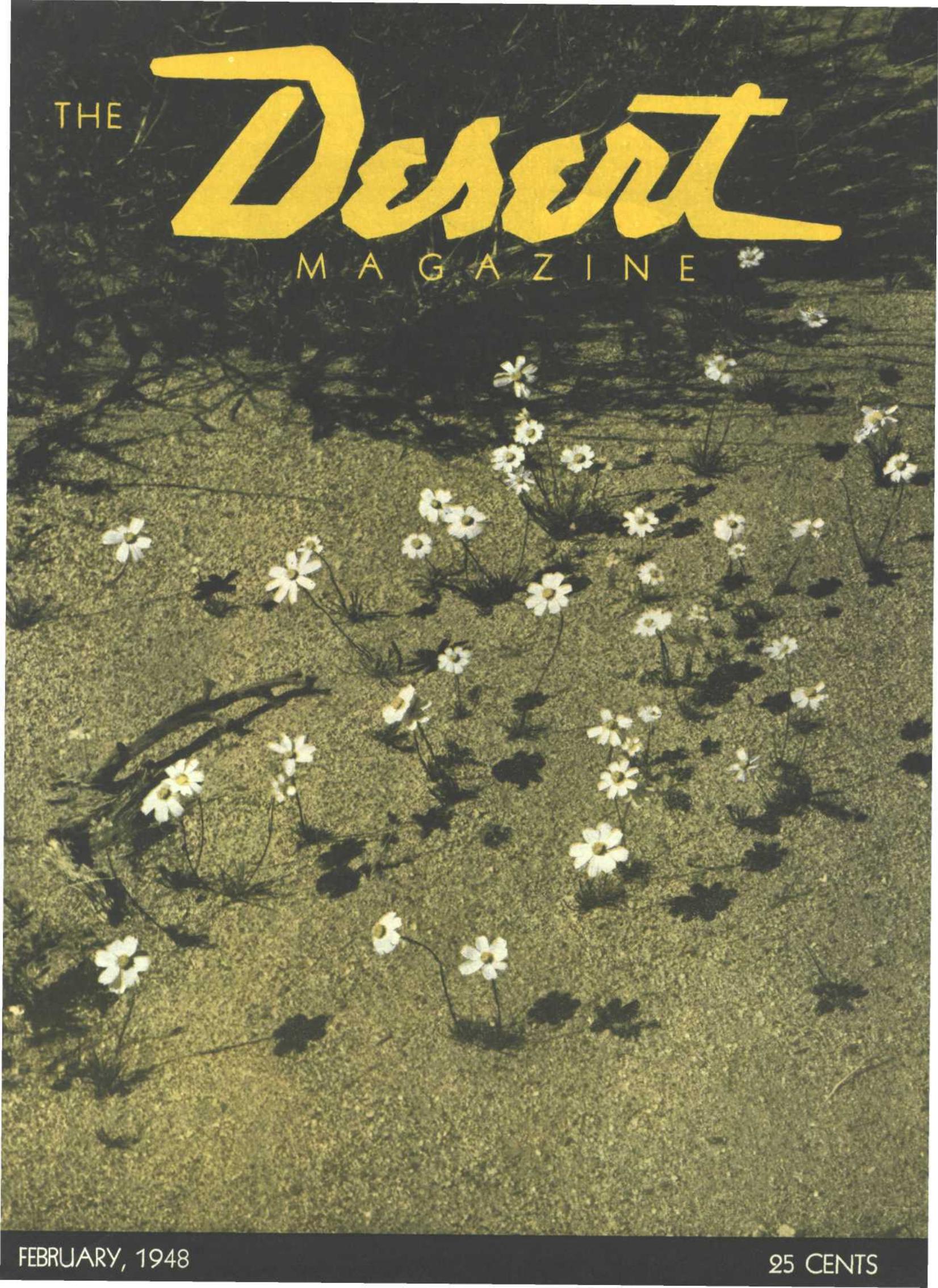


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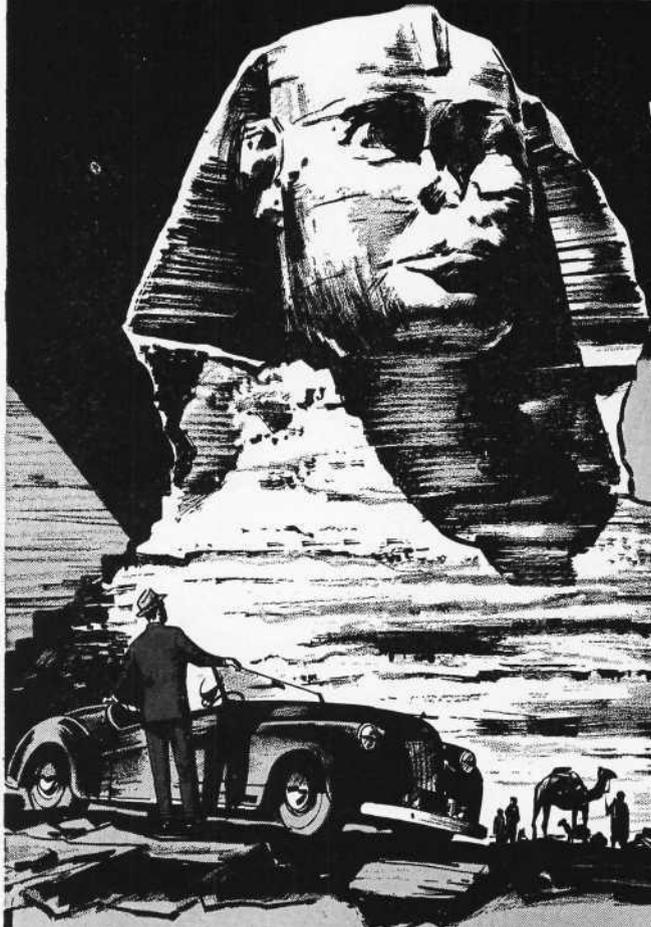


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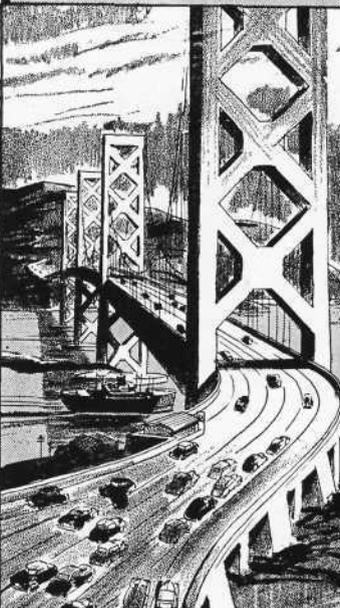
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Desert Calendar

- Jan. 28-Feb. 3—Open golf tournament, Tucson, Arizona.
- Jan. 31-Feb. 1—Sierra club official hike, Rabbit peak, Santa Rosa mountains. Meet at Borrego, California. Bill Henderson, leader.
- Jan. 31-Feb. 1—Second annual Thunderbird Ski meet, Arizona Snow bowl, Flagstaff, Arizona.
- Feb. 6-7—First annual Carrot Festival of Imperial Valley, Holtville, Calif.
- Feb. 7-8—Sierra club, All-American canal camp and desert hike in Oro-copia - Chocolate mountains area. Camp in desert wash about four miles from Mecca. Jim Gorin and Russell Hubbard, leaders.
- Feb. 8—Snow Basin giant Slalom, Snow Basin, Utah.
- Feb. 9—Intermountain jumping championships, Ecker Hill, Utah.
- Feb. 10-15—Livestock show, Tucson, Arizona.
- Feb. 11-15—Riverside County Fair and Date Festival, Indio, California.
- Feb. 11-15—Pima County fair, Tucson, Arizona.
- Feb. 14-15—Third annual championship Silver Spur rodeo, sponsored by Junior chamber of commerce, Tucson, Arizona.
- Feb. 15—Intermountain invitational giant slalom, Ephraim canyon, Ephraim, Utah.
- Feb. 20-22—Annual Ski Carnival, Arizona Snow Bowl, Flagstaff, Ariz.
- Feb. 20-23—23rd annual Fiesta de Los Vaqueros, Tucson, Arizona.
- Feb. 21-22—University of Nevada Winter Carnival and Pacific Northwest Intercollegiate meet, Mt. Rose, Nev.
- Feb. 22—Lecture, "National Parks and Monuments of the Southwest" by Frank A. Schilling, Southwest museum, Highland Park, Los Angeles, California.
- Feb. 22—Intermountain cross-country championships at Brighton, Utah.
- Feb. 28-29—Four-way invitational winter sports meet, Provo, Utah.
- Feb. 28-March 7—Imperial County fair, County fair grounds, Imperial, California.
- Feb. 29—Annual Dons club Trek to Superstition Mountains, from Phoenix, Arizona.
- Feb. 29—"The Jarabe Dancers," lecture, Southwest Museum, Highland Park, Los Angeles, California.
- Each Saturday until June 1 — Palm Springs Desert Breakfast rides, with guests of all Palm Springs, California, hotels participating.
- Each Saturday until June 1 — Palm Springs Sunfun hikes to study plant life and geology of Colorado desert and mountain canyons. Desert Museum naturalists give explanatory talks. Palm Springs, California.



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The Desert Magazine is published monthly by the Desert Press, Inc., 636 State Street, El Centro, California. Entered as second class matter October 11, 1937, at the post office at El Centro, California, under the Act of March 3, 1879. Title registered No. 358865 in U. S. Patent Office, and contents copyrighted 1948 by the Desert Press, Inc. Permission to reproduce contents must be secured from the editor in writing.

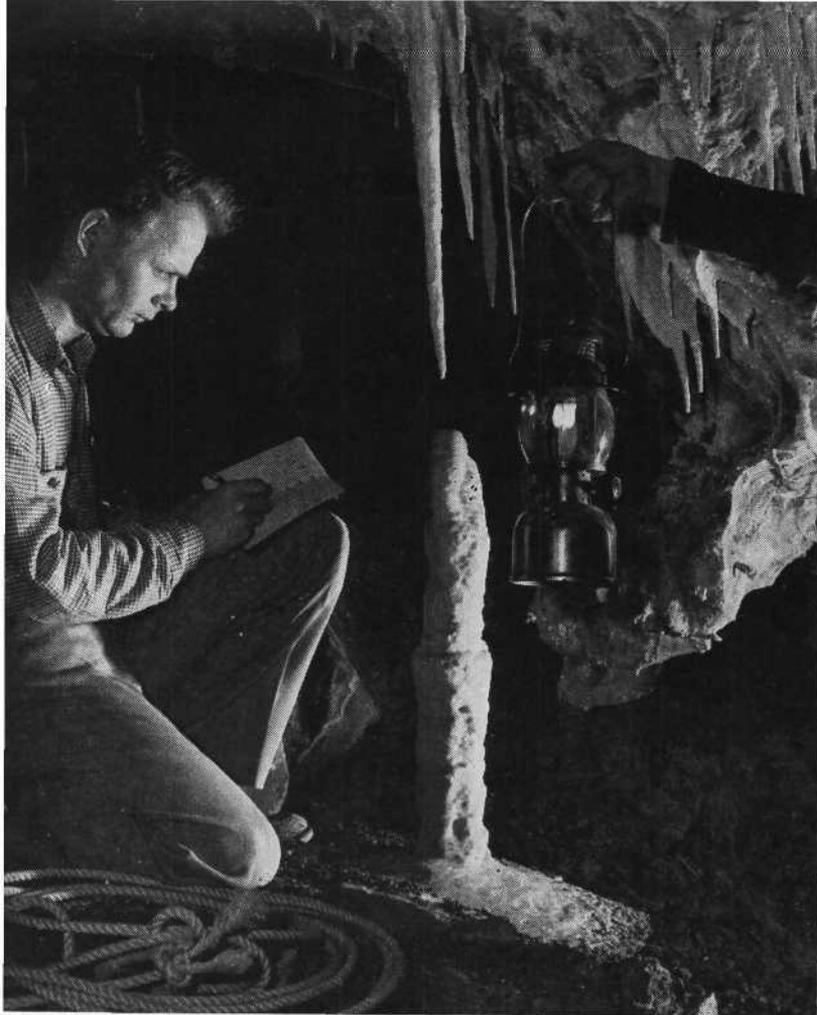
RANDALL HENDERSON, Editor. BESS STACY, Business Manager.
HAROLD and LUCILE WEIGHT, Associate Editors.

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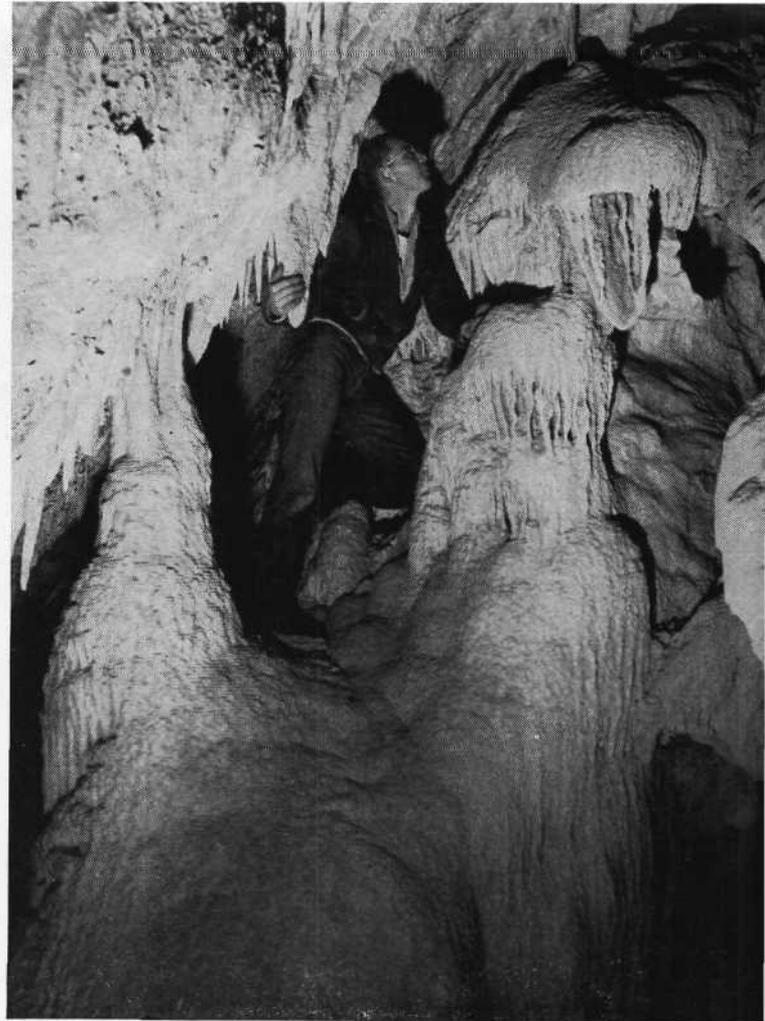
SUBSCRIPTION RATES
One Year . . . \$3.00 Two Years . . . \$5.00
Canadian subscriptions 25c extra, foreign 50c extra.

Subscriptions to Army personnel outside U.S.A. must be mailed in conformity with P.O.D. Order No. 19687.

Address correspondence to Desert Magazine, 636 State Street, El Centro, California.



The author, an amateur geologist and rock collector, spent two days in the cavern on one trip, taking measurements and notes.



Dick Throp made a bazardous climb to reach this little niche in one of the calcium-lined rooms deep in the heart of the mountain.

Operation Underground!

Curiosity led two Tucson deer-hunters to crawl through a tiny hole in the side of Catalina mountains—and what they found was a beautiful cavern lined with stalactites and stalagmites. This cave in Peppersauce canyon has not yet been fully explored, but here are some glimpses of its exquisite formations, given by a writer who has spent many days in its depths.

By JOHN PRISER

Photos by Herb Paustian and Bob Holmes for Western Ways

WHEN Herb Paustian suggested that I go with him in search of a little-known cave in the Catalina mountains north of Tucson, Arizona, I needed no second invitation. Herb is a professional photographer and I am a rock collector—and the prospect of exploring a new cave held great possibilities for both of us.

According to the meager information we had, hunters in the Catalina mountains had come upon a small cave opening partially concealed by brush and rocks. Such openings are not unusual in the Catalinas.

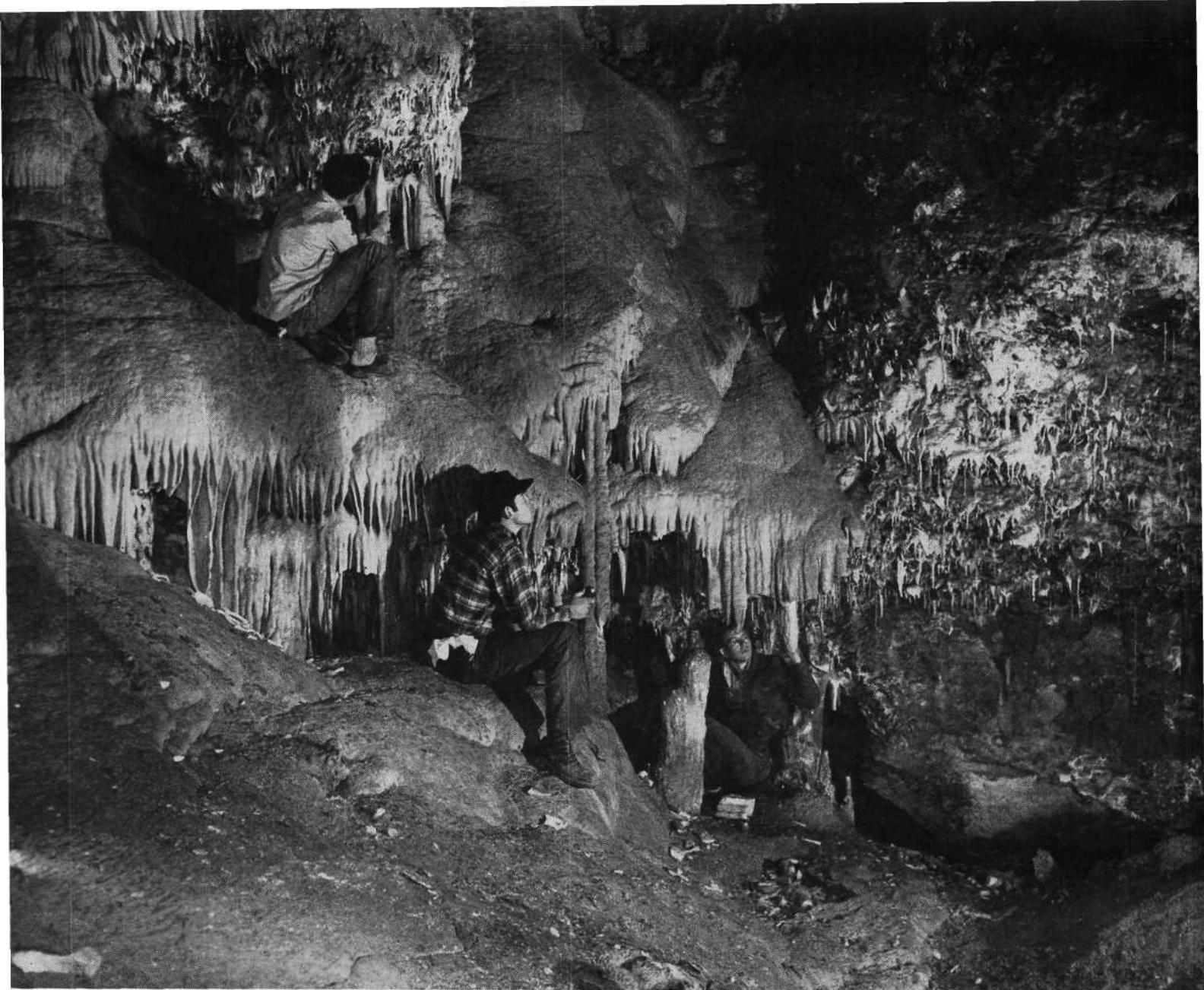
Charles Yerington and Dick Throp, on a deer-hunting trip, had wriggled their way along the little tunnel to where it emerged in a roomy cavity. Flashing their lights around the walls they spied another opening—the entrance to another tun-

nel. Crawling along this a distance of 30 feet they found themselves in a much larger room. Here the beauty of the cavern began to unfold. From the ceiling hung great stalactites, and in the shadowy background were turrets and domes and castles—the exquisite carving accomplished by Nature over a long period of years.

Returning to Tucson, the hunters told friends about the discovery and Herb became enthusiastic over a possible trip to the cave. "There'll be some fine shots for my camera," he said, "and you'll find new specimens for your rock collections. There is said to be a deep waterhole at the end of the cavern."

The following Sunday we drove north from Tucson on Route 80, through Oracle on Route 77, past the Three C ranch, then two and one-half miles beyond Peppersauce canyon. It was just daylight when we parked our car near a large stone bridge. From here the cave was 100 yards upstream on the north side of the wash, 4450 feet above sea level. Charles and Dick led us through the tunnel. Herb and I followed with lights and tools. Bob Holmes and Jim Bryant, co-workers of Herb's, completed the party, carrying photographic supplies and a 50-foot rope.

After crawling on hands and knees for about five feet, we reached the first small room. We lit our lanterns and adjusted our gear for the next crawl down a narrow, sloping 30-foot tunnel. At the end of the passageway, we shed our packs of food, water, extra flash bulbs and coats and played our lights about the room. We gasped in amazement at the white-coated walls and ceiling and at the long glistening stalactites.



As the party penetrated deeper into the cavern each new formation seemed lovelier than the previous ones. It does not require a very imaginative mind to see a tinsel Christmas tree on the right, and snow-laden evergreen on the left.

I examined the walls and found the whiteness was due to heavy deposits of calcium carbonate which resulted from the slow dripping and evaporation of mineral-laden water. The stalactites, too, were of the same composition. In other parts of the cave, where the operation was in more advanced stages, huge spikey stalagmites rose from the floor beneath the stalactites. Many of these formations are still "growing"—that is, water still drips slowly from the end of the stalactites, settling on the tip of the stalagmites below.

We thought perhaps the age of the cave might be determined by the size of these formations, but later Dr. McKee, head of the department of geology at the University of Arizona, assured me that size had no bearing. The rate of evaporation varies according to the circulation of air through the cave and the amount of mineral in the water. Recently-opened mine shafts will sometimes contain fairly large stalactites after 10 or 20 years. Where conditions are not so favorable, many years are required for even a diminutive stalactite to form. It seems safe to assume, however, that our cave is many centuries old, for some of the deposits we found were mammoth and the evaporation process at best is extremely slow.

We noticed a current of air moving toward the entrance as we headed into the next room—which was even larger. Here the formations were gigantic and the farther we proceeded the more

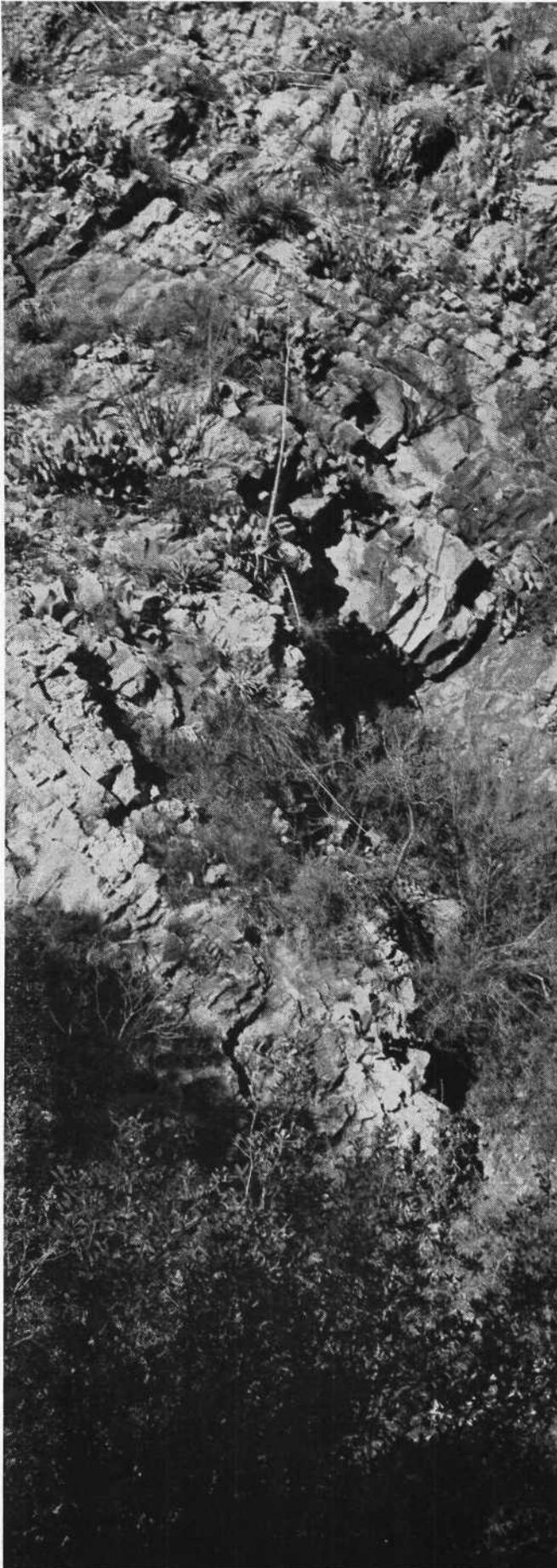
amazing the sights became. My companions were stopping frequently to adjust their photographic equipment, which gave me time to search for rocks. I held a faint hope that we might uncover some sign of former Indian occupancy or even recent animal life, but was rewarded only by a few wildcat tracks and some bat dung in one of the rooms.

While I was in a corner measuring one of the largest stalagmites, Herb called, "Hey, fellows! Get the lights ready. Here's a bridge."

I hurried over to find the others standing under a huge natural rock arch about eight feet from the ground. Where we stood then a stream of water probably had once rushed through the cave, carving a large hole in this deposit of solid limestone to form a bridge.

Leaving the photographers to shoot the bridge from all angles, I went ahead, eager to find something more—stones, relics, skeletons.

The next room I entered contained some of the most spectacular formations of all. The room itself vaguely resembled a tabernacle. The ceiling sloped into the walls and curved toward the floor. Pipe-organ stalactites hung 30 feet overhead and from the walls long, ribbon-like fins loomed out, gracefully draped at the ends. One huge cluster, composed of several small stalactites grown together, hung down from the center like a chandelier.



The entrance of the cave, well camouflaged in the center of the picture, is about 30 feet above the floor of the arroyo.

It was in this room that I came upon the bat dung. This puzzled me, for it did not seem likely that bats would enter from the low opening we had used. That fact, plus the current of air we had all noticed, indicated that some other opening lay at the end or along one of the passages we had not penetrated.

Absorbed in probing one of these little corridors, I hadn't noticed the others pass ahead until Bob shouted, "Come over here and have a look. Where do you suppose this long shaft goes?"

The others were casting their lantern lights down a long tunnel that sloped at a 45-degree angle to water level. The smooth surface was in such a contrast to the boulders and jagged floors we had passed over that we began to speculate. A shift in the limestone strata couldn't have left the smooth round crevice. We concluded that only the force of running water could have carved the shaft.

Nearing the water hole, which was about 30 feet in diameter, we had to pick our way carefully. The last room was muddy and wet and the ground showed signs of a recent cave-in. Edging our way out to the end of the slippery ledge, we peered down and back under the ledge at the pool. As it was too far to jump, we used the rope to lower ourselves. Again we had to tread carefully on the mud, as the floor sloped steeply to the water and on down 20 feet below water level. We took turns being lowered by our heels to reach down for as cool and clear a drink of water as we ever tasted. On a later trip my companions tried swimming in the water hole, and found the water so cold that steam enveloped their bodies when they emerged from the pool. Air temperature here, as it was throughout the cave, was 70 degrees.

On this first excursion, we were inside the pitch-black interior for over nine hours. When at last we emerged, the dazzling light from the late afternoon sun nearly blinded us. Tired, dirty and scratched from the rough rocks, we piled in the car for the trip back to Tucson.

There I learned that the land surrounding the cave belongs to the Coronado national forest on lease to the Three C ranch for grazing. The probability of the Peppersauce canyon's cave being commercially exploited is slight because of larger and more accessible tourist-attracting caves in this part of the Southwest. Local publicity, however, has drawn the attention of many young explorers who consider it a lark to inch through the long tunnel at the mouth and scramble over rocks and through crevices down long passageways hundreds of feet to the pools of water at the end.

But this is not the end of the cave story. I have been back six times since we first started to explore and still haven't seen it all. My map shows seven known passageways still to be explored. The flow of air along the main passage toward the entrance also indicates an entrance that has not been discovered.

Making the map took two days of work inside the cave. With a U. S. Army engineer's compass, a sight level and a 50-foot measuring tape, a large scale map of each room and passageway was made on cross section paper with details as to compass bearings, length, height, slope. Later the 22 detailed maps were combined on a master drawing with explanatory notes added.

Dr. Carpenter, head of the Department of Entomology at Harvard university, was vacationing in Tucson last summer when he heard of the cave and asked me to guide him through. We planned only a short stay because, the scientist explained, insects would be found only within 20 or 30 feet from the opening. To Dr. Carpenter's surprise, we found an odd species of spider and cave crickets as far inside as 200 feet from the entrance.

