

# Desert

AUGUST, 1955 . . . 35 Cents





AUGUST 11, 12, 13, 14

## *Inter-Tribal Ceremonial At Gallup*

**O**LDEST, LARGEST and most famous of all Indian expositions—the Gallup, New Mexico Inter-Tribal Indian Ceremonial—will roll back the march of time for four event-packed days, August 11, 12, 13 and 14.

Among the festival highlights will be nightly presentation of Indian dances, rituals, chants and songs; an all-Indian rodeo performed during the afternoons of the last three Ceremonial days; a colorful street parade of all-Indian dance groups, bands and Indian horsemen and wagons takes place on Friday, Saturday and Sunday mornings; at the exhibit hall on the Ceremonial Grounds will be displayed the country's most complete and varied collection of Indian handicraft in silver, turquoise, baskets, pottery, rugs, leatherwork, bead work and original paintings plus demonstrations of sandpainting.

All seats are reserved for all performances. Tickets can be obtained by writing to the Inter-Tribal Indian Ceremonial Ticket Office, Box 1029, Gallup, New Mexico. Tickets are also on sale during the Ceremonial at the Ceremonial Hogan.

Gallup accommodations include 10 hotels and 36 motels besides rooms made available in private homes. Dormitory facilities are set up in public buildings and the city has several trailer camps and camping space. Picnic and overnight camping spots are available in the nearby Cibola National Forest.

Again scheduled this year is an open meeting during the Ceremonial featuring the country's leading experts on Indian affairs speaking on topics bearing on the Indian.

Professional and amateur photographers are reminded that special permits to take pictures are necessary.

*Above—Taos Dancers in traditional costumes await their turn to perform at Ceremonial. Photograph by Robert Watkins.*

*Below—Apaches in gala array. The men on the right are the famous devil-dancers.*

## DESERT CALENDAR

- August 2 — Annual Fiesta, Jemez Pueblo, Albuquerque, New Mexico.
- August 4—Annual Fiesta, Santa Domingo Pueblo, Albuquerque, New Mexico.
- August 4-6 — Burro Race, Apple Valley, California.
- August 5-7—Cowboys' Reunion Rodeo, Las Vegas, New Mexico.
- August 10 — Annual Fiesta, Acoma Reservation, Albuquerque, New Mexico.
- August 11-14 — Inter-Tribal Indian Ceremonial, Gallup, New Mexico.
- August 12-13 — Northern Arizona Square Dance Festival, Flagstaff, New Mexico.
- August 12-14—Payson Rodeo, Payson, Arizona.
- August 12-14 — Smoki Indian Ceremonials, Prescott, Arizona.
- August 13-14—Desert Peaks Hike, Sierra Club, to Mt. Tyndall; meet at Independence, California, 8:00 a.m. Saturday (for experienced back-packers only).
- August 15—Annual Fiesta, Laguna Reservation, Albuquerque, New Mexico.
- August 18-20—Cache County Rodeo, Logan, Utah.
- August 18-20—Rodeo, Vernal, Utah.
- August 24-28 — San Bernardino County Fair, Victorville, California.
- Late August — Hopi Snake Dances, Mishongnovi and Walpi, Hopi Indian reservations near Winslow, Arizona. (Date announced by tribal leaders 16 days before dance; check with Winslow Chamber of Commerce.)



## THE *Desert* MAGAZINE

Volume 18

AUGUST, 1955

Number 8

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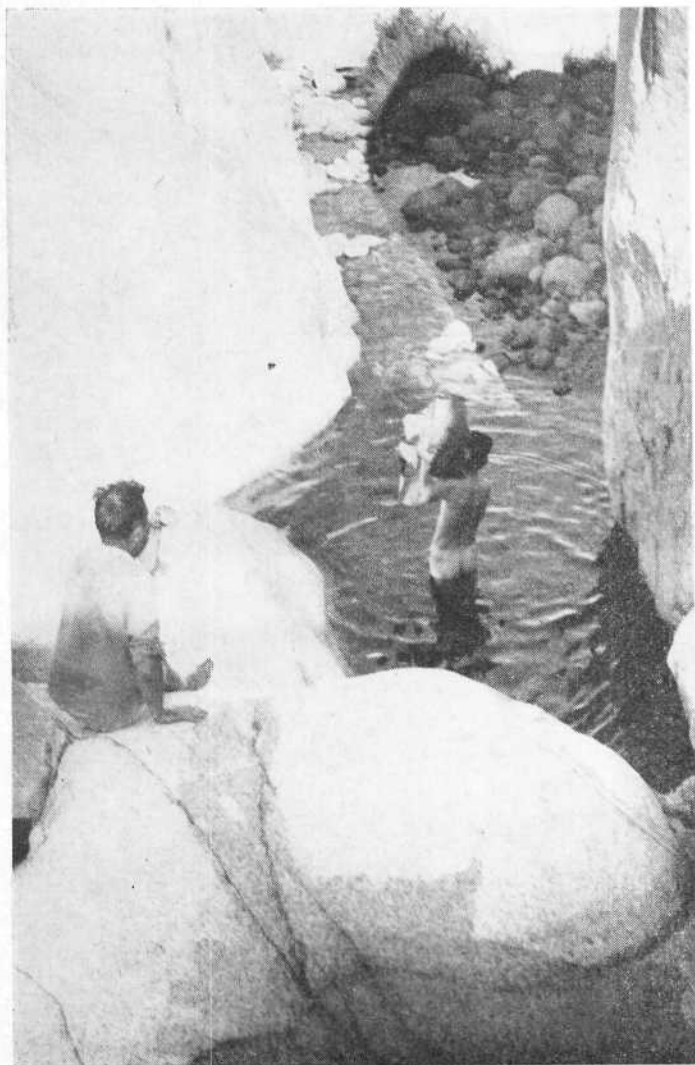
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*Sometimes it was necessary to strip and wade to keep the packs and camera equipment dry.*



