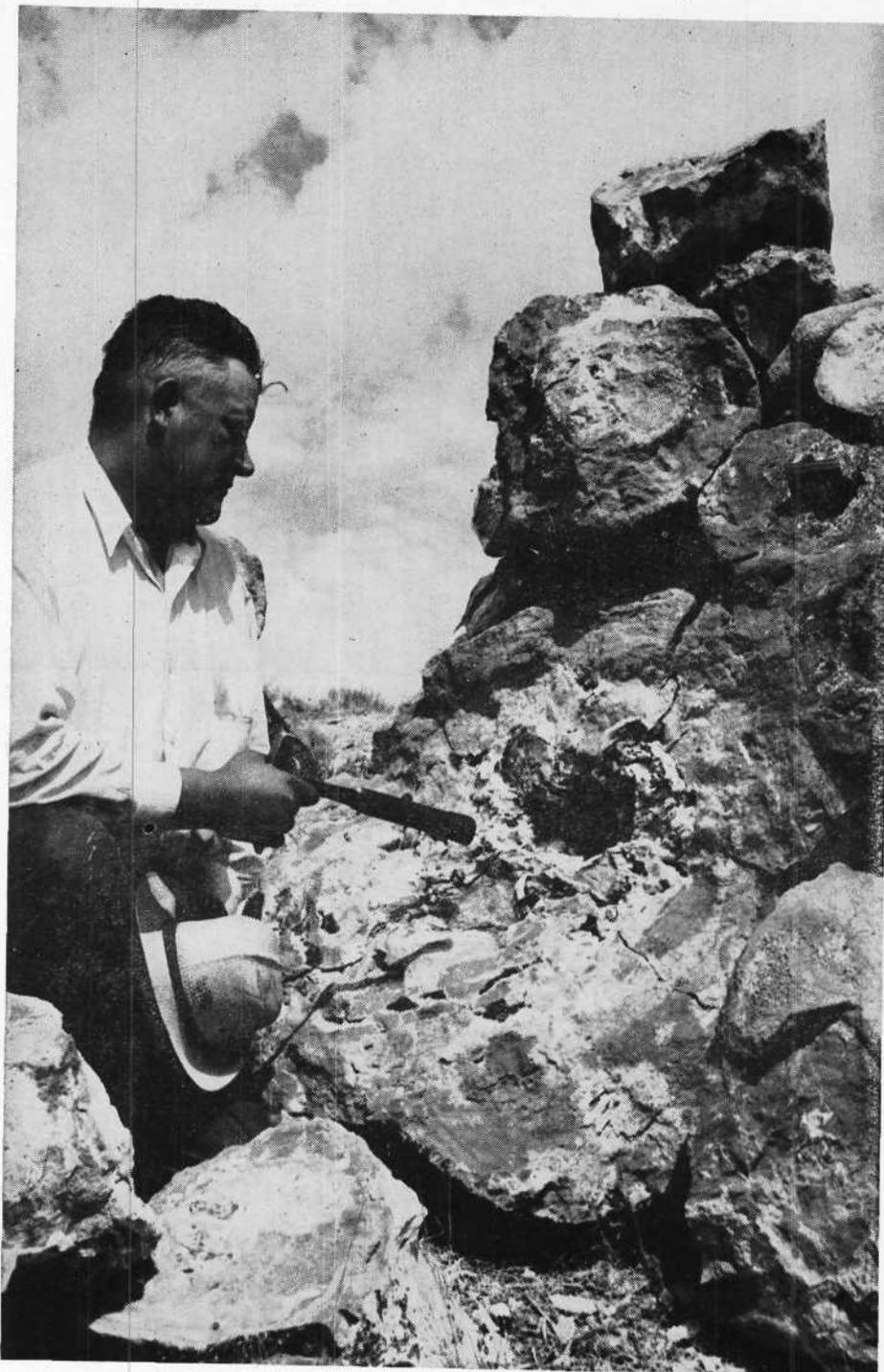
According to Hobart M. Smith its range is southwestern Utah, Arizona except the northeastern corner, extreme southern Nevada, southern California, northwestern Mexico in Baja California, Sonora, and the islands of Cedros, San Marcos and South Santa Ynez.

Klauber lists seven possible subspecies of *C. variegatus*, four of them found in United States.

Another species, the Lesser Ground Gecko, *Coleonyx brevis*, is found in southeastern New Mexico, southwestern and southern Texas, and northern Mexico.

# He Staked a Claim for the Rockhounds

*William D. Edds points out the petrified wood center in a huge travertine mass.*



Bill Edds has never gotten rich prospecting the Nevada hills, but he has discovered formations that will make souvenirs for those who like to follow the desert trails in quest of sheer oddities from Nature's workshop. And to make sure that this field will always be accessible to specimen-hunters, he has staked a claim in behalf of the fraternity of amateur collectors.

By HAROLD O. WEIGHT

WILLIAM D. Edds pushed his hat back and squinted at the array of peculiar formations on the hillside. Prospecting north of Mina, Nevada, he had set out to investigate what appeared to be a dike of dark, igneous rock. But the fantastic mineralized shapes on the slopes below the outcrop had stopped him short. Edds remembered the tall tales mountain man Jim Bridger brought out of the Yellowstone wilderness in the early days—petrified birds sitting in petrified trees singing petrified songs. Well here was something that looked for all the world like petrified nests of the cliff swallow.

"They weren't of course," Edds told me as we drove from his home at Luning toward Cedar mountain where the find was made, "but some of them looked like it and others looked just like those dawgoned Missouri mud dauber nests. Then I saw chunks like half-rotten garden hose and pieces of crudely made pipe, and there was a litter of chips of petrified wood that looked like woodcutters had camped near by."

Edds had found the remains of driftwood logs deposited during long-gone days when that part of Nevada was the shore of an ancient lake. What he had taken to be an igneous intrusion was a string of petrified trees coated and cemented with travertine. The thick travertine tubes and nests on the slopes represented the coating on twigs and branches remaining after the wooden centers had rotted away.

Edds is a prospector, but in addition he writes a mining news column in the *Tonopah Times-Bonanza*. He follows the Mark Twain school of frontier journalism, which holds that the insertion of a tall tale is legitimate when news is dull—providing the story is so fantastic that readers will accept it as a work of art and imagination.

His most recent story was about a prospector who was startled when a flying saucer zoomed over his head and vanished with a slight explosion in an abandoned prospect tunnel. When the prospector investigated he found that the end of the tunnel had been caved in by the object, and he couldn't determine what it was. But on the way out he made a rich strike where the saucer had caroomed against the tunnel wall and exposed high-grade ore. Folks up Gabbs valley still remember his moving account of a lady eagle who fell in love with the big planes at the airport there and caused her mate many unhappy hours before they were reconciled.

So Edds could imagine what would happen if he came out of the desert with the story of petrified wood that looked like a hot dog in a bun, and travertine like birds' nests. To prove his case he photographed the formations and hauled specimens back

to Luning, then wrote Desert Magazine about his find. There was almost no cutting material, he emphasized. But it was a freak of nature and it would furnish some very unusual specimens. Edds has filed upon the ledge to keep it from being closed off, but rockhounds are welcome to visit the area and collect there.

I reached Luning early on an August morning and found William Edds to be big, jovial and friendly. Before we started for the petrified wood, he showed me jars, trays, bookends and other souvenirs made from Nevada materials, which he has on sale at the Silver Bar. The most unusual items were made from what Edds calls Nevada meerschaum, a tough white material he discovered while prospecting near the Simon lead mine. It occurs as a vein of varying quality between layers of fine-grained volcanic ash.

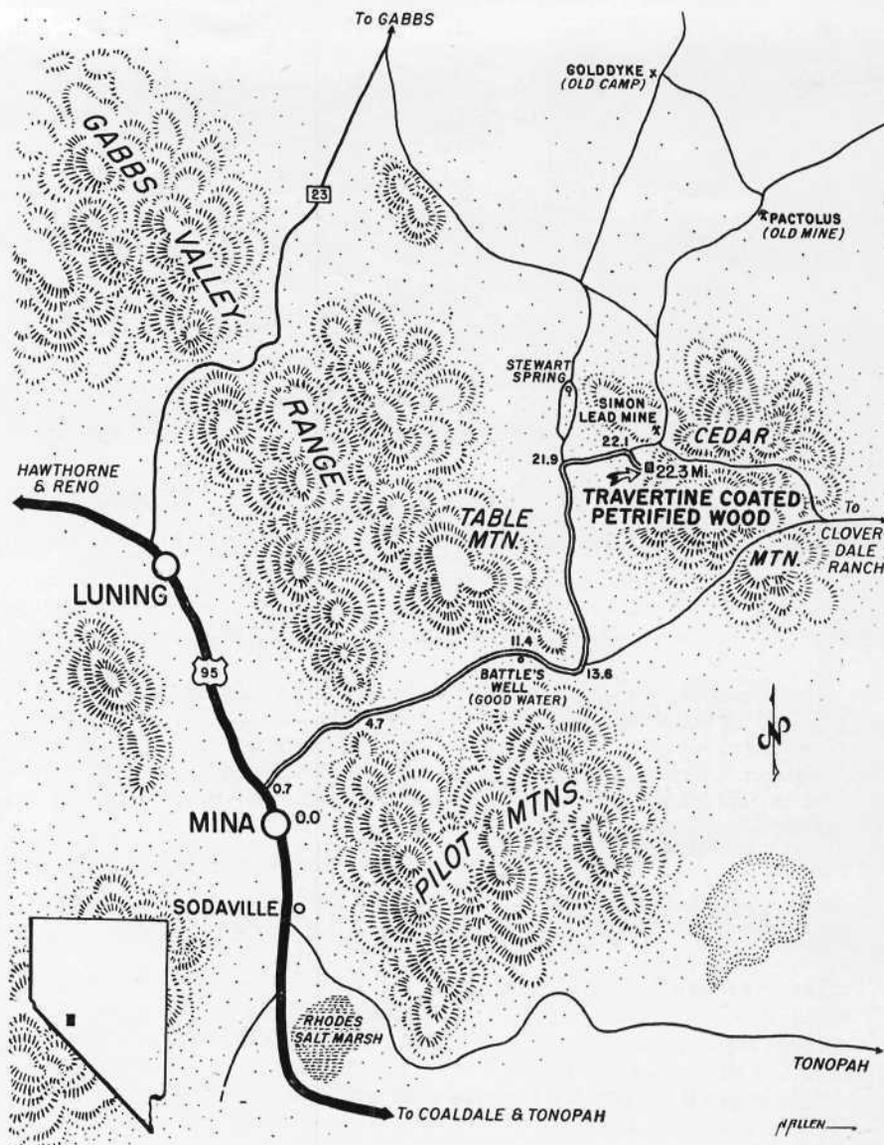
According to Edds, the rock makes a wonderful silver polish and it is this quality which he hopes to turn to commercial use. But small amounts are tough enough that Edds can turn them down and hollow them out on a small metal bench lathe which is part of his rock-cutting equipment. He also uses the lathe to cut jars and ashtrays from a colorful mottled rock which he believes to be an altered opalite.

Edds' production of Nevada mineral novelties is in the experimental stage. He hopes that public interest will make it a full-time project. If not—well, he's been prospecting the Luning-Gabbs valley area for 25 years. He enjoys the life even if returns aren't spectacular. A sale now and then keeps him going—the most recent was \$1000 for a half-interest in a talc property.

Although it was warm as we drove along Highway 95 from Luning toward Mina, a breeze kept the air in motion and clouds broke the intensity of the sun. We reached the turnoff 8.5 miles southeast from Luning and headed northeast on a well-graded gravel road which leads to the Simon lead mine. Due to a cave-in, the mine was not operating, but normally this road is used to truck large quantities of lead-silver ore to a mill near Sodaville, south of Mina.

The turnoff we took is .7 of a mile north of Mina and since Mina is the nearest town, the trip mileage is figured from it. The road climbed steadily, but with an easy grade, through the pass between parts of the jagged Gabbs valley range on the north and the rough Pilot mountains to the south. Here and there faint trails cut in and out, but we had no difficulty following the main-traveled route. The road divided at times, but the divisions were wet and dry weather branches and soon re-joined.

"You can't depend on the weather here," Edds explained. "It was mid-July when I first came to this country and as I passed Millers, this side of Tonopah, the temperature was 126. But up in Gabbs



valley a storm hit me and so much hail fell that I couldn't see the outlines of the road. When the hail melted, I had to outrun floods at three different washes."