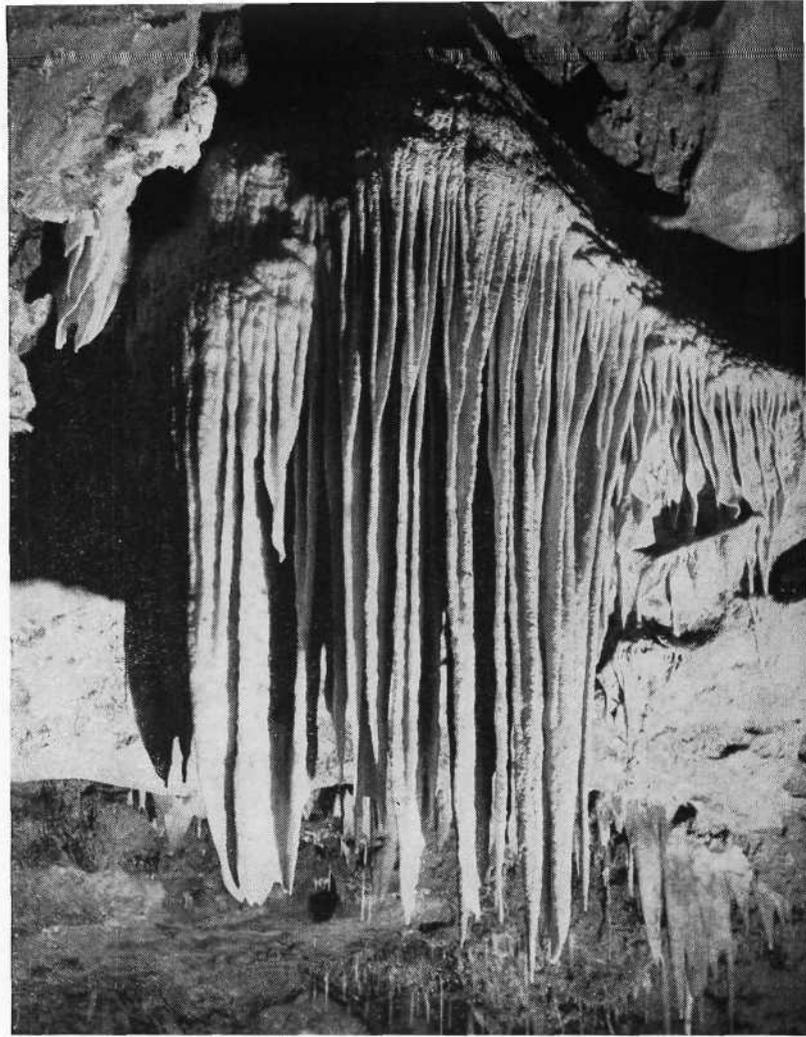
That day 50 or 60 different insects were taken from the cave. Many were extra large specimens of blind cave crickets with long jumping legs and no eyes, black dirt beetles, small flies, moths, spiders and others. Dr. Carpenter explained that the cave crickets are one of the mysteries of science. They are found in many caves in all parts of the world, yet they cannot travel from one cave to another. This type of cricket would die with-

out moisture, moderate temperature and protective darkness. Obviously it could not travel across hundreds of miles of desert from one cave to another. Even if the crickets had been isolated in their own vicinity long before the desert took shape, it is a scientific marvel that cave crickets are identical the world over even today.

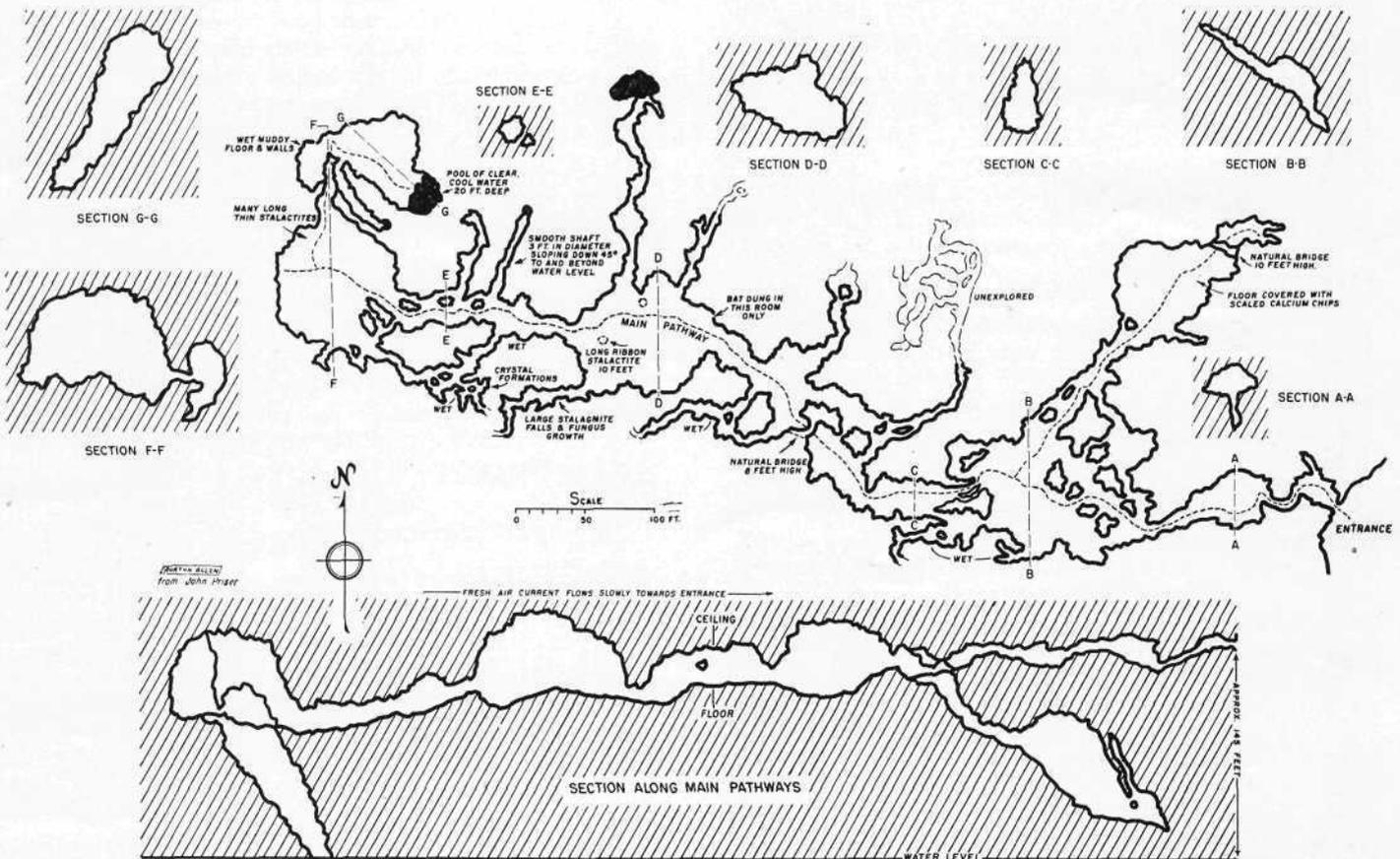
You never know what you'll find next in a cave. Although our explorations yielded no gems of value, or evidence of Indian occupancy, my third trip was especially rewarding. Deep inside the cave I discovered some unusual-shaped crystals in a wet section previously overlooked. Protruding upward from the floor of a very narrow crevice were sharp pointed pure white crystals of calcium. They were neither stalagmites or stalactites. Each point was similar to all the other points—a three sided, straight edged pattern of crystalline form. They were definitely the result of precipitation, not evaporation.

Explorers of this cave—or any cave—may well take a tip or two from veterans. Ample light is one of the first requisites. The Peppersauce Canyon cave is very irregular, and it would be almost impossible for anyone to get out safely without light. A good flashlight with extra batteries is the most reliable source, although a carbide miner's lamp is also excellent if you know how to handle one.

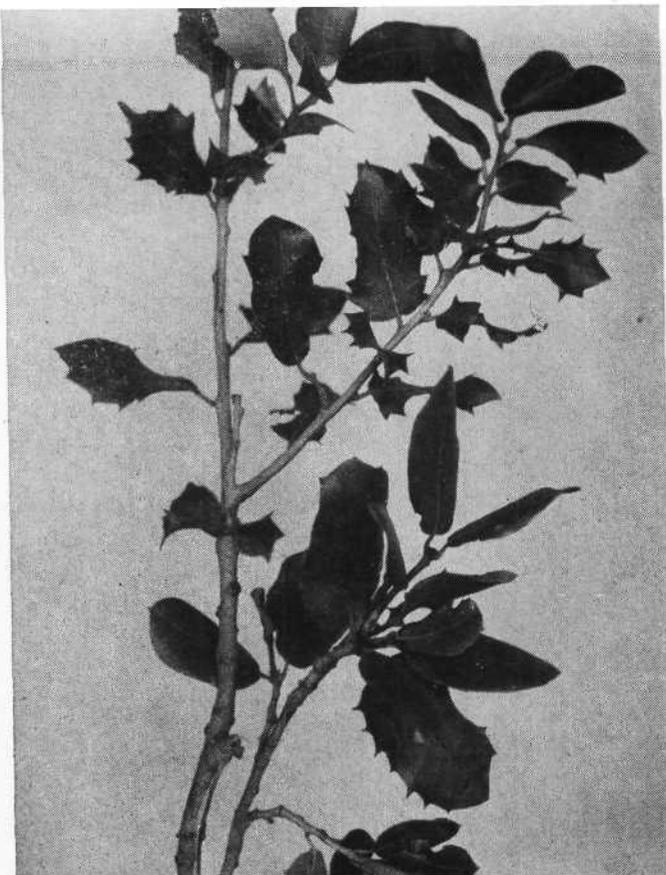
The science of cave exploring is known as speleology. Anybody who explores the underground caverns, whether just for the thrill of a new adventure or in search of a scientific horizon, may call himself a speleologist. Many may find hidden treasures, but the surest reward is a chance for good exercise and a better understanding of geology. Banded together, explorers of caves have organized the National Speleological society with headquarters in Washington, D. C. Bulletins are sent regularly to members showing the location of newly discovered caves and telling stories of the experiences of member speleologists all over the world.



Close-up showing one of the huge fin-like stalactites.



The cave is 12 miles southeast of Oracle, Arizona, on the old road to Mt. Lemmon, 2½ miles south of Peppersauce canyon and 100 yards west of a large stone bridge. Elevation is 4450 feet. Temperature ranges from 68 to 70 degrees throughout. Mapped by John Priser.



The Canyon oak, found in the Pinyon pine belt of the higher desert ranges, varies in size from a shrub to a 60-foot tree. Both toothed and entire leaves are seen on the branch pictured here. Beal photo.

Oak Trees on Desert Mountains

By MARY BEAL

ALTHOUGH oak trees belong to one of the most important and widely distributed genera in the northern hemisphere, it is surprising to find so many species native to the desert mountains.

The background of the oak's distinction reaches to antiquity when it was prominent in legend and mythological lore. The Druids held it sacred, together with the mistletoe growing on its branches. Oak groves were their temples of worship. The huge Yule log burned during the ancient Yule festival was always of oak, brought in on Christmas Eve with special ceremony.

Its religious significance has faded but the oak's importance continues in its useful contributions to domestic life and industrial development. It supplies valuable timber, the hard close-grained wood having superior durability and strength. Its acorns provide an excellent food for both wild and domestic animals and were a staple for the Indian, being rich in fats and oils. To prepare them for human consumption, the Indian women ground them in a stone mortar to a powdery meal, leaching out the tannin by filtering water through the meal until no bitterness remained. It was eaten as mush, bread or soup. Charles Francis Saunders in his *Useful Wild Plants* gives an interesting account of this preparation and of the gathering of the autumn harvest of acorns, celebrated by ceremonial dances and songs.

The Western oaks have marked differences from those of the East and Middle West but the acorn, with its nut set in a scaly cup, identifies them as *Quercus*, the botanical label of the genus. The desert oak that I know best is the Canyon oak, Golden-Cup oak, or Maul oak.

Quercus chrysolopsis

This mountain Live oak in favorable situations is an imposingly handsome tree, wide-domed and symmetrical. To see it you must follow up the canyons or climb the slopes far up into the Pinyon belt of the higher desert mountain ranges. It is extremely variable in habit of growth, shape of leaf and acorns, and adapts itself to varied conditions of location, being found almost throughout California from the coastal to desert ranges. Sometimes it takes a shrubby, or irregular form; often it is a well-shaped tree 20 to 60 feet high, with a short trunk and horizontal branches that form a broad, rounding, densely-leafy crown. Young twigs are hoary with soft woolly hairs and the new leaves are bronzy or light yellow-green, fuzzy beneath. The thick leathery older leaves, 1 to 2 inches long, are blue-green and polished above, paler and felted underneath with yellowish powdery hairs. The leaf shape varies from broad ovate to oblanceolate, with all gradations between, the margin entire or sharply-toothed, often on the same twig. The slender yellowish staminate catkins droop from the axils of the season's growth, the pistillate flowers solitary or few in a cluster. The acorns mature the second autumn, the nut being ovate, or oblong, about one inch long, and the broad, thick cup fits over it like a fuzzy yellow turban. The wood is one of the most valuable of the western oaks, used chiefly for agricultural implements and wagons.

In the Providence mountains you reach the first oaks at about 6000 feet where the canyon walls are steep. There the trees are inclined to be rather shrubby or irregular. Farther up where the walls spread out into slopes reaching to the top ridges and peaks, the oaks find better footing and more head-room, developing into splendid domes of bright green leafage. I'll never forget my first sight of one of those tree masterpieces, near the top of a long ridge far above me. I couldn't believe my eyes, but it loomed up conspicuously long before I reached the heights of the first outpost of the Canyon oaks. One canyon that slashes into the heart of the range, bends around between the high peaks and broadens into a wide bowl where the oaks are dominant, both shrubby and more stately trees. Its reported locations include northern Mexico and Arizona.

Similar to some of the phases of the Canyon oak, and formerly listed as a variety of it, is the Palmer oak,

Quercus palmeri

An evergreen, rigidly-branched small tree or shrub 6 to 15 feet high, the stiff, leathery, grey-green leaves elliptic to roundish, spinose-toothed and undulate, paler and hairy-felted beneath, an inch more or less long. The acorn's cup is shallow and thinnish but covered with a dense golden wool, the ovoid nut tapering to a point. Locally abundant, often forming thickets, from the chaparral hillsides up to 7000 feet in Arizona, the ranges bordering the Colorado desert on the west, and into Lower California. Arizona has some noble oak forests, especially in the southeastern part. The species that dominates those open park-like forests is the Emory oak,

Quercus emoryi

Very drouth-resistant, the Blackjack or Bellota (everyday names of Emory oak) grows up to 50 feet, a beautiful upright tree with one main dark-barked trunk and rather small branches spreading out horizontally, or occasionally shrubby. The sharp-pointed leaves are green above and below, broadly-lanceolate, with a few teeth at apex or entire. The acorns mature in 2 years. The Bellota extends east through southern New Mexico into western Texas, and northern Mexico. Also common in the same general areas is another large evergreen oak, the Arizona White oak.

Quercus arizonica

Usually a shapely tree, up to 60 feet high, with light-grey, ridged bark and crooked branches, the trunk sometimes 3 feet in diameter, sometimes a large shrub. The dull leaves are oblanceolate to obovate, cordate at base, the veins prominent beneath. The acorns mature the first season.



Norman Nevills and his lining crew lowered the boats along the edge of Lava falls with ropes, while the passengers portaged the cargoes on shore.

Grand Canyon Voyage . . .

At Lava Falls the Nevills river expedition faced its most hazardous water—but passage was made by portaging the cargo and lining the boats along the edge of the rapids. Then after conquering the most treacherous obstacle at this stage of the river, one of the boats nearly capsized in a little riffle below. This is the concluding chapter of Randall Henderson's story of his voyage through Grand Canyon with the 1947 Nevills expedition.

By RANDALL HENDERSON

THE ENTRANCE to Havasu canyon is a narrow slit in the Grand Canyon sidewall. The turquoise blue water which enters the Colorado river in the Havasu tributary was deep enough for our boats, but so narrow we had difficulty using the oars. But the current was sluggish and we were able to propel ourselves 150 feet back into the crevice, to a point where the cliffs open up and the stream is bordered by a grassy floor wide enough for our camp.

This is a lovely spot. The lower sidewalls are coated with lime. Cascading down between them, with a green border

of grass and water cress is one of the most colorful streams in western America. In quiet pools the water is green, and then it tumbles over a miniature waterfall and is churned to a milky turquoise blue.

A small tribe of Indians—the Supai—live seven miles upstream. But they seldom come to the river, and there is no trail. I hiked from Supai village to the Colorado with 15 members of the Sierra club in 1942. We waded much of the way, and clawed our way through dense thickets the remainder.

With a cascade of blue-green water at our feet, a narrow slit of sky overhead, and

sidewalls that blend from pure white to dark brown and grey between, this truly is a colorful setting, and we could have enjoyed this camp for days if our schedule had permitted.

We had rainbow trout for supper—the fish Otis Marston caught that morning at Tapeats creek. But the perishable items in our commissary were gone. We left Phantom ranch with many loaves of bread, but the last of them had turned moldy. The remaining bacon, cheese and eggs were hardly edible. But while some items in our food stock were low, we still had an ample supply of others.

Major Powell wrote that at this point his rations were reduced to a little musty flour, some dried apples, and an ample supply of coffee. In our boats were many cans of canned ham, fruit and fruit juice, biscuit and flapjack flour, cream of wheat, potatoes, peanut butter, pork and beans, pickles, tomatoes and milk and coffee and tea. Despite the moldy bread we were liv-

ing in luxury compared with those early Colorado river navigators.

Sleeping space was rather limited here, but each of us found a ledge or a grassy corner big enough for a bedroll, and instead of the roar of rapids we had the tinkling music of Havasu creek as our bedtime serenade.

Most members of the party had sleeping bags. At the last minute before leaving Lee's ferry I discarded mine, and I never

had occasion to regret it. My bedroll was an air mattress, a blanket, and a light waterproof tarpaulin, and that was enough. Only on rare occasions on a summertime trip through Grand Canyon is it cool enough to crawl inside a sleeping bag. They are of service only as padding—and an air mattress does the job much better.

We were up at six next morning and after a breakfast of buckwheat cakes, spent three hours climbing the walls and exploring the lower Havasu. Norman and Joe climbed to a high point upstream from the Havasu-Colorado junction where five well-constructed rock cairns could be seen, but found no records in them. Some one dared Norman to jump over Havasu creek from sidewall to sidewall at the top of the narrow slot through which we had brought the boats, 40 feet above the stream. Before the bantering had ended, Norman, Garth, Al and Kent all jumped the 10 or 12-foot span. Then Joe Jr. jumped from a ledge 30 feet up on the sidewall to the creek below and swam out.

But there were more rapids ahead and

at 10:10 we departed reluctantly from our little shangri-la in Havasu canyon. We ran Havasu and 164-Mile rapids without stopping, and then had lunch on a bar above Cataract creek. Joe Jr. ran the *Wen* through Stairway creek rapids, all the boats carrying full passenger loads. We ran Red Slide rapids easily and after navigating six heavy riffles, passed a huge plug of lava out in the stream, known as Vulcan's Forge.

One of the questions I had intended to ask Norman at the end of the trip was which, in his opinion, was the roughest rapid on this voyage through the canyon. But when we came to Lava Falls I knew the answer. At this stage of the river, Lava Falls is the daddy of them all.

According to the geological map the river drops 25 feet in a half mile, which is less than at some of the other rapids. But as Norman put it, "It isn't the depth of the fall that counts, but the manner of doing it." In most of the rapids Ol' Man River rolls over submerged boulders, creating a hump on the surface of the water

and a treacherous hole below each of them. But at Lava the river collides with its buried blocks of lava. Every wave is an explosion wave, sending a spray high in the air.

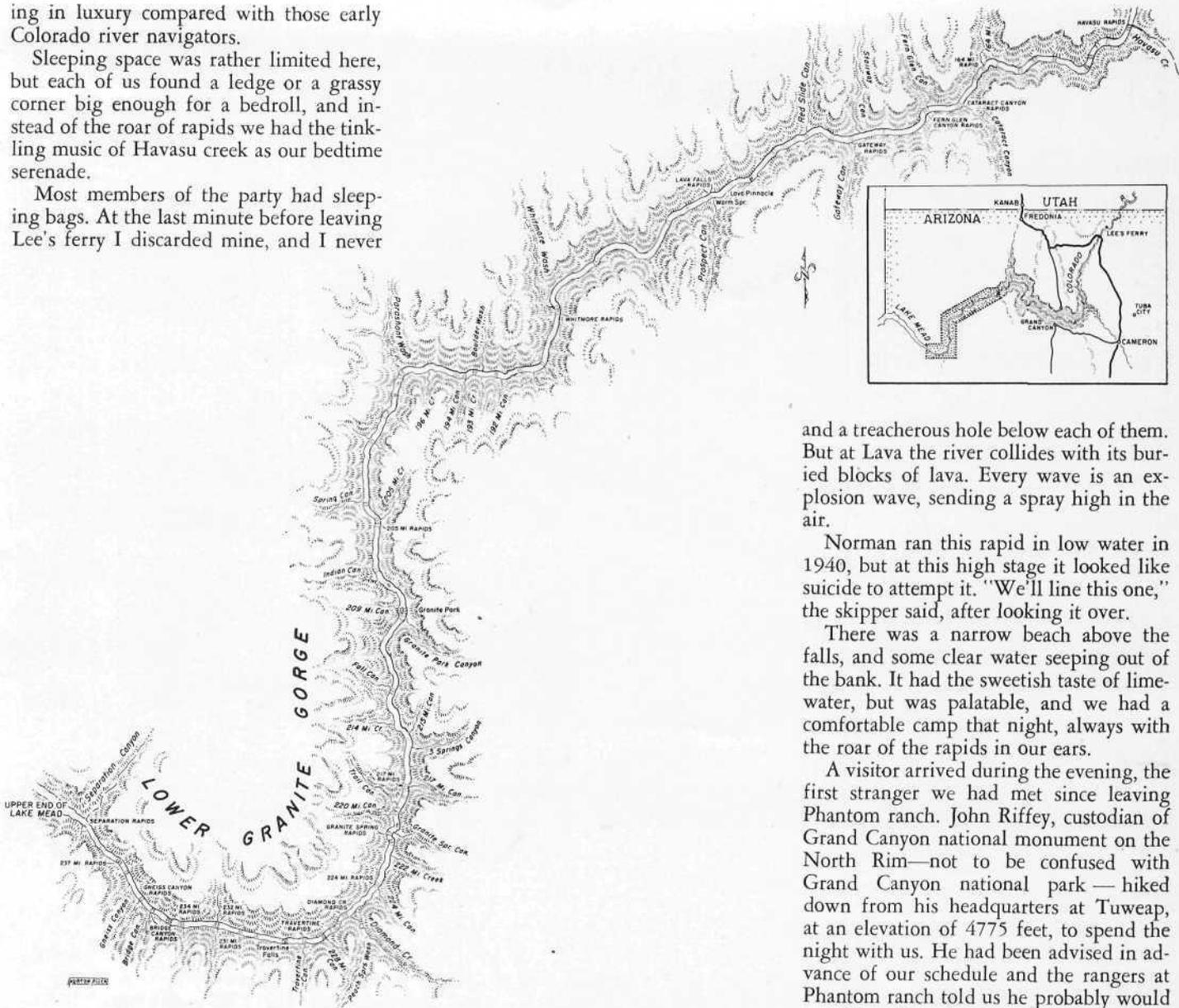
Norman ran this rapid in low water in 1940, but at this high stage it looked like suicide to attempt it. "We'll line this one," the skipper said, after looking it over.

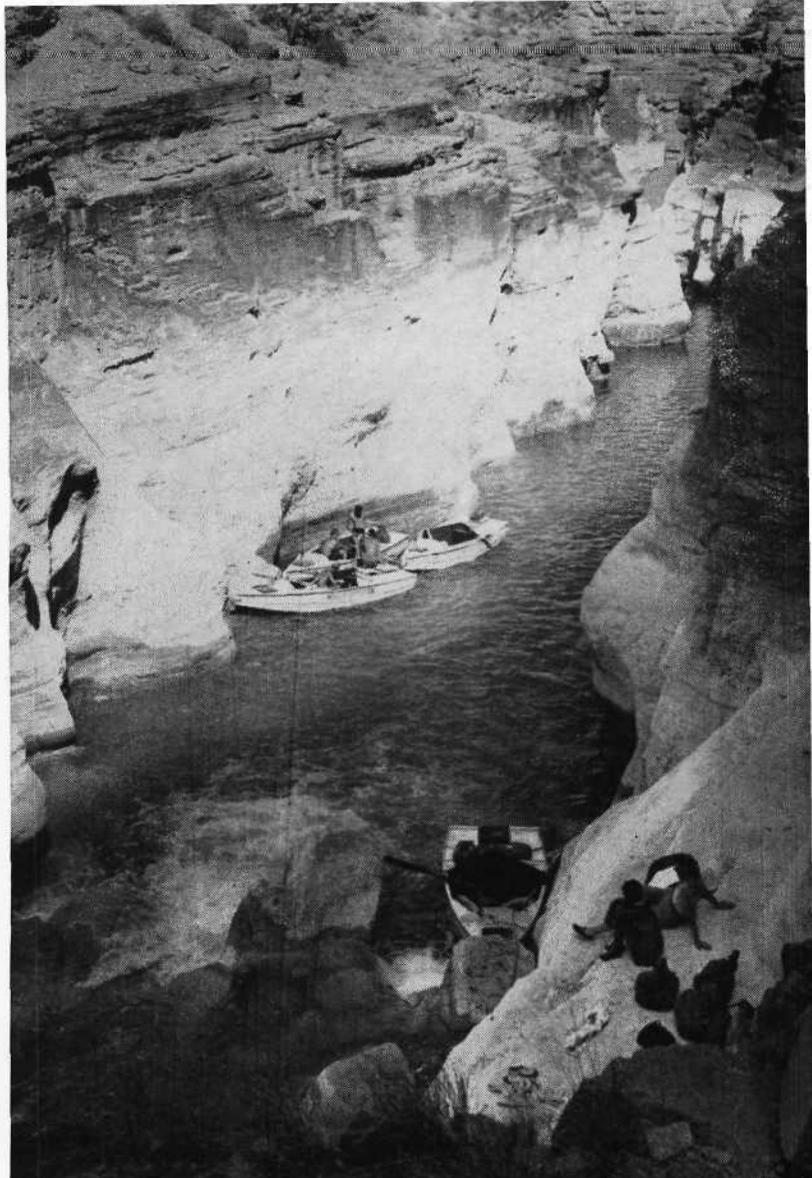
There was a narrow beach above the falls, and some clear water seeping out of the bank. It had the sweetish taste of lime-water, but was palatable, and we had a comfortable camp that night, always with the roar of the rapids in our ears.

A visitor arrived during the evening, the first stranger we had met since leaving Phantom ranch. John Riffey, custodian of Grand Canyon national monument on the North Rim—not to be confused with Grand Canyon national park—hiked down from his headquarters at Tuweap, at an elevation of 4775 feet, to spend the night with us. He had been advised in advance of our schedule and the rangers at Phantom ranch told us he probably would be with us for a few hours.

We were camped on the south shore, but when we saw him making his way down over the lava talus on the north side just before dusk, Norman rowed across and brought him to camp. From him we learned the geological history of this sector of Grand Canyon. The north wall here is solid lava, which according to geologists, probably came from a now extinct crater on the North Rim known as Vulcan's Throne. Three times in geological history Vulcan has erupted and sent a great stream of molten rock into the gorge at this point. One can imagine the thunderous hiss of steam and the great clouds of vapor which filled the skies when those streams and avalanches of hot lava poured over the rim and into the water of the Colorado.

At each of those periods the canyon was partially plugged, and reservoirs created above. But eventually the scouring action of the silt-laden water cut its way through the obstacle. The action was hastened by the fact that Nature doesn't take as much pains with its lava dams as does a 20th





Where the voyagers camped overnight beside the blue-green water near the mouth of Havasu creek. The white coating on the lower sidewalls is lime deposited by the stream.

century engineer when he creates a structure such as Hoover dam. These natural dikes of lava lacked the deep bedrock foundations and the recessed abutments of a man-made structure. And as the lava hardened it cracked and left crevices through which the water seeped, and hastened the process of destruction. We saw blocks of prehistoric lava clinging to the granite and limestone and sandstone walls during the remainder of the trip all the way to Lake Mead.

But Nature has not yet finished the job of cutting a smooth floor for the river at Lava Falls. And the side canyons are still bringing in storm debris to block the channel.

We slept on the beach that night, and next morning Lava Falls looked as ugly as it had the day before. And yet, despite the chaos of mighty waves out there in mid-stream, I believe that if Norman had taken a vote of the passengers and boatmen as to whether it should be run, or the boats lined down the side, the decision would have been almost unanimous for the ride through. Such was the confidence the members of this expedition felt in their

boatmen and the sturdy 16-foot cataract boats.