*There was no trail—just rocks, and occasionally heavy brush. The rope was used many times.*

## Three Days in Devil's Canyon

Slashing through the heart of the San Pedro Martyr Mountains in Lower California is the Devil's Canyon—Canyon del Diablo, the Mexicans call it. Curious to know why the padres, the prospectors and the cattlemen have all by-passed this canyon down through the years, Randall Henderson and two companions spent three days traversing the 22-mile bottom of the chasm—and this is the story of what they found there.

By RANDALL HENDERSON  
Map by Norton Allen

**L**ATE ONE April afternoon in 1937 Norman Clyde and I stood on the 10,136-foot summit of Picacho del Diablo, highest peak on the Baja California peninsula (*Desert Magazine*, Jan. '53). To the east we could see across the Gulf of California to the Sonora coastline, and to the west the sun was just dipping below the horizon where the sky meets the Pacific Ocean.

Starting from the floor of San Felipe

Valley on the desert side of the San Pedro Martyr Range, we had been scaling rocks and fighting our way through thickets of catsclaw, agave and manzanita for three days to reach this peak.

While there was good visibility for 75 miles in every direction, my interest was attracted to the deep gorge immediately below us on the west side of the San Pedro Martyrs—Canyon del Diablo. This great gorge drains

the western slope of the upper Martyrs and then cuts a great semi-circular gash through the range and dumps its flood waters—when there are cloudbursts—into the San Felipe Valley on the desert side. The mouth of the canyon is only 12 miles north of Providencia Canyon up which Norman Clyde and I had climbed to the summit of El Diablo peak.

It is a magnificent canyon—and I resolved that some day I would traverse its depths. Perhaps there was a good reason why the Mexicans had named it El Diablo—The Devil.

It was 17 years before I went back to Canyon del Diablo. Arles Adams and Bill Sherrill and I had sat around our campfires on desert exploring trips and many times discussed plans for the descent of this canyon, but it was not until October, 1954, that the trip was scheduled. Arles secured a week's



leave of absence from the hemp straw processing mill in El Centro where he is superintendent, and Bill wrangled a week's vacation from the U. S. Border Patrol at Calexico where he was chief—and we took off for the San Pedro Martyrs.

My brother Carl drove us down the coastal highway from Tijuana through Ensenada to the end of the 142-mile paved road which follows the Pacific shoreline, and then another 36 miles over hard but rough dirt and gravel road to the San Jose Ranch of Alberta and Salvador Meling which was to be the starting point for our trip across the peninsula by way of the Devil's Canyon.

For years I have looked forward to meeting the Melings. I wondered why they had chosen to spend their lives—they are both past 60—in this remote semi-arid wilderness of Baja California. Neither of them is of Mexican descent.

Harry Johnson, Mrs. Meling's father, brought his family from Texas to Baja California in 1899 when Alberta was a small girl. Johnson was a frontiersman of the finest type. At first he had a ranch near the coast at which is now San Antonio del Mar, 150 miles south of San Diego.

Then he became interested in the rich placer diggings at Socorro near the base of the San Pedro Martyr Range, 40 miles inland from his ranch. Gold had been discovered there in 1874, and the gravel was worked intermittently until Johnson acquired the ground. He operated the mines 15 years, until they were worked out.

Salvador Meling came to Lower California from Norway with his parents and eight brothers in 1908. They were miners, and worked for Johnson at the placer field. Eventually Salvador married the boss' daughter—and they have made their home in the vicinity ever since. They have four grown children and 12 grandchildren. One of the daughters, Ada Barre, manages the guest accommodations at the San Jose ranch.

The Melings run between 400 and 500 head of cattle on their range, and have a crew of Mexican cowboys who also serve as dude wranglers when there are guests at the ranch.