In the pass, at 11.4 miles, we stopped at Battle's well, where a hand pump furnished good water. The elevation was 6240 feet and, although the grade had seemed slight, the car was boiling. We filled the radiator and drove on. To the north we could see the flat top of Table mountain. There had been mines on the eastern slopes of the mountain at one time, Edds said, and specimens of the copper minerals still could be found.

Once through the pass we reached a three-pronged road division at 13.6 miles. We took the left branch, leading to the Simon and Warrior mines. The right branch is marked for Cloverdale ranch and the center is an abandoned road. To the east were the juniper-clad knolls and slopes of Cedar mountain, and the eroded sedimentaries of the old lake bed were visible in many places. The graded Simon road turned abruptly east at 21.9 miles and we followed it toward a low range of steep-sided hills which had been cut from lake

bottom deposits. The hills were spotted with the ancient junipers or mountain cedar from which Cedar mountain takes its name.

We parted from the main road at 22.1 miles and headed right along tracks which Edds said ended at a windmill around the point. The dark outcroppings of the wood were visible from the road and we stopped opposite a wash where Edds had found many of the hollow tubes. Since the slope was soft and sandy and it was unlikely that there would be traffic complications, the car was left in the ruts while we hiked to the hills through masses of rabbitbrush covered with yellow bloom.

I found material as soon as we reached the slopes. It took only a few minutes to collect a wide variety of peculiar formations. The main outcrop follows the top of the low hills for about a quarter of a mile, easily recognizable even where no wood shows because of its peculiar warts and bumps. Large masses of cemented wood and travertine stand 10 to 12 feet above the surrounding terrain.

We found the large "logs" near the tops of the hills. Down the slopes are smaller



*Low hills at the foot of Cedar mountain, Nevada, where travertine "pipes" and coated petrified driftwood are found. One outcrop of the strange vein of petrified wood is seen at the top of the hill behind the car.*

coated branches and twigs. While some opalizing and agatizing has taken place, most of the wood is poorly replaced, whitish in color and inclined to come apart along the annular rings. Knots and wood structure show in fine detail and it is pos-

sible to find dark brown pieces which will polish. But the most interesting specimens are the brown pipes of travertine which were left after the wood, about which the calcium carbonate formed, was entirely worn or rotted away.

The travertine, of course, is soft. But much of it is compact enough to polish, and big rolls of it, either hollow or with the petrified wood encased, would make unique bookends. The thickness of the coating on the wood is amazing, in some cases amounting to 10 times the diameter of the enclosed limb or twig. My own prize find is a completely opalized limb a half inch in diameter, enclosed in five inches of solid travertine. It has wart-like markings on the outside which may have been caused by the presence of algae when the travertine was forming.

Other logs, with hollow or wood centers, vary in diameter from one inch to more than two feet. Of interest to fossil collectors is a two to three-inch bed packed solid with varieties of shells, which outcrops several feet below the level of the wood. Some of them are replaced with a soft material in a soft matrix and it is possible to pry out individual shells. Others have been petrified by a comparatively hard dark limestone. The shells have been identified tentatively by Dr. A. O. Woodford and John Shelton as brackish freshwater fossils belonging to the genus *Planorbis*, which is quite abundant from the Jurassic to the Recent. These particular specimens may be Cretaceous or Eocene species.

The Cedar mountain occurrence of travertine-coated wood is not unique, but neither are such fields common. And I doubt if a more striking example of the deposition of calcium carbonate on wood exists. John Hilton once told how the highly mineralized waters of a well near the Salton Sea created "fossils while you wait" out of twigs and insects coated by the water (*Desert*, Aug, 1946). Here, in the Nevada desert, is evidence that nature was carrying out the same general process on a large scale many thousands of years ago.

When I showed some of the specimens

## DESERT MOUNTAINS Photo Contest

There are all kinds of mountains in the desert country—big ones and little ones, bold escarpments, unclimbable pinnacles and great vertical-walled massifs. Many of them make beautiful pictures if you snap the shutter when the shadows are just right and there are fleecy clouds in the background. Desert's staff wants to get some of the best of these mountain landscapes—and to bring them in cash prizes are being offered to the winners of the November contest.

For the prize-winning picture a cash prize of \$10.00 will be paid, for second place winner, \$5.00. For non-prize winning photos received in the contest \$2.00 will be paid for each one accepted for publication. Entries must reach the Desert Magazine office in El Centro by November 20, and the winning prints will be published in January.

### HERE ARE THE RULES

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

ADDRESS ALL ENTRIES TO PHOTO EDITOR, DESERT MAGAZINE

THE *Desert* MAGAZINE  
EL CENTRO, CALIFORNIA

to Jerry Laudermilk at Claremont, he outlined a process by which they might have been formed. Water, he said, will carry quantities of calcium carbonate in solution only when there is a lot of carbon dioxide present. When water flows over decaying vegetation it picks up carbon dioxide and can carry a lot of calcium carbonate. When the water shallows, the carbon dioxide escapes and the calcium carbonate is dropped out of solution, coating with travertine whatever is on the stream bottom. This travertine is exactly the same stuff that coats the bottom of a tea kettle.

Jerry surmises, due to the long, ledge-like occurrence of the Nevada deposit, that it piled up in a narrow gully or in a gouge in the bottom of a shallow lake. Shallowing water flowing over it, dropped coat after coat of travertine. The driftwood at the bottom of the gully cemented into a solid mass, while projecting limbs, branches and twigs were evenly coated, rounding out with passing time to the thick tubes which make such interesting specimens today.

When Edds and I left the wood-travertine field, we visited the Simon lead mine, then traveled by little-used desert roads to the Gabbs highway. Simon, a great producer in World War I, is something of a ghost camp today. The huge old mill has not been used for years, since the present operators find it more feasible to ship to Sodaville. But, due to the presence of watchmen, buildings and equipment still are intact. It is astonishing how swiftly even huge pieces of machinery can vanish from unguarded camps. Whole buildings as well as doors and fixtures which have seen service in half a dozen camps of the past are to be found in various Nevada towns today.

As we traveled along, Edds pointed out faint tracks and told me where they lead. He had prospected them all.

"You can't find mines along the highways," he said, "or even along roads like these. But burro transportation is too slow, so I took a 1928 Buick, stripped off the fenders and put on 7.50 tires. When I see something that looks interesting—I just drive over and take a look at it."

Edds has knocked the Buick oil plug loose several times. Once he drove down a sandy wash 11 miles without a drop of oil before he discovered that he was in trouble. When he looked for the extra oil he always carried, he remembered that he had cleaned the car out the day before—and hadn't replaced the oil. So he filled the crankcase with water and managed to drive out.

"I've never had to walk out yet," he said. "But I've worked lots of hours to keep from walking back."

Edds likes the Nevada desert. "But not to live in alone too long. You might get like the old fellow who had a claim way up by Burnt Cabin summit, on the way to Ione. He lived there a long time alone, and



*Above—Travertine tubes which formed in the Cedar mountain field when the wood on which it was encrusted decayed away. In some instances the wood became fossilized and now forms the core of the travertine trunk.*

*Below—Souvenirs which Edds has made from a tough white rock he found in Nevada, which he calls meerschaum.*

got so every time he heard wagon wheels on the road, he'd take out over the sage like a scared jackrabbit. A man and his son who went through there in the early days would stop to see the old man whenever they passed.

"Every dawgoned time he heard those wheels, he was off and they'd have to hop out of the wagon and run him down. They'd yell his name until he recognized them, then he'd stop running. When he found it was friends, he couldn't do enough for them. Baked them pies and put them up for the night. And when they left in the morning, he'd cry like a baby to see them go. But the next time out, they'd have to run him down again."

We came out of the pass through the Gabbs valley range, and the little town of Luning showed far below. Our field trip was almost over. Edds sighed.

"It's good for people to get out in the desert and hunt rocks and prospect for

ledges. But I like to be in town enough so that I stay used to human beings and the sight of one doesn't scare me to death."

#### DESERT QUIZ ANSWERS

*Questions are on page 23*

- 1—Washingtonia palm.
- 2—Quartz.
- 3—Boundary peak near the California border.
- 4—Open-pit copper mines.
- 5—Popé.
- 6—An Arizona burro.
- 7—Pagosa springs are in Colorado.
- 8—Pinyon.
- 9—Searchlight.
- 10—Trapper and mountain man.
- 11—Kaibab squirrel.
- 12—Polaris.
- 13—Silver at Tombstone.
- 14—Teddy Roosevelt.
- 15—Milling ore.
- 16—Sego lily.
- 17—Nevada.
- 18—Salton Sea.
- 19—Quicksilver.
- 20—On the dunes after dark.

# Lip-Ferns on the Desert

By MARY BEAL

**F**ERNS are not rarities on the desert. If you travel only the open stretches you'll not see them but in mountain areas you'll find them on rocky slopes, at the base of boulders, or in crevices of cliffs, giving charm and grace to a rugged environment. So well are they adapted to arid conditions that they are able to thrive on rainfall scanty enough to discourage flowering plants.

Only last spring I saw this demonstrated in the Providence mountains. In that unusually dry season there were flowers in only the most favored spots but the ferns were a delight to the eye. To conserve moisture the desert ferns have developed a thicker skin with fine hairs or glands or overlapping scales, or cloaked their segments with wool. During rainless periods they curl up into dry, brittle insignificance, dull brown and dead-looking. When the rains come, there is an awakening to new life, a transformation almost as magical as that of the Resurrection Plant.

One genus classed as drought-loving is known as Lip-Fern or scientifically, *Cheilanthes*, the species most frequently seen being Coville's Lip-Fern.

## *Cheilanthes covillei*

Named for Dr. Frederick Coville, leader of the Death Valley expedition of 1891, when it was found in the Panamint mountains. Bead Fern would be an apt alias for it, as the fronds appear to be formed of hundreds of tiny beads joined together mosaic-fashion. The chaffy, shortly-branched, creeping root-stalk sends up numerous tufted fronds, 4 to 10 inches tall, the wiry stems brown and shiny, the tripinnate blades lance-ovate to oblong-lanceolate, a deep bright-green in color. The beady segments of the pinnules are smooth and hairless above but densely clothed on the underside with thin, golden-brown, lanceolate scales, the rachises also beset with the scales. In young fronds the scales are silvery-white but turn golden brown soon after the pinnules unfurl, always extending beyond the little beads. The rootstalks too are densely scaly, the main stems more sparsely set with small, narrow, paler scales.

A common species in western Arizona, the Colorado and Mojave deserts, through the Death Valley-Inyo area and western Nevada to southwestern Utah. I know it best in the Providence mountains of the eastern Mojave desert where it thrives in delightful prodigality.

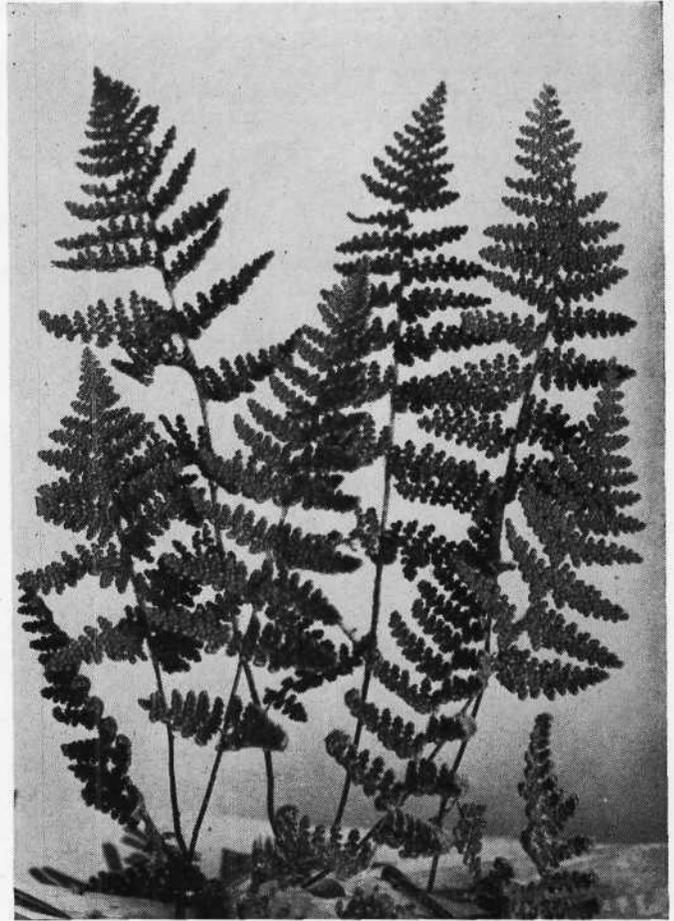
Another species with roundish segments is the slender

## *Cheilanthes feei*

The slightly-hairy, red-brown stems are very slender and crowded into dense tufts. The fronds are 2 to 8 inches high, the greyish-green blades lance-ovate to oblong-lanceolate, tripinnate or often bipinnate on the upper part, the lowest pair of pinnae conspicuously remote. The green upper surface of the roundish pinnules and the rachises are set sparingly with long crinkly white hairs and underneath are clothed with a dense woolly mat of light golden-brown hairs.