But we did not argue with the skipper. He knows the river far better than any of the rest of us will ever know it. And so in good spirit we began the arduous task of portaging food and bedrolls and camp equipment down along the rocky shoreline a third of a mile to a point below the falls.

Norman organized a lining team composed of Kent and Joe Jr. on the tow rope and Garth and John Riffey on the stern rope. As captain of the team he remained in the boat to guide it over and around the rocks on the edge of the torrent. In fast water the crew on the upper rope held the boat back, and when it had to be skidded over boulders that projected above the surface the ropemen below pulled it along. The rest of us were making trip after trip with our packs along the shore.

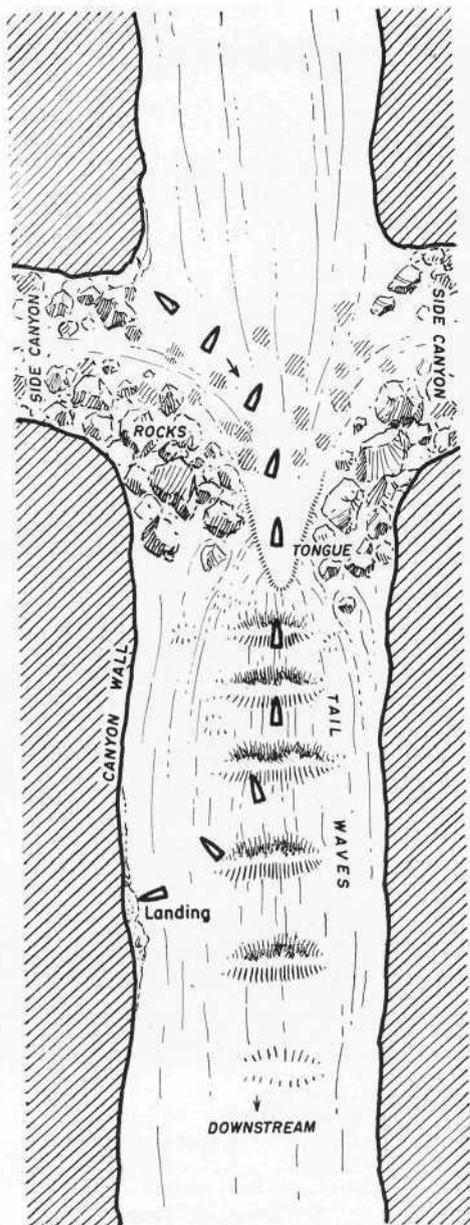
At 11:00 o'clock the boats were through and reloaded, and we dropped downstream a half mile to a sandbar where we ate lunch in the shade of an arrowweed thicket. The thermometer read 108 degrees.

One drinks literally gallons of water

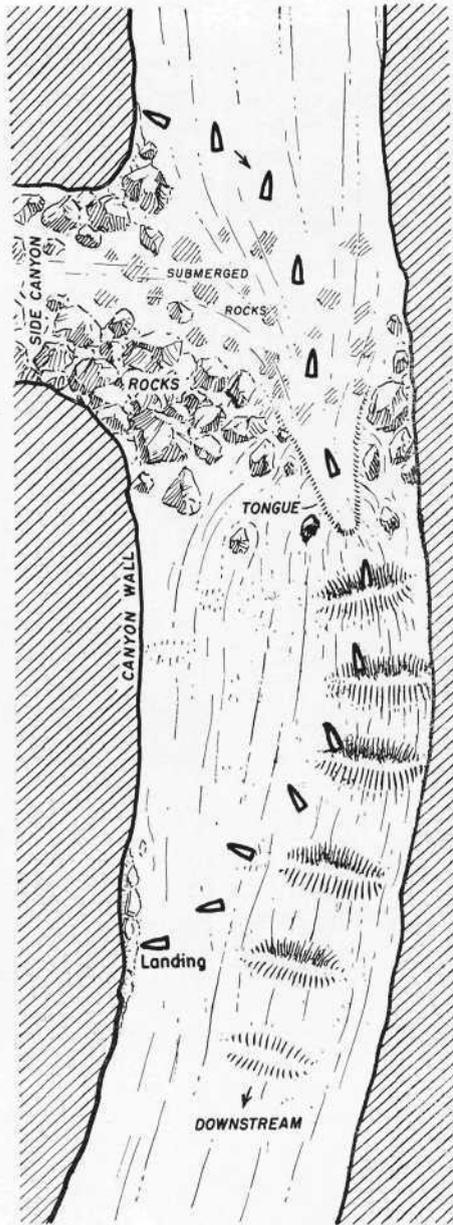
each day in such temperatures, and we were taking salt tablets to keep our systems from being drained of their minerals. There are some pretty springs gushing from banks of maidenhair ferns below Lava Falls. The water was clear, and looked most inviting—but its temperature was 79 degrees, and it tasted so bad we preferred to drink the muddy 79-degree water that ran in the river. On the map this place is marked as "Warm Springs" and there have been widely varying reports as to its temperature. We checked it with two thermometers at 79 degrees.

We were grateful to John Riffey for the help he had given us in the lining and portage job. Norman invited him to ride through a riffle just below our lunch camp and get a sample of white water navigation before starting the return hike up the cliffs to Tuweap.

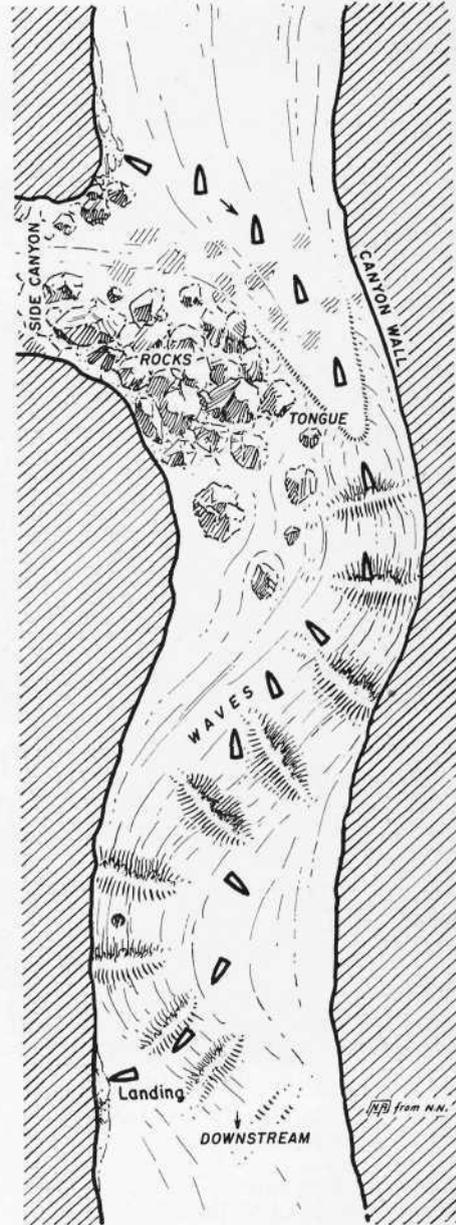
Before we shoved off, Norman told Al and me to put on our life belts. Then he gave one to John, showed him how to put it on, and then slipped into his own kapok jacket. I thought it rather strange we should be putting on our preservers for a



Straightaway rapids.



"C" rapids.



"S" rapids.

These sketches by Norman Nevills and Norton Allen show the technique most commonly used on the Nevills expeditions to run the boats through the three types of rapids. There are many variations, depending on the height of the stream and the rocks, both submerged and protruding, but the theory generally is to follow the main tongue or "V" to the point where it breaks into huge waves, and then get out of the waves as soon as practicable. The boat goes stern first so the oarsman is always facing his greatest danger, whether it be rocks, holes, waves or sidewall.

lowly riffle with only three-foot waves. But the skipper usually knows what he is about, and we did as we were told and asked no questions.

We headed into the riffle, but instead of "stealing" through in the usual manner Norman turned the boat broadside just in time for one of those 3-footers to curl over and land on top of us. The weight of the water on one side tipped the boat on edge and for a moment I thought we were going to turn over. Al and I were out in front on the stern deck and the wave lifted us clear off the wood and we were hanging by the ropes. I was on the low side, and if Al had lost his grip and come tumbling

down on top of me we would both have gone overboard.

But just at the critical moment Norman dropped his oars and leaped to the upper side, and I think his added weight there kept us from capsizing. The boat righted, full of water to the gunwales. Instinctively, we began fishing in the bottom for something with which to bail. Al found a bucket down there, but when he tried to bring it up Norman's foot was wedged in it. But we drifted into smoother water and by the time we had reached the shore had bailed at least a half ton of water out of the cockpit.

"I wanted to give John a little sample of

rough water," Norman admitted afterward, "but I didn't intend to come that near pitching you fellows overboard." In one little riffle, John Riffey had come closer to a capsize than any of us had experienced on all the rest of the trip.

Below Lava Falls we had an exciting moment when we spied the yellow coloring of what appeared to be a boat lodged among the weeds on a sandbar. "May be Roemer's boat," Norman yelled, and started pulling for the shore. We had been looking for the wreckage of such a boat all the way down from Phantom ranch.

The story: An Austrian known as Charles Roemer left Lee's ferry October



Members of the 1947 expedition at the Separation rapids plaque installed by Julius F. Stone.

19, 1946, with only meager provision, stating he was going to run the Grand Canyon rapids in his rubber boat. He was last seen floating past the foot of Bright Angel trail October 24, and his fate remains a mystery.

We had seen footprints on the sandbar at one of the rapids on the way down and had every reason to believe they were made by Roemer, but we found no other evidence of his passing. Norman was first to reach the yellow something in the weeds—and he turned back with an exclamation of disgust.

"It is a boat," he said, "but not Roemer's." It was a small wooden skiff, tied to a mesquite tree, and probably had been used by fishermen coming down Whitmore canyon. We left it as we found it.

We camped that night on Whitmore's bar, and the following day after running only minor riffles arrived at the mouth of Spring canyon for an overnight stop. There is a fine spring a half mile up the side canyon, and Kent and Garth and I fought our way through a jungle of willow and arrowweed and mesquite to reach it. The temperature was 122 degrees, but it sprinkled just after dark and cooled the air enough to provide a comfortable night's rest.

There were clouds of bats in the air at dusk.

We were off at 8:00 in the morning. Fifteen minutes later we ran 205-Mile rapids without stopping. It was short and choppy. Then came Granite Park rapids which was an easy one, and at 10:35 we reached 217-Mile rapids. Although not a major rapid, it looked rough and we pulled in above to look it over.

Norman studied it awhile, then turned and said: "This is going to be Dub's day. I'll run the *Wen* through. Joe, you follow in the *Mexican Hat*. Randall, you bring the *Sandra* through, and Al will follow in the *Joan*. The rest will stay here on the rocks and watch you landlubbers do your stuff."

I wouldn't have been more surprised if Norman had told me to jump in the river and swim down to Lake Mead. I am neither a good swimmer nor an experienced boatman. And Norman knows it. I am like Dick Wick Hall's frog that lived on the desert so long it never learned to swim. Oh, I can paddle around a little, and I know which end of the oar to use as a propellor. But in the water I am a Dub with a capital "D."

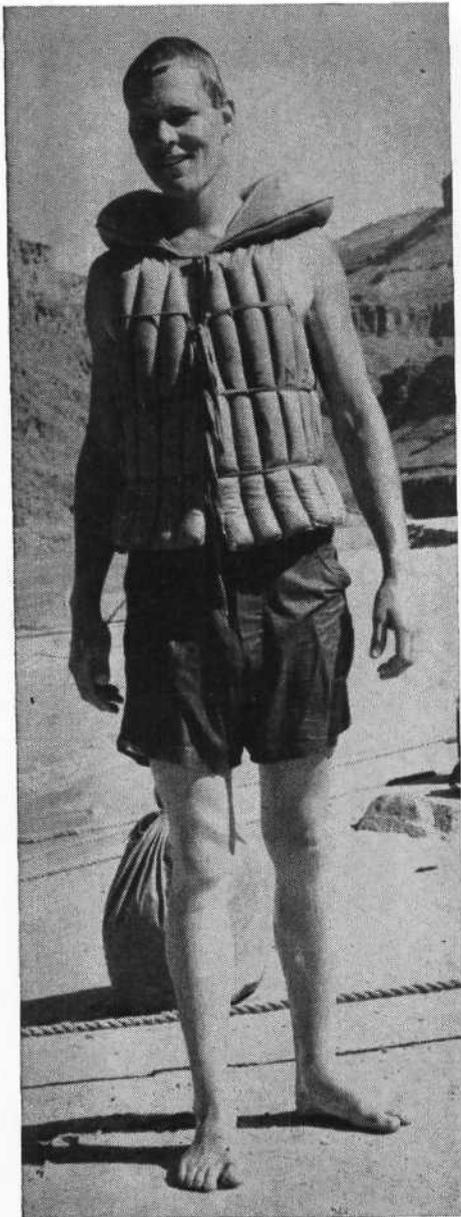
I grinned at Norman—and then I re-

alized he was not kidding. So—if he was willing to trust the newly-christened *Sandra*, the pet of his fleet, in my hands, I would surely do my best to deliver it right-side-up at the bottom of the rapids.

I stood on a high rock and watched Norman glide down the tongue of the rapid, carefully avoiding a big rock where the water tumbled over into a swirling eddy near the tip of it, and then pull like a sonuvagun to keep out of the 8-foot waves that could easily dash the boat into the granite wall on the opposite side. I've watched Norman take his boat through a hundred of those rapids on the San Juan and Colorado rivers. I knew the theory of it perfectly. But I wondered if those pesky oars would do what I told them to do.

Joe Jr. came through without trouble and then I made my way up the shore to where the boat was moored above, with much the same feeling I had at Kelly field in World War I the first time the instructor got out of the plane and said: "Now you take it off and fly around the course."

I overlooked no detail. I had observed that before Norman and Kent tackled rough rapids they always reached over the side of the boat and washed their hands



Joe Desloge Jr. in the kapok life jacket in which he swam Deubendorff rapids. Later he and Otis Marston went through without preservers.

and face in river water, and then took a drink of it. I don't know just what significance there is in that little ritual—but if there were any fetishes which would help a fellow stay right-side-up going through that tumbling water, I was going to need them. So I gathered up everything loose in the boat and put it in the hatches, stripped down to my bathing trunks, hooked a life-belt around my waist, washed my face and hands in the river water, took a gulp of it, and then untied the boat and shoved off.

It took about four minutes to row out into the current above the tongue, a half minute more to glide down the tongue past that submerged rock, and then in less seconds than it takes to write this down on the typewriter I had pulled out of those big breakers and was coasting along in smooth water to a point just above where Norman had moored the *Wen*. Those oars

had done just what I told them to. "You followed my route perfectly," Norman said.

So that is the beginning and end of my career as a Colorado river boatman. I am going to quit now while my record, like Norman's, is 100 per cent. Lady Luck might not be so good to me next time.

We dropped down below 217-Mile for lunch, then in the afternoon ran Granite Springs and 224-Mile rapids without stopping. Granite Springs marks the high point reached by Harry Aleson in his effort to bring an outboard motorboat upstream from Lake Mead several years ago. He had to buck some rough water to get this far, for the lake was not as high then as it is now.

We camped that night on a sandbar at the mouth of Diamond creek where a road was built in to serve the drilling crew which spent several months on this spot scouting the possibilities of a storage dam in the river.

That evening, just as the sun went down, four of us were given our initiation into the Royal Order of Colorado River Rats. This is a ritual passed along to Norman many years ago by Emery Kolb, and is given to those who make their first trip through the gorge from Lee's ferry. Margaret, Kent, Al and I were the eligible members of this expedition. Margaret became the sixth woman to join the Order. Regarding the initiation, I can only say that it was a very wet affair.

Otis Marston reported that a lion and cub were seen on a ledge below 205-Mile rapids. Also, some wild burros were seen and heard during the day.

That evening on the beach by the light of the moon we played charades, as we had done many evenings on the voyage through the gorge when we were not too tired. We chose sides and limited our acting to the titles of books, plays and songs. Ours was a congenial group and we enjoyed those evenings of play. From Lee's ferry to Boulder City I never heard an unkind word spoken by one member of the party to another.

All the major rapids had been passed, and my companions were relaxed and gay when we shoved off next morning. There were a few minor rapids to run that day—Diamond creek, Travertine, 231-Mile, 232-Mile, 234-Mile, Bridge canyon, Gneiss canyon—and then we came to Separation rapids, once a nightmare to boatmen, but now submerged under the waters of upper Lake Mead.

It was here that Powell's first expedition had a tragic split. Three of the crew, Wm. H. Dunn and O. G. and Seneca Howland, announced they were leaving the party and climbing out. Powell protested, but they climbed to the North Rim, and two days later were killed by Indians.

Historians have not agreed as to who was most to blame for the division in Powell's party, almost at the end of the



End of the journey. The cataract boats were towed from Pierce's ferry to Boulder City by a Park service launch.

journey. Some have accused Powell of being harsh and arbitrary. Others regard the men who left as deserters. Julius F. Stone became an outspoken partisan on the side of Dunn and the Howlands, and in 1939 placed a bronze plaque in memory of the three men on the sidewall above the rapids.

I was interested in Norman's conclusions regarding this episode. "Powell may have been guilty of all the misdeeds charged against him," said Norman, "and yet I cannot justify the men in leaving him at this critical point in the journey. In my opinion they were deserters."

We climbed the sidewall to read the inscription on the plaque, and then had lunch in the shade of trees along Separation creek.

One of the launches operated by private concessionaires on Lake Mead was scheduled to meet us somewhere near the head of the lake. But the bars and shoals where the Colorado dumps its daily load of silt into the reservoir make treacherous navigation for large craft, and we were sure they would not come as far as Separation creek. That afternoon we rowed with the sluggish current in the upper lake, and when a breeze sprang up hoisted our tarpaulins as sails.

By six o'clock in the evening we estimated we had come 20 miles. We pulled in and camped among the tamarisks and willows on a bar near Quartermaster canyon. We could hear wild burros braying during the night.

Next morning we were up at 5:30, and two hours later the camp chores were finished and we were on the lake again. The crew and passengers took turns with the one set of oars in each boat, working 30-minute shifts. Occasionally there would be a light breeze, and we would take advantage of it to raise the sails. But most of the time we were on our own power. The current had disappeared by the second day and it was slow going, but no one complained.

At 11:30 we pulled in to Emory falls, a picturesque cascade that drops 40 feet over a sheer cliff into a little cove. When Lake Mead is at low stage sandbars and driftwood often make the falls inaccessible by boat, but the lake was high now and we were able to fill our canteens by rowing directly under the falling water.

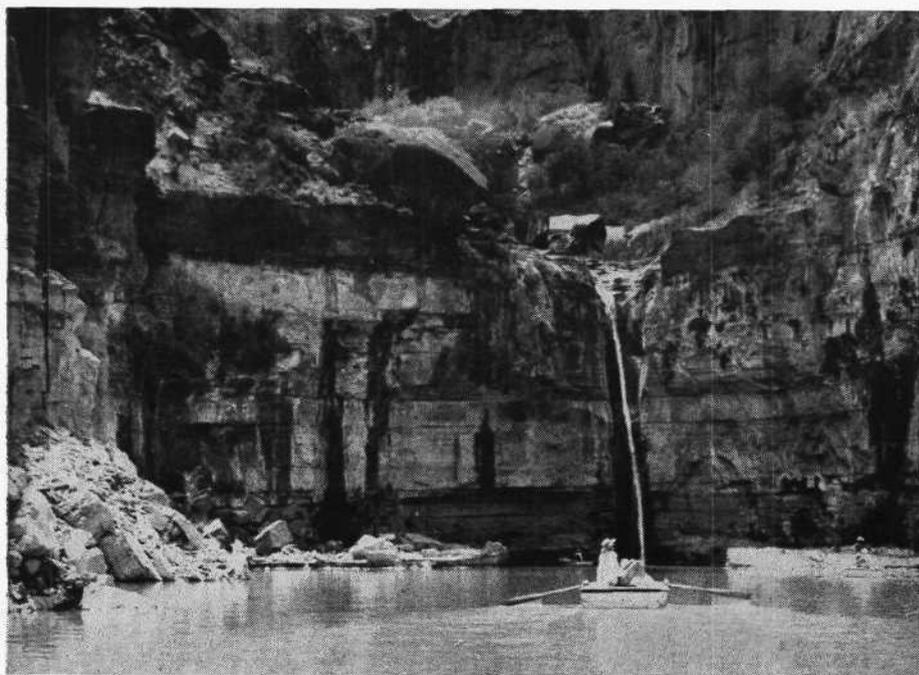
On the gravel bar at Emory falls is a botanical garden of strange bed-fellows. Yellow columbine, crimson monkey-flower, thistle and maidenhair ferns were growing together where a seepage from the sidewall provided moisture for their roots.

We had expected the launch to meet us here, but when it failed to arrive at 4:00 o'clock we shoved off and headed down the lake with our oars and improvised sails. Below Emory falls the canyon walls in which we had been imprisoned for nearly three weeks rolled back and unveiled a great expanse of blue sky. We were out of the Grand Canyon gorge.

Our immediate destination was Pierce's ferry. We were sure the boat would meet us there. As we headed into the great in-



Julius F. Stone erected this plaque at Separation rapids where Dunn and the Howlands left the Powell party.



At Emory falls the boatmen were able to row in and fill the canteens from the falling stream.

let in which the Pierce ferry landing is located we heard the put-put of an outboard motor, and in a few minutes Bill Green of the Pierce ferry ranger station came alongside. We tied onto the little power boat and arrived at the landing in tandem formation just before dusk.

Green lives alone at the old landing, operating a weather station for the Weather bureau, taking water measurements for the Reclamation bureau, seismological readings for the Geological survey, and in the service of the Park department filling the role of custodian and dude-wrangler. Fishermen and campers often follow the rough road to the old ferry for a few days' outing. This is part of the Hoover Dam recreational area and Bill Green is Uncle Sam's official representative in this remote corner of the desert world, and a good host he proved to be.

We camped overnight on the beach and next morning a National Park service launch arrived with a welcoming committee that included President Paul McDermott of the Las Vegas chamber of com-

DESERT QUIZ

Here is Desert Magazine's monthly brain exercise. It is written for those who would like to become better acquainted with the desert playground of the Southwest. It includes a bit of geography, history, geology, botany and the general lore of the desert country. You will not get them all right, but you will be a wiser person when you have tried. Twelve out of 20 is a fair score. From 13 to 15 is superior. Sixteen or over is exceptional. The answers are on page 45.

- 1—Highest peak visible from the California desert is— San Jacinto peak.....
San Geronio peak..... Mt. Whitney..... Telescope peak.....
- 2—Bill Williams river is a tributary of— The Colorado river.....
Salt river..... San Juan..... Gila.....
- 3—Stovepipe Wells hotel is located— In Salt river valley.....
Death Valley..... Near Salt Lake..... In Imperial valley.....
- 4—One of the following is a poisonous lizard— Gila Monster.....
Alligator lizard..... Chuckawalla lizard..... Leopard lizard.....
- 5—First party of white men to visit Rainbow bridge was led by—
Kit Carson..... Marcos de Niza..... Lieut. Beale..... John Wetherill.....
- 6—The name John Hance is associated with— Death Valley.....
Grand Canyon..... Founding of Santa Fe..... Exploration of Great Salt Lake.....
- 7—The feud between the Clanton gang and the Earps came to a showdown fight at— Ehrenberg..... Bisbee..... Prescott..... Tombstone.....
- 8—The staple meat in the diet of the Navajo Indian is—
Beef..... Mutton..... Wild game..... Pork.....
- 9—In driving your car through heavy sand you will probably get best results by—
Letting your wife drive while you push..... Putting chains on the wheels.....
Reducing the air pressure in the tires..... Turning the car around and backing through.....
- 10—The mountain range northeast of Salton sea in Southern California is the—
Laguna..... Santa Rosa..... Castle Dome..... Chocolate.....
- 11—The notorious Indian chief who used the Dragoon mountains of southern Arizona as a hideout was—
Irateba..... Winnemucca..... Palma..... Cochise.....
- 12—The common name of the desert plant of the genus Fouquieria should be spelled—
Ocotillo..... Ocotilla..... Ocatilla..... Ocatillo.....
- 13—The man for whom the Bandelier national monument of New Mexico was named was a—
Trapper..... Archeologist..... Artist..... Scout.....
- 14—The prehistoric Indian tribesmen known as Hohokam occupied the area now known as—
Salt River valley..... Havasupai canyon..... Mojave desert..... White mountains of Arizona.....
- 15—The famous Bottle House is located at— Rhyolite..... Goldfield.....
Panamint City..... Calico.....
- 16—The metallic name of the mineral known as Malachite is—
Copper..... Iron..... Silver..... Lead.....
- 17—The infamous Mountain Meadows massacre occurred in—
Nevada..... Arizona..... California..... Utah.....
- 18—The fleetest wild animal now found in Nevada is the— Mule deer.....
Antelope..... Jackrabbit..... Bighorn sheep.....
- 19—To reach the famous Phantom Ranch it would be necessary to—
Cross the Paiute reservation in Nevada..... Climb the Enchanted Mesa.....
Go to the bottom of Grand Canyon..... Take a trail out of Taos.....
- 20—The territory known as the Gadsden Purchase was bought from—
The Indians..... France..... Spain..... Mexico.....

merce, Dr. Gordon Baldwin, archeologist for the Park service, P. C. Christensen, director of power at Hoover dam, and a group of newspaper and radio reporters and photographers. Uncle Sam's boat, piloted by Ray Poyser, veteran lake pilot, towed our boats on the last lap of the voyage to Boulder City.

That night we toured Hoover dam as guests of the Reclamation bureau, and had a final dinner together as a fitting end to the Nevills' Colorado River Expedition of 1947.

Somewhere up the lake we saw the last of our mascot, the blue heron. For its friendly interest in our journey through those rough waters I can only wish the bird a long and healthy life—and lots of fish dinners.

Navigation of Grand Canyon has passed through a radical transition since 1869. First came the explorers—the Powells, Stanton, Brown, Dellenbaugh and the pathfinders who proved the river was navigable. They won through terrible hardships and many casualties.

Then came that group of men—scientists, engineers and professional men—who pioneered the way to safe navigation. They were the forerunners of the flat-bottomed boats and stern-first operation. Stone and Col. Birdseye and the Kolbs were the leaders in this period.

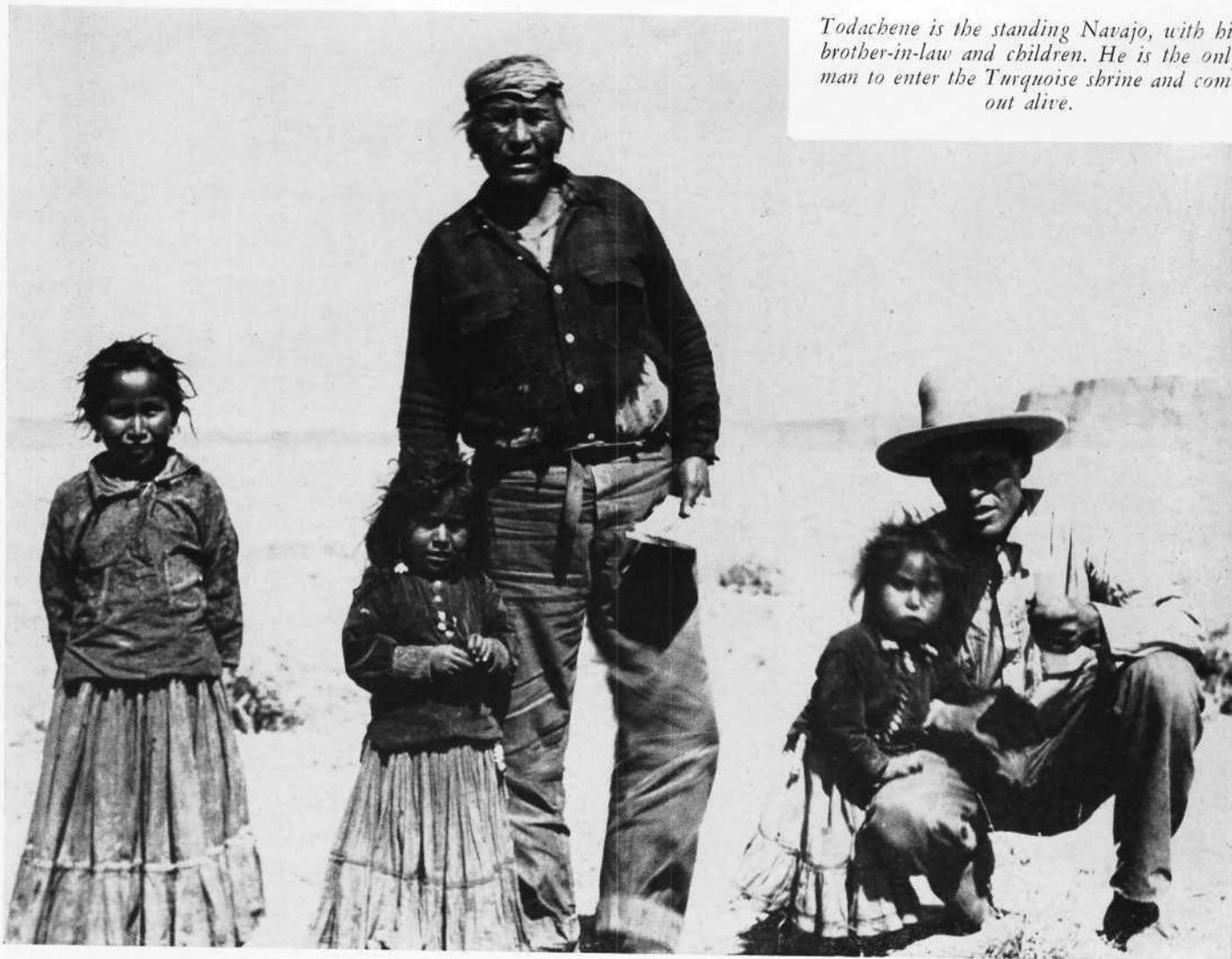
Then Clyde Eddy in 1927 brought a group of college boys down through the canyon for pure adventure.