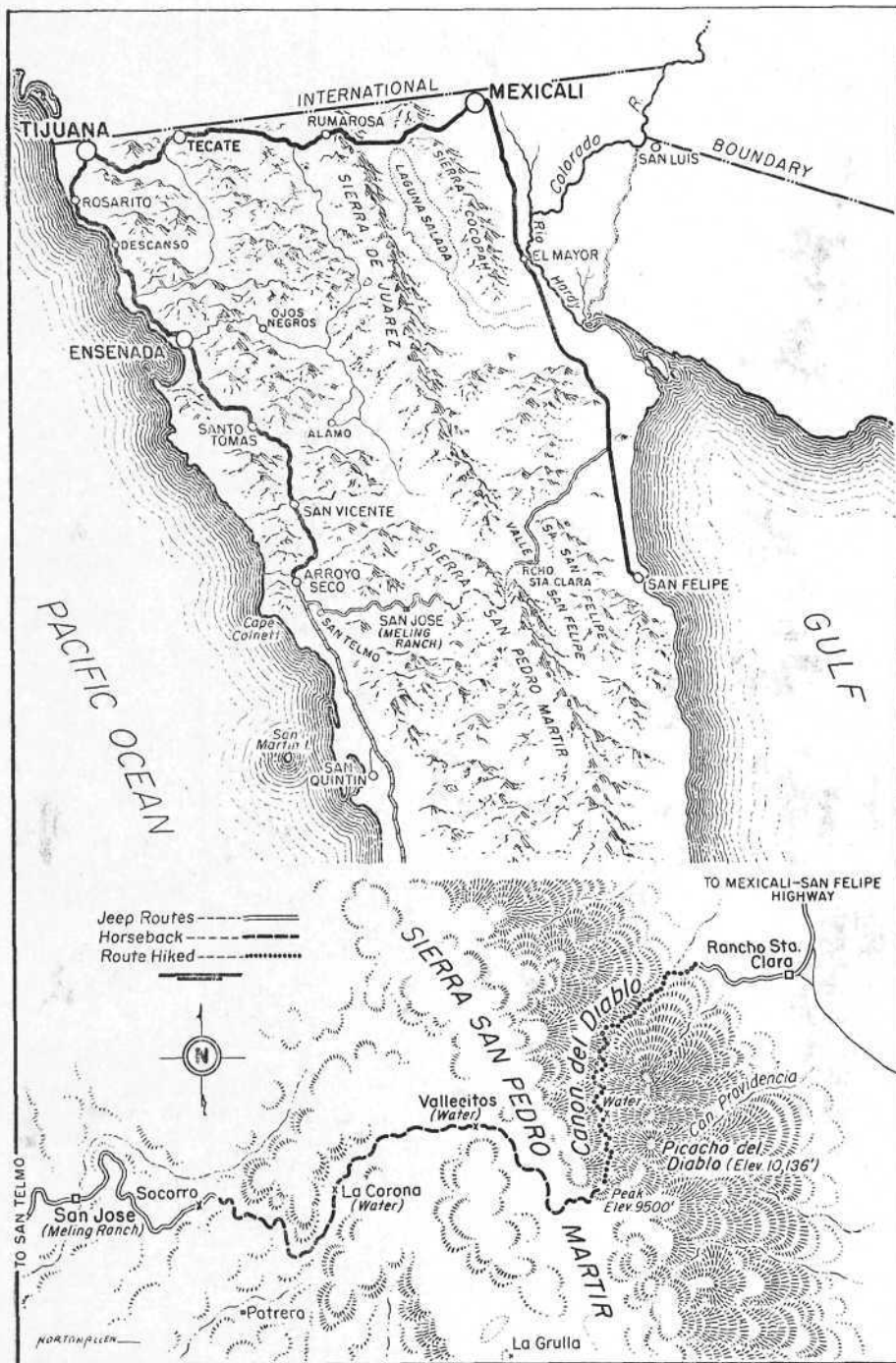
They drive 112 miles to Ensenada



*Above — Arles Adams, Salvador Meling and Bill Sherrill at the San Jose Ranch.*

*Center—Juanito and Adolfo, guides and packers for the expedition.*

*Below—Home of the Melings—the San Jose Ranch near the base of the San Pedro Martyr Mountains.*



about her in *Camp and Camino in Lower California* (now out of print) when he knew her there as a girl 50 years ago. He referred to her as Miss Bertie, for that was the name by which she has always been known among friends and neighbors. Quoting from one of Miss Bertie's neighbors, North wrote:

"She's the most interesting personality in all this countryside—and yet I can't describe her. Though she has lived in these wilds since babyhood, she has the gentle traits you may find in the girls at home. And I must tell you about her pluck. Once during the absence of her men folks, she heard that some marauding Indians and Mexicans were about to take off with a bunch of her father's range cattle. Without pausing for rest or giving thought to the risk, she rode 13 hours; indeed, using up two saddle horses, the range riding was so rough. She saved the cattle. Another time she was in San Diego with her father. A man of considerable means, he pointed out a magnificent eastern-style residence to her, saying, 'Bertie, you girls mustn't remain Amazons. I think I'll buy that place for you.' She knew he might be in earnest. 'Oh, you wouldn't make us live in the city,' she cried. 'Town life must be so crowded. Can't we live always in the sierras? There we can breathe.'"