It cuddles in crevices and chinks of limestone cliffs, often seeming to emerge from solid rock, so small or narrow is its cranny. Being inconspicuous in its exclusive habitat and coloring, it escapes the notice of the average mountain visitor and must be looked for rather carefully. It favors moderate to high elevations for its desert retreats in Arizona, the eastern Mojave desert and Nevada, but is found in wide-spread locations from the Mississippi valley to British Columbia, from Texas to the California deserts. I always look for this little Lip-Fern when in the limestone sections of the Providence mountains and always marvel when I find one occupying a small crack or in a little niche on the face of the cliff.

Occasionally found among the rocks of desert ranges is the Sticky Lip-Fern



*Coville's Lip-fern, a common species in the California deserts, western Nevada and Arizona and southwest Utah.*

## *Cheilanthes viscida*

A densely tufted fern, 3 to 10 inches high, the short thick rootstalk conspicuously scaly. The wiry dark-brown stems are very slender and fragile, the blades lanceolate, with bright dark-green pinnae more or less remote on the stems, especially the lower ones. The whole frond is beset with minute sticky glands, the surface of the shallowly-toothed segments of the pinnae, both above and below being closely dotted with the glands. The rachises are hairy as well as glandular.

Look for this sticky species in shady nooks and crevices of rocks in the ranges on the western borders of the Colorado desert, through the Mojave desert to the Panamints, at elevations from 1000 to 4000 feet. I found intriguing specimens at the higher elevation, nestled in rocky recesses at the foot of a mountainous heap of huge boulders on Ord mountain in central Mojave desert.

In Arizona are several species that have not crossed over into the California and Nevada deserts. *Cheilanthes wootoni* has blades copiously scaly, the pinnae hairless, the scales longer than the segments. The broader, pale-brown scales of the root-stalk are deciduous. This is common among boulders or on rocky ledges at elevations of 3000 to 6500 feet in most of Arizona, except the western part, and extends into Mexico and as far east as Texas and Oklahoma.

*Cheilanthes fenderli* has oblong-lanceolate blades with leathery segments, its large firm scales slightly-toothed. It grows on cliffs and dry rocky slopes at 4000 to 8000 feet elevation from Arizona to western Texas and Colorado.

*Cheilanthes eatoni* is easily identified by its dense coat of wool. The rachis is scaly also and the fragile segments hoary above and held together by densely matted woolly hairs. Dry rocky slopes and cliffs at 4000 to 7000 feet elevation harbor this interesting fern from Arizona to Colorado, Oklahoma, Texas and Mexico.

# LETTERS . . .

## "Makes Me Dam Mad" . . .

Los Angeles, California

Dear Sir:

Reference to Hoover dam makes me dam mad. If he really had contributed anything to its construction I would feel the name change appropriate. He opposed it at all times.

Certainly Swing-Johnson would be much better. They really fought for it. If it could have been owned by some corporation Hoover would have been for it. I have visited Boulder dam a number of times and have always enjoyed its beauty and tremendous power, but somehow it will never be the same.

But I do enjoy reading Desert Magazine, so please do not refer to Hoover dam any more than is necessary. Thanks.

L. E. PRICE

## In Defense of Hoover . . .

Brawley, California

Dear Randall:

It would seem in order to make further comments on your sentence, "In his attitude toward social progress, I think Herbert Hoover belongs to the age of dinosaurs."

"Social progress" is usually just another name for progress toward socialism, state socialism and dictatorship. Hoover may be accused of simple faith in the free enterprise system of America as opposed to the socialism in most of the rest of the world. He may even have faith in the future of his country without a planned economy, but in view of the fact that he set up the R.F.C. and might have done some other things had not congress opposed everything he suggested do you think it fair to relegate him to the age of dinosaurs? Could you not at least bring him up to the horse and buggy days of say 1776?

CHARLIE H. MORROW

## Cloudbursts and Rainbows . . .

San Bernardino, California

Dear Editor:

Regarding the matter of cloudbursts, as mentioned in your June issue, I would define a cloudburst as a ruinous amount of water, dropped within a limited space of territory, in a short time. A curious thing about them is that their paths may be very clearly defined. I have been where one had just occurred, and I could stand astride its boundary, with one foot on dry ground and the other where it had rained. A hundred feet inside that boundary, the ground was muddy. Two hundred feet beyond that, the rain had been really heavy.

Standing at the back of a little combination train, I passed through a cloudburst in central Montana. We reached a little

station and stopped just as the storm passed on, and it was given to me to witness a phenomenon which is seldom seen—a four-fold rainbow. The raincloud stood there just like a wall, and the lowest colors were just a little higher than the roof of the car. The colors were as sharp and distinct as if painted by a sign painter. There was an appearance as if of a black line between each blend of color and the next. The most curious thing was that other black lines occurred at regular intervals beyond where the colors left off, indicating where other bands of colors would be if only human eyes could see them.

PHILIP S. BLACK

## Those Desert Palm Trees . . .

Anaheim, California

Dear Randall Henderson:

I note in the August issue that one of your readers is worried about the space you take in relating your experiences in "counting the palms."

I would like to say that not all of us are bored by the palms. While it is true that some of us just do not give a dern how many palms there are in the canyons, we do enjoy your descriptions of the exploring trips—and when time and finances permit we may check up on your count. So please keep them coming, and we are also looking forward to your story of those rapids in the Colorado.

JOHN M. THOMAS

## Lee's Legendary Mine . . .

Cornell, California

Dear Sirs:

I thought we would let you know that we have about come to the point of relegating "Old Man Lee's Quartz lode prospect," (*Desert*, Aug. '46), along with the "Lost Dutchman" and the "Lost Pegleg" to the realm of mythology.

We hate to do this, but for more than eight months we have been trying to clothe the "Lee Quartz legend" with respectable and honorable authenticity, without avail. We have investigated all available clues.

We learned that the San Bernardino county recorder's office had searched the records from 1868 to 1874 without finding any evidence of a filing. The only remaining possibility is that Lee, if he ever had a quartz claim in San Bernardino county, located it before the U. S. land survey, and it was never recorded.

The circumstances in this case give us almost positive proof that most of the lost gold legends are just that—something to while away the evening hours around a campfire—illusions perhaps of flour and bean prospectors whose dreams of the dis-

covery of fabulous wealth are necessary to help them endure the hardships of their profession.

We have tried to save the Lee legend from this fate—but our months of investigation have yielded no trace of authenticity.

JOHN HENRY FREEMONT

## Limits of Great Basin . . .

Palm Springs, California

Dear Randall:

I enjoyed your October issue, but was wondering about some of the statements made in one of the letters that you printed in regard to the extent of the Great Basin. This letter, evidently quoting the Encyclopedia Britannica, states that our California deserts are included in the Great Basin. I think you will find that this is in error and that our Mojave and Colorado deserts are considered quite distinct from the Great Basin.

In the first place, our own Colorado desert, together with the Gila desert of southern Arizona, are really just northern extensions of the great Sonoran desert of Mexico. This is borne out by the similarity of both fauna and flora in this entire arid region. The Mojave desert is definitely distinct from this since it has different plants and quite different animals, and on the average is much higher in elevation and therefore has quite a different climate. The boundaries of the Mojave desert are considered by most desert authorities to coincide with the distribution of the Joshua Tree and thus would include southern Nevada, extreme southwestern Utah, northwestern Arizona and that portion in California which includes Death Valley and which is bordered on the west by the Sierras and Tehachapis, and by the San Gabriels, San Bernardinos, Little San Bernardinos, and the various mountain ranges stretching eastward toward Blythe. The Great Basin, however, is usually considered to include the arid areas of eastern Oregon and Washington, southern Idaho, northern Nevada and it might be considered to overlap the northern boundary of the Mojave.

The typical plant of the Great Basin is the sagebrush, *Artemisia tridentata*. Of course, true sagebrush does occur in scattered areas elsewhere on the Mojave and even on some portions of the Colorado, just as some of the plants from the Colorado migrate northward and those of the Mojave to the south. But at any rate, the Great Basin is usually considered that much more northern portion and at the most only could include the northern parts of the Mojave desert. It would certainly not include the Imperial Valley because if it did then it would also extend clear down into Sonora, Mexico, and I am sure that you will agree that this is not the current belief of botanists or zoologists.

LLOYD MASON SMITH

# Mines and Mining . .

## Lovelock, Nevada . . .

Table Mountain Copper group, near Lovelock, may prove to be one of the big copper deposits of the country, it is reported, if a diamond drilling program by the U. S. bureau of mines to begin soon, confirms present showings. The 18 claims in the group are situated on the east side of the East range, between Cottonwood and Wild Horse canyons. Trenching and outcrops revealed a deposit 1000 feet wide and 6000 feet long, it was claimed, with the ore a chalcopryite indicating a content of 1.65 per cent copper, gold up to 40 cents and some silver.

## Virginia City, Nevada . . .

Reports from apparently authentic sources indicate that the planned operations to recover gold and silver from the mine dumps of Virginia City will be on a larger scale than first indicated. Virtually all the big mining interests owning the dumps are said to have been signed up by the Eagle Picher company, planning the work. According to the reports, a mill larger than any ever before constructed in the area will be built and put into operation in the near future. Eagle Picher company is said to have developed a process to recover gold and silver from dumps and tailings in any amount from \$1 a ton up.

## Beatty, Nevada . . .

Ore said to average \$100 a ton in silver and lead is being shipped from the Valley View mine in the Chloride Cliffs district, 16 miles south of Beatty. Two adjoining mines, the Silver Queen and the Silver Lode, are expected to be in production soon. The mines are being worked by Vernon Bradley, Reed Swenson and Dan Thacke. Bradley owns the Valley View, while the others are under lease. Great difficulty is being experienced in getting the ore to the highway as there is no road and the grade is 35 to 40 per cent.

## Austin, Nevada . . .

Albert Billett, J. A. Cavany and Dorsey C. Morgan, developing the Maxwell House mine in Kingston canyon, south of Austin, are said to have found good ore while driving a tunnel to cut the Maxwell House vein. Billetts sunk a winze on the vein, 80 feet from the tunnel portal, and five feet down struck four feet of good mineralization. A second tunnel, in 75 feet, is expected to strike the same vein in another 25 feet. The three men also have located the Long Shot claim, one-half mile west of the old mill house in Kingston canyon and work on it shows presence of gold, silver, copper and lead, it was claimed.

## Fallon, Nevada . . .

One of Nevada's old mining districts, at New Pass in Lander county, is back in production with most of the exploration work and development being done in the Thomas W. mine where gold ore said to run \$148 a ton has been discovered. The claims are owned or under option to Reorganized Silver King Divide Mining company. The company has built a 50-ton mill on the property, and the first cleanup was made in September. Fred Volmar of Silver Peak is in charge of the company's operations.

## Washington, D. C. . . .

The Atomic Energy commission's assay offices have investigated the claim of Charles R. Keen, that his mining claims in Southern California's Laguna mountains are rich in uranium ore. The commission spokesman did not know the findings of the assay office but declared that if Keen is right, a license to market his ore would be issued. "We are flooded with similar reports and sample ores from all over the country," the spokesman said, "and it takes time to check them. Most of the verbal reports about mining claims have blown up, but we keep hoping we'll turn up more sources of uranium."

## Randsburg, California . . .

A survey of the Rand district has indicated that 10 mining properties are producing or preparing to produce, and that more than 70 men are employed directly in mining and milling there. Those producing are the New Deal, King Solomon, Hatton lease, G-B, Kelly, Kern placer and Spud Patch placer. The Big Butte mill, Bert Wegman, operator, reports four custom millings as its current activity.

## Panamint, California . . .

Construction of the first 100-ton section of a projected 300-ton flotation mill has been commenced at Panamint City in the Panamint mountains, it is reported. American Silver corporation has been developing properties at the old camp which was active in the 1870's. The mill erection and construction of 4000 feet of tunnel have been contracted by the Bell Construction corporation which is said to have accepted 500,000 shares of the silver company's common stock in payment for the work.