And now, Norman Nevills has perfected the boats and the skill needed to make this canyon voyage a glorious adventure in comparative security. The waves are just as big and powerful, and the rocks and eddies no less treacherous than they were 80 years ago. And woe to the boatman who does not know how to face them. But the Colorado river can be run in comparative safety, and for future voyagers who follow this river trail I can only suggest that they never for an instant forget Norman Nevills' guiding rule: "Face your danger, and play it safe!"

THE END

BACK NUMBERS

For the information of new subscribers who missed the first three chapters of Randall Henderson's story of his Grand Canyon voyage, the November, December and January issues of Desert, all or any of them are available at 25c each, postpaid. Address Desert Magazine, El Centro, California.



Todachene is the standing Navajo, with his brother-in-law and children. He is the only man to enter the Turquoise shrine and come out alive.

He Guards the Secret of Turquoise Shrine

Here is a strange story of hidden wealth in the Navajo country—a fabulous deposit of prehistoric jewelry that has been protected down through the centuries by the boiling waters of a subterranean geyser. The one Indian who holds the key to the secret has asked that no specific information be given as to its location, for obvious reasons.

By TONEY RICHARDSON

NEARLY 30 years have passed since I first heard of the Turquoise Shrine. Like many of the legends and rumors of the Navajo country I regarded the story as rather fantastic, but like the tales of lost mines, something that might have a basis of fact.

The Navajo guard their secrets well, and in the maze of underground rumor that pervades the Indian country one is never quite sure what to believe. More than once

during the years I have spent among these tribesmen I have seen the misty aura of folk tale roll back and disclose amazing reality. In time one acquires the philosophical attitude of the late Hosten John Wetherill of Kayenta, Arizona: "I don't know why or how these things be. I only know they are."

One afternoon at Inscription House trading post when business was dull, my old friend Todachene Nez strolled in to

buy a 10-cent plug of chewing tobacco. Leaning on the counter he drifted into aimless conversation.

"I have never seen this Turquoise Shrine," I remarked.

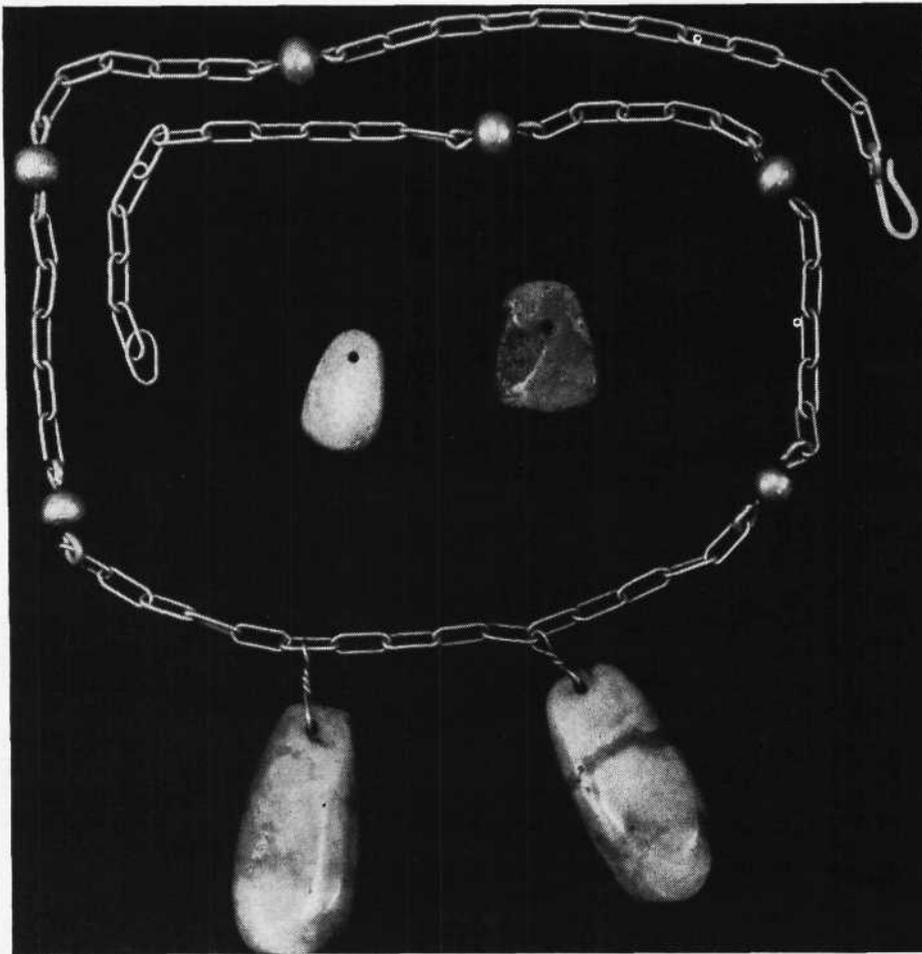
Todachene Nez took a quick look at me, and began to laugh. Until now, I was unaware that Todachene knew anything about the fabled Shrine.

"You have been down in Navajo canyon many times," he said. "Yet you say you haven't seen the Turquoise Shrine of the Old Ones? My brother, I am amused!"

Todachene Nez threw back his head and laughed loud and long. Afterward I had to laugh also, because it was astounding to realize I had been past the Shrine numberless times, not knowing it was there.

"You want to see this place?" Todachene Nez asked when he tired of laughing at my expense. "I'll show it to you. Be down in the canyon before the *Ahnasazzie b'kin* (Inscription House Ruin) early."

In the dawn the next morning, I saddled a horse and rode three miles to the rim of Navajo canyon. Another three miles down a scenic trail into Neetsin canyon brought me to the foot of the cliff in which Inscription House cliff ruin is sit-



These pieces of turquoise came from the top of the rock in which the Turquoise shrine is located. The two small pieces probably were part of a string of beads. The two pendants were found below Shrine rock in 1928 and sold by the finder Hosteen Sayetsissy to Mrs. S. I. Richardson.

uated. This archeological site, in the Navajo national monument, was first visited by white men in 1661.

In the grass beside the fence protecting the ruin sat Todachene Nez, chewing his inevitable cud of tobacco. Mounting his pony he led off. We covered only a short distance before halting at the base of a great rock towering better than 125 feet above the canyon floor.

"There it is," he said in a casual way.

To say I was surprised is putting it mildly. The Turquoise Shrine stands in a location where dozens of Anglo-Americans and hundreds of Indians pass it every year. And yet not over three Navajo Indians know what it is. Only two living white men to my knowledge, know that this great massive rock is the Turquoise Shrine!

The white man other than myself is Randall Henderson, to whom I told the story of the Turquoise Shrine in April, 1940, when he visited the trading post. A few months ago when I returned from duty with the navy in the western Pacific I went to the Shrine to take pictures, intending to write about the place. It was only then that Todachene Nez decided he did not want the exact location given. Inasmuch as he is the possessor of the secret of the Shrine, I

agreed with him. Publication of pictures of it would make it instantly recognizable by any who came near it later.

The mass of the Shrine is deceiving. It looks smaller than it is. As Todachene Nez and I surveyed it, I wondered how we could scale the wall. I recalled that twice before I tried to work my way to the top, not then knowing what it was. Moreover along with many other people I have often eaten lunch or cooked supper at the base.

Dismounting and hobbling our horses, Todachene Nez and I took down our ropes. He went ahead, working and squirming his way half way up the west side of the rock. Reaching what seemed to be an impassable place, he slipped a stick into the noose of his rope, tossed it up into a crack in the rock, and we went up a sheer wall hand over hand on the rope. From there on it took us more than an hour, using both ropes, to reach a break in the overhanging rim.

The surface of the great rock was broken and wind swept. On the eastern half stood the crumbling walls of several ancient rooms. Otherwise it was bare. A rush of wind seemed to sing constantly over the great rock.

As soon as we gained the top I immediately was aware of a subterranean roar. It

would die down to nothing, only to return after several minutes with a rising crescendo.

Todachene Nez smiled as he pointed to the lower end of the rock. There in a dish shaped basin was exposed a black hole between eight and ten feet across. The subterranean sounds emerged from this opening. I noticed also that the bare stone surface around it was water polished, not wind blown.

We went forward, crawling the last few feet and lying flat, peered into the darkness below. A rush of cold wind preceded the roaring of water. It boiled inside the cavernous hole, came almost to the top, then subsided into the darkness beyond our vision.

Retiring from the hole, Todachene Nez began talking about the Shrine. He was the only Indian who ever went down into the Shrine and emerged alive! Small wonder he knew about the Turquoise Shrine.

The first known white men to see the Shrine were Ben and Bill Williams in 1885. Their names, "Ben & Bill, 1885" are cut in the cliff of Inscription House ruin not far away. These two men with their father, J. P. Williams, roved across the western Navajo country in search of a lost mine. The Williams were Indian traders when not prospecting. It was Billy A. Ross, an old prospector, who told them of a bubbling spring in Jones canyon, sometime in the early 1880's.

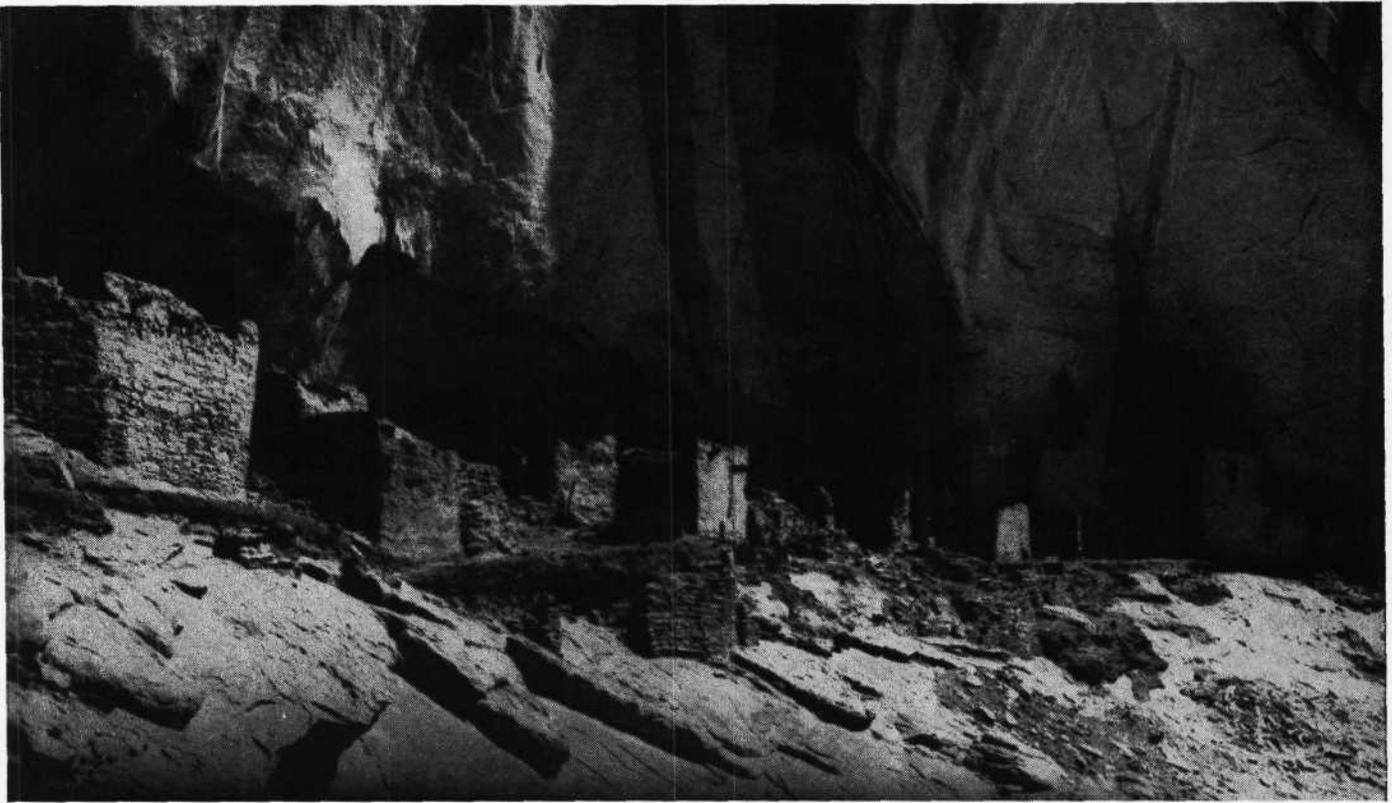
Jones canyon is reached over a saddle northeast of Inscription House ruins. When the Williams brothers found the bubbling spring in 1885 it geysered to a height of 12 feet. Today the stone cabin once built behind the spring is gone, and the water no longer spurts periodically out of the earth.

After finding the spring the Williams brothers camped at the base of the Turquoise Shrine. One morning Bill discovered a dozen pieces of ancient polished turquoise. Suspecting it must come from off the great rock, he and Ben spent two days gaining the top. They looked into the yawning hole, saw the water rush all the way out on the top, and are reported to have gathered a small flour sack of turquoise left behind by the receding water.

While the Navajo in the region did not themselves find the shrine until after 1900, they had known it was somewhere in the region for more than 100 years.

According to Navajo legend the ancient cliff dwellers in the adjacent canyons deposited offerings of turquoise and sacred objects in the hole. Since this had been done for centuries the Navajo decided if they could find the Shrine, the men who recovered this great store of turquoise would be wealthy overnight.

A Navajo known only as Hoshteen (not Hosteen, a venerable person of middle age, but "hoshteen" a headman definitely past 50 years) spent much time peering into holes and caves seeking the place. He



Turquoise Shrine is not far from Inscription House ruins, pictured above, but in this land of sandstone walls and domes that isn't much of a clue to its exact location.

found many holes with water in them. These were investigated easily. Small boys lowered on ropes explored the bottoms, finding no turquoise.

One day Hoshteen heard that Navajo were finding pieces of *Abnasazzie* turquoise at the foot of a great rock mass. Especially was this true after a winter when the snow fall had been great and the spring winds were harsh. He determined to scale the wall, although other Navajo warned him it could not be done.

Hoshteen rigged up a contrivance of rock platforms, long poles and ropes. One day he reached the bowl-shaped rim of the mighty Shrine. There was turquoise everywhere. He found the hole and learned for the first time that the Shrine was protected by water from some mysterious subterranean source.

Hoshteen got together a group of devil-may-care young Navajo, and working with poles, rude ladders and grass ropes, succeeded in getting two men down inside the Shrine.

Jubilant shouts echoed to the mouth above them. Handfuls of turquoise were raked from cracks in the rocks. They reported the water in the bottom was cold but clear. They could see heaped piles of turquoise and figurines carved of rock and gem stones. As far as they could determine there was no outlet for the water.

One of the two youths announced that he would drop lower down. He placed the weight of one foot on a slimy crack, slipped and went screaming to the bottom. While his cry still rang in the air a

crevice in the side wall high over the head of the second man erupted in a great roar of wind and water.

All of the poles, ropes and cross-braces plunged downward in a flash. The water surged to the rim for several minutes. As it began to subside, the frightened Navajo above got a brief glimpse of the broken bodies of their two companions, ropes and poles. The surging water drained down and everything disappeared completely, leaving only emptiness and a small amount of water in the bottom.

The Turquoise Shrine had finally been entered. But this tragedy forced Hoshteen to abandon attempts to obtain the blue and green "diamonds of the Southwest."

Later another man, Redshirt, took up the quest. He studied the hole with particular care. He observed that the water rushed in and out of the Shrine at regular intervals. This indicated that one man could possibly work swiftly a few moments and then be withdrawn in time to evade the force of the water.

Getting together a band of helpers, Redshirt contrived a log windlass fitted with a long rope. His helpers let him down on this to the bottom. Redshirt started scooping turquoise into the sack with both hands.

Suddenly he stopped working, turning his head to yell upward.

"Pull me up," he shouted. "There are bones of men among the stones. Many of them. Pull me up fast!"

The windlass men heaved-to in a hurry. Redshirt started upward on the rope about

twice as fast as he came down. Even so he got no more than a few feet toward the top when all hell broke loose below. The hole filled with a mighty rush of water from several cracks in the wall. It boiled angrily almost to the rim above.

The windlass men had the handles jerked out of their hands. They seized them again but the windlass ran free. The broken end of the rope came up out of the water. Somewhere Redshirt had been sucked into a hole, and the rope which had been tied about his body, severed over a sharp edge of stone. Obviously Redshirt had miscalculated the timing of the subterranean geyser.

Later, two more efforts were made to recover the gem stones but both of them ended in tragedy.

With the men who saw Redshirt vanish, and present at the next two disasters was a small boy, Todachene Nez. The Turquoise Shrine held a strange fascination for him. Two years after the fourth try, when he was ten years old, he found a way to get up on the massive rock without too much difficulty. (A trail which later scaled off.)

He would lie on the curving rock peering into the Shrine for hours, when he was supposed to be herding sheep in the canyon close by. He learned many things about it. Time passed. He grew up, married and had a family of his own, but he still observed the strange action of the water in the hole.

All this study revealed to him that during wet years, or early in the spring after the heavy snows melted about the canyon,

the water was stronger than at any other time. The reverse of this was true during years of little rain or snowfall. After a year of drouth there was hardly any force to the water in the Shrine, though the wind still rushed from the subterranean passages. Moreover, at certain seasons of the year water hardly more than trickled into the hole.

In the early 1930's following a very dry year, Todachene Nez decided the time had come when he should make use of this knowledge. He studied the Shrine for two weeks, confirming his calculations. Some days no water entered the bottom of the hole.

Todachene Nez got two relatives to work a windlass, and tied to the end of the rope he went over into the Shrine. A small cotton rope was let down to him to which he tied two seamless sacks.

The two men above could see him standing knee deep in water and what looked like debris. While working he could be seen looking around constantly.

So far he had been standing in the exact spot where he first touched the bottom. Now he started to move. When he shifted

one foot Todachene Nez slipped and fell, landing on his back. He could be seen swaying like a drunken man as he scrambled up. Indeed, the entire bottom of the hole appeared to be jerking around.

Todachene yelled something up out of the hole. But his voice only boomed and died in a rush of water from a crevice in the side of the wall above his head. At once the two Navajo worked the windlass. They pulled Todachene a dozen or so feet when a second roar of water filled the hole. Yet up through this they yanked Todachene Nez, half drowned.

The rope attached to the sacks disappeared as the water boiled and raged all the way to the rim.

The water was still surging when Todachene Nez recovered. His companions asked him repeatedly what happened down below. Instead of replying he walked over and jerked the windlass free, dropping it over into the Shrine.

"What did happen down there?" I asked him while we explored the top of the Shrine.

He shook his head with a wry grin.

"I don't know," he said. "Truly I don't.

When I took that step, I discovered I was not on the actual bottom. More like on a balanced rock. It scared me. As I fell I could hear wind and water roaring away off towards the northeast part of the rock. I could see a great black cavern.

"I realized then that despite all my years of observing the Shrine of the Old Ones, that I knew nothing about it at all. I heard the water coming, and only wanted to get out of there. I am lucky to be alive today!

"I have no wish now to rob this Shrine."

What did he see down in the bottom? Todachene Nez talked about that. In his hands as he tried to fill the sacks had been small and large pieces of turquoise, some of it mere lumps, unpolished. A lot of it had been cut into shape for beads, earrings. It had been polished roughly, and drilled with holes. Some of the offerings to the Shrine must have been matched strands of beads and earrings of immense value. Along with all this was also small carved figures of white, black and red stones along with some quartz.

"The small figures were like those the pueblo Indians of New Mexico make today," he said.

We found a few pieces of turquoise on the top that day, which had been brought up from below. Most of them were drilled pieces that had been strung as necklaces. One stone, still bearing some evidence of a high polish, was over two inches long and expertly shaped.

Hundreds of years ago the *Abnasazzie* must have cast some of their best pieces of aboriginal jewelry into the Turquoise Shrine. Without doubt it is a veritable treasure house. There are few traders in the western Navajo country who have not at one time or another bought what they believed to be rough turquoise that came from a robbed grave. Actually they purchased turquoise from this shrine that had been brought up to the top of the rock and blown over to the canyon floor by the wind where it was found.

That day I came away with Todachene Nez, having solved the location of the fabled Turquoise Shrine. But soon the war intervened and four years later when I went back with Todachene Nez, he asked that secret of its location be kept longer.

Why?

"You remember the bubbling spring in Jones canyon only a little way off?" he asked. "Even in my time it used to leap 10 to 12 feet in the air. Now hardly any water seeps out of the ground where it used to be. So it is with the water in the Shrine of the Old Ones. One day before many more years pass, this cavern will be dry."

I could follow his train of thought. Before Todachene Nez goes to the Sky People, he will have solved the final secret of the Turquoise Shrine by bringing out a few sacks filled with the gem stone of the prehistoric Indians.

To Todachene Nez I say, "It is your secret. Keep it!"

Your Photo Contest . . .

Desert Magazine's monthly photo contest is open to you, whether you are an amateur or professional photographer. And you can choose the subject, so long as it is essentially of the desert. It doesn't matter whether you took the picture yesterday or ten years ago—the best print wins. Pictures are judged on suitability for magazine reproduction, originality, subject interest and technical quality.

Entries for this month's contest must be in the Desert Magazine office, El Centro, California, by February 20 and winning prints will appear in the April issue. First prize is \$10; second prize, \$5. For non-winning pictures accepted for publication, \$2 each will be paid.

HERE ARE THE RULES

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

ADDRESS ALL ENTRIES TO PHOTO EDITOR, DESERT MAGAZINE,

THE *Desert* MAGAZINE
EL CENTRO, CALIFORNIA

"There is always a little blue in the eyes of all races when their gaze is uplifted toward the sky." Thus, in one of his books, Paul Coze expressed a philosophy which explains why the Indian tribesmen of Canada and the Southwest have accepted him as a friend and brother. Here is the story of a French artist who has adopted the Southwest as his home—and of whom the Southwest is proud.

Paul Coze -- Friend of the Tribesmen



Paul Coze—born in Syria he later organized the Boy Scout movement in France, and eventually came to the Southwest through his friendship for Tom Dodge, son of the late Navajo chieftain, Chee Dodge.

By HOPE GILBERT

ALONG the infrequently traveled road north of Hotevilla a line of Navajo and Hopi wagons was proceeding at a leisurely pace. The occasion for this late summer trek of Hopis from their three mesas and of Navajo from surrounding reservations was a Black Whiskers Katchina dance at Moencopi, daughter pueblo of Oraibi. The heat rising in waves from the sun-baked desert enveloped in dazzling brilliance the one automobile that was crawling along midway in the line of horse-drawn vehicles.

Suddenly the car drew up to the side of the road and from it emerged an aged Hopi and a white man. The Indians in their wagons were startled into wide-eyed amazement as they watched the tall stranger take a stand at the side of the road and to the accompaniment of a *tombé* begin a high-pitched Indian song. His Hopi companion, listening in rapt attention, demanded a repetition of the chant. After a third rendition the old man triumphantly repeated the entire song with its strange, syncopated rhythm.

In his Pasadena studio, Paul Coze recounted to me his experiences on that festive day when he had taught a Cree Round

dance song to the old Oraibi katchina maker. Pointing to a tall Hopi *tombé* he remarked, "There is something I literally obtained 'for a song.' On our return to Oraibi, after attending the katchina dance at Moencopi, my old Hopi friend presented this drum to me in return for having taught him the song which I had learned during my sojourn among the Canadian Crees. The old fellow took great pride in teaching it to the people of Oraibi. The pueblo apparently added it to their permanent repertory, for some years later when I again visited the village, perched high on the desert mesa, they were still singing it."

Paul's studio was filled with colorful reminders of his numerous sojourns among the Indians of Canada and of our own Southwest—Hopi katchinas, baskets, ollas, sketches and paintings by Indian artists as well as by himself. Four eagle feathers standing upright on a shelf piqued my curiosity. "Those," Paul explained, "symbolize the name *Neow-Kwaneow*, Four Eagle Feathers, which the Cree Indians gave me when they initiated me and made me their blood brother in a sweat-lodge ceremony."

Ethnologist, lecturer, author of several volumes on the Indians, one of which has been crowned by the French Academy, an artist whose portraits of Indians and studies of horses and cowboys hang in many museums and private collections, one of the founders of the Boy Scout movement in France, founder of the French Wakanda clubs, originator of the novel cowboy polo game called "Cholla," Paul Coze is a person of dynamic energy and enthusiasm for his adopted country.

He is one of those rare individuals who not only knows his subject matter thoroughly from the academic point of view, but who can graphically demonstrate what he is describing, whether it be the technique of painting, an Indian dance rhythm, or a demonstration of trick roping. Paul's art students, busily painting in the adjoining studios at the time of my interview with him, no doubt chuckled as they heard their instructor chanting for my benefit, with remarkably realistic intonation and pitch, various songs of the Hopis, Crees, and Navajo.

Paul's wife, a charming young Danish woman, gave me an amusing sidelight on her husband's talent for impersonating



Working in his role as technical director of "The Razor's Edge," produced by 20th Century-Fox.

Indians. It was in Phoenix, during the early years of the war, that he was asked to give a demonstration of Indian dances. Dressed in authentic Indian regalia, and with his dark hair and eyes and slightly aquiline nose, he looked like a genuine redskin. When, following a spirited group of dances, he was presented to the audience as the former Boy Scout commissioner of France, some visiting British fliers literally keeled over in astonishment.

From boy scouting in Egypt and France to ethnological research in Arizona and New Mexico may seem a far cry. But it was his early boyhood interest in scouting and all phases of outdoor life that indirectly led him to our Southwest.

Paul Coze was born of French and Russian parents in Beirut, Syria, in 1903. His mother was the Princess Dabija Kotromanitch whose family were rulers of Bosnia, Croatia, and Moldavia in the 14th and 15th centuries. Forced into exile by the

Turkish subjugation, his mother's family took up residence in Russia, and from 1812 until the revolution were members of the Czar's court. Paul's paternal grandfather, Dr. Rosier Coze, was a scientist who founded the medical school of Strasbourg and is known for his metaphysical writings. In Paul Coze are combined the intelligence, initiative, and engaging personality of the two family strains. His only brother Marcel, an engineer in France, enjoys recalling the prophecy which an old Syrian soothsayer related to the father before his sons were born. "You will be blessed with two sons," predicted the seer; "one will be intelligent and the other will be famous." The elder brother twits Paul by asserting, "It worked out just as the old fellow said: you are famous, and I am intelligent!"

As a small boy in Alexandria, Egypt, where his parents were then living, Paul first became interested in the new Boy

Scout movement. Being an avid reader, he read all he could lay his hands on concerning Indians and cowboys, and determined some day to visit the New World and learn at first hand about these fascinating features of Western life.

Shortly before World War I, he went from Egypt to France to continue his education. There he interested the French Canon Cornette in scouting, and the movement was launched. Later on, Paul became national Commissioner of Boy Scouts of France, he wrote many handbooks for them, and for several years was editor of the Boy Scout newspaper.

In 1930 he was commissioned by the Museum of Natural History of Paris (the former Trocadero) to conduct an ethnographic expedition to Canada. For six months he and a group of young men studied the tribes of western Canada. The exhibit at the Trocadero of artifacts, Indian portrait paintings, photographs, motion pictures and documents secured during his first visit in Canada, aroused great interest in Paris.

During several seasons spent among the Canadian Indians, Paul Coze was made a member of six tribes in recognition of his friendship for them, and his scholarly books and lectures concerning them.

A trip to Washington in 1934, in the interest of boy scouting, brought him into contact with the American Indian bureau. There he met John Collier, Indian commissioner, and Tom Dodge, son of the late Navajo chief Henry Chee Dodge, both of whom told him he hadn't seen real Indian country until he had visited the Southwest.

His meeting with Tom Dodge occurred under unconventional circumstances. Paul was informally relating in an office of the Indian bureau some of his experiences among the Crees, when a member of the bureau interrupted him to ask, "Do you believe there are any Indians who love the white man?" Paul's forthright rejoinder, "I doubt it. Moreover, why should they?" evoked a hearty laugh from someone waiting in the office. The person who had overheard and been impressed by this open criticism in the very sanctum of the Indian bureau proved to be the young Navajo leader who was visiting Washington in behalf of his tribesmen. Paul's friendship with Tom Dodge stemmed from that moment.