For 17 years I have been trying to gain information about Canyon del Diablo. Members of the Sierra Club had climbed down into the gorge and out again, on their way to the top of Diablo peak. They had found water there, but knew nothing about the canyon below. At Mexicali and San Felipe and Ensenada I had made inquiries about El Diablo—and the answer invariably was shrug and "*Quien Sabe.*" No one at San Jose had ever been through the canyon. Alberta Meling said: "I've never known anyone who went down the canyon. I've always wanted to make the trip, but it is too rough for the horses, and we never seemed to have time for it. I have been told there are Indian petroglyphs and a waterfall at the San Felipe Valley entrance, but that is all I know about it."

A rough road continues 11 miles beyond the ranch to the old Socorro placer field, and since it would be possible to drive the jeep station wagon to that point, we arranged for the packers to meet us there with the horses the following morning. We had estimated the ride from San Jose to Diablo at two days, and the distance down the canyon to its portal on the desert at from 20 to 25 miles. We had allowed for three days in the gorge.

San Jose ranch is at an elevation of

twice a month for mail and for such essential supplies as sugar, coffee, salt, flour, fuel oil and tank gas. Most of their food comes from the ranch. A fine spring equipped with a jet pump supplies irrigation water for an orchard of apples, peaches, pears, plums and grapes, and for their garden. They raise their own meat and vegetables. Mrs. Meling took me into the store-room where the shelves were stacked with 600 jars of fruit, jam, jelly and vegetables which she and her Mexican maids had canned. They have a smoke house to cure their meat, and Mrs. Meling bakes from 40 to 50 loaves of bread a week to supply the ranch crew and guests.

Salvador manages the ranch and

orchards and gardens. San Jose is a quiet retreat shaded by huge cottonwood trees, with limited guest accommodations. The family style meals are homegrown and homemade, and the platters are filled high with food that has never been inside of a cannery or processing factory.

We reached the Meling ranch late in the afternoon and arranged for packers and saddle horses for the 42-mile ride to upper Diablo Canyon, to start the next morning.

Talking with Alberta by the huge fireplace that evening I began to understand why they had chosen to remain at this isolated Baja California oasis. What I learned merely confirmed what Arthur W. North had written



2200 feet, and the mine road climbed another 2000 feet to a point just beyond Socorro where the going became too rough even for the jeep. We were on an old road bulldozed several years ago by a group of men who thought they had a concession to cut big timber up on the San Pedro Martyrs. But the Mexican government never actually issued the permit, and flood water has now cut great gullies in the road.

Nothing remains at the old placer camp today except heaps of adobe partly concealed by the desert shrubbery—marking the sites of the houses once occupied by Johnson's miners.

It was nearly noon when Juanito and Adolfo, the packers, caught up with us. In the meantime Carl had deposited us along the old road, and with his ferry job completed he returned over the coast highway to California.

The western approach to the San Pedro Martyrs is over rolling hills covered with ribbon wood, juniper, manzanita, mountain mahogany, laurel and sage. At the higher levels are ferns and coniferous trees including fine stands of Ponderosa pine.

At three o'clock our little pack train had reached big timber, and a half hour later we camped at the edge of a lovely pine-fringed mountain meadow with three springs close by. This is La Corona—at an elevation of 7100 feet.

That evening at La Corona camp I had my first Kamp-Pack meal. The Kamp-Pack brand covers a wide range of dehydrated and seasoned food products made by the Bernard Food Industries at 1208 E. San Antonio St., San Jose, California, for camping and backpacking trips. "Nothing to add but water," is the slogan on each package.

Ground or powdered meats, fruits and vegetables come in moisture proof envelopes of metal foil. They are packaged in 4-man and 8-man portions. For this trip I ordered 4-man portions to last five days—60 meals. The total weight was 11 pounds, and the cost \$17.79. Our camp menu included such items as chicken pot pie with biscuits, chicken stew, cheese-egg omelette, hamburger steak and meat loaf, mashed potatoes with chicken gravy, Boston baked beans, scrambled eggs and buttermilk pancakes—with coffee, chocolate and powdered milk, and applesauce or pudding for dessert.

It was necessary only for each of us to carry a small kit of aluminum utensils for cooking and eating—and at mealtime we enjoyed all the luxuries of home. It was surprising how those small crumbs of dehydrated chicken became tender and delicious morsels of meat after the proper cooking and heating. That really is camping deluxe.