## Austin, Nevada . . .

Nevada Equity Mining company, now operating the Kilburn property, has purchased for \$3000 the mill formerly owned by the Austin Silver Mining company. Purchase was made by Robert H. Raring, Nevada Equity vice-president at a Lander county tax sale held at Austin.

## Tonopah, Nevada . . .

Death Valley Curly reports that he has exposed six feet of high grade ore in the old General Thomas mine, which his wife, Marie Wright, bought from Esmeralda county. The mine, located at Lone mountain 16 miles west of Tonopah, was discovered about 1875 and is said to have produced \$250,000. Samples from Wright's find, which is in a drift at the bottom of the 300-foot incline shaft, were assayed by Pat Welsch. They were said to have a value of \$61 a ton: \$4.10 in gold, 8 ounces of silver, 8 per cent lead, 14 per cent zinc and 3 per cent copper.

## Goldfield, Nevada . . .

Lester Seepie, Indian placer miner of the Tule canyon district, 50 miles west of Goldfield, recovered three ounces two pennyweight of gold recently in eight days work. The gold ranged in size from coarse grains to small nuggets, and had been obtained through use of a rocker and water.

## Vernal, Utah . . .

A mining rush has developed in Brush Creek mountain area, 20 miles north of Vernal, with 136 claims filed between August 15 and September 4. Eagle Picher Mining company is said to have filed on large acreages there. The rush was started by reportedly rich shipments from the Silver King mine, owned by Merrill Goodrich and Don Richardson of Vernal. Silver King ore is being mined by bulldozers and trucked, 20 tons a week, to Salt Lake City smelters. Shipments reportedly average 25 per cent lead, 15 per cent zinc and three to five ounces of silver, with a \$45 per ton value.

## Austin, Nevada . . .

A silver-gold outcrop 20 to 30 feet wide, which can be walked on for 600 feet, has been discovered by Phil and Louis Meyer, Tonopah prospectors, in Mohawk canyon 45 miles south of Austin, it is reported. The ledge is a highly silicious and brecciated rock and for 300 feet of its exposure reportedly stands 20 to 70 feet above the surrounding area. One selected sample, it is claimed, ran \$295.28 per ton, a sample across 12 feet ran \$60, one across 20 feet ran \$18.60, and another across 15 feet ran \$9.92. A California dredging company is said to have optioned the property for \$200,000.

Leonard F. Traynor of Tonopah has been appointed Nevada deputy inspector of mines to replace S. R. DuBravac, who resigned. Traynor will make his headquarters in Tonopah, due to increased mining activity in the area.

American Potash and Chemical corporation reported net earnings of \$1,102,056.88 for the six months ending June 30, 1947. Gross sales of the company's products amounted to \$10,332,328.77 for the same period.

# HERE AND THERE .. on the Desert

## ARIZONA

### Grandmother Peshlakai Dies . . . .

WUPATKI — Grandmother Peshlakai Atsidi (*Desert*, March '47) died at her home in Wupatki basin, northeast of Flagstaff, August 27. Her age was believed to be between 96 and 102 years. Her great interest was the preservation of Navajo customs and traditions. She urged Navajo weavers to continue use of vegetable dyes in their rugs, and showed them how to gather and mix plants for the dyes.

### Would Industrialize Navajo . . . .

WINDOW ROCK — Max Drefkoff, Indian affairs consultant of the interior department, has recommended industrialization of the Navajo reservation to Secretary Krug. Drefkoff, who returned to Washington after a three-months study of the reservation, declared that the Navajo should process their wool and timber and other resources. He would rearrange the widely separated family groups into industrial villages with small industrial plants at Shiprock, Fort Defiance, Tuba City, Coyote Canyon, Tohatchi, Crownpoint, Leupp, Ganado, Chinle, Round Rock and

Sawmill. He also would require traders operating on the reservation to pay rent for the sites their posts occupy, or turn two per cent of their gross sales over to the tribal council. Summer session of the tribal council approved Drefkoff's plan.

### Spanish Smelter Found? . . . .

MIAMI—E. Kielglass, newspaper man, started excavating under his house for a proposed basement laundry, and turned up a large chunk of ore-bearing charcoal. J. L. Liessman, assayer for Miami Copper company, found it to contain 50 per cent copper and some gold. Kielglass was told that the Spaniards once had a smelter in the vicinity, and that his house might be built on its site. He reports that the strata of charcoal is about five inches thick and contains much ore.

### It Wouldn't Stay Dead . . . .

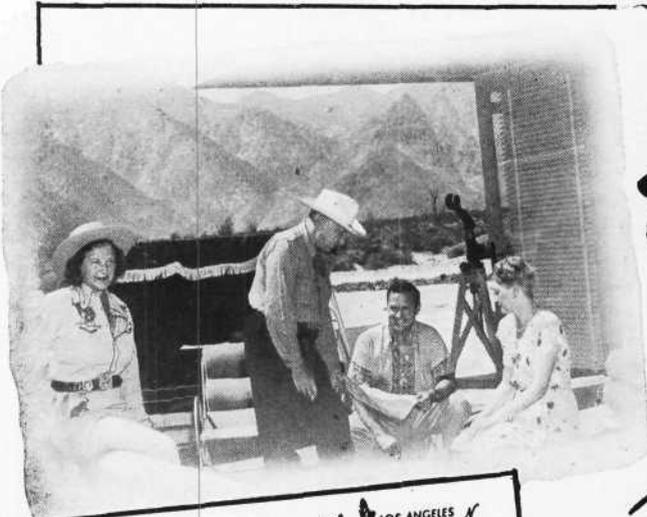
PHOENIX — Next time 15-year-old Ray Allen starts to take a rattlesnake home, he's going to be sure that it's dead. Ray came across the rattler while hiking. He struck it with a club and the snake apparently departed this world. Ray put it in a

box and hitched a ride home. On the way, the rattler came out of its coma, wriggled out of the box and coiled to strike. Ray dove from the running board of the moving car. He was treated at St. Monica's hospital for injuries on head and body—but not for snake bite.

Certificates of vaccination for smallpox must be presented by all tourists going from the United States into Mexico or from Mexico into the United States. Certificates more than three years old must be renewed. They are not required for persons visiting in border cities, but only for those going into the interior of either country.

Commenting on reports that Navajo Indians would starve this winter, James M. Stewart, superintendent of the Navajo reservation declared that, while educational facilities and health conditions left much to be desired, no Navajo was suffering from lack of food or adequate clothing.

Construction crews in Sonora, Mexico, have started paving the 176-mile portion of the International Pacific highway between Nogales and Hermosillo. Completion is scheduled for late December, and work on the Hermosillo-Guaymas section will start next year.



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ALASKA INDIAN, Canadian Indian and Eskimo fancy moccasins; dolls, baskets, totem poles, carved ivory, etc. Northwest Indian Novelties, 2186 N. W. Glisan Street, Portland 10, Oregon.

GREAT TEMPLE MOUND bone beads, \$1.75 per 100; genuine pearl beads (same location) \$2.00 each (15 for \$25.00). 30" strand Calif. trade beads \$1.00. 10 arrowheads, fair 50c; good 75c; very good \$1.25; fine \$1.75. Write for descriptions of spears, Yumas, Folsoms, axes, pipes, pottery. Have guns, coins, antiques for sale—or will exchange. Paul L. Summers, Stamford, Texas.

## BOOKS — MAGAZINES

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DESERT BEAUTY and Inspiration easily mailed. Give The Courage of Joshua, brochure of illustrated poems, \$1.00. Artistic Greeting Folders of desert etchings, \$1.00 dozen, by Constance Walker, 2814 W. Ave. 30, Los Angeles, 41, Calif.

ARIZONA HIGHWAYS, Deserts, Destiny, National Geographics, New Mexico, other fine magazines are for sale by John Wesley Davis, 1611 1/2 Donaldson St., Los Angeles, California.

DESERT MAGAZINE, 7 Vols., Jan. '40-Jan. '47, A-1 condition. New Binders, \$25.00. T. W. Tennant, 1539 Brockton Ave., Los Angeles 25, Calif.

COLLECTOR'S CATALOG—National Geographic (1888-1947), Arizona Highways, Books. Send 10 cents. Hellar, P. O. Box 2507, Los Angeles 53, Calif.

WANTED TO BUY: Early Western manuscripts, letters, diaries, log books, maps, charts, prints, stamps, newspapers, magazines, books. John Eldean, 88 East Ashland Ave., Phoenix, Ariz.

## MISCELLANEOUS

FOR SALE: Fisher Lab. Deluxe M-Scope with case. Used once. Batteries now dead with age. \$165.00 F.O.B., Charles O. Lynch, 12328 San Fernando Rd., San Fernando, Calif.

FOR SALE: Gem Tourmaline and Lithium ore mining claim. San Diego County. Reasonable. A. H. Ruddy, Rt. 1, Box 280, El Cajon, California.

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FOR SALE: Karakul bed blankets, colors, blue, green, natural, maroon, weigh at least 4 1/2 pounds. Money back guarantee. Price \$17.50. Write Addis Kelley, 4637 E. 52nd Place, Maywood, California.

PANNING GOLD — A side line hobby for Rockhounds and Desert Nomads. You should know how to pan gold, recognize gold bearing gravel and valuable quartz ledges. The places you go are where rich virgin ground is found. Send your name for new folder on panning gold, with pictures—list of mining books and equipment for prospector beginners. Old Prospector, Box 21B51, Dutch Flat, Calif.

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## CALIFORNIA

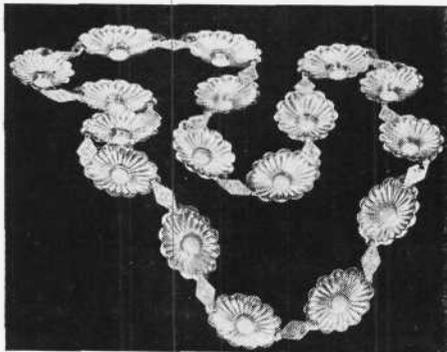
### New Museum Quarters . . .

PALM SPRINGS—Palm Springs Desert museum opened on October 15 in its new temporary headquarters which are located on the estate donated to the museum by Cornelia B. White, next to the library. The museum schedule includes natural history movies on Tuesday nights, film classics from the Museum of Modern Art on Friday nights, field trips or auto caravans on Saturdays, and guest lecturers on desert subjects on Saturday nights. A bird walk and a star-gazers walk are conducted once every month. The museum is open from 10 to 12 a. m. and 1 to 5 p. m., Mondays through Saturdays, and 1 to 4 p. m. Sundays. Featured exhibit for the season is the story of Salton Sea.

### Kaiser Railroad Speeded . . .

MECCA—Despite 110 to 125 degree summer temperatures, construction of Henry Kaiser's privately built 55-mile railroad is proceeding rapidly, with crews working double shifts and using large quantities of salt tablets to survive in the heat. The railroad, which will run from the Southern Pacific line 11 miles south of Mecca to the iron ore deposits of Eagle mountain, is planned for completion by April. Kaiser will use the ore at his Fontana steel mill. The grade of the road will be held to two degrees, and there will be no curves of more than eight degrees.

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## Study Desert Plants . . .

TWENTYNINE PALMS—Dr. W. F. West of the California Institute of Technology has been making studies of the correlation between rainfall, temperatures and soil conditions, and the germination of desert plants. He reports Twentynine Palms the best area he has found for his work. Tests were made recently on seeds of 40 varieties of desert vegetation that had been out of the ground for 22 years. When planted, one-half germinated. The three responding most rapidly were the Washingtonia palm—the roots of which had small sprouts in one day—the greasewood and the goat nut. Dr. West found that many desert plants sprout at night instead of day in the summer months.

### Cokes Sell Calico Museum . . .

CALICO—Mr. and Mrs. Larry Coke have sold their museum in the ghost town of Calico to W. E. ("Doc") Smith of Daggett and his sister Mrs. Irene Wolfe. Mrs. Coke still is in charge of the museum, being assisted by Mrs. Wolfe. The new owners plan to operate the museum along the same lines that the Cokes did for 10 years. The museum, located in what once was the Wells Fargo express office, is filled with relics of Calico's boom days which the Cokes collected. Mr. and Mrs. Coke are authors of the book *Calico*, which tells and illustrates the story of the ghost town. They plan to build on real estate they own on Highway 91 just west of Yermo.