The opportunity to visit and study the Southwestern Indian country under the guidance of this educated Navajo was now eagerly accepted by Paul. Between 1934 and the outbreak of World War II he spent part of almost every year on the Indian reservations of New Mexico and Arizona.

An incident occurring on the occasion of his first visit at Taos pueblo reveals Paul Coze's sympathetic approach toward the Indians.

"It was on September 30th, day of their

patron San Gerónimo, that I first visited Taos," Paul related. "The pueblo was in festive mood, and I was very anxious to secure some good documentary photographs of the festivities. I had been assured by numerous persons in Santa Fe that with ready money it was possible to obtain anything one desired in Taos.

"As the ceremonial dancers appeared in the plaza before the church, I adjusted my camera into position. Before I had succeeded in making the first shot, an Indian descended upon me demanding whether I had authorization to take pictures. I replied that I had paid the dollar fee. 'You no take pictures of dances—only views of pueblo!' he informed me tersely.

"At dawn the next morning the races began along a course in front of the North House. For hours I had been sitting like a wooden saint cramped into a small space on one of the terraced roofs. As I prepared to descend, two gnarled old hands seized me. 'No pictures of dances!' he warned me. 'But these are not dances; these are races,' I countered. 'No, no, races are dances,' he insisted.

"I descended and began mingling with the crowd. I met my cowboy friend, Frank, who suggested that I camouflage my camera with my leather coat, while he stood nonchalantly by, shielding me from observing eyes. The morning passed without incident. No one seemed to notice my picture taking now. In the afternoon the crowd milled around in anticipation of the final event, a pole climbing contest.

"In the central plaza a tall greased pole had been erected. Near the top had been assembled a prize collection of food products, including a sheep, melons and corn. Finally the clowns appeared, clad only in loin cloth, their bodies smeared with ashes and dead corn stalks tied to their hair. They were armed with bows and arrows. After numerous amusing antics the group of clowns gathered about the pole. Making a mass assault upon the pole, to the great merriment of the crowd, they had but slight success in making headway up the slippery mast. Some of the performers raced off in search of a ladder which they now proceeded to adjust against the pole. As one of the clowns raced up the ladder a rung broke and the fellow fell flat, adding further to the general merriment. Another ladder reaching but part way up the pole was now put into position. As one of the clowns was on the point of attaining the top, I came out into the open and installed myself on top of my car, from where I could take excellent pictures.

"Suddenly there was a movement at my back. The next instant I found myself thrust roughly to the ground. A hand seized my feet and a second hand grasped my belt. Another furious Indian snatched my camera. The crowd of onlookers drew back in alarm.

"My attackers shouted, 'It is because of you that they cannot climb the pole! You



Dancer of Taos—where the greased pole episode related in this story took place.

shall go before the Governor and explain why you have disobeyed our orders!"

"As no one came to my aid I was summarily taken off to what fate I did not know. I was led to the end of the village and taken into a room where the sight of a knotted lasso of agave fiber caused a momentary chill to run up and down my spine. Had I been misinformed, I began to wonder, as to the power of money in Taos?

"The jury entered, six impassive and silent old men. A young man was the interpreter. After interminable minutes in which seven pairs of eyes all contemplated me in silence, one of the ancient ones finally spoke.

"'Why did you disobey?' the young man interpreted. I replied that I had paid the dollar fee and that I had merely been warned not to photograph the sacred rites. I did not suppose I was violating any sacred ceremony in photographing the clowns.

"'The clowns are priests and the ascent of the pole is a sacred rite,' the interpreter informed me. 'You have violated our laws

and have stolen a part of the Power. You are responsible for the failure of the priests to reach the summit!'

"I was bereft of words. The thought that I had the power to freeze the harvest, to drive away game, to dry up melons, and to cause diseases among the flocks, would have been absurd had the situation not been so fraught with gravity.

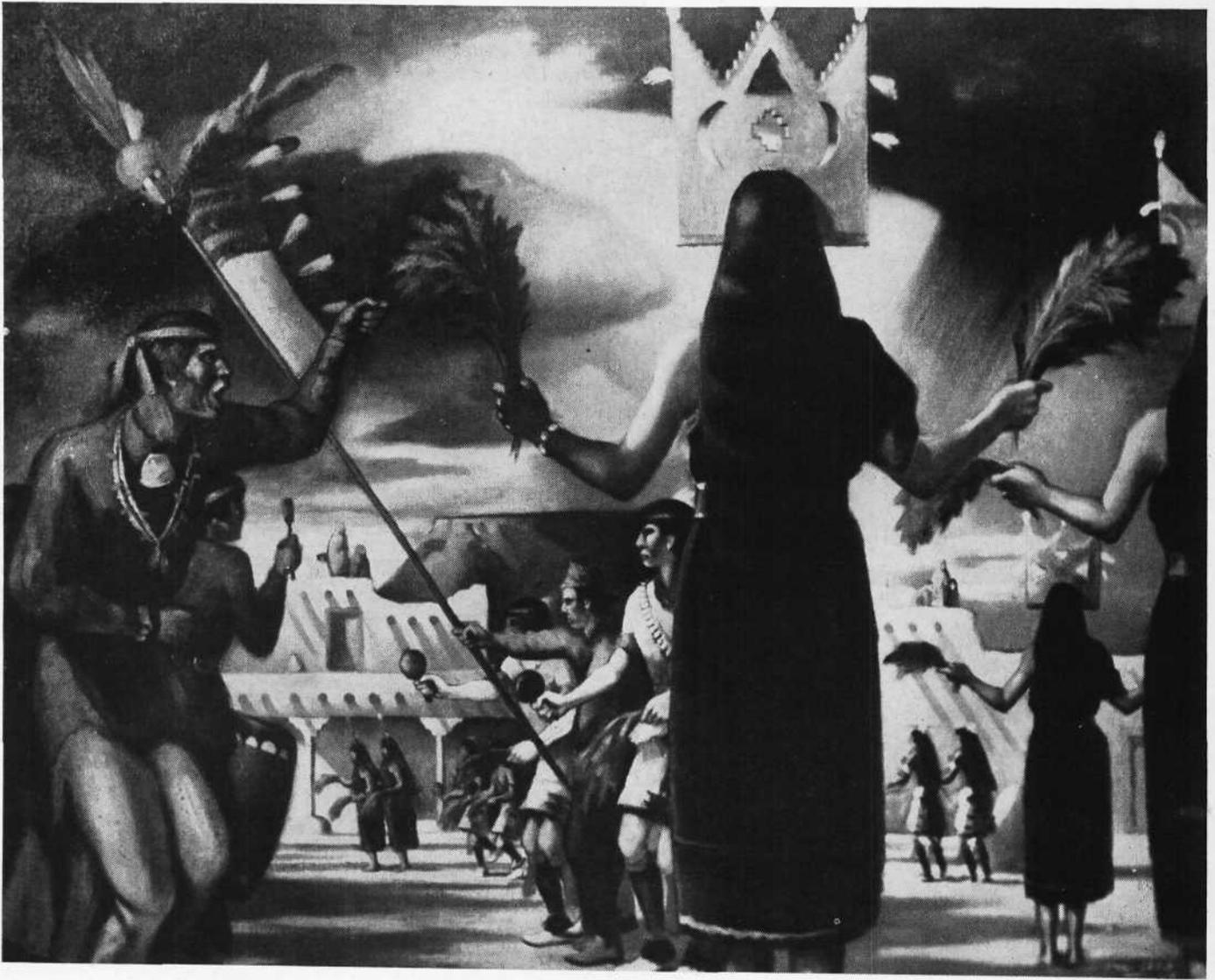
"'You must pay,' was the verdict.

"So that is how matters stand, I thought to myself. I took out my wallet. 'How much?' I asked.

"From under his blanket one of the old men brought out my camera and placed it before us.

"'We wish no money,' the interpreter explained the old man's actions. 'You must make reparation.'

"I was astonished. My white friends, then, were wrong. These Indians could not be bought. Their ancient traditions and ceremonies meant more to them than any amount of money. I rose and spoke to the small assemblage of men. 'I do not know what you demand of me in reparation. But



Corn Dance at San Ildefonso pueblo. Paul Coze sketched this scene at the pueblo in September, 1947, and completed the painting in his Pasadena studio.

I want you to know that at last I understand you, and that with all my being I honor you. A people that disowns its traditions is done for. You are remaining faithful to yours while adapting to your way of life the mechanical progress of the whites. I congratulate you, and to prove my friendship I make this reparation.' With these words I removed the exposed films from the camera and placed them before the Indian council.

"The Indian spokesman then took the empty camera and returned it to me, speaking at some length. When he ceased speaking, the interpreter spoke, 'You have understood and respected our beliefs and we thank you. May all white men try to do the same, and not force us into their way of thinking. There are many things in the lift of the spirit that we know and that the white man has forgotten.' Cryptically he added, 'To mount the sacred mast a ladder is not always sufficient.'

"The old man fell silent," concluded Paul, "and I left with my camera empty but with my heart full. To seal my newly won friendship with them I promised to

send to them for their next dance four eagle feathers, symbolic of my own Indian name."

From his years of experience as a world traveler and as a student of the American Indian, Paul Coze has drawn a significant conclusion in his book *L'Oiseau Tonnerre*, a conclusion which may well be pondered by all thoughtful people: "There is always a little blue in the eyes of all races when their gaze is uplifted toward the sky."

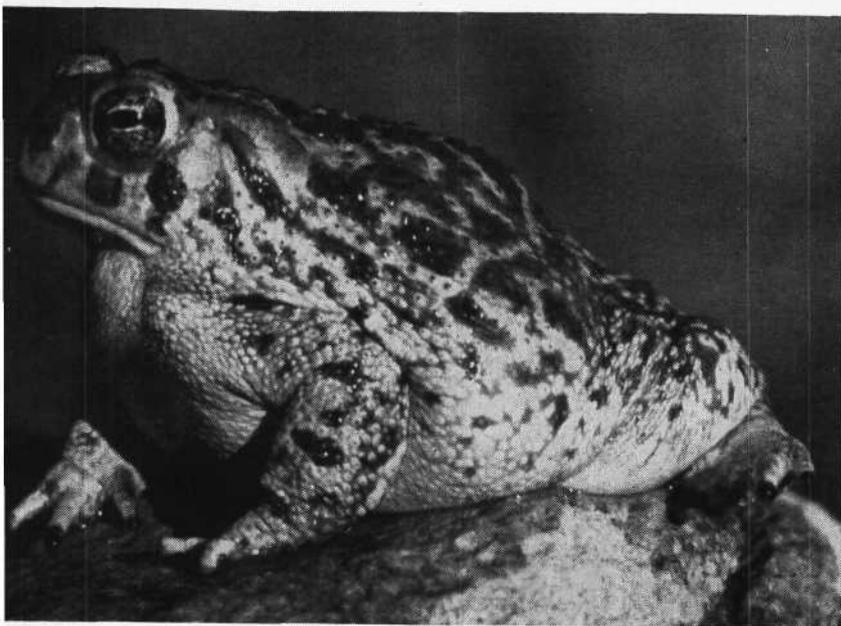
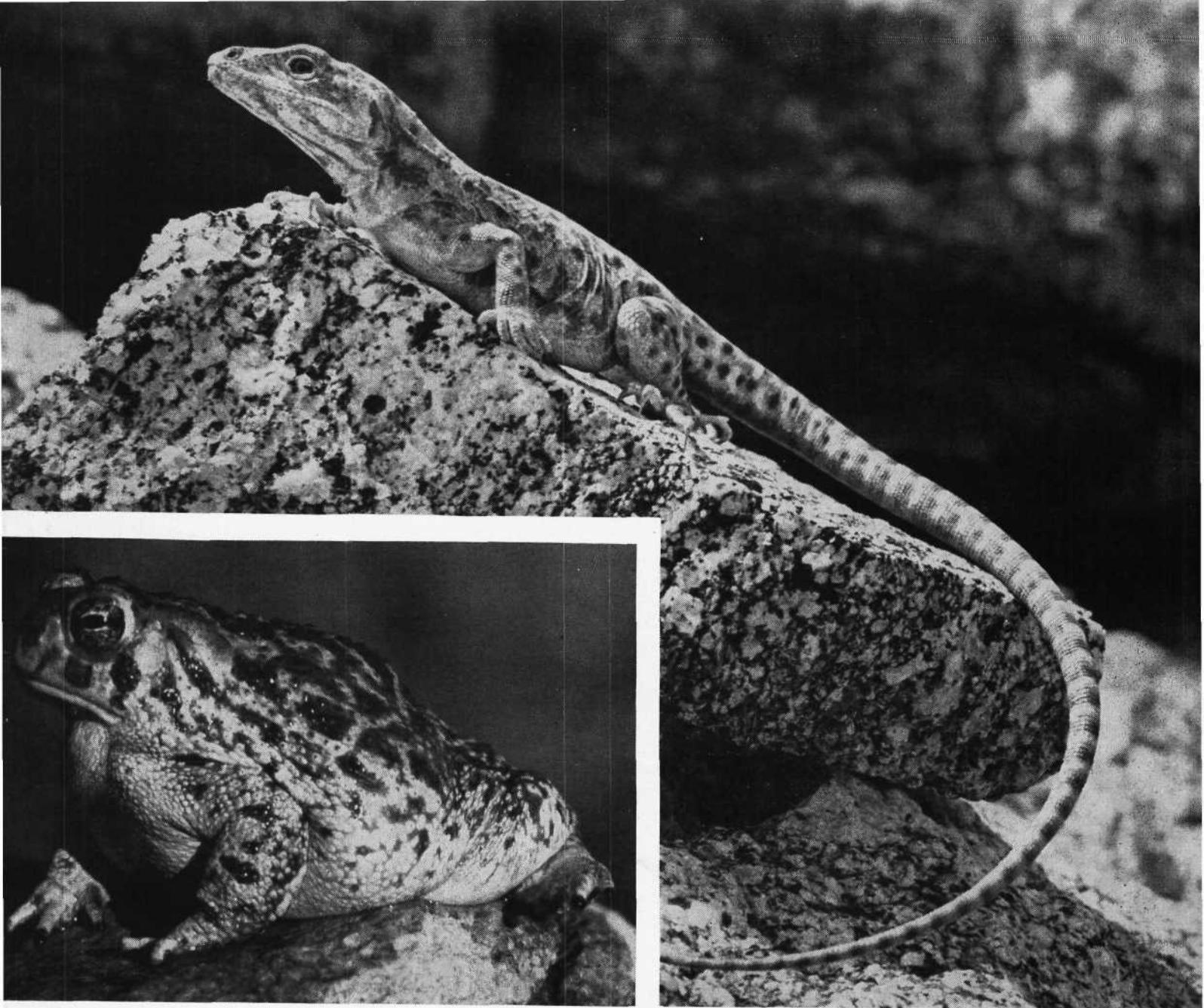
HOMESTEAD LANDS OPENED IN MOJAVE DESERT AREA

Additional information on land now open for homesteading on the Mojave desert has been released by Fred W. Johnson, district land office, department of the interior, Los Angeles. One block, seven miles wide by six miles long, starts approximately three miles north of Mitchell's Caverns, which are 22 miles northwest of Essex.

The second block described lies about three miles west of Mitchell's Caverns, and is approximately three by seven miles in area. This land is almost adjacent to the

ghost town of Providence, where the Bonanza King mine produced an estimated \$60,000,000. Mining operations were started about 1865 and six miles of tunnels were dug. The old Dominguez ranch is in the same area and there are such scenic attractions as the Indian wind caves and Hole in the Wall.

Both blocks lie in the Providence mountains area, and the *Barstow Printer-Review* describes them as "the first desirable land opened to homesteading on the desert in 20 years." According to announcement, the lands were opened both to regular homesteading of 160 acres and to jackrabbit homesteading of five acres. Opening date was December 2, with 90 day preference filing rights for veterans of World War II. Commencing at 10 a. m. Tuesday, March 2, 1948, any lands remaining unappropriated will become subject to filing by the general public. Applications by the general public may be made during a 20 day advance filing period beginning February 11, and all such applications together with those filed at 10 a. m. March 2, will be treated as simultaneously filed.



December Prize Photos . . .

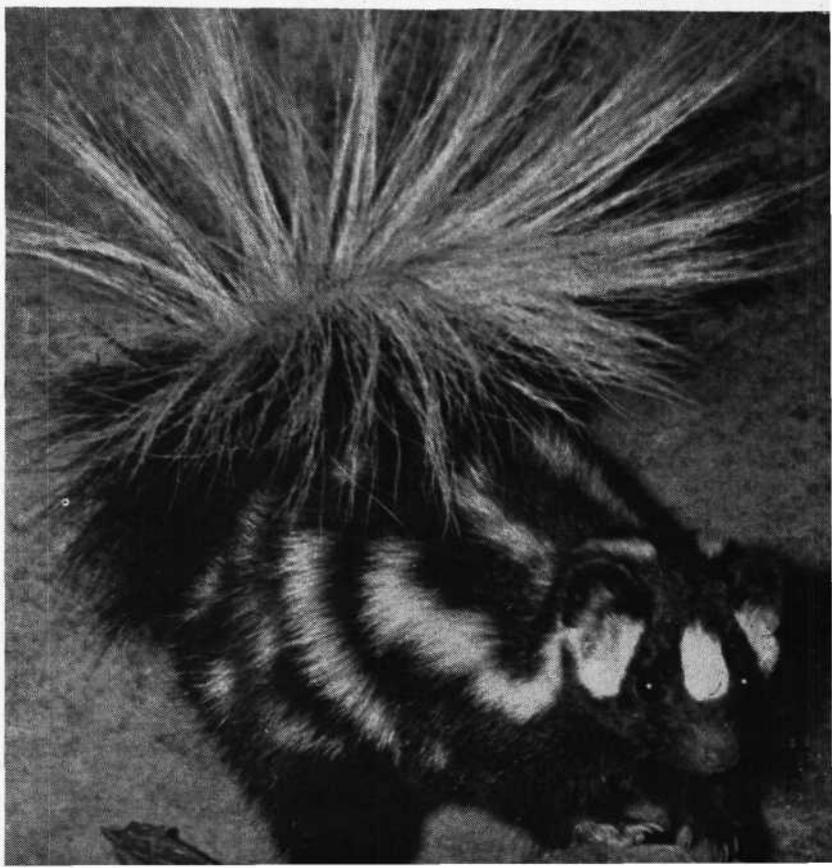
For its December photo contest, *Desert Magazine* asked its readers to send in portraits of small desert folk, from insects to mammals.

FIRST PRIZE was awarded to Martin Litton, Culver City, California, for his picture (top) of a Leopard lizard photographed in southern Nevada near Davis dam site. The subject posed voluntarily and a 2 $\frac{1}{4}$ x3 $\frac{1}{4}$ Speed Graphic was used.

SECOND PRIZE was awarded two photos. E. R. Tinkham, Tucson, Arizona, photographed the Western Toad (above) at Benson, Arizona, with a Zeiss Ikon camera, 1/50 sec. exposure at f.11. It was taken on Plus-X film late in the afternoon.

TIED FOR SECOND was Robert Leatherman, San Bernardino, with his portrait (right) of the desert spotted skunk. The shot was taken with a Crown Graphic at 1/400 sec., f.8, using a No. 5 flash at 7:15 p. m.

FEBRUARY, 1948



Mines and Mining . .

Jerome, Arizona . . .

A small mineralized area which it is economically feasible to mine at present prices has been found at the 4500 foot level at Jerome, according to H. M. Lavender, vice-president and general manager of the Phelps Dodge corporation. This area, largely copper, will keep Jerome active for at least another eight months, Lavender said. In 1945 the company announced that mining would be stopped at the camp in a few years due to lack of high grade ore. Since that time a reported \$1,000,000 has been spent for explorations in the lower levels there.

Austin, Nevada . . .

Nevada Equity Mining company is said to have obtained operating control of the old Lander Hill group of claims which have produced an estimated \$30,000,000 in silver. This expands the company's holdings to 61 claims, including the Lander Hill, Nevada Equity and Escobar groups, the first time these properties have been consolidated, according to the *Reese River Reveille*. Machinery is being installed on the claims and Austin old-timers are looking for a new boom at the famous silver camp.

Goldfield, Nevada . . .

Unconfirmed reports indicate the stringers of gold ore which Newmont Deep Mines operations cut last June while doing development work have widened to four feet of ore. Officials believe the vein may be a continuation of the rich ledge struck recently. Point of entry for the new strike is about 450 feet from Whiterock shaft. The seams first cut assayed up to \$1200 a ton, and company officials are said to have been working since June to determine the size of the mineralized area, but were hampered by wet ground and caveins.

Phoenix, Arizona . . .

Only four per cent of Arizona's 73,015,669 acres have been intensively prospected, according to a booklet issued by Phoenix chamber of commerce. One per cent of the area has been investigated geographically. The first recorded mineral discovery in the state occurred in 1583, and in 364 years total mineral output has been \$3,897,030,072. The 16-page booklet is illustrated with pictures of Jerome, Ajo, Bisbee and other Arizona mines.

Effective January 1, 1948, under new tariff regulations the import duty on tungsten ore will be reduced from 50 cents to 38 cents per pound of tungsten contained.

Goldfield, Nevada . . .

Charges that the talc industry is completely dominated by a handful of large mining concerns who set the price and have so cornered the market that no independent can sell his product, have been made by an unidentified independent talc producer quoted in the *Goldfield News*. As a result, he declares, the independent virtually has been driven from business in that section of Nevada, although 28 were in operation there during the war when their output was purchased by the government. He suggests investigation by an impartial federal agency.

Luning, Nevada . . .

Girard Crawford of Bishop, California, recently relocated diggings in the Rawhide district which were worked by his father 40 years ago. Crawford, accompanied by W. D. Edds of Luning, took an army ammunition wagon and drove through dozens of canyons before he spotted a landmark his father had described. The vein, found after climbing a 2000 foot peak then dropping to a lower hill, was of azurite and malachite. Crawford declares that mining of the ore would not be profitable, but he hopes to bring out enough for fireplace and mantle decorations.

Silver City, New Mexico . . .

Pinos Altos, legendary camp of the past century, is the scene of renewed activity but copper has replaced gold and silver. The Pinos Altos Mining company reportedly has purchased a group of claims comprising 400 acres from Homestead Mining company, and is moving machinery onto the ground to start larger operations. Little evidence remains of the old camp where precious metals estimated up to \$20,000,000 were mined.

Reno, Nevada . . .

Imperial Lead Mines, Inc., has purchased the properties of the Union Lead and Smelting company, formerly known as the Commonwealth mine, which shipped ore with a gross value of \$600,000 during World War II. The new company, a Nevada corporation, reportedly is completing construction of a selective flotation plant designed to treat up to 200 tons of ore per day near Steamboat Springs, 13 miles south of Reno. The Commonwealth is one of the oldest mines in Nevada, having been patented in the '60s.

Salt Lake City, Utah . . .

Henry J. Kaiser interests have made the conditional purchase of the iron blast furnace at Ironton, Utah, and the coke plant

of 500 beehive ovens near Sunnyside, Utah, according to announcements here. Purchase was made from the War Assets administration for \$1,150,000, with down payment of one per cent, Jack L. Ashby, Kaiser company vice-president states. Company representatives have been in Utah studying problems of raw materials, water, power and transportation which must be met before purchase is completed.

Yermo, California . . .

Beard's Agricultural Minerals Company, Inc., has bought the B. E. Apte mill at Yermo, and plans to mine and process local deposits of lime and other minerals for use in agriculture. Conveyers, rail bins, sacking machines and a rotating calciner have been purchased for installation. The corporation owns phosphate and potash mines in Idaho and Utah, and complete concentration of minerals into fertilizer mixes will be made at the Yermo plant, it was announced.

Moab, Utah . . .

Former employes of the Segoe mine of the Chesterfield Coal company bought the mine and personal property at a sheriff's sale in Moab and plan to operate the properties at full capacity. Louis Reese, former superintendent of the Chesterfield company, acting for himself and practically all the former employes, entered the high bid of \$30,010. The new company, being incorporated under Utah state laws, will be known as Utah Grand Coal company. The Segoe mine was closed when the Chesterfield company became involved in litigation.

A jade nugget weighing 600 pounds was reportedly discovered near Jade mountain, Alaska, by Harry M. Coleman and George E. Van Hagan, Chicago men on an eight day prospecting trip. The jade, being shipped to Chicago, is believed to be the largest piece of gem quality yet found in Alaska.

Bentonite, a clay used in oil filtering and for other commercial purposes, is being mined three miles southeast of Kersarge, Inyo county, California, according to R. L. Palmer. Palmer and Jim Nikolaus reportedly are shipping from both open pit and underground operations on the claims owned by Jack and Irene Burkhardt and Ray Wilson.

Perseverance lead-silver mine, located in the Sylvania district, southwestern Esmeralda county, Nevada, has been sold to C. M. Zabriskie, Salt Lake mining man. Old rock cabins and charcoal piles on the site when the mine was discovered in 1870 indicated earlier workings, possibly by Spaniards. In 1904, 35 men were employed at the mine, then known as the Bullion.



The Gila woodpecker had lots of poise.

Cactus Campmates

Story and pictures by IRENE OLIN

THREE of the most frequent and friendly visitors at our camps in the desert country where cactus was plentiful, were the curve-billed thrasher, the cactus wren and the Gila woodpecker. It could not be said they were very friendly with each other but generally they were together.

Wishing to become well acquainted with desert wild life, we felt that offerings of food would show our friendly intentions. We put a large stalk of dead cholla in the ground. In the top a cavity was hollowed out where we sank a cup which was kept filled with hen scratch, a mixture of several kinds of grain. Small pieces of beef

suet were placed in the holes in the trunk. These birds did not seem to care for bread, but the Gila woodpecker's choice was hot-cake, which also was placed in the holes in the trunk. We put a cup of water near, and the birds drank from it often.

At frequent periods during the day we would observe one bird fly in. Almost immediately about four wrens, one or two thrashers and a pair of Gila woodpeckers would follow. Often there also would be a pair of brown towhees, a verdin or two, a little rock wren and sometimes the beautiful desert sparrow. Each species had a personality all its own.

The thrasher had a bold, swaggering

It was no ordinary portrait studio that Irene Olin set up beside her camp in Tucson Mountain park and her subjects, the desert birds, did not know that they were posing. But they seemed more than satisfied with wages of suet, grain and flap-jacks. And while the photographer, 35 feet from her press camera, tripped the shutter with a fine fish line, she was learning a great deal about the personalities of the bullying curved-bill thrasher, the inquisitive cactus wren and the alert Gila woodpecker.

For the information of photographers, pictures were taken with a 4x5 press camera, using high-speed panchromatic film. Shutter speed was 1/50 sec., average lens opening f.22 with a medium yellow filter and the camera was about 18 inches from the birds.

manner and constantly chased other smaller birds. The cactus wrens, in a matter-of-fact way, flew or hopped just out of his reach, while the towhees flew excitedly away and complained loudly for several minutes. We suspected the thrasher was mostly bully because when the Gila woodpecker opened his bill at him, he moved immediately.

Uninvited chipmunks partook of the feast which we had spread for the birds. Day after day the thrasher flew at them and dogged them until they gave up and went home. One day Father Chipmunk tired of this and turned on the thrasher in a furious rage. What took place was too fast for the human eye, but a few feathers flew, the thrasher hurriedly retreated to the top of the cholla stalk, angrily gulped a piece of suet that nearly choked him, then flew away.

The thrasher is a slim and sleek appearing bird from 10½ to 11½ inches long, with a long decurved bill, dull grey-brown back, cinnamon-tinged belly, a faintly spotted breast and a striking pale orange eye. It has a beautiful whistle, loud and liquid, and a soft, sweet song it sings to itself as it sits in a cactus during siesta time.