*Alberta Meling of San Jose Ranch in Baja California. Her postoffice is 112 miles away at Ensenada—and the road is not all paved.*

We spread our sleeping bags on beds of pine needles that night. We carried no firearms, but Bill Sherrill had brought along one of those wild animal calls. It is a tin gadget like a whistle which sounds like a beast in great distress—I was never able to figure out just which beast. The theory is that if you make a noise like a wounded fawn or baby eagle, the carnivorous animals of the forest will all come in for a meal. So, after dark we went out in the forest and made some hideous

noises. It wasn't a big success. Bill and Arles were sure they saw a fox lurking among the trees, and once there was an answering call which could have been a cougar. A prolonged drouth has left San Pedro Martyrs very dry, and the Mexican boys said most of the deer and other animals had gone elsewhere.

We were away at 7:30 in the morning. Our trail led through a silent forest of conifers, ascending and descending the easy slopes of a high plateau,

always gaining altitude. Once the solitude was broken by a cracking and splintering sound, and we turned in our saddles to see an aged Ponderosa giant topple to the ground. A cloud of dust filled the air—and that was all. We had witnessed the final passing of a tree which probably was in its prime when the Jesuit padres were building their missions on the Baja California peninsula.

It is at the base and in the canyons of the San Pedro Martyrs that treasure hunters for many years have been seeking the fabled lost gold and silver of the Santa Ysabel mission—a cache which is said to have been concealed by the Jesuit Black Robes when they were expelled from New Spain in 1767.

Occasionally through the pine trees we would get a glimpse of the white granite peak of Picacho del Diablo far to the east, the landmark toward which we were traveling.

At 11 o'clock we reached Vallecitos, a series of high mountain meadows. Our trail ended at an old log cabin which Juanito told us was used occasionally by cowboys and sheep herders. Our guide said there was a spring a half mile off the trail, but the rim of Diablo Canyon is but three or four miles from this point and we felt we had ample water to complete the journey.

At Vallecitos, Juanito turned toward the south and we rode for six miles in a southerly direction parallel to Diablo Canyon. We had told the Melings we wanted to go to the rim of upper Diablo Canyon by the most direct route, and we assumed Juanito understood this. But either he misunderstood his directions, or was not familiar with the terrain, for he finally brought us to the summit of an unnamed peak at the head of the canyon—at an elevation of 9510 feet. We were on a saddle where the timbered slopes to the north of us drained down into Diablo gorge, and the arid canyon on the other side drained into the desert below San Felipe. The blue waters of the gulf were only a few miles away.

After leaving Vallecitos, instead of going to the rim of the canyon at its nearest point, Juanito had taken us perhaps ten miles further in a southeasterly direction to the very head of the canyon. All of which would not have been disturbing were it not for the fact that we had used the last of our water when we stopped for a trail-side lunch — and we now faced the prospect of working our way down precipitous slopes to an elevation perhaps 2500 feet below, before we could quench our thirst in Diablo Creek. Since Juanito understood no English, we waved him farewell and he turned

back over the trail with his pack train toward the San Jose ranch.

Now we were on our own. Our packs were not excessive. We had weighed them at San Jose. Bill was carrying 31 pounds, Arles 28, and mine weighed 26. The difference was in the bedding, clothing and camera equipment. Bill carried a light plastic air mattress. We also carried 100 feet of half-inch Nylon rope which added four and one-half pounds. We took two-hour turns with the rope.

It was 2:45 Wednesday afternoon when we shouldered our packs and started down the steep slope, much of the time lowering ourselves with hand holds on trees and rocks. We welcomed the shade of the pine trees which grew on the mountainside. We were

#### FOOD FOR BACKPACKERS

For those who take long tramps on desert or mountains with their beds and grub in the packs on their backs, the advantage of dehydrated foods is well known. One pound of dried onions is equivalent to nine pounds of fresh onions. Other vegetables are about the same 9-to-1. The ratio is slightly lower for meats, and many times higher for drinks such as coffee, milk, fruit juices, malted milks, etc.

Whole milk powder serves for multiple purposes: For cereals, meat gravy, pancakes, hot chocolate, milk shakes and puddings.

While Kamp-Pack foods are offered in kits — the complete day's food — breakfast, lunch and dinner for four or eight men—there is considerable economy, and a more selective menu if ordered a la carte—that is four or eight-man packs of the items desired. If only two persons are on the trip the extra food need not be wasted, as the metal foil envelopes in which it comes may be closed and the extra portions readily carried over for a future meal.

Members of the Diablo Canyon expedition described the flavoring of the foods as "delicious." Their only suggestion was that some of the items were better if soaked in water somewhat longer than the directions required, before cooking.

thirsty and we had no way of reckoning the distance to water. Within an hour the sun disappeared over the west rim above and by five o'clock it was dusk and we made camp for the night. For sleeping quarters we scooped out little shelves between rocks on the side-hill—and went to bed without supper. Food that bore labels "Nothing to add but water" was of little use to us then.

We were away at five in the morning without breakfast—confident that before many hours we would come to water. At mid-morning we had to uncoil the rope to lower our packs over a 60-foot dry waterfall, and then followed them down hand and toe. We were feeling the effects of dehydration, and worked down the rock face with extra caution.