With the largest number of ballots cast in any election in city history, Barstow citizens have voted 620 to 450 to incorporate. The election ended a battle for incorporation which was carried to the state supreme court and attracted nation-wide attention

Fifty years of mining history are chronicled in 30 photographs on display at the Desert Museum at Randsburg. The photos are reproductions of scenes during the Yellow Aster boom in 1895, the Atolia tungsten boom of 1914 and the California Rand boom of 1919. Oldtimers are invited to visit the display and help identify the pioneers shown in the pictures.

Borrego valley's Anza Desert state park has been granted an allocation of \$97,200 for improvements, by the California state board of public works.

Approved medication for treatment of rattlesnake bites is available at the Randsburg fire department station to anyone, 24 hours a day, Captain Fred Garrett states. Captain Garrett and his assistant have been instructed in use of the treatment, known technically as Mulford's Antivenin. It is the practice, throughout Kern county, to have this antidote at fire and forestry stations in each community.

## NEVADA

### T&G Will Be Abandoned . . .

GOLDFIELD—The Tonopah and Goldfield railroad will be allowed to scrap its 97 miles of line between Mina and Goldfield, as the result of a ruling by District Judge Clark J. Guild of Carson City. Judge Guild set aside an order of the Nevada public service commission which refused the company permission to abandon the line. He declared that, while money had been wasted in the past, the company now "is broke" and its locomotives are "unsalable and unserviceable." The road has not been in operation for several months, holding its mail and express contracts through use of a truck. Junk value of the T&G was estimated at \$303,000.

### Hot Water Bottle . . .

TONOPAH—Prospectors and miners were warned not to set jugs of water out in the sun next to inflammable material. The Tonopah *Times-Bonanza* some weeks back published an article released by Nevada agricultural extension service citing the fire hazard caused by concentration of

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heat rays through the water—in the same manner as sunrays passing through a magnifying glass. Three disastrous fires were traced to this source. Now the Tonopah editor repeats the warning with emphasis. On a trip to Mohawk creek, he set a water jug beside a rubber water pail, and came back to find the jug had burned a hole through the pail.

#### Explore 40-Mile Canyon . . .

BEATTY — An expedition has left Beatty to explore the little known 40-Mile canyon country and to trace down a Paiute legend that the area was rich in silver and that Paiutes and Spaniards once battled there. The group, made up of Jim Hinton, Charley Walker, Bill Martin and Bill Whitney, plans to take a four-wheel-drive former army ambulance as far as possible, then set up a temporary camp until road can be cleared to drive the truck farther. Supplies will be brought in to a designated meeting place, probably the summit of Timber mountain, then carried by the army truck to the camp.

#### Historic Coaches Sold . . .

CARSON CITY — Gordon Sampson, general manager of the Virginia and Truckee railroad has announced that three old time wooden coaches belonging to the company, including the historic *Julia Bullette* have been sold to the Metro-Goldwyn-Mayer film studios in Hollywood. The *Julia Bullette*, named for one of the most notorious figures in boom-time Virginia City, was equipped with a bar, leather ceiling, coal oil lamps and green plush seats. Sampson said the sale had been made with reluctance, but that the railroad was not financially able to donate them to any organization or to bear the cost of their maintenance.

#### Chukars for Nevada . . .

CARSON CITY—The fish and wildlife service has approved a project calling for eventual planting of chukar partridge on every spring and body of water in Nevada. The chukar partridge is a native of Asia, beautifully colored, and between the quail and grouse in size. In experimental plants, the bird has been found to thrive throughout the state. It is believed that by using wild trapped birds that the chukar can be introduced successfully into most of the new areas. Trapping and planting will be done under the Pittman-Robertson act by which the work is done entirely by state personnel but three-fourths of the expense is paid by the national government.

Governors Vail Pittman of Nevada and Earl Warren of California were scheduled to participate in the opening of a new all-weather transcontinental link on U. S. Highway 50 through the Lake Tahoe area. Representatives of all cities along Highway 50, from San Francisco to Wendover, Utah, planned to be present. The new million dollar road replaces the old Meyers grade.

In Reno, Justice of the Peace Harry Dunsath fined a hunter \$300 for shooting a sage hen out of season, and warned that others guilty of the same offense soon would face stiff jail sentences without the alternative of paying a fine. The sage hen, one of the few native Nevada game birds, is said to be disappearing rapidly.

A government appraiser working for the army has been placing a valuation on properties within the boundaries of the Tonopah bombing range, which the army intends to retain for another five years. Miners and stockmen affected by withdrawal of lands in the area will be compensated for loss of rights on the basis of these appraisals.

Completion of paving on Highway 8-A, in the Big Smoky valley section between Highway 50 near Austin and Round Mountain, is planned for early in 1948. Commissioners of both Nye and Lander counties have given the work high priority.

### NEW MEXICO

#### Navajo Silversmith Returns . . .

FORT WINGATE — Dooley Dewey Shorty, teacher of silversmithing and jewelry making at Fort Wingate Indian school, has returned from the first American silversmith's conference, held at the Rhode Island School of Design in Providence, Rhode Island, in August. Shorty was one of 12 teachers selected from different sections of the country to participate in the conference and to work there under William Bennett, British master craftsman who conducted it.

#### Seek Indian Security Status . . .

SANTA FE—State Public Welfare Director Murray Hintz and Assistant Attorney General Robert W. Ward plan to confer with social security officials in Washington to determine the status of New Mexico Indians under the social security program. Director Hintz said that most

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states except New Mexico and Arizona include Indians, on and off the reservations, in their social security programs. New Mexico, he explained, has about 8100 persons receiving old age benefits. If all state Indians were brought under the program, he estimated 9000 additional might become eligible for the pension and that "would break us." In the meantime, Indian traders were asking why Indians must pay a state tobacco tax which was levied to support old age benefits for which the Indians were not eligible.

#### Pueblos Can't Vote . . . .

**SANTA FE**—Judge David Chavez has ruled that Pueblo Indians are not entitled to vote in New Mexico and that they are not legally residents of the state. His decision followed a similar one which barred Navajo and Zuñi reservation Indians from voting. The judgement was handed down in a test suit brought by Pete Tapia, a Pueblo Indian, against county clerk Margaret Ulibarri Lucero, charging that her office refused to let him register for the last election. Tapia's attorney said the ruling would be appealed to the state supreme court.

#### Chetro Kettle Flooded . . . .

**CROWNPOINT**—Chetro Kettle, large prehistoric pueblo at Chaco Canyon national monument, was badly damaged by cloudburst runoff late in August. M. R. Tillotson, director of region three of the

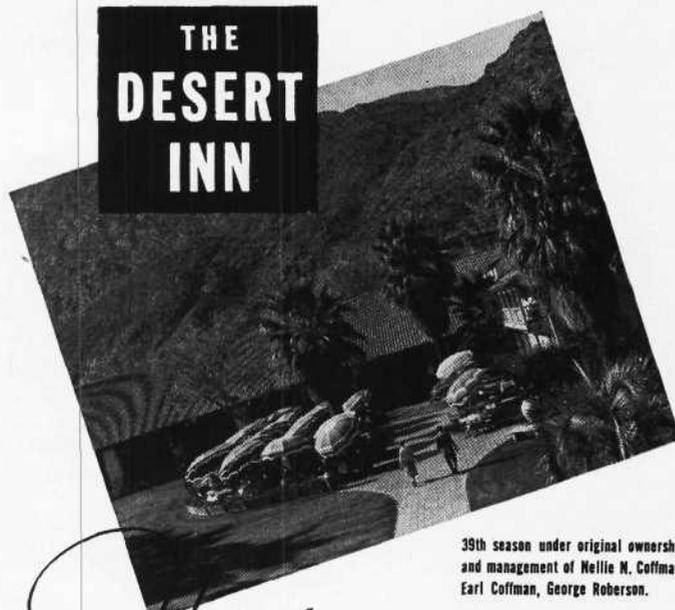
national park service said water-borne debris choked the natural course of the flood waters and impounded them behind the highest section of the pueblo's 470-foot-long wall. Forty feet of the wall collapsed and the water flooded and destroyed 22 deeply excavated rooms. Tower Kiva was damaged, but not beyond repair. The ruins were excavated between 1920 and 1939, under the direction of the late Dr. Edgar L. Hewett.

#### Merge Three Institutions . . . .

**SANTA FE**—Merger of the Laboratory of Anthropology with the School of American Research and the Museum of New Mexico became effective on September 1, it was announced by Dr. Sylvanus G. Morley, who had been acting director of the three organizations.

Taos is converting its local Indian welfare group into a non-profit corporation to be known as Friends of the American Indians. Membership is open to interested persons everywhere, Arthur Noble, chairman of the charter committee said.

Christmas lights of Madrid, New Mexico, which before the war drew thousands of Yuletide visitors to the little mining town, will remain unlighted this year. Scarcity of labor, materials and supplies made a renewal of the event this year impossible, officials explained.



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The stores are displaying a wider range of gift merchandise this season than since the pre-war period—but with prices what they are, the family of average income will not find the Christmas shopping problem easy.

**Quality goods come high. That is, most of them do, but there are a few exceptions. One of these exceptions is the gift subscription of a quality magazine—the**

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El Centro, California

## UTAH

### New Road for Arches . . .

MOAB—A new road in Arches national monument, to extend from Balanced Rock in the Windows section of the monument to Delicate Arch, Fiery Furnace and the Devil's Garden area, has been approved by the Utah department of publicity and industrial development. The new road, to be constructed with the approval of the national park service, will be about seven miles in length and is expected to cost \$20,000. Grand county will do the construction work, furnishing equipment and personnel. Its contribution in equipment and materials is expected to be 20 per cent of the cost.

### "Keep Public Lands Public" . . .

BRIGHTON—A resolution urging congress to "keep public lands public" was adopted by delegates to the annual conference of the Federated Western Outdoor clubs, meeting in September near Brighton. The clubs charged that a minority group of western livestock growers was backing a movement to "secure control and eventual ownership of the greater part

of public lands of western states and of the undeveloped minerals in these lands under the guise of states' rights, tax equalization and stabilization of the stock industry."

### Utes Protest Oil Leases . . .

VERNAL—The Ute Indian tribal council has asked the secretary of the interior to reject the joint bid of Carter and Stanolind oil companies for leasing oil and gas rights on 15,134 acres of tribal and allotted lands. The companies bid \$1.25 per acre plus a \$4.08 acre bonus. The council felt that the bonus offered was too low. The lands involved are within the Uintah-Ouray Indian reservation, and adjoin lands on which the Carter company has encountered good oil showings.

### Rescue River Traveler . . .

GREENRIVER—Mrs. Bert Loper of Greenriver suffered a broken shoulder and ribs when crushed while launching a heavy boat in Green river gorge in southeastern Utah. Her husband, 78-year-old riverman Bert Loper, left her under mosquito netting on the bank and started to hike out

through the desert for help. Veteran riverman Harry Aleson and Ralph Badger discovered Mrs. Loper while on a river expedition, and Aleson trailed Loper and brought him back six hours later. Aleson repaired Loper's outboard motor, put it on Badger's boat and took Mrs. Loper 28 miles up river to the mouth of the San Rafael. Here he swam ashore and obtained an automobile at the Marsing ranch and drove Mrs. Loper to Greenriver, where she was placed under a physician's care.

Wesley Oliver, government trapper in the La Sal mountains, narrowly escaped death when a cyanide cartridge exploded when he was setting it for coyotes. The cyanide fumes struck the upper part of his face and he may lose the sight of one eye.

### STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AND MARCH 3, 1933.

Of The Desert Magazine published monthly at El Centro, California, for October, 1947.

STATE OF CALIFORNIA }  
COUNTY OF IMPERIAL } ss.

Before me, a Notary Public in and for the State and county aforesaid, personally appeared Bess Stacy, who, having been duly sworn according to law, deposes and says that she is the Business Manager of the Desert Magazine and that the following is, to the best of her knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to-wit:

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

Publisher, Desert Press, Inc., El Centro, California.

Editor, Randall Henderson, El Centro, California.

Business Manager, Bess Stacy, El Centro, California.

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

Desert Press, Inc., El Centro, California.

Randall Henderson, El Centro, California.

Lucile Weight, El Centro, California.

Bess Stacy, El Centro, California.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.)

None.

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

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

(SEAL) BESS STACY

Sworn to and subscribed before me this 16th day of September, 1947.