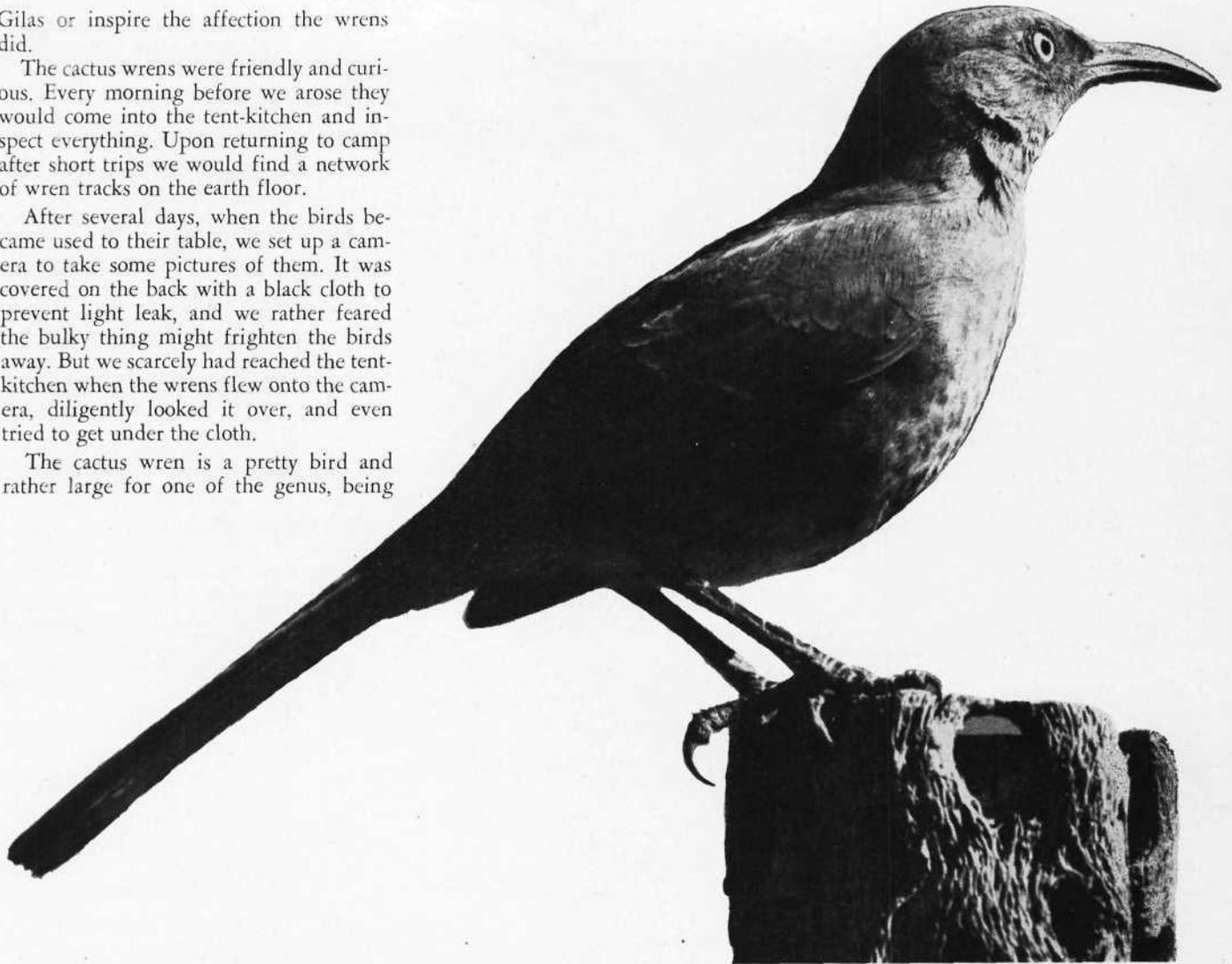
Most of the day the thrasher stayed near the food and would not fly from us until we were very close. But it would not come to our camp as the Gila woodpeckers did, or into the tent-kitchen like the wrens. It preferred grain and scooped out onto the ground the kinds it did not like. It spent much time tearing up the earth under the chollas with its long curved bill, in search of food. It frequently makes its nest in the chollas. While we admired the thrashers, they did not have the friendly appeal of the

Gilas or inspire the affection the wrens did.

The cactus wrens were friendly and curious. Every morning before we arose they would come into the tent-kitchen and inspect everything. Upon returning to camp after short trips we would find a network of wren tracks on the earth floor.

After several days, when the birds became used to their table, we set up a camera to take some pictures of them. It was covered on the back with a black cloth to prevent light leak, and we rather feared the bulky thing might frighten the birds away. But we scarcely had reached the tent-kitchen when the wrens flew onto the camera, diligently looked it over, and even tried to get under the cloth.

The cactus wren is a pretty bird and rather large for one of the genus, being



The thrasher acted like a bully.

from 7 to 8½ inches long. It has a rich brown head, greyish-brown back streaked with white, a white streak extending from the bill over the eye, heavy black spots on a greyish throat and breast, reddish-brown belly and long rounded tail. The song of the cactus wren is decidedly not musical but it will sit in the top of a bush and put just as much heart into a rendition as any other bird.

Its nest looks like a roll of sticks and grass securely fastened horizontally among the cholla joints with the opening at one end. The wren also is somewhat of a mimic. We have seen one watch the manner in which the Gila woodpecker selected a piece of hotcake and flew off with it, and then do the same thing in exactly the same way. They ate only small amounts of each kind of food and like the thrasher spent a good deal of time searching the ground underneath the chollas.

After seeing some of the brilliant black and white woodpeckers with vivid red heads, the Gila woodpecker does not appear particularly pretty at first. Actually it is quite a handsome bird. Its colors are the rich ones of the desert. It has a brownish-grey head on which it wears a small

beret of brilliant red, low on its forehead. Its breast and belly are a smooth greyish-tan and its back is striped with small bars of black and white. Its tail is black with white bars on the outer feathers and in flight it displays a showy spot of white on each wing. The female woodpecker is dressed the same, except for the red cap.

This woodpecker was not of nervous type and did things in a deliberate manner. Hanging to the side of the cholla stalk, it would select a piece of hotcake or suet, look carefully in several directions and fly away to hide the morsel. Sometimes it would only transfer the piece to another hole in the trunk. It drank often. Leaning back with its tail as a prop, it would dip up a bill full of water, look around leisurely with the drops of water glistening on its bill, and then dip up another drink.

It would sit on the woodpile or hang in a bush near us and watch us closely. If there was no food in the cholla stalk it called to us in a loud voice. In the evening it would fly to its nest in a saguaro, sit and look around for a bit and then disappear for the night.

Now that we are camped where these birds do not live we sincerely miss them.

They seemed to like to be near us and we certainly enjoyed their company.

RAIN-MAKERS AT WORK ON RIM OF DESERT

Systematic experiments to test the possibility for artificial rain-making over the San Jacinto mountains are being made by the Hemet Valley Flying service in cooperation with the California Institute of Technology and the Riverside county flood control and water conservation district. Piloted by Hannah and Lloyd M. Venable, planes made flights on four different days with rain or snow or both directly resulting from three of the flights.

Ground observers as well as pilots reported precipitation in the direct line of the flights within 15 minutes after the planes had passed over. On a flight when dry ice was released from a point near Murietta straight east to the mountains, a rainstorm path three miles wide was plainly visible. On December 6, a sudden heavy snowfall occurred 15 minutes after a flight over the Idyllwild region. An earlier flight over Anza and Aguanga produced rain which drifted out over the desert.



The cactus wren was friendly and curious.

HERE AND THERE... on the Desert

ARIZONA

He Hunted Geronimo . . .

TUCSON—"Tucson sure has grown up," Charles Holsman, 81, declared upon his recent arrival at the Arizona city. Holsman should know. He first saw Tucson in 1887, a foot soldier on the trail of the dreaded Geronimo. "I guess we walked 500 miles from the northern to the southern end of the state and doubled on our trail a few times," he said. The soldiers started from Fort Whipple, took Geronimo's trail at San Carlos and followed him to Showlow, St. Johns, Snowflake, Fort Apache, White Mountain reservation, Black river, back to San Carlos, to Tucson and Bowie where he was captured.

Too Many Homesteaders . . .

YUMA—When the 90-day filing period closed on December 8, 725 prospective settlers, including 693 World War II veterans, had applied for homesteads on the Yuma mesa project. Twenty-eight farms were available. All applications received will be considered as filed simultaneously. A list of all World War II veterans meeting minimum requirements for

entrymen will be drawn up and names of successful applicants will be drawn by lot. Each person will be notified personally when the board acts on his case.

Doc's Family Feuded Too . . .

TOMBSTONE—"Doc" Holliday of the Earp-Clanton feud probably would have had more battles if he had stayed home in Georgia. Col. Pope B. Holliday, Doc's second cousin, said on a recent visit to Tombstone. Several of Doc's immediate relatives were killed in the Holliday-Thurman feud there, according to Col. Holliday, and it wasn't out of the ordinary for one of the boys to get into trouble now and then. Doc, fresh out of dental school, headed West when he found he was tubercular. He killed a soldier in Dallas and moved on to Tombstone where he apparently decided gambling was easier than doctoring teeth.

Want Dam Road . . .

PARKER—Yuma county board of supervisors again is attempting to include the Parker to Parker dam road, on the Arizona side of the river, in the county road system. A previous effort was blocked by federal

objections to the route and protests of two property owners. Renewed action was taken after Parker residents pointed out that a barely passable trail connects the two points now, and that a good road to Parker dam and Havasu lake would benefit everyone by opening fine fishing, hunting and boating country.

Tie Those Actors Down . . .

PHOENIX—If Hollywood studios won't tie actors to their saddles, Arizona may have to change its constitution to exclude from compensation Californians on Arizona movie locations. A stunt rider, who fell from his horse on location, is said to have been drawing \$235 a week ever since, under Arizona's 65 per cent compensation law. California's maximum compen-



Save-the-Redwoods

Send 10 cents each for these attractively illustrated pamphlets: "A Living Link in History," by John C. Merriam... "Trees, Shrubs and Flowers of the Redwood Region," by Willis L. Jepson... "The Story Told by a Fallen Redwood," by Emanuel Fritz... "Redwoods of the Past," by Ralph W. Chaney. All four pamphlets free to new members—send \$2 for annual membership (or \$10 for contributing membership).

SAVE-THE-REDWOODS LEAGUE
250 Administration Building,
University of California, Berkeley 4, Calif.

sation is \$30 a week. So far visiting actors have refused to sign waivers, and state officials fear that some star may be injured and Arizona taxpayers will find themselves paying him thousands per week in compensation.

Face-Lifting for Customs House . . .

YUMA—The thick-walled adobe occupied by U. S. customs since the days when Yuma was an international port, is being modernized with new stucco walls and concrete porch floors. Army quartermaster department is believed to have constructed the building after completion of Fort Yuma in 1850. The area across the river did not become part of the United States until the Gadsden Purchase in 1854. In the early days, Yuma was receiving

point for supplies shipped up the river for mines and forts all over the West and clearing point for ores shipped as far as England.

A stone column topped by the statue of a saddled but riderless horse has been placed at the wash near Florence where Tom Mix was killed in an automobile accident seven years ago. The memorial was erected by Florence chamber of commerce.

President Truman has signed a bill authorizing a \$2,000,000 appropriation for the immediate relief of the Navajo and Hopi Indians of Arizona, New Mexico and Utah.

William C. Courtis, 101-year-old veteran of Arizona Indian wars died in Phoenix December 12. He was a cavalryman at Fort Grant, Arizona, from 1871 to 1875, participating in battles with Apache Chief Cochise.

Harrison and Harry Austin, full-blooded Mojave Indians, residing on the Fort McDowell Indian reservation, have filed a test case in Maricopa county superior court to compel the county recorder to enter their names on the county voting register. Arizona Congressman Richard F. Harless is acting as attorney for the two, who are testing the right of reservation Indians to vote in Arizona.

Knitted articles made by young Papago girls in Mrs. A. W. Scholl's room at the Ajo school were awarded the blue ribbon at the Arizona state fair. Most of the girls are about eight years old when they enter Mrs. Scholl's class, and are able to speak but a few words of English.

CALIFORNIA

Research for Searles Lake . . .

TRONA—A new research laboratory costing \$300,000 and covering 16,800 square feet has been completed at the Trona plant of American Potash and Chemical corporation. The building contains nine laboratories, a spectographic lab, instrument room, photographic developing room, research library, conference room and offices. An outstanding feature is a two-story pilot plant section equipped with galleries and overhead crane where small-scale models of equipment used in the plant will be set up and operated for practical tests of new products and methods.

Owens Water Fight Continues . . .

INDEPENDENCE — Representative Claire Engle has a bill pending in congress which would throw open to public entry 500,000 acres of public domain in Inyo and Mono counties. The city of Los Angeles is pressing a counter-measure to make opening of such lands subject to certain easements and water rights in favor of the city. Los Angeles claims that the Engle bill would cost the city \$30,000,000, which it would have to pay for rights to individual owners who acquired the land.

Salton Sea Too Fast? . . .

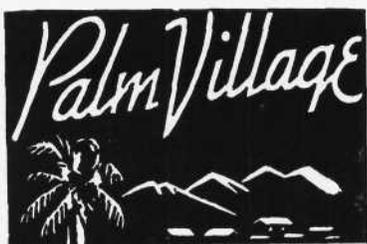
DESERT BEACH — Swedish boating enthusiasts have asked the International Motor Yachting union to ban all world records made on bodies of water below sea level. The move apparently was aimed at California's Salton Sea, more than 200 feet below sea level. A total of 14 world records were set at Desert Beach's Salton Sea course during a recent regatta. The American Power Boat association has gone on record against the resolution, and the Yachtsmen's Association of America has agreed to vote negatively if the subject is brought up.

Mountain Peak Climbed Again . . .

PARKER DAM — Needle-like Monument peak, on the California side of the Colorado river across from Parker, Arizona, was scaled for the second recorded time on November 28. A train of climbers, five on a rope, consisting of Chuck and Ellen Wilts, Jerry Ganapole, Ray Van Aiken and Harry Sutherland, made the climb. Wet weather made progress over the vertical, dangerous rock slow and tedious so that the summit was not reached until late afternoon. Final descent down the last pitch was made in total darkness. The peak was first climbed in December 1939.

Horses for Stove Pipe Wells . . .

DEATH VALLEY—Horseback riding will be added to the attractions at Stove Pipe Wells hotel in Death Valley this winter. Herbert London and his wife who operate Rock Creek Pack station north of Bishop in the summer, plan to bring a string of good riding stock to the hotel in



Palm Village affords a perfect, healthful, secluded community located just 12 miles beyond and through Palm Springs, at the junction of the Palms to Pines Highway. Homesites from \$795 to \$3500. Terms if desired. Some lots with beautiful date and citrus trees. Business and income opportunities. No place offers so much in truly restful desert living.

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—DESERT MAGAZINE

January. Rides will be made to the sand dunes and Mosaic canyon, with extended trail outings scheduled in the adjacent mountain and desert country.

Sue Palm Springs Indians . . .

PALM SPRINGS—Mr. and Mrs. Lee Arenas, Agua Caliente Indians who apparently won the right to individual ownership of their tribal allotment of valuable Palm Springs lands are being sued by their attorneys. The lawyers, Oliver O. Clark, David Sallee and John W. Preston are said to be suing for \$333,000, declaring the land to be worth \$1,000,000 and claiming one third of that amount for legal fees. They demand that the land be sold to satisfy the claims. However Arenas has not yet acquired the land, the case being carried by the government to a higher court.

Palm Springs-Salton Highway? . . .

COACHELLA—Preliminary draft of a master plan for development of the entire Coachella valley has been presented to the Coachella Valley Planning committee by Charles Elliot, special consultant to Riverside County Planning commission. Highlight of the report was the proposal that a scenic highway be built along Whitewater wash from Palm Springs to the point where the wash enters the Salton Sea. Picnic and recreational areas would be developed along the route. The report also took

up Indian lands, highway routings and proposed county, state and national parks.

Visitors to Joshua Tree national monument in mid-November were greeted by a snow storm among the joshuas.

The grove of lofty palms at the Garnet station of the Southern Pacific in San Geronio pass has been cut down to give better visibility to the semaphore system, Conky Conkwright, who passes the station every day, reports.

NEVADA

Belmont Population Drops . . .

BELMONT—Population of Belmont, once seat of Nye county, was halved when Charles W. Wagner, 86, was caught away from the camp by heavy snows. Unable to reach the camp, which lies 13 miles northeast of Manhattan, Wagner headed south to Beatty for the winter. Henry Matthews, 71, is reported to be the only resident remaining in Belmont. Wagner was born in a covered wagon at the site of Belmont in 1861 and spent much of his life there. He made \$150,000 in the Goldfield boom as partner of George Wingfield, but spent it all attempting to revive Belmont.

Wild Bears Can Relax . . .

CARSON CITY—Wild bears of Nevada won in an interpretation of law hand-

ed down by the attorney-general in December. Under state law, bears are classified as game animals, but no open season was set by the legislature. The attorney-general declares that lack of an open season results in a closed season and therefore bears will not be hunted this year. The state fish and game commission points out that all non-game birds, except those classified in the game code as predatory species, also are protected throughout the year.

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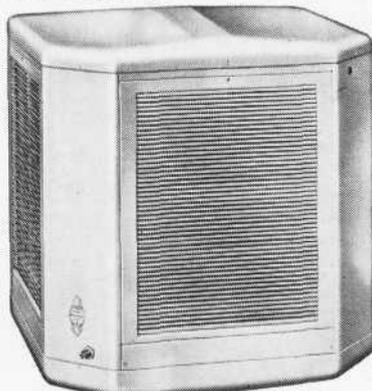
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CAN YOU help me? Due to health conditions (not contagious disease) must spend one to three years on desert. Will consider any light work, full or part time in exchange for room and board and token salary. Young man, 27, single. Address Richard R. Compton, General Delivery, Maplewood, Missouri.

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FOR SALE: Karakul bed blankets, colors, blue, green, natural, maroon, weigh at least 4½ pounds. Money back guarantee. Price \$17.50. Write Addis Kelley, 4637 E. 52nd Place, Maywood, California.

KARAKULS. Producers of Persian Lamb fur are easy to raise and adapted to the desert which is their native home. For further information write Addis Kelley, 4637 E. 52nd place, Maywood, California.

CACTI AND SUCCULENTS—From the deserts of the world. Don-Rita brand. By appointment only. Write us your needs and we will try to help you. Michael Donnelly Cacti Gardens, 334 Lowell St., Daly City, Calif.

LEARN the profitable jewelry and gold-smithing trade at home. Simplified course teaches jewelry designing, manufacture and repairing; gemsetting, etc. Gemcrafters, Dept. F., Kalispell, Mont.

VACATIONS ARE FUN at the Banner Queen ranch. Located on the rim of the desert—quiet, friendly, excellent food—swimming—saddle horses—trails—for hikers—once the happy hunting ground of the prehistoric Cahuilla Indians. American plan—\$9.50 double, \$10.00 single. Mail address: Banner Queen Ranch, Julian, California. Phone for reservation, Julian 3-F-2. Bill and Adeline Musher, owners and managers.

MOTORS—G.E. 1/3 H.P. 1725 R.P.M.—AC 115 V. 60 Cycle Sgle Phase—Mounted Rubber Ring on Base Cradles. Price \$28.50 f.o.b. Others ¾ H.P. up to 15 H.P. Ted Schoen, 117 Orchard St., Mt. Vernon, N. Y.

WANTED: OLD ENVELOPES with western cancellations before 1890. Also gold coins in good condition. Write: C. H. Greiner, 106 N. Sunset, Temple City, Calif.

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FREE—Geologic and Scenic Color Slide Catalog. Heald-Robinson, 2202 N. Santa Anita Avenue, Altadena, California. Enclose \$1.00 for Special Offer—No. 439 Owachomo Natural Bridge; No. 1185 Devil's Tower, Wyoming; No. 1234 Yellowstone Falls.

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The Long Journey Home . . .

BEATTY—It took the Montgomery hotel building 35 years to get home, but it is back in Beatty today. The hotel was a leading institution of southern Nevada 40 years ago but with the passing of the Bullfrog-Rhyolite boom it was moved to the camp of Pioneer a few miles north of Beatty. When Pioneer died, a portion of the building was hauled to Tonopah, served various purposes and finally became a second-hand store. In November Dave Roberts dragged what was left of the old Montgomery hotel back to Beatty where it will be used for business purposes.

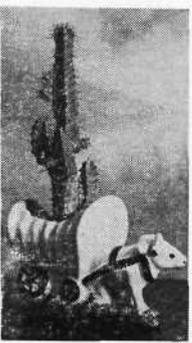
Under-Water Survey for Lake Mead

BOULDER CITY—An extensive under-water survey of Lake Mead is being planned for the near future to determine volume and density of sediment carried into the lake and deposited by the Colorado river. The work will be carried out jointly by the navy department, the coast and geodetic survey and the U. S. geological survey, with the geological survey responsible for operations and the boats and under-water sound equipment furnished by the Navy. Primary purpose of the 8 to 12 months' investigation will be to determine loss in Lake Mead storage capacity due to sediment.

Eureka Buys Itself . . .

EUREKA—The old camp of Eureka, which has been squatting on public land since its founding in 1863, bought itself from the interior department December 6. Eureka is booming again with increased world demand for lead and zinc. With a population reaching 700, officials are seeking incorporation as a city and wished to clear the title to land on which more than \$1,000,000 in improvements have been placed. Arrangements were made with the interior department and patent to the property was granted for \$600.

Esmeralda County Clerk Amy Roberson sold an entire block of 20 lots, and 24 lots in other blocks in south Goldfield during one day in November. A vast amount of land in Goldfield has been bought from the county since Newmont Deep Mines operations made its big strike there.



HI-Yah Padner!
A Bit of the Old West. This 6" ceramic covered wagon, hand painted, too! Just the thing for that Window shelf to add that Western touch. The unusual succulent gives a warm desert welcome. Slap yo' brand on this combination. \$1.40 P.P.
Send 10c for Desert Jewel Plant and Cacti list to—
aRm Ranch
Rt. 1, Holtville, Calif.

Richard Haman, manager of the Fairfield ranch on the Nevada-California border has filed a claim in the state engineer's office for all the moisture in clouds passing over the 12,000 acre ranch. Haman plans to manufacture rain through the dry ice method, and feels he should have title to all the rain he makes.

NEW MEXICO

Indians Reconvert Jewelry . . .

GALLUP—Reports that counterfeit half dollars were being circulated in Gallup died when it was found that the coins were reconverted Indian buttons. Two Indians were taken into custody after they had passed several bright but mutilated half dollars, but were released when the coins were identified as formerly part of their jewelry. When Indians are in need of cash, it is reported that they snap off the loops they have soldered on coins for use as jewelry and return them to circulation. In this case the loops had been removed by a silversmith's soldering torch and the coins burnished.

He Likes the Reservation . . .

RUIDOSO—Percy Bigmouth was born on the Mescalero Apache Indian reservation 58 years ago, and never has left it. He has been a ranger on the reservation during the past 12 years, patrolling areas open to tourists, looking after fish and wildlife and issuing fishing licenses. When the hunting season closes at Christmas, Percy will go back into the reservation to spend the winter with his 97-year-old father. In the spring he will be back at the ranger station. But he will not leave the reservation. "Why should I go anywhere else," he says. "My home is here."

State Wants More Land . . .

SANTA FE—State Land Commissioner John E. Miles declares that the New Mexico congressional delegation will work for a bill to turn federal public lands over to state control. The state now controls 10,000,000 acres of public land and Miles estimates that the bill would turn another 10-15 million acres over to New Mexico. Chief federal revenue from the land comes from grazing fees, and Miles said the state would inaugurate a program for grazing and mineral development.

COUNTY MAPS

CALIFORNIA—

Showing Twnshp, Rng., Sec., Mines, Road, Trail, Creek, River, Lake, R.R., School, Camp, Rngr. Sta., Elevation, Ntl. Forest, Land Grant, Pwr. Lines, Canals, Boundaries, etc.

Size Range:
20x30 to 73x100 Inches

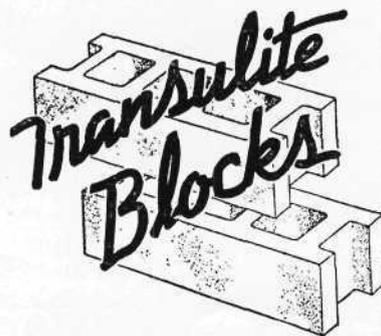
ALL COUNTIES \$1 EXCEPT AS LISTED

Tuolumne, Santa Barbara, Plumas, Placer, Modoc, Madera, \$1.50; Tulare, Tehama, Siskiyou, Imperial, \$2; San Diego, Riverside, Mendocino, Kern, Humboldt, Fresno, \$2.50; Trinity, Shasta, Mono, San Luis Obispo, Monterey, Lassen, \$3.00; Inyo County, 67x92, \$15.00; San Bernardino, 73x110, \$15.00; San Bernardino, No. or So. Half, \$7.50; the N.W., S.W., N.E., or S.E. quarter of San Bernardino, \$3.75 ea.

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Navajo Health Surveyed . . .

GALLUP—Navajo Indians are suffering from a high rate of preventable disease and their present medical care is inadequate, six Dallas physicians who studied conditions on the reservation have reported in the Journal of the American Medical association. They advocated adequate medical field service, enlargement of hospitals at Ft. Defiance and Crownpoint, improvement of medical personnel, improvement of nutrition, and cooperation of the Indian service with health departments of New Mexico and Arizona.

Wild Sheep Seek Quiet Range . . .

TULAROSA—Mountain sheep reportedly are appearing for the first time in the

White mountains, and local residents are speculating that their arrival may have resulted from the atomic bomb and rocket experiments in the White Sands area. Sheep were known to have roamed the San Andres range, near White Sands, for many years and Tularosa citizens believe that they may be moving into the White mountains in search of quieter territory.

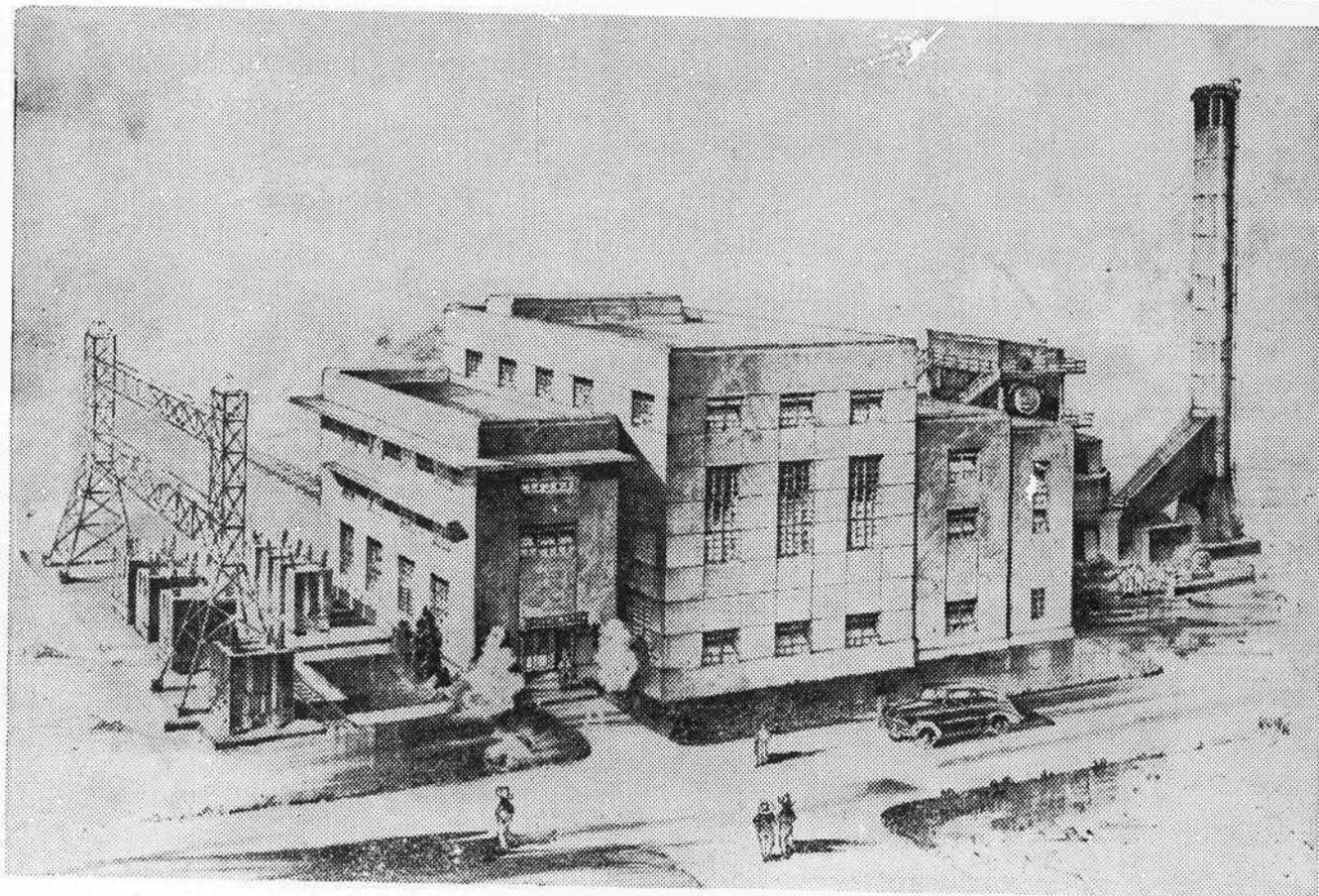
Wrong Boxes for Navajo . . .

ARTESIA—Grade school children held a drive for Navajo relief and collected five boxes of canned food which were placed in the school hall. In the same hall were boxes containing \$400 worth of textbooks, and the wrong boxes were shipped. At last report, school officials were eager to turn the

food over to the Indians—but they want their textbooks back. Navajo Assistance, Inc., has tried to locate the missing books both in Gallup and Fort Defiance but they apparently are buried under supplies still unsorted.

George Curry, 85, state historian and last territorial governor of New Mexico, died in Albuquerque in November.

Haskie Burnside, veteran of World War II, reported that the people near Pine Springs Indian day school are ready to volunteer their labor to build a dormitory for the school children. They have decided to ask Navajo service school officials for direction or help in the project.



Exterior view looking southwest, of Imperial Irrigation District's steam-electric generating station now under construction in El Centro. Pictured from left to right are the outdoor substation, main entrance and building, auxiliary bay, outdoor boiler and steel smokestack. The main building will be three stories high and will have 30,000 square feet of floor space. It has

been designed to provide sufficient space for future expansion of generating facilities from an original installation of 25,000 KVA capacity to an ultimate capacity of 50,000 KVA. The station will furnish standby power for the hydro-electric sources of the District, including units at Drops 3 and 4 on the All-American Canal.