And then, just at 12, we arrived at the top of another dry fall and could hear the trickle of water at its base. Arles and Bill detoured the fall while I uncoiled the rope and rappelled down the 40-foot face to a spring of cold water. The elevation was 6700 feet.

One of the packages in the Kamp-Pack was labelled "Strawberry Milk Shake" and there was a combination measuring cup and shaker in the kit. What a feast we had there by that ice-cold spring—with milk shakes as rich and flavorful as you buy at any soda fountain. After a refreshing two hours there at the headwaters of Diablo Creek we had forgotten the discomfort of 24 hours without water and were eager to see what was ahead. From that point we tramped beside flowing water all the way down the canyon, crossing and re-crossing it a hundred times a day.

It was never smooth going, but we had rubber-soled shoes to insure good footing on the smooth granite. Many times we had to lower ourselves by hand and toe, but there were no difficult passages that afternoon.

A short distance below the spring we found the charred wood of a dead campfire, and a can of fuel oil for a primus stove. I assumed this was the place where one of the Sierra Club expeditions had camped when they found it necessary to drop down into Diablo Canyon as they climbed Picacho del Diablo from the west. The peak was directly above us, a 4000-foot climb from here.

Between 6500 and 6000 feet there were ducks on the rocks to mark a route along the floor of the gorge. Below that point we found no evidence of previous visitors, either Indians or whites, until we reached the 4000-foot level.

At four o'clock the canyon had widened somewhat and the floor was covered with a forest of oak trees. We found a comfortable campsite beside the stream with a cushion of oak leaves for our beds. For supper we had chicken stew and pan fried biscuits. The elevation was 5900 feet.

We were tired tonight, physically and mentally — physically, because none of us was conditioned for a long day with packs. Mentally because of the decisions — thousands of them. Traveling with packs over more or less loose boulders, every step calls for a decision, and when the descent is over vertical rock, every foot and handhold has to be tested and an instinctive decision made for every hold. The mind literally becomes weary making decisions. We were conscious always of the difficulties which would be entailed if a careless step on a loose rock



should result in a broken bone in this inaccessible place.

Up to the point of extreme exhaustion, such hazards lend fascination to such a journey. There were compensations every moment of the day: Each turn in the winding canyon revealed a glorious new vista, and each portal was the gateway to a new adventure. Sometimes the leader, and we took turns, led us into an impenetrable thicket of mesquite or face to face with a wall of granite, and we had to retrace our steps. Once I thought I was smarter than the leader—and stayed on the right side of the stream instead of following Arles and Bill across to the other side. My folly led me into a little swamp where I spent 30 minutes clawing my way through fern fronds higher than my head.

Below the oak forest we encountered dense thickets of underbrush—agave, catsclaw, wild grape, scrub mesquite—and ferns.

The canyon became more precipitous and several times we lowered our packs with ropes. Twice we rappelled down over slick waterfalls.

At five o'clock we made camp at the 4300-foot level and slept on a sandbar that night. The walls of the gorge rose almost verticle on both sides of us. We had expected to be out of the canyon the following day, Saturday, but it seemed we were still in the heart of the range, and we were beginning to have doubts that we would make it on schedule.

We were up at five and had scrambled eggs for breakfast. The canyon was dropping rapidly and we constantly scrambled over and around huge boulders. However, we preferred the rocks to the thorny brush of the previous day, and made good time.