M. L. CARPENTER  
(My commission expires Oct. 14, 1949.)

## A RECORD OF PROGRESS--

**\$2,688,325.50** REPRESENTS THE NET POWER SALES OF THE IMPERIAL IRRIGATION DISTRICT FOR 1946

### THAT IS WHY THE DISTRICT'S POWER SYSTEM IS PROVING TO BE A PAYING INVESTMENT

- Since the Spring of 1936 when the District entered the Power Business, Net Power Sales increased from \$52,296 to \$2,688,325.50, recorded for the year 1946.
- Net Revenue of the Power Division grew from \$9,848 to \$932,744.28 during the same period.
- Despite inflationary prices, the 30 per cent pre-war reduction in District power costs has been maintained—the only commodity that has not increased in price.

### NEITHER HAS THE DISTRICT POWER SYSTEM CAUSED ANY TAXATION

BUT—Growing requirements have resulted in unprecedented demands for more power.

These demands are being provided for by a continuing over-all Power Program.

The District's 1945 Power Development Project, providing for a huge steam-electric generating plant, new substations, new transmission lines, and other vitally needed facilities, is well under way.

Construction work will soon start on a steam-electric generating plant, to furnish standby power.

Yes, Imperial Irrigation District Power is keeping pace with the growth and development of the fertile Imperial and Coachella Valleys, which it is serving.

Long range, intelligent planning, plus your cooperation is making the District's Power Program a success.



# GEMS AND MINERALS

## ORANGE BELT SOCIETY PLANS GEM SHOW NOVEMBER 8-9

Orange Belt Mineralogical society is presenting its first exhibition of cut and polished gem stones and mineral specimens on November 8-9 at the National Orange Show building in San Bernardino, California. The show will be open from 10 a. m. to 10 p. m. both days, there is no admission charge, and all rockhounds and persons interested in lapidary and jewelry work are urged to attend. Mrs. Erna Clark, club president, is general chairman of the show, Major C. T. Kennedy is vice-chairman, Mrs. Howard Fletcher is in charge of decorations, and Mrs. A. B. Cyrog is publicity chairman.

Exhibits will include all kinds of lapidary work, cabochons and gem stones mounted in silver, and rare minerals and crystal groups from local and foreign sources. The club board of directors is trying an innovation, in that no awards, ribbons or prizes will be given. Neither will there be commercial displays nor outside exhibits, since club membership of 200 is expected to fill all available space with club displays.

Show plans were formulated at the September meeting of the society, which was a picnic held at the Asistencia mission near Redlands. Mr. Cyrog talked on the September birthstone, sapphire. At the close of the meeting a "rock rush" was held, the rocks being surplus material brought by members. Announcement was made at the meeting of the death of A. B. Brown of Riverside, long a member of the society.

## CALIFORNIA ROCK SOCIETIES EXHIBIT AT STATE FAIR

Four cases of California gems and minerals were displayed at the recent California state fair at Sacramento as the first exhibit by California mineral societies. The Sacramento Mineral society arranged and cared for the display material, and the members report that thousands of people viewed the exhibits. The fluorescent display attracted special attention, and state fair officials have asked for a special fluorescent exhibit next year.

The several hundred pieces shown included polished flats, cabochons, jewelry, mineral specimens, gold nuggets and gold in quartz. Confirmation of space was secured so late that it was impossible to have complete state representation from members of the California Federation of Mineralogical societies. Material was received from Chico, Lodi, Stockton, San Luis Obispo and Oakland.

## MINES CHAMBER SHOW AT RIVERSIDE, NOVEMBER 7-9

The second annual gem and mineral show of the Riverside Chamber of Mines will be held in Riverside, California, on November 7-9. Dealers and amateur collectors have been invited to place displays in the show, which attracted large attendance last year. Information regarding entries and the program planned may be obtained from Mrs. Retta E. Ewers, 3961 Third street, Riverside, California.

## ROCKHOUND COURSE OFFERED AT OAKLAND NIGHT SCHOOL

A night school course in prospecting and mineral identification, taught by Robert O. Deidrick, was scheduled to start September 15 in the Technical evening school in Oakland, California. Classes were planned for Monday and Wednesday evenings, from 7:00 to 10:00 p. m., and the course will continue until school closes next June. Mineral identification will be taught by laboratory methods and physical properties. Historical and economic geology will be taken up in class and by field trips.

GENUINE ZIRCONS, first quality, unset. 3 stones, total average 3-kts. special value \$6.00. All colors. Or will trade zircons for any old gold or broken jewelry you may have. Send order or write for free shipping container. B. Lowe, Dept. D-9, Holland Bldg., St. Louis, Mo.

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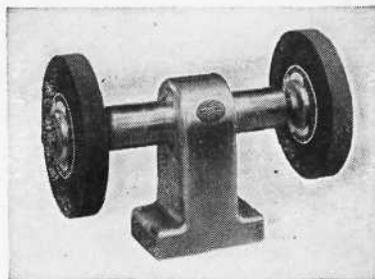
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**MONTANA MOSS AGATES** in the rough for gem cutting \$1.00 per lb. plus postage. Also Slabbed Agate 25c per sq. in. (Minimum order \$1.00). Elliott Gem Shop, 26 Jergins Arcade, Long Beach 2, California.

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**BEAUTIFUL PETRIFIED PICTURE WOOD** from Northern Arizona. We think you will agree with us that we have as beautiful Picture Wood as you have ever seen. This is truly a gem wood of character with a picture in every piece. Black Petrified Wood from Northern Arizona. Gem quality, really black takes a high polish. Very limited supply of both picture and black wood so sold only in slabs 10 square inches \$3.50 or 100 square inches \$30.00. Postage prepaid if check with order. Also cut stones (see below). Chrysocolla Gem Quality from Miami, Arizona. Beautiful robin-egg blue. Sold only in cut stones (see below). Turquoise of Quality from Nevada and Arizona from 10c to \$1.00 per karat. Have some blue Gem, Battle Mountain, Cortez, etc. Sold only in cut stones (see below). Cut Stones Wholesale and Retail. We have excellent stock beautiful cut stones in Picture Wood, Black Petrified Wood, Chrysocolla and Turquoise for bracelets, rings, ear-bobs, pins, etc. Send for our current price list. Satisfaction guaranteed or money refunded. Steve Hambaugh, Box 332, Wickenburg, Ariz.

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**A BARGAIN worth looking into.** Am selling my shop, equipment, and 14 months collection of gem material and mineral specimens. A small amount of finished jewelry, hundreds of polished specimens and finished gem stones. If interested write for further details. J. O. Spangler, Box 96, Battle Mountain, Nevada.

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**LEDGE OPAL, nice specimen and slabbing material, 3 lbs. \$2.00 postpaid.** Opalized Chalcedony Nodules, solid gemstone throughout that takes a beautiful mirror polish, 4 lbs. \$2.00 postpaid. Both from a brand new field and not offered before. G. E. Johnston, Box 53, Caliente, Nev.

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FOR SALE: Black and grey petrified palm with eyes and red plume jasper. \$1.00 per lb. plus postage. Maida Langley, Box 331, Needles, California.

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### FIRST ANNUAL ROCKHOUND PICNIC IS POPULAR

Four hundred rockhounds attended the first annual picnic sponsored by the Los Angeles Lapidary society and held at Oak Grove park, near Pasadena, on September 14. Members from 16 Southern California societies were present, and the following club presidents were introduced: Jack Gaston, Los Angeles Lapidary society; Dan White, Glendale Lapidary and Gem society; Tom Daniels, Faceters; James Arnold, Hollywood Lapidary society; Mrs. Dorothy Pettis, San Pedro Lapidary society; Albert Hake, Southwest Mineralogical society; Clarence Chittenden, Santa Monica Gemological society; C. D. Gibson, Lockheed Rock Crafters society; W. Ellis Johnson, Old Baldy Mineral society; Howard Barnes, Corona del Mar Lapidary society; Fred Kruger, Pomona Valley Mineral society; and Robert Gunter, Gem Cutters guild. Mrs. W. L. Cooper, secretary, represented San Fernando Mineral and Gem society. Ted Bennett was picnic chairman.

Two hundred prizes valued at \$1000 were given away at the picnic, as door prizes and to winners of games and contests. A new cutoff saw, diamond saw blades, laps for facet making and gem stones in gold settings, cabochons, cutting material, faceted stones, and other items were given. Prizes were furnished by the Los Angeles Lapidary society, Old Baldy Mineral society, M. D. R. Manufacturing company, R. & B. Artcraft, Allen Lapidary Equipment company, Hickerson Supply, J. J. Jewelfcraft, Theodore's, Grieger's, Highland Park Lapidary Supply, S. T. Gem and Mineral shop, the Lapidary Journal, Ultra-Violet Products, Chuck Jordan, Ed Hickey and Valley Craft shop.

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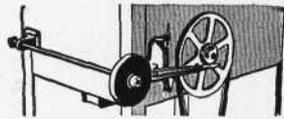
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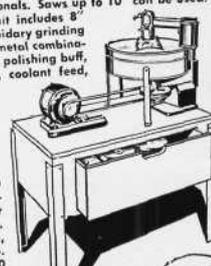
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**FALLON CLUB GEM DISPLAY WINS STATE FAIR RIBBON**

Fallon Rock and Gem club won a first place blue ribbon and \$25 in cash for their exhibit at the recent Nevada state fair. Specimens ranged from 60-pound pieces of opalized wood to a small tube of gold dust. The largest part of the exhibit consisted of Nevada stones and minerals. The principal interest of the fair-goers centered on the fluorescent display which was in charge of Charles Stains, club president, and in the finished gem displays of "Ace" Robinson and Harold Ludwick. The club's booth was backed by a 4x8 foot pastel of Singing (Sand) Mountain, done by Laura Mills. At the base of the pastel was a miniature desert arranged on a 12 inch board, complete with sand, sagebrush, flowers, rocks, and a desert trail.

**NORTHWEST FEDERATION MEET DRAWS RECORD CROWDS**

Nine thousand persons viewed the gem and mineral exhibits at the 1947 convention of the Northwest Federation of Mineralogical societies, held in the Seattle civic auditorium, August 30-31. Representatives from society groups in Oregon, Washington, Idaho, Montana and Wyoming were present. There were 250 individual display cases, featuring lapidary work, jewelry, crystals, fossils, petrified wood and precious and semi-precious gem materials. Commercial exhibits offered visitors the opportunity to add to their collections. Host society was the Gem Collectors club of Seattle.

Federation business meeting and election of officers was held in the auditorium, and the 1948 convention was set for September 2-3 at Bozeman, Montana. A banquet honoring visiting members and newly elected officers was held August 30 in the auditorium with 400 attending.

New officers of the federation are: president, Lloyd L. Roberson, Seattle; vice-president, Harvey E. Murdock, Bozeman; secretary, Mrs. Frank J. Murbach, 5927 49th S. W., Seattle, Washington; treasurer, Paul N. Brannan, Spokane. E. E. Walden, Boise, Idaho, was the retiring president.

Entertainment program at the convention included a talk by A. W. Hancock, Portland, on the pre-history of the John Day country; an illustrated lecture on gem localities of South America by Don Major of Tenino; and pictures of minerals, collectors and northwest scenery by John W. Fields, Seattle. Dr. H. C. Dake, editor of the *Mineralogist*, predicted great success for collectors in the next few seasons.

**PRESCOTT JUNIOR ROCKHOUNDS STAGE ROCK AND GEM SHOW**

The Junior Rockhounds of Prescott, Arizona, celebrated the first anniversary of their club on September 6-7, with a rock and mineral show which was attended by 276 persons. Visitors came from Arizona, California, Colorado, Missouri, Texas, Iowa, Ohio, Wisconsin, Indiana and Canada. Twenty-two collectors, ranging in age from six to 14 years contributed exhibits. Through cash contributions and the sale of mineral specimens, the club realized \$56.92 from the show, which was to be used for the purchase of fluorescent equipment. Exhibits included minerals, rough and polished specimens, jewelry, geodes, petrified wood, and a fluorescent display. The show was held in the display rooms of the Arizona Power company.

Birthday party for the junior club was held at its headquarters, 331 Park avenue, Prescott, on September 5, and the young rockhounds had a birthday cake and ice cream. E. E. Michael spoke on sapphires and presented a synthetic sapphire for a quiz prize. The stone was won by Anne Pessin.

Officers of the junior club, which is affiliated with the Yavapai Gem and Mineral society in-

clude: president, John Butcher, 10 years old; secretary, Tag Merritt, 11; and treasurer, Franklin Mackenzie, 11.