Imperial Irrigation District

Use Your Own Power—Make it Pay for the All American Canal

UTAH

Snow Blocks Color Movie . . .

KANAB—Heavy December snowfall throughout Kane and Garfield counties forced the newly organized Kanab Pictures corporation to consider seeking Arizona locations to complete filming of its color picture, "Wild Horse Range." The company was organized by a group of Kanab livestock men to film authentic western pictures, and its first production was within six days of completion when the snow fell. Livestock scenes taken in the colorful Escalante area have been completed, including wild horse roping before the camera.

State Park for Camp Floyd . . .

SALT LAKE CITY—Utah Historical society has accepted an offer from the U. S. army to take over the abandoned site of old Camp Floyd and the graveyard there, and to set them aside as a state park. Camp Floyd, located one-half mile southwest of Fairfield, Utah county, was established in 1858 by General Albert Sydney Johnston. Johnston was ordered by President Buchanan to march against the Mormon pioneers after rumors spread in the east that coastbound emigrants were threatened. The 40-acre tract was the first military post in Utah.

Navajo Work in Utah . . .

RICHFIELD—More than 900 Navajo were used in the beet fields and on the farms of Utah during the past summer and fall. Whole families, men, women and children, worked together and employers reported them hard and careful workers who did the jobs the way the farmers wanted them done. Douglas E. Scalley, general manager of the Utah-Idaho Sugar company which brought in most of the Navajo by truck, said there had been few complaints regarding their work and the company was pleased by results achieved.

Highway Completion Promised . . .

PRICE—Surfacing of Highway 6, declared to be the shortest and most scenic route from the north Atlantic states to Southern California, definitely will be completed by the end of 1948 according to assurances given at a meeting of interested parties in Price recently. Eighty individ-

uals from five western states, including engineers, highway officials, county commissioners and road commissioners attended.



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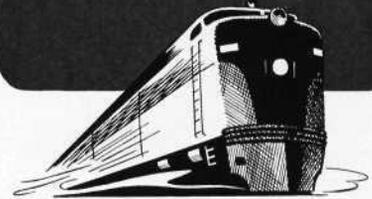
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U. S. Big Utah Landowner . . .

SALT LAKE CITY — Congressional Representative William A. Dawson, studying the effect on Utah of proposed legislation which would require a federal payment to the state in lieu of taxes for federally owned property, discovered that 73 per cent of the total area of Utah is admin-

istered by the national government. Of the 38,386,018 acres thus controlled, 24,970,216 are under the grazing service, 7,838,035 under the forest service, 2,524,754 in Indian reservations and grazing lands, 1,911,365 in army reservations and 285,481 in national parks and monuments, according to Rep. Dawson's figures.

A 350-page illustrated history of Uintah county has been compiled and published by the Daughters of the Utah Pioneers, with Mrs. Leonard Horrocks, Vernal, chairman of the committee.

The Salt Lake county commission has decided to use all the federal aid secondary highway money available during 1948 to

further completion of the Mormon Trail memorial highway through Emigration canyon in the Wasatch mountains. Governor Maw pointed out that the road, which marks the trail followed by the first Mormons to reach Utah, will bring thousands of tourists into the county.

John Lovern Oliver, 85, who served as a guard against Indian attacks against Utah settlements in the '80s, died in Moab in November. In 1882 he was called with his parents to help colonize Showlow, Arizona. He moved to Moab in 1887, and brought the first threshing machine to Moab valley.

The state department of publicity and industrial development plans to install signs along major highways near Flagstaff, Arizona; Barstow, California; McCammon, Idaho; Cheyenne, Wyoming, and Denver, Colorado. The signs will show a view of Temple square and are planned to attract tourists to Utah.

Lehi W. Jones, who delivered mail by pony express between Cedar City and southern Nevada mining towns when he was 16, died in Cedar City in November. He was a partner in the Pipe Springs Cattle company at the turn of the century, and became a bank president during the depression, when he was 78 years old.

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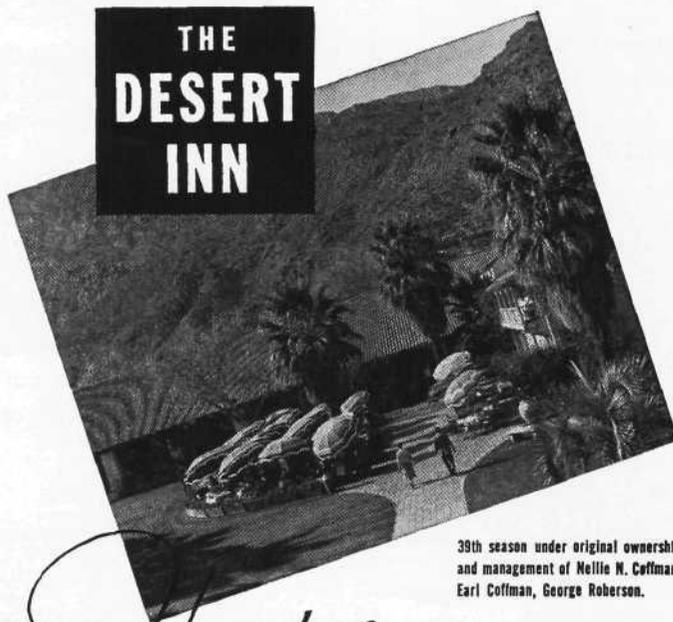
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Write 2104 B Street, or Phone 28124
Bakersfield, California

LETTERS . . .

A Haven for the Navajo . . .

Blythe, California

Dear Randall:

Let's do something for the hungry Navajo — something constructive, feasible, worth-while.

A few years ago, a committee of Navajo went to the Colorado River reservation for the purpose of ascertaining whether it might be practical and desirable for Navajos to do some farming there. Well, the Navajos love to raise sheep and horses, not cotton and asparagus. They love those painted buttes of Navajoland. And when that committee returned home, they were told (so I am informed) that if again they went on a like wild goose chase, not to return.

But things have changed since then. A lot of those Navajo boys have been overseas. They have seen the world, have received some education, and—well, they are hungry, and the future looks dark.

All right, let's feed them, or rather, give them a start so that they can feed themselves. My plan: Put 10,000 acres of Colorado River Indian reservation into alfalfa. Beginning in May, cut hay monthly for six months. Stack in fields—no baling. In November, disc in barley. February 1, bring in 50,000 ewes. Lamb until May 1. Then arrange for finishing and marketing of 25,000 male lambs and a lot of old ewes—the number to be determined by range conditions and in conformity with a practical long-range program.

Listen! I'm not versed in sheep raising. The foregoing is simply something to shoot at. Judging from what has been told me by sheepmen, the above should be a conservative estimate of possibilities.

The reclaiming of 1000 acres annually might be the wisest plan. I believe that such a plan would encourage the Indians, after noting first year's results, to get enthusiastically behind the proposition.

ED. F. WILLIAMS

See comment on page 46, this issue.

Memories of a Soldier . . .

Detroit, Michigan

Dear Sir:

Early back in 1943 Uncle Sam sent me and thousands of others to the Desert Training Center, U. S. Army—located anywhere in the Mojave between Needles and Indio.

How I cursed my luck for being sent to that desolate, burning, side-winder and lizard infested wilderness! How I hated it—at first! But as I became somewhat resigned to it, I began to look around and found that the hated desert had certain

fascination to it. With a few pals, I started little exploring trips into the mountains and the canyons. We started to notice different specimens of rocks, animal life and vegetation and before we knew it, we were having a lot of fun—although we never admitted to each other that we really liked the place.

I have been out of the army for two years now, but have never forgotten the Mojave desert. That's why, one day recently, when I picked up a book on Death Valley in our local library and noticed a reference to your Desert Magazine—I subscribed to it. It will keep my memory fresh until that day when I revisit your glorious wilderness.

This might be one of the reasons why you receive new subscriptions from east of the Rocky mountains—thousands of boys trained out there during the late unpleasantness—and have not forgotten it.

STANLEY KOVICK

Mother Nature Spilled Her Ink . . .

Los Angeles, California

Dear Mr. Henderson:

In your December issue you asked for further information regarding the blue water in the lower course of the Little Colorado river. Perhaps the following will interest you:

About 1918 F. G. Baum, consulting engineer of San Francisco, who was interested in power development on the Little Colorado, asked me as the representative of the State of Arizona in such development, to join him on a trip to investigate rumors of a "Blue spring" in the canyon of the Little Colorado.

Having quite a wide acquaintance among the Navajo I tried to get information, but to no avail. Finally I mentioned this to Mr. McCormick, an old-timer living in Flagstaff. He recalled that he had heard of a "wonderful health-giving spring" in the bottom of the Little Colorado canyon, and a trail leading to it from a point near Desert View on the south rim.

At an opportune time Mr. Baum and I got together an outfit for desert travel, and loaded it in my Ford and started out. We found the trace of a road leading off the main highway east of Desert View where there is a small dirt reservoir on the left side of the road, facing Coconino Point. I believe the side road was to the left of the reservoir.

This road was by no means easy to follow. We had to use our hoist to pull the car up some of the steep slopes, but most of the way the going was fair. Stones had been piled along the edge of the road, and their coloring gave us the impression they

had at some early day been whitewashed for easier travel.

The road ended at the brink of Little Colorado canyon. There we found a big cairn, eight or ten feet high, marking the beginning of a good trail. It led down to a place where a rope ladder had been installed to ascend a vertical cliff. From the bottom of the ladder a fair trail led to the spring at the bottom. It was a large spring with stalactites at the upper edge of the overhang. Samples of the water were taken, but I never learned whether or not it was fit for man, woman, horse or mule.

Looking down from the brink of the canyon, we had the impression that a gigantic bottle of blue ink had been spilled, as the color from that height was a deep blue.

I am not surprised that you found blue water at the mouth of the Little Colorado when you made your voyage through the gorge. Obviously it came from this blue spring, which we called Baum spring in honor of our fine superior, who made the trip possible.

GEORGE O. BAUWENS

President Harding Rapids . . .

Petaluma, California

Dear Sir:

Tonight in reading of your trip through Grand Canyon I saw mention of President Harding rapids. (December, page 8.) Now, just before supper, I was looking through an old National Geographic—the issue of May, 1924, with Freeman's story of the 1923 river survey.

Emery Kolb was on that trip, and if he scratches his head a bit he may remember as Freeman says that they were at Soap creek rapids when the news of the president's death reached them over their little radio. The rapids with the big boulder in it was where they laid over a day in honor of the president's funeral on August 10.

GEORGE R. WINN

We're Sharpening the Harpoon . . .

Pomona, California

Dear Mr. Henderson:

In regard to your editorial in January, 1948, Desert Magazine about dumping on the desert in which you ask for suggestions as to where you shall start the editorial harpoon to work on the offenders.

Would suggest you start on whoever is dumping and burning rubbish at the mouth of Deep Canyon about two miles south of the site of new Desert Magazine building in Palm Desert. (You can see the smoke signal up there.)

This target will be sufficiently close so you will not need a very long lariat to pull out the harpoon after each shot.

Wishing you Happy Harpooning and hoping you get a ten strike the first shot. I remain yours for cleaner deserts.

L. H. HASKIN

Homestead in New Mexico . . .

Albuquerque, New Mexico

Dear Sir:

We feel that we owe the Desert Magazine a great deal more than the monthly two bits we put out, when we have finally located it.

We had looked for a "jackrabbit homestead" in California, shortly after the passage of the act, but did not find what we wanted. During the war, and the hectic days following, it had completely slipped our mind.

Your editorial in the October Desert Magazine renewed our interest, and we started to investigate it again. We heard of a tract 15 miles east of Albuquerque, but found it had all been filed on. In the Public Land Office in Santa Fe, we found there was 225 acres open, less than three miles from the center of town, and adjoining the west city limits. No one had filed on it, and no one seemed to have any interest in it. It had been surveyed into 40 acres, or less, lots in 1917.

Needless to say, we hastened out to see what was wrong with it. If there was anything, we didn't find it. Good water at less than 100 feet, less than a mile to a paved highway, school, power and telephone line. We filed the first claim on it, October 27, 1947.

Then as we leisurely thumbed through our latest Desert, on page 24 we found a sketch, by our favorite artist, of the very place we hope to build on it, even to the Sangre de Cristo range in the background. If we realize our dream, and any one ever mistakes us for the Desert Magazine plant, we will gladly send them on over to Palm Desert.

Wishing you the best of luck in your new home.

J. HENRI BARLETT

Thanks, Henri, and you in yours. I am glad to know the folks in New Mexico are making use of the 5-acre homestead act.—R.H.

• • •

Big Mouthful of Snakes . . .

Canyon Lake, Arizona

Dear Sir:

In one of your numbers you said that snakes do not swallow their young when there is danger near. I do not agree with you on that point. When I was about 15 years old in Oklahoma I came upon a water moccasin. She opened her mouth and the little ones ran in and she closed it. I killed the snake and cut it open and she had 26 little ones about three inches long inside.

THOMAS HOOTEN

Eden, Texas

Desert Editor:

About 1897 I was riding the range at ten in the morning. I heard the familiar buzz, and saw a rattlesnake outside a

prairie-dog hole. About 10 young ones rushed to the mother and crawled in her mouth while she backed down the hole and disappeared. I had never heard of such a thing before, but I assure you it was just as I relate. The sun was shining, the rattles were working, and I had had nothing but coffee for breakfast.

F. G. HOSKINS

Yucaipa, California

Dear Sirs:

Does a rattlesnake swallow its young? I think your answer to that in the December issue is incorrect.

On the plains of Kansas, in a prairie-dog town, I came upon an old rattler and seven young ones about six inches long. When she was aroused her tail started buzzing, and at the same time her mouth flew open and every one of the little fellows ran down her throat. I killed her and cut her open and the little ones were as lively as ever. Another man, G. L. Miller, told me he saw almost exactly the same thing happen.

R. BARNUM

Stamford, Texas

Gentlemen:

I would like to say something about your answer to Question No. 14 about snakes swallowing their young to protect them. The answer stated that they did not do this. Now I don't know whether they swallow them or not, but I have actually seen very tiny snakes run into the mouth of a large snake when they were scared. Technically your answer may be correct, for the tiny ones may make themselves into a tiny ball and remain temporarily in the mouth (which they probably do), and they are probably not swallowed, but they actually do run into the mouth of the larger snake. Had I not seen this with my own eyes I would not make such a positive statement, but I have seen it. The snakes I refer to above were not rattlesnakes, but ordinary garden snakes such as are found in this part of Texas.

PAUL L. SUMMERS

For the information of readers Hooten, Hoskins, Barnum, Summers and the other 17 who took issue on this question, the Snake editor of Desert has gone A.W.O.L. He says there's too many of you fellows to argue with. We're still not sure whether those youngsters find refuge in the gizzard or the gullet of the mother snake—but that is a mere technicality. You win!—R.H.

• • •

From a 1923 Canyon Voyager . . .

Durango, Colorado

Dear Mr. Henderson:

I have just finished reading the second instalment of your "Grand Canyon Voy-

age," which brings vivid memories to me, of the 1923 U.S.G.S. trip.

I wish to call your attention to two matters mentioned in your story. First Elma Milotte is not the first woman to ride through Hance rapid, as Edith Kolb rode through on Leigh Lint's boat in 1923. She and Mrs. Gilliland had come down from the top with the pack train in order to watch us run the rapid. Emery consented for her to ride through. Leigh said he never came closer to capsizing than during that run.

Second, as to the location of the President Harding rapid: I am inclined to believe that the map makers are right in their location of it. We heard of the president's death on August 2, while at Soap creek rapid but did not lay over in memory of President Harding until August 10. Your description of the rapid seems to identify it as there was a single, above-water boulder in midstream. I never thought of the rapid as particularly dangerous but I was thrown completely out of my boat when I tipped it on its side in order to escape taking water from the angling side wave thrown out from the rock.

ELWYN BLAKE

• • •

Healing Power of the Desert . . .

Riverside, California

Gentlemen:

The article in the last December issue by Mr. South is about the best he has so far written on the desert. He is a mystic, therefore he treats the desert as a person when he mentions the desert loving you. This, of course, is purely symbolic as the desert can just as easily kill you too. I know what he means, however. I think what he thought is the fact that the tremendous force of an outgoing love acts as a sort of boomerang. It comes back to you as an inspiration which produces hope and faith, and mental well-being. This, combined with desert air and climate, fresh water and perhaps sulphur baths, completes the cure if at all possible. I am deeply convinced that we can only receive what we give out ourselves, but this does not really conflict with his explanation. He is a fine man and has made a lot of people think.

LOUIS L. HUILIER

• • •

Keep the Desert Clean . . .

Santa Cruz, California

Dear Sir:

I read your editorial about Los Angeles wanting to dump her garbage on the desert. I hope you'll keep after them until they back out. I believe the desert should belong to everyone, and not just one big town that thinks she is the "whole cheese" and wants to use it for a garbage can.

I note with pleasure you keep the magazine clear of booze and tobacco ads. Please keep it that way.

V. V. BUCKMAN

THE DESERT MAGAZINE

Miracle Hour

By CONSTANCE WALKER
Los Angeles, California

Wait for the glow of the twilight sun,
Stilling your lips and mortal sense.
Wait till the day is nearly done,
Resting as silence grows intense.
When all is hushed and amber-lit,
History lives in sand and sage.
When you are one with the Infinite,
Wisdom flows from another age.
Then you can hear the desert speak,
Garner the words the Joshuas sing.
Then you shall know the truth you seek:
Knowledge that space is whispering.

DESERT VISTA

By GEORGIA MOORE EBERLING
Pueblo, Colorado

There's royal blue as the mountains lift
Their spreading tents where the white clouds
drift,

The prairies have spread a blanket of brown
That is soft and as warm as eider-down
To cover the roots of the desert flowers
And to tuck them in against pelting showers.

Seated here at her mighty loom
Nature is weaving a web of bloom:
Grey-green sage striped with yellow rows,
Lines of crimson where fire-weed glows,
Robust green of the tumbleweeds
Rocking to sleep their baby seeds,

Grim red cliffs rim the desert's bound
And hear forever the lonely sound
Of the desert wind singing lullaby
To the desert birds as they wait to fly.

Nothing else but a flock of sheep
And a Navajo shepherd, fast asleep.

DESERT LURE

By CORA C. WILLIAMS
Alamosa, Colorado

'Tis only the desert winds that know
About a summer of long ago;
I wrote the story in white, hot sand,
But 'tis only the winds that understand.
My heart stood still and I caught my breath
At the wild enchantment strange as death;
I thrust my fingers in the sand so hot,
It burned my hands, but I felt it not.

My soul was aflame in the desert vast,
For here was heaven and peace at last;
I stretched my arms to the endless space,
I felt, I knew I could see God's face;
I could feel His presence, and I could hear
His voice in the winds like music clear.
The winds, alone know the mystery
Of the desert, and its lure for me.

BENEATH THE STARRY DESERT SKY

By LENORE S. LYON
San Diego, California

Beneath the starry desert sky
We stood one night, my love and I.
The moon rode high in a fleecy cloud
And I thought the ocotillo bowed
Its flower-tipped head in grateful prayer
For the peace and beauty mirrored there.

FIERCE CAPTIVE

By IVA POSTON
Kalispell, Montana

A spiny cactus,
Stiff and still,
Trapped in a pot
On the window sill.



Photo by Grace Hartzell, Los Angeles.

ON THE DONNER TRAIL

By MARGARET SCHAFFER CONNELLY
San Bernardino, California

The broken bottles lie scattered about
To mark where the Donners passed,
Along the trail of the desert sand;
Only these, are the things that last—
Shining pieces of china, blue
As the color in a woman's eyes;
A feather bed that was filled with down
And trinkets, a girl might prize.

Charcoal, left from an open fire;
Rifles, grown rusty and old;
Nothing is left of the pioneers
But a pot of hidden gold!
Where is the prospector who can see
The metal, where it lies;
Can any seer with divining rod
Mark the spot hid from human eyes?

Many have sought it, then went their way
And many are the tales that are said
Of the pioneers' fatigue and thirst
As they slept on their salty bed;
But one shall come, in the passing years,
And dig where a skeleton lies
Guarding the gold that he buried, late
One night, under desert skies!

CREED OF THE DESERT

By JUNE LEMERT PAXTON
Yucca Valley, California

A full moon floods the Valley
With brilliant star in tow;
Low shrubs look like dark patches
While sandy stretches glow.

DESERT PAINTING

By STELLA KNIGHT RUESS
Los Angeles, California

Where sands curve soft in silvery dunes,
The bright verbenas closely cling.
Across the pale blue mountain peaks,
A cloud drifts like an angel-wing.

DESERT WIND

By IVA POSTON
Kalispell, Montana

Desert wind's a fraidy cat
It pounds and screams
With all its might
When you lock it out
Of the house at night.

THOUGHTS FROM THE DESERT

By DAVID N. WARE
Huntington Park, California

Greetings from this desert on a warm and wintry
night.
Greetings from this cursed, cursed, camping
site,
Where all the bugs and bees and bats seem to
congregate,
And the crickets and coyotes keep a guy awake.

I say, greetings from this wretched, waterless,
wasting land,
Where one looks miles about him and sees sand,
and only sand;
Where only certain shrubs can live, and romp-
ing, runted rats.
Where lost and limping mongrels stray, and
sickly, sulky cats.

Yet, as I lay snug beneath a sparkling sky,
While the warm wind whistles through the
sage close by,
The scent of winter blossoms seems to whisk
my thoughts away
From any toils or troubles that I've had
throughout the day.

I seem to find a feeling somewhere deep inside,
Of reverence for this sand and space spread so
far and wide—
Reverence for such peacefulness to end the day,
When one can rest his weary self and dream his
life away.

SPANISH DAGGER

By ELIZABETH CANNON PORTER
Puente, California

Bold Spaniard saw in you
A bayonet for his sword,
But pious Indian called you
Candle of the Lord.

FLIGHT

By TANYA SOUTH

A glint of light—a silver streak,
Cleaving through foul or fair!
Oh, man-made dream, what do you seek
In conquest of the air?
Soon shall you, too, be discard here,
And man, with soaring goal,
Shall cleave the interstellar sphere
Upon his wings of soul!

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By LELANDE QUICK, Editor of The Lapidary Journal

Don Alfredo of Las Cruces, New Mexico, writes that he has found a new location where geodes and thundereggs can be found in considerable quantity and he wants to know the dividing line between a geode and an egg. Perhaps the remarks of a friend of ours with reference to this page may serve as a good illustration. When we write a column that is sheer propaganda about gem cutting being the blessing of all time he calls it a geode—because for him it's empty. But when we get down to some good cutting and grinding information (which we do on occasion) he calls it a nodule because "it's filled with stuff."

One can hardly draw the line by saying that "a nodule is a filled geode" because such argument would ensue. Broadly speaking it seems to be the consensus that a rock with a generous amount of hollow space within, lined with crystals, is a geode. If, instead of crystals, the rock is partially filled with agate containing fortification outlines and "scenes" it is a nodule, even if there is some hollow space. Then too, thundereggs almost always are associated with some form of rhyolite.

The best article on the subject we have seen was written by Orlin Bell, president of California Federation of Mineralogical societies. It appeared in the November, 1947, issue of the *Mineralogist* and was titled "Genesis of the Thunderegg." In *Quartz Family Minerals* Dake says that "few mineral forms have occasioned more questions with fewer satisfactory answers than geodes." An excellent chapter on geodes and thundereggs (XI) is headed by a quotation from Phillips' *Mineralogy*, published in 1828, which says that "a geode is a hollow ball." We'll accept that definition and the popular one that a thunderegg is a solid ball—but only broadly. We have some hollow eggs. So it all comes back to the old question: which name came first—the geode or the thunderegg?

J. J. Brown of Austin, Texas, recently paid us a visit. We've met a lot of enthusiastic rock-hunters in our time but no one to beat J. J. Brown. He is acquainted with more dealers and collectors over a wider area than almost anyone and in true Texas style everyone is a "fine gentleman" as far as he's concerned. To read one of his mimeographed letters is an evening's treat. When he gets back to Austin he'll sit down and write a 30-page letter and send copies of it to hundreds of his friends.

Brown is sold on gemcutting and when a Texan is sold on anything he's really sold. He is vice-president of the National Vocational association (30,000 members) and has charge of his state's vocational guidance program. He also is president of the State Mineral Society of Texas. He believes that gemcutting is the ideal vocation for the handicapped person who must earn a livelihood at home. We offered him no argument about that. He's 100 per cent right. Some scheme will be worked out so such people will have a market for their gems. If the people of Idar-Oberstein, Germany, can do a tremendous business in their homes and find a world market for it, why can't the handicapped in America do the same thing? J. J. Brown will see that they get a break and if anyone wants to

buy the products of these people we shall be glad to put him in touch with Mr. Brown.

With the 40 hour week here to stay we predict that the time is not too far distant (in a peaceful world) when the 30-hour week will be coming along. After work and adequate sleep a man will then have about 80 hours a week for leisure. Unless he fills two jobs what will be do with them? He will employ his free time from a vocation with work at an avocation, more popularly called a hobby, or a sport if it involves physical play. The hobby business has become big business but lately it has languished because of some serious errors.

An organization called Hobby Youth Associates publishes a semi-monthly newsletter for the business in which they put the finger on the weak spot—the lack of gadgets for making things. They say "We regretfully doubt benefit to the general cause of hobbies in such an exhibition as the National Craft and Science show now running in New York (November). Neither the public nor the commercial displayer seems to be getting a break. There are a few 'look what we've done' displays, a lot of 'look what we have to sell' exhibits, but few 'look what YOU can do' demonstrations. Little has been done to seek out, excite, or get the attention and interest of the people who could be hobby fans if they but knew how simple it is to get started—how much help can be made available—how quickly little successes, expert looking accomplishments, can be achieved.

"Someone should make a survey of successful shows, find out what makes them successful, knock the hobby show apart and put it together again for some other purpose than selling space and admissions for the purpose of selling merchandise. What we need are shows that will sell hobbies, create attention, interest, desire, enthusiasm and make people want to go and 'do likewise'; create new demand and not just stir up the old-timers."

Substitute the word gem for hobby in the foregoing quotation and you have a repeat of what we have said several times. Some day some smart lapidary equipment manufacturer is going to forget that \$1.00 a foot is high for exhibit space and he's going to New York or Chicago and pay \$50.00 a foot. He's going to take a lot of lapidary machinery with him and a lot of people to operate it and he's going to steal the show. The man with such vision is going to take so many orders he'll think he's hit a vug containing a half-ton of tourmalines.

We lived for seven years in the canyons of New York. We know the problem of the apartment dweller in following any craft hobby. There is no place in a New York apartment for a shop. But the significant thing is that many of the present lapidary machines need no shop. There are faceting machines built into desks that are as neat as a console radio. Noise? You couldn't hear it above the bleating of the neighboring radios—and if you could who would be bothered by it? Those folks are conditioned to noise. Someone is going after the "apartment market" some day and they're going to make a killing. And we'd like to be present at a national hobby show when the first lapidary machines are being demonstrated. The patrons will be bug-eyed.

GEMS AND MINERALS

BOZEMAN CLUB ANNOUNCES 1948 CONVENTION PLANS

The Bozeman Rock club has issued an eight page circular detailing plans for the 1948 convention of the Northwest Federation of Mineralogical societies which will be held September 4-5 in the national guard armory at Bozeman, Montana. There is a floor-plan of the exhibit hall showing proposed showcase arrangement, and information is given for commercial exhibitors who wish to secure space, for clubs who plan displays and for the individual collector who wants to reserve space for a non-commercial exhibit.

The circular tells about the Northwest Federation, the Bozeman club, hotel and auto camp accommodations available; and gives detailed statistics about Bozeman and its attractions. Also outlined are the mineral and scenic interests of the area. The circular was planned for distribution to members of the clubs of the Northwest Federation, but it should be of great interest to any organization planning a show.

Dr. A. D. Brewer is president of the Bozeman Rock club—whose official title is the Montana Society of Natural and Earth Sciences. Prof. H. E. Murdock is secretary and Kenneth L. Sullivan has been made show chairman. The Bozeman society has 80 members, and is eight years old.

FIRST NATIONAL CONVENTION SET FOR DENVER HOTEL

The first national convention of the American Federation of Mineralogical societies, scheduled for June 13-16, 1948, at Denver, Colorado, will be held in the Shirley Savoy hotel. Extensive field trips for both collecting and sightseeing have been scheduled, and there will be lectures, entertainment and dinners. Richard M. Pearl is general chairman of the convention.

TUCSON GROUP REACHES FIRST ANNIVERSARY

Tucson Gem and Mineral society, which was started by five rockhounds, is celebrating its first anniversary with 60 paid-up members. The club elected officers for 1948 at the December 2 meeting. New president is J. R. Watwood; S. L. Wolfson is vice-president; Mrs. A. H. Murchison, secretary. Chris Iberri and Larry Lawrence were named to the advisory board.

The club expects to hold an exhibit in 1948, and plans are being made for field trips, a monthly bulletin and a junior society. The Tucson club meets first and third Tuesdays of every month, and visitors are welcome.