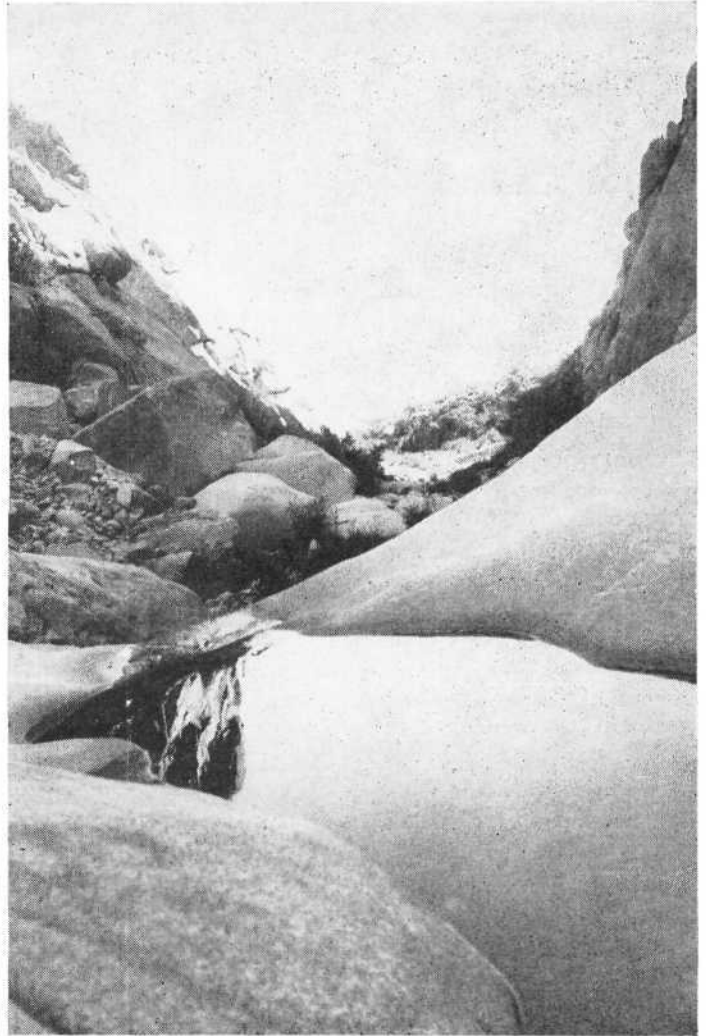
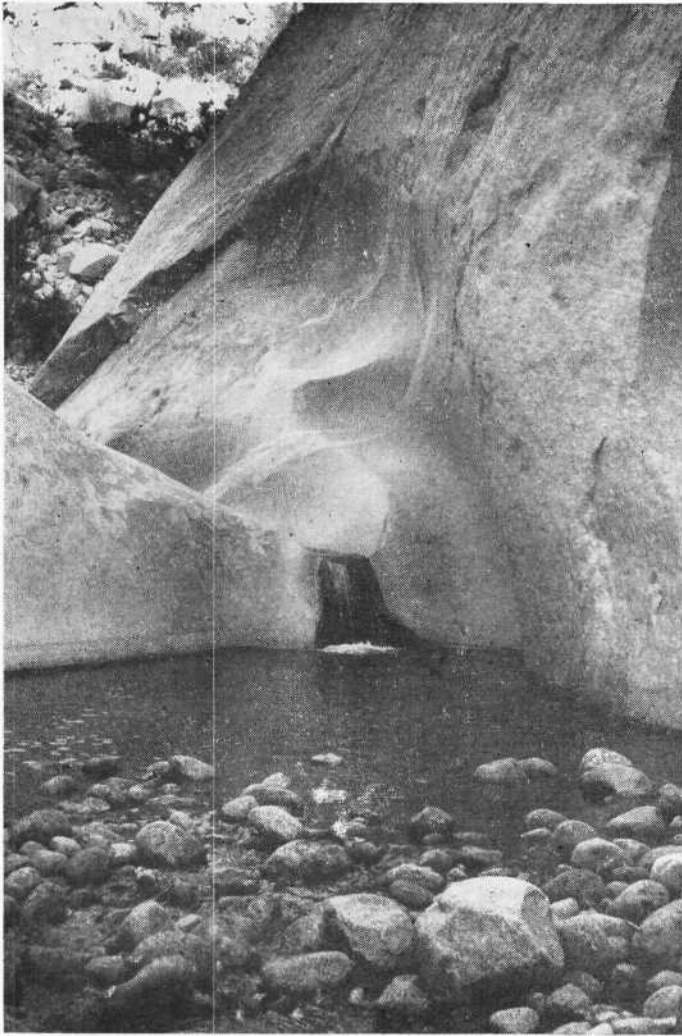
At noon the canyon had turned sharply to the east and was beginning to open up. We ate lunch at 3000 feet. The temperature was 82 degrees—we were getting close to the desert.

*Above — During the 42-mile ride from San Jose Ranch to Canyon del Diablo we caught an occasional glimpse of El Picacho del Diablo through the trees. The right of the twin peaks is the highest—10,136 feet—Baja California's highest peak.*

*Center — The western slope of the San Pedro Martyrs is a land of rolling hills, big timber and mountain meadows. Pack train enroute to Canyon del Diablo.*

*Below — Bill Sherrill and Arles Adams stopped for a refreshing drink at one of the many pools in the bottom of the canyon.*





"We swam the last 40 feet of the canyon" in the pool on the left. These pools at the desert mouth of the canyon, walled in by slick rock, have been an almost impassable barrier to those who would enter El Diablo from below.

Late in the afternoon we found more ducks on the rocks, and other evidence that some one had been up the canyon recently. Then we came to a pool with vertical slick rock walls and had to strip and wade breast deep in the water. Around the next bend was another pool at the foot of a 3-foot waterfall. The water was deep. A detour over the ridge on either side would have required hours of hard climbing. The sun was going down, and we were tired. Arles stripped and dived in and swam the 40 feet to the far side of the pool. To get our cameras and duffle across we rigged an overhead tramway with the rope and when everything was across Bill and I plunged in and swam.