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Thomas S. Warren, president of Ultra-Violet Products company, lectured on "Fluorescent effects of Ultra-Violet Light" at the first fall meeting of the Mineralogical Society of Southern California. The meeting was held in the lecture room of the Pasadena public library on September 8. He placed particular emphasis on the use of black light from the point of view of a mineral collector and gave visual demonstrations from his personal collection of minerals.

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## AMONG THE ROCK HUNTERS

Marcel Vogel, authority on fluorescent and luminescent pigments spoke at the meeting of the Northern California Mineral Society, Inc., held in the public library, San Francisco civic center on September 17. Mr. Vogel illustrated his talk with sample pigments and fluorescent apparatus. Annual open house and auction of the society was held in the American Legion hall on October 4.

George Bunton, chief technician at the Griffith observatory in Los Angeles, spoke on "Magnetism" at the September dinner meeting of the Pacific Mineral Society of Los Angeles, Inc. During the war Bunton worked with the Lockheed Aviation company's testing laboratory, developing magnetic methods of testing metals used in airplane construction.

The Mineralogical Society of Southern California has named its committee chairmen for the year 1947-48. Ernest Chapman heads the membership committee; H. Stanton Hill, program; Victor Robbins, field trips; Louis Vance, display; Don George, publicity; Willard Perkins, raffle; and Jack Streeter and Jack Rodekohl, roster. The chairman will invite other members to contribute assistance in specific matters the committee will take up from time to time. All communications to the society should be addressed to Mrs. A. G. Ostergard, club secretary, at 3755 Sycamore avenue, Pasadena 10, California.

The Oquirrh mountains, near Salt Lake, were to be discussed by Charles W. Lockerbie at the October 7 meeting of the Mineralogical Society of Utah, meeting in the geology building of the University of Utah. The field trip scheduled for October 18-19 was to the Dugway mountains to collect geodes. September field trip of the club took members to Antelope springs, Millard county, where trilobites were collected.

Plans for the gem and mineral show to be held in Balboa Park, San Diego, on October 18-19, were discussed at the annual meeting of the San Diego Mineralogical society, September 12. Principal business before the meeting was the election of officers for the fiscal year. Members discussed their summer collecting experiences and traded surplus specimens brought back. The regular meeting place is EPCA Hall, 4567 Thirtieth street, San Diego.

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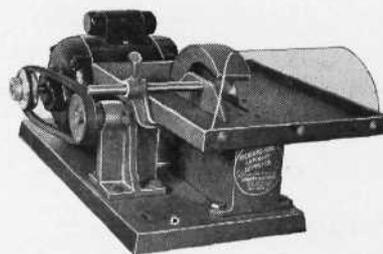
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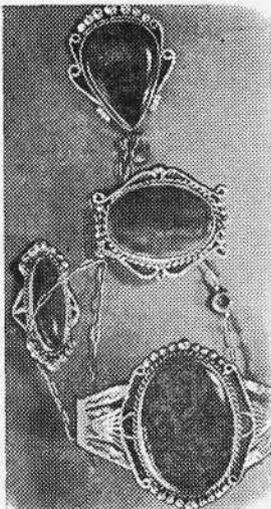
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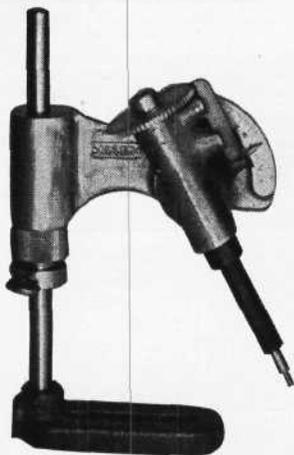
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Practical hints to the mineral collector were given by Dr. Charles A. Anderson, mineralogist with the United States geological survey, who spoke at the September 11 meeting of the Yavapai Gem and Mineral society. The program was held at the headquarters of the society on the ground floor of the courthouse at Prescott.

Searles Lake Gem and Mineral society scheduled its annual mineral and hobby show at Trona on October 18-19. The program was to include mineralogical field trips in the surrounding area, banquet, auctions, and ribbon awards to prize exhibitors.

Kilian E. Bensusan spoke on "Minerals of South America" at the September 17 meeting of Searles Lake Gem and Mineral society, held at the Trona club. Bensusan, who has collected in most of the countries of the world, illustrated his talk with slides and with an exhibit of minerals which he gathered in Brazil. Raffle and refreshments followed the meeting.

Northern California Mineral Society, Inc., has a Beginners' lapidary group which meets each Thursday, at 422 Belvedere street, San Francisco, at 7:30 p. m. Experts are on hand to give instruction, and there is a small fee for the use of equipment.

Pomona Valley Mineral club resumed regular monthly programs and business meetings in September. On August 10, 32 members and friends made a field trip to Wrightwood where, after a picnic dinner at Big Pine, knapsacks were filled with specimens of actinolite.

Kern County Mineral society opened its fall season with a meeting held September 8 in the Coca-Cola Bottling company building in Bakersfield. A review of summer activities was held.

G. Keith Hodson rock hound and turquoise miner has opened a gem store and lapidary shop on the highway just south of Mina, Nevada. Included in his stock are chunks of amethyst petrified wood from the Fish Lake valley region.

Chester A. Howard lectured on astronomy at the September meeting of the Texas Mineral society of Dallas. Slides of the stars and suns were shown. Mr. La Dew spoke on opalized wood, Mrs. McIver on agates.

Minnesota Mineral club visited St. Cloud, Minnesota—the "granite capital of the northwest"—on their September field trip. Members were shown how the huge blocks were quarried, cut and polished for building facing and trim.

New officers of the Marquette Geologists association of Chicago, elected at the June meeting, are: chairman, W. E. Platte; vice-chairman, R. C. Mitchell; secretary-treasurer, Mary Rioridan, 1117 North Shore avenue, Chicago 26, Illinois; librarian-curator, Walter Hoy.

Dr. Olaf P. Jenkins, California state mineralogist, was to lecture on the geology of the San Francisco bay region at the October 2 meeting of the East Bay Mineral society of Oakland. A field trip to the Berkeley hills was scheduled for October 5, where Dr. C. W. Chesterman, a state geologist, would offer geologic information on area visited. Installation of officers was scheduled for September 22 by the club. First fall meeting, held September 4, was devoted principally to the drafting of a new constitution. All meetings of the club are held at the Lincoln school in Oakland, and visitors are welcome.

Charles J. Hansen has been appointed by the board of directors of the Northern California Mineral Society, Inc., to act as club president for the remainder of the year. Hansen is a charter member of the society. Robert Weber was appointed curator to fill the unexpired term of Al Thamm.

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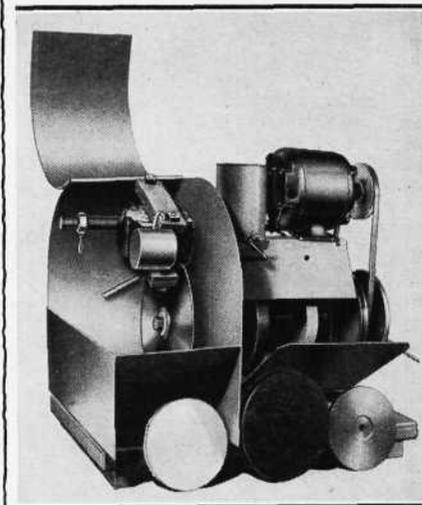
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# AMATEUR GEM CUTTER

By LELANDE QUICK  
Editor of The Lapidary Journal

It has been a wonderful year along the highways and in the city dealer shops for the sale of gemstones. This is emphasized by the fact that one dealer advertises for sale "the largest catalog ever printed," and states that it contains "no mineral specimens." It will be a year before figures for 1947 are released by the bureau of mines. The 1946 figures, recently released, indicate that taxes were paid on the sale of \$325,000 worth of native gem stones in 1946, an increase from \$40,000 in 1945 when most automobiles were off the road.

These figures reveal that jade now leads because of the finds in Alaska and Wyoming. Of course sale of jade is not confined to those areas, for good jade stones are found in practically every dealer's shop. It is interesting to note in the report that Alaska jade sold as high as \$55 a pound, whereas the best of the Wyoming material sold at \$15 a pound. However, this should not be interpreted as meaning that the Alaska material is that much better. It costs perhaps \$15 a pound to get the jade out of the interior of Alaska during a very short season. Either the Alaska material is over-priced or the Wyoming material is under-priced. The thing that hurts the Wyoming price is the vast amount of poor material unloaded, whereas only good Alaska material is being offered.

The bureau lists central Oregon as the leading producer of agate and reports that one prospector dug agate in three days which he sold for \$8000 and that he sold one six pound piece for \$1000. Consider those figures the next time you are asked to pay \$15 for a slice of good plume material. After jade and agate, the turquoise of Nevada and variscite of Utah lead the parade of values in native gem material. Next in order come agatized wood from Arizona and New Mexico; alabaster from South Dakota; amethyst from the Dugway area in Utah; aquamarine from Deep Creek, Utah, and San Diego county, California; kunzite from the latter place and kyanite from Upson county, Georgia; opal from 17 miles south of Marsing, Idaho; opalized wood from central Washington; pipestone from Pipestone, Minnesota; rock crystal from Crystal Mountain, Arkansas; rose quartz from South Dakota; staurolite from Cherokee county, Georgia; topaz from Tarryall mountains, Colorado, and Topaz mountain, Utah, and tourmaline from Mount Apatite, Maine, and San Diego county, California. No diamonds were mined in 1946 but some geophysical work was done at the old mines at Murfreesboro, Arkansas, and some new development begun at McCall, Idaho. Flowering obsidian continued its popularity and a new find of dendritic chalcedony from Fort Cummings, New Mexico, was in high demand all through the Southwest.

These figures come from the tax returns on the sale of gem materials. More confusion exists about these taxes than about the cause of inflation. The Oregon prospector had to pay tax when he sold his rough agate because, the treasury department advises us, "the mineral substance is of a type and quality commonly and commercially known as precious or semi-precious (perish the word!) stones from which gems are commonly cut. Specimens of the substance in the natural state or cut and polished for display of the mineral are held to be pre-

ciuous within the meaning of the code and are subject to the tax when sold for use rather than for resale by the purchaser."

However, the bureau further advises that no tax applies where an individual who is not in the business makes an occasional sale of such articles which are his personal property. We interpret this to mean that where an individual donates a piece of gem material to his non-profit scientific society, which in turn sells it to augment its treasury, the deal is not subject to tax of any kind including local sales taxes. This has been a matter of concern to some societies and this opinion is our own.

It is also interesting to note that the treasury department applies the tax to the "sale of precious and semi-precious stones and imitations thereof." The confusion and annoyance could well be eliminated if every dealer would write to his congressman to support that portion of a tax reduction measure before congress which eliminates this luxury tax on all purchases under \$25.00. It is difficult to determine accurately what "luxury" means, but it seems to us that any congressman should have no difficulty in placing diamonds and agates where they properly belong. Certainly a jade cabochon purchased for \$5.00 is no luxury.

The following minerals are considered semi-precious by the treasury department: all forms of quartz including agate, agatized and opalized wood, bloodstone, onyx, jasper, tiger eye, chalcedony, opal, azurite, malachite, rhodonite, feldspar, labradorite, turquoise and garnet.

The bureau emphasizes that the great increase in the sale of gemstones comes about through purchases by automobile tourists at highway shops. These are the dealers who usually protest published field trips. We inject the thought that if field trip accounts did not fire the imagination of the fireside sitter in the winter there would be far fewer gem seekers in the summer. Remember the countless thousands of fishermen who return with fish they never caught. Gem hunters do the same.

We are writing of native gemstones. The present sale of all gemstones is fantastic. We occasionally get a report from a dealer that business isn't as good as it was a few years ago, but the lapidary supply and equipment dealers are doing a record volume. Gem and mineral societies have record membership attendance. More new societies have been formed in the last three years than in the previous 10. The reported society activities and the advertisements in this and other magazines indicate that gem interest is in its genesis and not at its zenith.

A correspondent wrote us recently that he thought gem cutting was a fad that would soon run its course. It could be classed as a fad if it were just a collecting hobby. But it is a craft and it is an art. It appeals to the imagination and ingenuity of a vast army of new recruits every year so that it is obvious that in 10 or more years active gem cutters will reach undreamed of numbers. The 40 hour week is here, but too many people are not equipped to employ leisure time profitably. What will happen when we have a 30 hour week? And what hobby, craft, art, activity—call it what you will—offers as much variety in fun and cultural value as gem cutting? Far from being at its flood, we believe the tide is barely beginning to run.