ATTENTION SECRETARIES, PUBLICITY CHAIRMEN—

News for Gems and Minerals should be in office of Desert Magazine by twentieth of second month preceding date of publication. Material for April issue should be in February 20; material for May issue should be in March 20.

NEW SAN DIEGO SOCIETY ANNOUNCES OFFICERS

The recently organized San Diego Lapidary society already has a membership of 72 persons actively interested in collecting, cutting, polishing and mounting stones. Officers of the society are: Marion R. Shunk, president; Frank Dennis, treasurer and George W. Converse, secretary. Miss Helen Converse, Box 74, Route 1, Spring Valley, California, is publicity chairman.

Regular meetings of the club are held at 7:30 p. m. on the second and fourth Tuesdays of the month in the State building, Balboa Park, San Diego. Membership is composed of beginners as well as experienced members, and many are taking a course in jewelry making and lapidary work at night school. First society field trip was to the Baldwin tourmaline mine near Ramona.



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ALL THAT SCRATCHES GLASS IS NOT DIAMOND

Desert diamonds, sparkling quartz crystals found in Inyo county near Little Lake, Darwin and Cerro Gordo have, when cut and polished, fooled many experts who should have known better, according to the *Trona Argonaut*. Jules Follenius of Randsburg explained to the *Argonaut* a few methods of telling the true diamond from the false. The mark of an aluminum pencil is easy to remove from a diamond, but sticks to the Inyo variety. When dropped into water, the diamond easily can be seen, but the rock crystal is almost invisible. On a real diamond, a tiny drop of water can be moved about with the head of a pin; on the desert variety the drop will break and spread.

As a final desperate test, the stone can be dropped in hydrofluoric acid and if it is a diamond, it will still be there. Quartz will be dissolved. The rock crystal is used in industrial operations and for making beads, vases and crystal balls. It will scratch glass and, according to the *Argonaut*, "has been known to burn a Tronan now and then." One citizen is supposed to be holding a desert diamond on which he loaned \$350 and stories are current regarding successful pawning of the quartz specimens at various places. The desert diamonds also are known as St. George diamonds.

ARIZONA SOCIETY MEMBERS WIN AT STATE FAIR

Twelve adult and two junior members of the Mineralogical Society of Arizona entered the first competitive mineral exhibit held at the Arizona state fair and won a first, second and third in the high school group, and four first prizes, three seconds and three thirds in the adult group. The society held a birthday party December 4, to celebrate its 12th anniversary. A short talk on feldspar was planned for the meeting December 18, to be given by C. H. McDonald of the U. S. bureau of public roads. Second scheduled feature was a discussion of the history of mining in Arizona by A. L. Flagg, held over from the November meeting. Elizabeth Oxford spoke on quartz at the November meeting and a large group made the November 23 field trip to New River agate bed.

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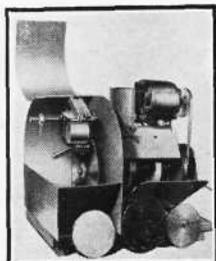
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AMONG THE ROCK HUNTERS

Robert Cartter was elected president of the Searles Lake Gem and Mineral society for 1948 at the regular November meeting. Cartter was a rockhound before the club was organized, and became a charter member. Stan Shanahan is the new vice-president; Harvey Eastman, treasurer; and Ruth L. Wilson, secretary. Eddie Redenbach and John Bernhardt were chosen directors for a two year period and the immediate past-president, Clark W. Mills and the federation secretary, Modesto Leonardi will serve as directors for one year. December 17 meeting of the society was the annual Christmas dinner to be held at the Trona club. Paul Lindau of Los Angeles gave a repeat performance of his film on the life of a butterfly, showed action films of wild birds, and a series of colored slides at the November meeting.

Roy Wagoner was elected 1948 president of the Long Beach Mineralogical society at the November meeting. Florence Gordon is the new vice-president; F. W. Schmidt is treasurer; and Mrs. Jane Fisher, 2077 Eucalyptus avenue, Long Beach, California, is secretary. Board members of the club are Bob Schiefer, Ralph Houck and W. L. Mayhew, retiring president. November field trip of the society was to Horse canyon where agate and jasper were collected. The annual Christmas party was scheduled for December 10 with an exchange of rock and mineral gifts among those attending.

Dr. J. W. Durham, department of paleontology, University of California was to lecture on ancient forms of life as revealed by fossil remnants, at the December 4 meeting of the East Bay Mineral Society, Inc. December field trip was to be an excursion to Bacon hall at the University of California where Dr. Adolph Pabst had agreed to lead the group through the mineral and fossil sections and lecture upon the exhibits. Annual Christmas party was planned for December 18 with potluck dinner, exchange of specimen presents and entertainment by members. November field trip was to the onyx deposits in the hills beyond Fairfield. Twelve cars made the trip and large quantities of cutting material were collected. Official navy pictures of the Bikini atom bomb explosions were shown at the November meeting and Dr. Trask spoke and W. W. Wickett representative of the Tracerlab of Boston demonstrated radioactive detection and measurement by using radioactive isotopes.

The romance of gold mining was told to members of the Los Angeles Mineralogical society at the meeting held December 18 at the Premiere cafeteria. Fifty members attended. The speaker, Past-president William Harriman, told members that January 24, 1948, will mark the centennial of John Marshall's discovery of gold at Sutter's mill in California. Harriman told stories of Joaquin Murietta, Jedediah Smith, the lost Cowboy mine, and other legends and facts of early gold mining throughout the West. It was the society's Christmas meeting and mineral presents were exchanged. A sample of free gold in limestone which it was estimated would run \$45,000 to the ton was exhibited.

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OFFER ORGANIZATION HELP FOR NEW GEM SOCIETIES

Los Angeles Lapidary society has established a committee composed of past presidents whose purpose is to assist groups of people interested in lapidary work to organize new lapidary and gem societies. Persons interested should write to the society secretary, Mrs. Jean Bennett, Box 8184 Terminal Annex, Los Angeles 54, or call ATlantic 2-1423. The society held its annual Christmas meeting December 1 with dinner and a Christmas box from which each member and guest received a gift that society members had contributed.

Ted Bennett spoke on corundum stones to the Faceteers section of the club and there was a discussion of methods of cutting and polishing synthetic and real ruby and sapphire. At the Faceteer meeting Carl Wood showed a new light for orienting stones, and Jim Underwood displayed a scale he had made which will weigh stones and determine specific gravity.

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Moulton B. Smith, president of the Yavapai Gem and Mineral society of Prescott was special speaker at the Christmas party of the Junior Rockhounds, held at their headquarters, 331 Park avenue, Prescott. He showed colored slides of rock country in Arizona, Utah, Wyoming, Colorado and New Mexico to the 20 members attending. A feature of the meeting was the first appearance of the fluorescent lamp purchased through funds realized at the club's rock show in September. Election of officers was planned for the January 2 meeting.

Orange Belt Mineralogical society held its annual Christmas party December 2. Motion pictures of rock trips taken by Mr. and Mrs. Dosse were shown and the following club members entertained: Mrs. Clark, Peter Burk, Mrs. Mousley and Mrs. Kennedy. Mrs. Dosse and Mr. Garner won an old fashioned spelling bee, with Mr. Gros acting as teacher. Mr. Thorne was program chairman. Each lady brought enough dessert for two people and each man brought a wrapped rock with his name enclosed. The ladies drew the rocks from a barrel and shared their lunch with the man whose rock they had drawn. Orange Belt Mineralogical society regretfully announces the death of C. S. Edwards, a member for many years whose special field was crystals.

At the December meeting of the Texas Mineral society of Dallas, George A. Ripley showed color slides of his 3 1/2-month tour of the northwestern states, Yellowstone and Glacier national parks. There was a Christmas tree with gifts for each person present. Asa Anderson is president of the society which meets regularly on the second Tuesday of each month at the Baker hotel.

Dr. John People and M. Vonson of Petaluma were in Trona recently collecting minerals and gem stones of the area for a permanent display which Vonson will present to the Museum of Natural Science at San Francisco. Dr. Leo Briggs, Modesto Leonardi and Ralph Merrill assisted the collectors in Trona.

"Rocks of Alaska" was the title of a talk given by Judge George William Fryer at the Christmas party of the Yavapai Gem and Mineral society of Prescott. Gold was described as Alaska's most important mineral. In the Klondike rush as much as \$1000 was found in one pan of placer gravel and nuggets valued from \$1000 to \$3000 each were discovered. Some silver, antimony, mercury and platinum are mined in Alaska, and the Kennicott Copper company had an important copper mine there which was closed down in 1938. Members of the Junior Rockhounds were scheduled to be guest speakers at the January meeting.

Members making the November field trip with the San Fernando Valley Mineral and Gem Society, Inc., of North Hollywood to the Kramer hills found a blanket of snow on the desert, but reported material both good and plentiful. Eighteen cars made the trip. December meeting of the society was to feature a potluck dinner and entertainment.

December meeting of the Coachella Valley Mineral society held in the Water District auditorium, Indio, featured a potluck supper attended by more than 50 members. O. A. Rush, president, presided. Jack Frost reported on plans for the club's mineral show to be held in the spring.

Kern County Mineral Society, Inc., held a potluck turkey dinner and Christmas party at the December 8 meeting in the Coca-Cola Bottling building, Bakersfield. November field trip was a tour of the Monolith cement plant at Monolith.

Motion pictures were to be shown at the December 2 meeting of the Sequoia Mineral society, to be held at Parlier union high school. Gates Burrell described his summer collecting tour at the November meeting, and outlined the history of the areas visited. He displayed polished specimens of Eden Valley, Wyoming, wood which he had collected. Field trip, November 16, was to Madera county where under direction of Pete Eitzen more than 40 members collected crystals of chiastolite, a silicate of aluminum and member of the andalusite group of minerals. The chiastolite occurred in a carbonaceous schist in long prismatic crystals having black inclusions of carbon arranged axially to form interesting patterns. Hardness was 3 to 4, colors grey, pink, rose-red.

Unusual mineral deposits in Utah which were developed by the bureau of mines were to be discussed at the December meeting of the Mineralogical Society of Utah by P. T. Allsman, chief of the Salt Lake City division, mining branch, bureau of mines. The meeting was to be held in the geology building, University of Utah.

December meeting of the San Geronio Rock and Mineral society was a Christmas party. Paul Walker of Beaumont spoke on "Minerals in Nearby Localities" at the November meeting.

The three-room eighty-pupil school at Oracle, Arizona, won the Phelps-Dodge trophy for the best mineral exhibit by a grade school at the Arizona state fair. Thirty-one schools entered the competition.

Members of the Mineralogical Society of Southern California were to hear William B. Sanborn, Yellowstone national park ranger-naturalist at the December 8 meeting in Pasadena public library. Sanborn's talk on the back country of Yellowstone national park was to be illustrated with kodachrome slides. Members were asked to bring mineral specimens from the Yellowstone area and adjacent states for a display. All communications to the society should be sent to the secretary, Mrs. A. G. Ostergard, 3755 Sycamore avenue, Pasadena 10, California.

The Mineralogical Society of Southern Nevada is now an incorporated organization. Its mailing address is P. O. Box 23, Boulder City, Nevada. J. W. Redding is president of the group, D. McMillan is vice-president and Florence McMillan is secretary-treasurer. The society held its Christmas banquet December 16 at Lake Mead Lodge. After dinner a quiz program patterned after "Information Please" was conducted with C. P. Christiansen, H. Fuller and J. Wood as the panel of experts. Mineral specimens were awarded to A. T. Newell, Mrs. R. McNeil, R. McNeil, John Wells, Mrs. E. L. Sapp, F. McMillan and D. McMillan, who stumped the experts. M. G. Martin, program chairman, was master of ceremonies.

Annual Christmas party of the Pacific Mineral Society, Inc., of Los Angeles, was planned for December 12 at Hotel Chancellor. Each member was to bring a mineral specimen for an exchange of gifts, and several reels of film, showing some of the society's earliest field trips, were to be projected.

Colored films depicting the discovery and development of oil in Saudi Arabia were to be exhibited at the December 17 meeting of the Northern California Mineral Society, Inc., of San Francisco. The film was presented by Standard Oil. Election of officers was planned for the same meeting held in the San Francisco public library assembly room. Members were to meet December 27 at Pidgeon Point lighthouse for a field trip after fossil bones on the beaches south of Pescadero.

Dr. and Mrs. Harvey H. Nininger, who operate the American Meteorite Museum opposite Meteor Crater on Highway 66 in Arizona, report 35,000 visitors during the past year.

Oklahoma Mineral and Gem society, organized in June, 1946, now has more than 50 active members, according to Hubert M. Rackets, secretary-treasurer.

Richard M. Pearl at Colorado college, Colorado Springs, is editing *Mineral Minutes*, newsy bulletin of the Colorado Mineral society, which contains much of interest to rockhounds in every issue. Pearl is author of the recently published *Mineral Collectors Handbook*.

Dr. Don B. Gould, professor of geology at Colorado college, was scheduled to speak at the December 5 meeting of the Colorado Mineral society of Denver. His subject, "The Geologic Past of the Pikes Peak Region," was to be illustrated with slides. At the November 7 meeting, E. D. Gardner, U. S. bureau of mines, spoke on "Oil Shale" and Mrs. Gladys B. Hannaford, traveling lecturer for N. W. Ayer and Son, who handle DeBeers diamond company publicity, gave an illustrated lecture on diamonds. She displayed cut and rough diamonds and diamond-set jewelry and industrial tools.

Members of the Canon City Geology club of Colorado have completed a first course in lapidary work and so many registered for the second course that Mr. Flaherty, instructor, is teaching four nights a week.

The bulletin of the Rocky Mountain Federation of Mineralogical societies, *Mineral and Gem News of the Rocky Mountains* is being sent to 17 societies in the Rocky mountain area.

Colorado Springs Mineral society installed new officers at its November 14 meeting. New president is Lamont Keller; vice-president, Willard W. Wulff; secretary, Miss Neola Eyer, Box 463, Colorado Springs, Colorado. The society, one of the oldest in Colorado, meets the second Friday of each month in the IXL creamery building.

Money taken in at an auction at the Gem Village, Colorado, annual rock show held on October 5, went toward establishing the Gem Village Rock society. A large attendance was reported.

El Paso, Texas, Mineral and Gem society plans a mineral exhibit in conjunction with the flower show to be held in El Paso in April. Mrs. R. H. Miller is secretary of the society.

Speaker for the December 13 meeting of Chicago Rocks and Minerals society was to be Emil F. Kronquist, author of *Metal Craft and Jewelry*; his subject, "The Art of Jewelry Making." Members and friends were invited to bring jewelry they had made, for an exhibit. November meetings featured the annual auction and a sound film, "10,000 Feet Deep," produced by Shell Oil company. Total auction receipts were \$77.55.

Edward Lang of Santa Monica, California, announces that attempts to organize the National Mineral, Gem and Lapidary Dealers association have been abandoned for the present. The association has been dissolved and the proposed dealers' show scheduled for San Bernardino February 6-8, 1948, has been cancelled.

The Midwest Federation of Mineralogical societies was organized at the Field museum, Chicago, on December 7, 1940, with the Marquette society acting as hosts. Ben Hur Wilson was elected first president. The federation has held annual conventions each year since.

Jet, called black amber on the Baltic coast, is said to be the lightest and softest of gem stones, with a hardness of 1.5 and a specific gravity of 1.3. It is a variety of coal or fossil wood. Much material used commercially as jet today is a chalcedony chemically dyed black.

A film on the manufacture of synthetic jewels used for jeweled bearings was scheduled for showing at the December 13 meeting of the Minnesota Mineral club. The two-reel picture was produced by the Elgin Watch company and one section showed the making of boules, their cutting and shaping and the making of diamond saws. The film was made by the company for use in teaching its expanded force during the war. The program was to be given in the Clubroom in the Curtis hotel, Minneapolis. At the November meeting Dr. Willem J. Luyten spoke on "Pitchblende, Mother of the Atomic Bomb."

Nickel is used as an alloy, because it gives tensile strength, hardness, elasticity and resistance to chemical corrosion and rusting. It is frequently alloyed with copper and iron.

In the Clinton formation of the Silurian era in the Appalachian mountains, an iron ore made principally of fossil shells, known as fossil iron ore, is mined.

W. A. Ross at a meeting of the San Diego Mineralogical society suggested the use of an old tire casing on the lap, to catch the mud—or the specimen, if it were grabbed from the hand. Using different sized brushes with different sized grits will prevent mixing. A salt shaker can be used to shake the grit onto the lap. To assure best possible polishing, he removes all the coarser grit with a scrub brush before applying finer, and scrapes the wheel with a razor blade to remove small particles of grit embedded in it.

EASTERN CLUB PLANS SPRING MINERAL SHOW

The New Jersey Mineralogical society of Plainfield, New Jersey, has scheduled a spring mineral exhibit for April 21-May 4, 1948. It will be the society's first exhibit since one held just prior to World War II. Primary purpose of the show is to create interest in mineralogy and the allied sciences among as many people as possible, especially in the high schools and colleges. G. R. Stilwell is president of New Jersey Mineralogical society, which is celebrating its tenth anniversary in June, 1948, and G. F. Shoemaker is club secretary.

ANSWERS TO QUIZ

Questions are on page 16

- 1—Mt. Whitney.
- 2—The Colorado river.
- 3—Death Valley.
- 4—Gila Monster.
- 5—John Wetherill.
- 6—Grand Canyon.
- 7—Tombstone.
- 8—Mutton.
- 9—Reducing the air pressure in the tires.
- 10—Chocolate.
- 11—Cochise.
- 12—Ocotillo.
- 13—Archeologist.
- 14—Salt River valley.
- 15—Rhyolite.
- 16—Copper.
- 17—Utah.
- 18—Antelope.
- 19—Go to the bottom of Grand Canyon.
- 20—Mexico.

Gem lapis lazuli is a deep blue stone. Lapis may occur as pale blue, greenish, violet, reddish and green. It is a contact metamorphic mineral with a hardness of 5.5, occurring in limestone near its contact with granite. Small grains of pyrite frequently are enclosed. Before creation of an artificial substitute, powdered lapis lazuli constituted the paint called ultramarine.

When starting with a new grinding wheel, scratches will appear on the material being worked. This, William J. Bingham, of the Minnesota Mineral club explains, is caused by loose grains of abrasive coming out of the wheel. They all should be out after 15-30 minutes of work. If a stone is allowed to chatter, vibrate, or dig in, it may knock more grains loose. It is advisable to take good care of the side of the wheel and use it only for smoothing.

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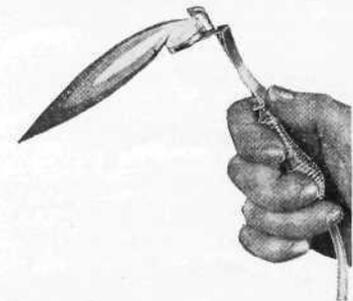
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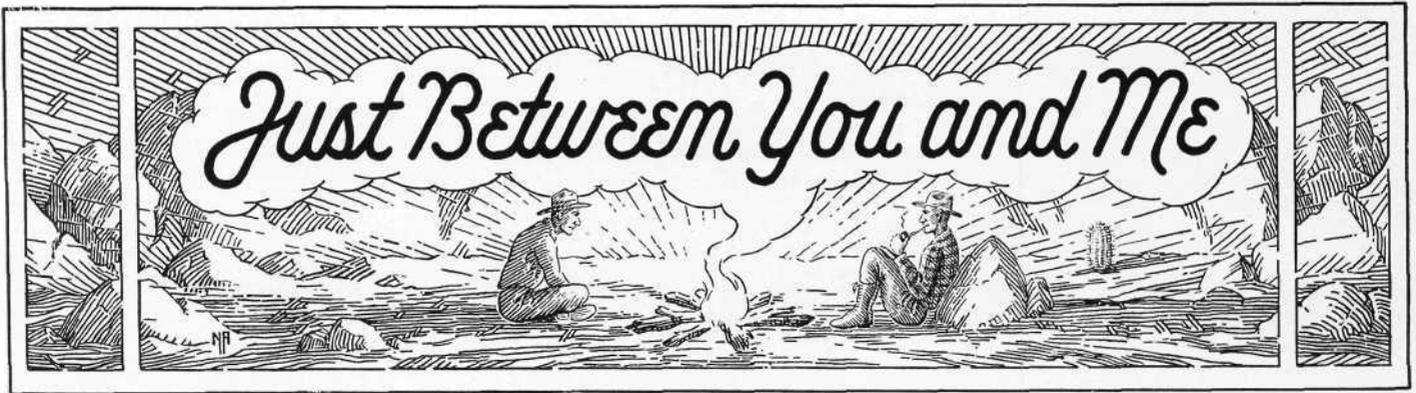
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By RANDALL HENDERSON

THIS is being written the day after Christmas. My desk is piled high with Christmas cards—many of them from Desert readers whom I have never met. I cannot send personal acknowledgments to all of them—but I want all these good friends to know I appreciate the goodwill they have expressed. I hope 1948 is good to all of you—good to you in terms of loyal friends, appreciative associates, worthwhile opportunities, and of tolerant and generous impulses.

* * *

Caravans from many parts of the United States are on the road toward the Navajo reservation in northern Arizona and New Mexico and Utah. They are carrying food and clothing which generous Americans have contributed in response to widespread appeals that the Indian be saved from starvation.

I suspect the Navajo, after years of living at the bare subsistence level, are rather bewildered by this sudden burst of generosity on the part of their conquerors.

I am glad Americans have been awakened to the need of the Indians. While some of the reports regarding the condition of the Navajo have been exaggerated, I would not criticize the reporters. If that is the only way Anglo-Americans can be awakened to the gravity of the Indian problem—and it appears this is true—then more power to those who have painted the picture in more lurid colors than the facts justify.

While it is a commendable thing to rush an avalanche of food and clothing to the needy Indians—and nearly all Navajo are needy according to the white man's standard—I hope those who have contributed so generously will not assume the Navajo problem has been solved.

The need on the reservation next winter will be more serious than it is this winter, and a year later it will be even more critical, unless a drastic improvement is made in the economic base on which the Navajo culture rests. The arid lands of the present reservation simply will not support the increasing Indian population. This is a situation which must be corrected if the Indians are not going to become permanent subjects of charity.

The Navajo does not want to live on relief. He is by nature free and rugged and independent. He wants to be a self-supporting citizen. But he must have greater resources than are now available for him if he is to make his own way—resources that include tools and the training necessary to use them profitably.

* * *

Among the many suggestions for improving the lot of the Navajo, I think my friend Ed. F. Williams has offered the most constructive. (See letters page.) On the Colorado River reservation at Parker, Arizona, are more than 75,000 acres of rich river bottom land which needs but to be cleared and irrigated from a dam already constructed, to support a population of 35,000 people.

Old prejudices will have to be overcome, and new farming and feeding methods taught before the Navajo will become reconciled to such a radical change in his traditional way of living.

But with wise planning and much patience on the part of the Indian authorities, I share with Ed. Williams the feeling that here is a practicable answer.

* * *

Normally I have a very high regard for the courageous journalism of Drew Pearson, but I suspect the Washington columnist has based one of his recent editorials on misinformation. I refer to his accusation that traders on the Indian reservation have been "piling up huge fortunes while the Navajo starved and the Indian Service closed its eyes."

A few of the traders—not many—have acquired substantial wealth. The great majority, after a lifetime of service on the reservation, have accumulated about enough for old age retirement, and no more. Theirs is not an easy life. Generally their posts are in remote areas where the trader and his family are called upon day and night for personal services ranging from feeding the needy to burying the dead.

The Navajo has a keen sense of justice. He will ride to a distant trading post to avoid patronizing a local trader who he feels has overcharged or done him a personal wrong. The trader who cannot keep the friendship of his Indian patrons does not long survive. And the Navajo are not too dumb to know when they have been mistreated. I would recommend that Drew Pearson read Hilda Faunce's *Desert Wife* to better understand the role of trader to the Navajo.

* * *

Marshal South's verse, quoted in last month's *Desert*, keeps running through my mind as the New Year starts. I hope you did not miss it—

What profit the whirr of the Wheel,
The roar of Wings, the clang of Steel—
If, from a world in these arrayed,
The Builders turn away dismayed,
Weary and sick of mind.

How well, in those five lines, has the poet of Ghost Mountain expressed a question many of us are asking. We cannot turn back from the atomic age. And yet it requires greater faith than most of us have, to look to the future with confidence that our sons and daughters will live in a world of peace.

I do not know the answer. But I am sure it will be found, not in the direction of more wheels and wings and atom bombs, but in better understanding of the human beings whose responsibility it is to manage those scientific gadgets.

Perhaps it would be a useful idea for the scientists engaged in the study of material things to take a five-year recess, and convert their laboratories to the study of human emotions—to forget about the machines for a little while and develop a finer emotional discipline in the mortals who operate the machines.

A human who despises another because he is a Baptist or a Catholic, or Jew or Negro or Share-Cropper, is no fit person to be trusted with the tools and weapons of this age. When we have learned that character, and not race or color, is the true basis for judging men, then no longer will "The Builders turn away dismayed, weary and sick of mind."



NEW GUIDE PICTURES DESERT PLANT AND ANIMAL PARADE

Strikingly illustrated with 74 photographs by Marvin H. Frost, **DESERT PARADE** by William H. Carr offers a practical guide to the outstanding plants and wildlife of the Southwestern deserts. Of great advantage to the average desert visitor is the fact that most of the things in which he is likely to be interested—mammals, birds, snakes, lizards, the tortoise, spiders, scorpions, insects, trees, shrubs, wildflowers and cacti—are included in one volume. And the descriptions are simple enough to be of great help to the untrained observer in the visual identification of the desert inhabitants.

Most of the book is taken up with paragraph summaries of the various species identified. But there is an interesting "Desert Foretaste" which deals briefly with the factors that cause a desert and the adaptations of animals and humans to it. Carr, formerly an associate curator of the American Museum of Natural History in New York and president of the Arizona Wildlife federation, lives in Tucson, and he has favored the southern Arizona desert in this small guide. But most of his subjects are a part of what he calls "the wildlife and plant parade, endless in scope, that marches across the deserts from Texas to California."

The Viking Press, New York, 1947, 96 pps., map. \$2.50.

AUTHORS PROBE THE MAKING OF THE NAVAJO INDIVIDUAL

From medical details of birth to the last rites of death, **CHILDREN OF THE PEOPLE** tells the story of the Navajo individual and his development. Written by Dorothea Leighton and Clyde Kluckhohn, the book is a companion piece to their *The Navaho*. But while that volume deals with the life, religion, language and government of The People, the announced purpose of **CHILDREN OF THE PEOPLE** is to bring together all that is known about Navajo psychology and Navajo personality.

The material was collected as part of the Indian Education Research project of the University of Chicago and the U. S. office of Indian affairs, which project is investigating the development of personalities of Indian children from the Hopi, Navajo, Papago, Sioux and Zuñi tribes. Accent in this book is upon the early years of the child's life because the authors feel that

personality traits are set during that period. More than half of the volume is taken up with the tests which were given to the Navajo children, and the results of those tests.

CHILDREN OF THE PEOPLE may be listed as being absolutely essential to any complete study of the Navajo, but readers should understand that it was designed for informative rather than entertainment purposes. Nevertheless, there is a great deal of human interest in the direct quotations of the thinking of The People, and the plaint of Mr. Mustache on old age, for example, might almost have come from the lamentations of Job.

Harvard University Press, Cambridge, Mass., 1947. 277 pps., excellent photographic illustrations, index, bibliography, maps. \$4.50.

BOOK BRIEFS . . .

A pamphlet telling of the construction of various roads and the railroad into Virginia City and of the early logging industry around Glenbrook, has been published by the Nevada bureau of mines and the Mackay school of mines under the title *Early Engineering Work Contributory to the Comstock*. The manuscript was written by the late John D. Galloway who spent his boyhood in Virginia City. The pamphlet, which sells for 75 cents, is illustrated with several rare photographs.

Dr. William Kurath, head of the German department of the University of Arizona and Dr. Edward H. Spicer, associate professor of anthropology there have completed a bulletin for the university, *A Brief Introduction to Yaqui, a Native Language of Sonora*. The publication takes up Yaqui sounds, word formation, sentence structure and vocabulary.

Planned reissue of *Ordeal by Hunger*, by Dr. George R. Stewart, in an edition commemorating the centennial of discovery of gold in California has been announced. The book tells the history of the Donner tragedy.

Initial copies of *Tales of a Triumphant People*, depicting the history of Salt Lake county from 1847 to 1900, were issued late in September by the Salt Lake county company, Daughters of Utah Pioneers. The book, selling for \$3, contains documents written by Brigham Young and other early Mormon leaders, and is illustrated.

Centennial issue of the Utah Historical Society quarterly features the journal of Lorenzo Dow Young and his wife Harriet Page Wheeler Decker Young, members of the first company of Mormon pioneers, edited by Rev. Robert J. Dwyer. The quarterly includes writings by Levi Edgar Young under the general title "The Spirit of the Pioneers."

Before the Comstock, the memoirs of William Hickman Dolman covering the period 1857-1858, has been issued in pamphlet form as a bulletin of the University of Nevada. Dr. Austin E. Hutcheson of the history department wrote the introduction and footnotes. Dolman is described as a pre-Comstock Nevada pioneer and leader of the miners in Gold canyon.

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