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New October issue contains well illustrated articles on agate carving, making agate-silver dinner ware, the finest article that has ever appeared on faceting soft stones and three departments for the beginner. Many other interesting articles and lots of news.

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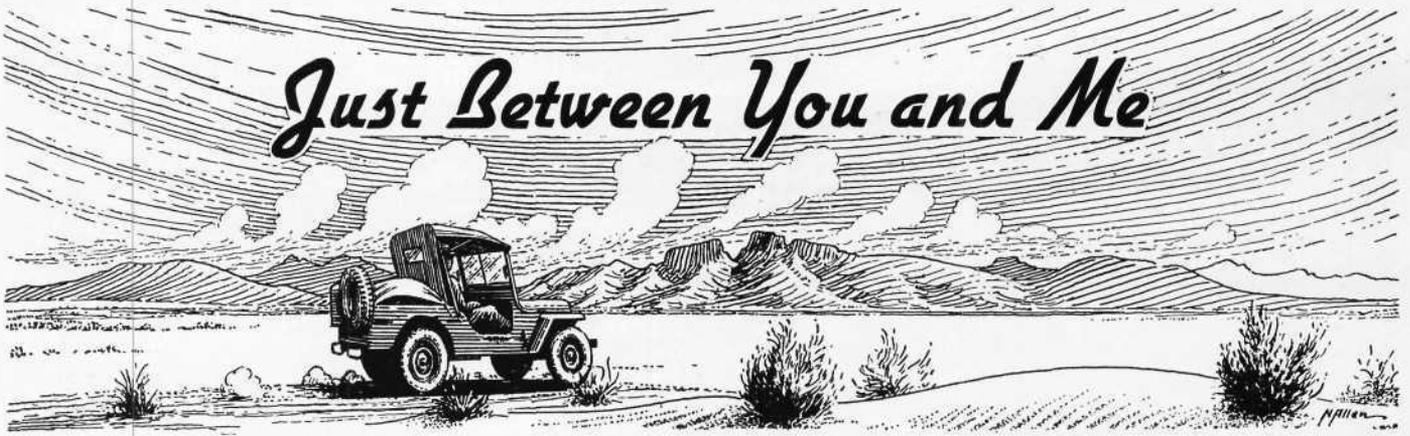
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# Just Between You and Me



By RANDALL HENDERSON

EDDY Mills invited me to Salome, Arizona, early in September to be present at the annual Dick Wick Hall Day festivities sponsored by the Mountain Lions club of Salome and Wenden. I appreciated this invitation, for Dick Wick and I were good friends many years ago when he was editor of the Salome Sun, and I was publishing the Herald across the Colorado river at Blythe, California.

As an editor, Dick Wick was both a humorist and a firebrand. His little mimeographed newspaper sizzled like the desert rocks in mid-August. His favorite target was the Yuma county board of supervisors, because they had not gotten around to building some roads in northern Yuma county.

But his paper was so brim full of humor, so cleverly written, that the Saturday Evening Post later reprinted much of it. Salome's "nine-mile golf course" and the "frog that never learned to swim," were inventions of Dick Wick's fertile brain. He made the frog famous with this ditty:

I'm seven years old and I cannot swim,  
So don't blame me for looking grim.  
When a frog has to carry a big canteen,  
And water his back to keep it green,  
And prime himself if he wants to cry,  
When his belly gets burned with alkali.  
Where grass grows brown instead of green,  
A frog can't help but feeling mean.  
I'm an old bullfrog, and danged my hide—  
I cannot swim because I never tried.

Dick Wick's premature death robbed the Southwest of a humorist who had many of the qualifications of a Mark Twain. I hope the Lions club will make the annual program honoring his memory a permanent institution.

One of the highlights of my visit to Salome was a chat with my old friend Ernest Hall, Dick Wick's brother. For many years Ernest has been in charge of the Arizona state inspection station at Ehrenberg on the Colorado. He is a typical old-time Arizonan—with a heart as big as all outdoors and a wholesome philosophy of life.

If California and Arizona would fire the lawyers and let Ernest and me handle this long-standing feud over the water of the Colorado river, it would be settled overnight. We agree on the proposition that the limited water in the Colorado should be allotted to lands where it can be applied most economically from the standpoint of the farmer, and that state boundaries should have no place in the decision. For after all, productive land, cheap water and access to markets are the factors which determine the merit of irrigation farm lands. Whether they are located in Arizona, California, Utah or some other state is a secondary consideration.

\* \* \*

Hardly a week passes that I do not get a letter from a Desert reader asking where on the desert they can go out and gather

some flagstone for the rock garden or fireplace they are building.

I wish I could give them an easy answer—a spot where they could back the car up to a handy ledge and load the luggage compartment with all the nicely colored flagstone they could carry. I've been looking for such a place on my desert tramps for years.

But the stone isn't that plentiful. I have never found but two deposits. One of them was over on the Sahara desert where I was stationed during the war, and the other is located almost at the top of Kofa mountain in Yuma county—in terrain so rough it would take a burro two days to pack out 150 pounds of the rock.

There are other good deposits. But hard well-colored flagstone, like onyx and marble, has acquired considerable market value—and the good deposits which are easily accessible have long ago been staked out as mining claims by commercial operators.

However, there are still many places where flat slabs of sandstone are available. This stone is soft and the color is drab, yet much of it is being used by rock gardeners and barbecue builders. One of the best sources of this stone is the Borrego badlands along the west side of Salton sea. The material close to the road has been picked up, but the supply is still almost unlimited for those with light trucks to penetrate the rough terrain off the highway. There are similar deposits in a number of places in the Mojave desert.

I haven't given up the hope of finding a good flagstone deposit—and some of my prospector friends have promised to look for it too. If I ever locate good flagstone in an accessible place I am going to stake it out and file on it—just for the satisfaction it will give me to write and tell the rock gardeners to come and help themselves.

\* \* \*

Desert Magazine is now a lusty 10-year-old. With this issue we start our 11th year. For the staff of Desert these have been happy stimulating years—watching the circulation grow from 600 charter names to over 25,000 reader families.

It is a constant source of surprise to us the number of subscriptions which come in from states east of the Rocky mountains. We are now sending 3183 copies every month to mid-western and eastern states, with Illinois topping the list with 294. And there are 93 magazines going out each month to 20-odd foreign countries.

Within the next month or two we probably will have an announcement to make in connection with our plans for a new and much larger publishing plant, at a desert location more accessible to all the Southwestern transcontinental highway routes.

With larger quarters we will be able to expand the services of this institution to our readers, and to desert travelers generally. But there is no thought of making radical changes in the editorial pattern of the past 10 years. Desert will remain a source of information and inspiration to thoughtful people—those to whom Desert is a constant source of contact with the broad horizon of Nature's world, of human tolerance, and the art of balanced living.



### WHEN CATTLE WERE HERDED ON THE OLD SPANISH TRAIL

George E. Perkins has collected fugitive bits of the history of southern Nevada and the Old Spanish Trail and has published them, along with 36 of his own poems, under the title *PIONEERS OF THE WESTERN DESERT*. Much of the material comes from his personal knowledge or from interviews with pioneers who participated in the events described. He tells of cattle herding across the Mojave desert to Los Angeles in 1868, of old St. Thomas now under Lake Mead, of Daniel Bonelli and his ferry, of early explorers and settlers.

One of the most interesting chapters deals with the codes and customs of the Paiutes of southern Nevada. Perkins tells of a young Indian who burned an ancient Model T as a sacrifice instead of killing the two horses he had inherited. He needed the horses for farming and explained: "When all the Indians come riding up on horses in the next world, Old John will drive up in that Model T and be just as well off as any of them."

Perkin's poems deal largely with desert subjects. There are 64 pages of history, 36 pages of poetry and a number of photographic illustrations of historic interest.

Wetzel Publishing Company, Inc., Los Angeles, 1947. 103 pp., illustrations, maps on end papers. \$2.00.

### SHE HEARD THE PAPAGOS SING THEIR RELIGION

In addition to being a gatherer of facts, Ruth M. Underhill writes with charm. She has made the Papago Indians of southern Arizona—who call themselves the Desert People—her special field. Her books about them show the talents of a poet combined with the training of an anthropologist. The latest, *PAPAGO INDIAN RELIGION*, might have become a tabulation of facts and a mechanical translation of chants. Instead it is an entertaining combination of Papago myth, legend and poetry, with friendly observation into the Indian mind and way of life.

Before writing the story of their religion, Miss Underhill lived among the Papago for a total of 15 months during the years 1931-35. The book outlines the background of these people "who follow the water" to keep alive, whose pattern of life from before the time of Kino almost to the present remained unchanged.

Miss Underhill collected most of her

material on the Sells reservation, and the work was not always easy. The myths were supposed to be related only during the months from November to May, with the official narration, which was a communal ceremonial, on the four nights of the winter solstice. During that period the narrator was supposed to fast, avoiding meats, fat and salts. The listeners must sit upright all night, keep silent and stay awake. If even a child went to sleep, the narrator could break off his story for that night.

*PAPAGO INDIAN RELIGION* tells of ceremonies to bring rain, to promote growth and to aid in hunting and warfare. It tells of the salt pilgrimage, eagle killing, shamanism and healing, and modern ceremonial life. During the study, songs and ceremonials were recorded completely in text, with interlinear translation. But in this book, the author has given only a free translation, with the texts to be published later. The result is a book which, while containing all the essential information, remains entertaining reading for anyone interested in the Indians of the Southwest.

Columbia University Press, New York, 1946. 359 pps., appendix, bibliography, index. \$4.50.

### MINERALS AND METALS THAT HELPED WIN THE WAR

From aluminum through zirconium ore, *STRATEGIC MINERALS* by John B. DeMille discusses the uses and properties of 76 minerals and metals essential to modern civilization. DeMille is a consult-

ing geologist and senior engineer with the mining section of the Reconstruction Finance corporation. Most of his work on the book appears to have been done during the war period, and his interest is centered on war uses, regulations and supplies of the minerals and metals. The book has an extensive bibliography, a review of government regulations affecting procurement and production, and a discussion of stockpile directives.

Each mineral or metal has a separate section in the new book and these in turn are divided into reviews of properties, uses, domestic sources and prices. Under properties are listed the atomic number, atomic weight, melting point, boiling point and density of most of the metals and the color, luster, hardness, specific gravity and other applicable facts regarding the ores. Under sources of supply, leading mines and deposits in this country and abroad are listed and the amounts mined tabulated.

*STRATEGIC MINERALS* is a technical book written in an extremely factual style, but it is easy to read and understand. There is much in it that will interest the average reader or rockhound, particularly in the sections on uses, where an attempt is made to outline the war-born as well as the familiar purposes for which such well-known items as copper and unfamiliar ones as monazite sand are used.

McGraw-Hill Book Company, New York, 1947. 626 pp., index, bibliography. \$7.50.

Ruth Underhill's study of the Pueblos, *First Penthouse Dwellers of America*, out of print during the war, has been published in a new edition by the Laboratory of Anthropology, Santa Fe, New Mexico. The book, designed by Merle Armitage, is priced at \$4.25. Dr. Underhill, for 11 years anthropologist in the Indian service, is the author of many publications on the Indians.

This Book Has Long Been Out of Print . . .

## Indians' Secrets of Health

By GEORGE WHARTON JAMES

Out of close personal acquaintance with the tribesmen of the Southwest the author of this volume has gleaned the underlying reasons why the Indians, living close to Nature, kept their bodies well and robust without the help of medical science. Only a limited number of these books are still available.

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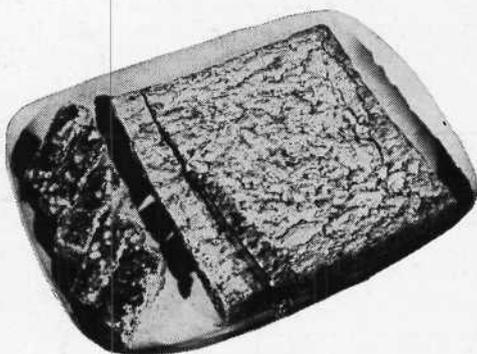


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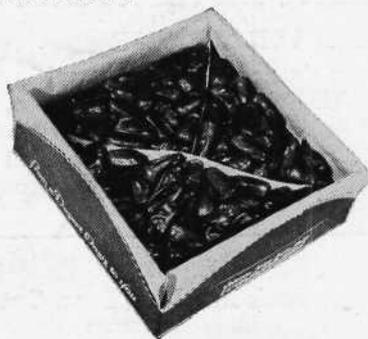


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