A quarter of a mile below this point, just as it was getting dusk, we emerged suddenly from the walls of the gorge, and a few minutes later were met by Arles' son, Jack Adams and his friend Walker Woolever, who had brought a jeep down from El Centro to meet us. Jack and Walker had arrived earlier in the day, had driven their jeep as near the canyon entrance as possible and

then made their way up the canyon and left the ducks we had seen late in the afternoon. They had scaled that last waterfall by using a shoulder stand, one of them submerged in seven feet of water while the other climbed the fall from his shoulders, and then gave a helping hand from above. Only a couple of venturesome teen-agers would have attempted such a feat.

The deep pool and waterfall are barriers which probably more than any other factors have left Devil's Canyon virtually unexplored down through the years. There are petroglyphs on the rock walls below the pool, but in the 22-mile descent of the canyon we had seen no evidence that Indians had ever been there—no shards, no glyphs or metates, flint chips, sea shells or smoke-charred caves. Even more strange is the fact that although wild palms of the *Erythea armata* and *Washingtonia filifera* species grow in the desert canyons both in the Sierra Juarez range to the north and in the San Pedro Martyrs south of us, we found not a single palm tree along the way.

That waterfall barrier at the mouth of the canyon probably explains the lack of palm trees. Most of the wild palms in the canyons of the Southwest grew from seeds brought there by Indians, or in the dung of coyotes. Few Indians and no coyotes have ever surmounted that pool and waterfall I am sure.

From the mouth of the canyon we hiked a mile to the jeep and then followed a rough road across San Felipe Valley and through a pass at the north end of Sierra San Felipe and home over the paved road that extends from Mexicali to the fishing village of San Felipe on the gulf.

Why did they name it Canyon del Diablo? I do not know for sure, but I can bear witness that we were as dry as the furnaces of Hades going in, and as wet as if we had swam the River Styx coming out.

It is one of those expeditions I would not want to repeat—and will always be glad I did it once.





# OPAL MINER OF RAINBOW RIDGE

Reposing in water in an especially constructed tank in a remote sector of Nevada is the world's largest opal — discovered at the Rainbow Ridge mine in the Virgin Valley opal field. Here is the story of the discovery of that magnificent gem stone—and of two former city dwellers who have found the end of the rainbow on Rainbow Ridge, Nevada.

By NELL MURBARGER  
Photographs by the author  
Map by Norton Allen

**A**NOTHER SUMMER laid knee-deep on the Virgin Valley, with wild flowers painting the slopes like a Spanish shawl, and Nevada's highland sun spread warm across the world.

But summer halted at the portal of the old mine. In the tunnel leading back from that barrier lay only silence and darkness and heavy white mold, and the bleak chill that creeps into a man's bones and stiffens his fingers and starts an aching numbness in his cramped muscles. A fellow wouldn't notice the cold so much if only he were finding something worthwhile, Keith Hodson was thinking. Or if he could throw in a round of shots and

make a little progress through these dead areas. But blasting? Not this stuff!

Turning the two electric floodlights so their beams fell more squarely on the face of the drift, the man took up his light stoping pick and went on driving into the hard clay with short, cautious strokes—chuff, chuff, chuff. As each rock fragment was released, he picked it up and examined it hopefully. With equal regularity he consigned each piece to the pile of waste rock mounting at his feet, and the careful stroking of the pick went on — chuff, chuff, chuff. All that week it had been the same. Nothing. Absolutely nothing.

Then, suddenly, Keith Hodson's arm stiffened in mid-air, and a questioning look came into his face. That last down-stroke of the pick — had it sounded a little differently? Harder and more definite, maybe—as if the

point of the pick had touched on a larger rock?

Casting the heavier tool aside, the man snatched a sharpened screwdriver and began probing carefully around the point of impact. Yes, there was a rock—the largest he had encountered all week! It was coming into view, now—a round, gray lump in the smooth gray clay of the drift. With a spot the size of a teacup exposed to view, the young miner brushed the damp earth from its surface and leaned down to peer more closely. One look and his pulse had quickened.

"I suspected I'd found something terribly, terribly good!" said Keith Hodson with a grin, as we sat later on the porch of the old stone cabin and he recalled for me that matchless moment. "My fingers fairly ached to go ahead and take it out — whatever it was!—but next day was Father's Day,

and Dad and Mother were coming up to the mine; and if this was even half as good as I thought it might be, I wanted them and Agnes to be in on the 'kill' . . ."

Leaving the rock still embedded in the chill tomb where it had lain through no-one-knows-how-many million years, Keith had walked out through the tunnel — a little shakily, perhaps; and maybe he was a little more careful than usual that night when he padlocked the heavy plank door that guards the portal of the mine.

"For some reason I didn't seem to want any supper," he said. "And after I got to bed, and the cabin was dark and quiet, I still couldn't go to sleep."

Father's Day, and the Hodsons were back in the tunnel — Keith and his wife, and Keith's mother and dad. With an ice pick and a screwdriver Keith and his father were exhuming that piece of rock; and I wouldn't be at all surprised if their hands were trembling a little, and their fingers seemed to be all thumbs; and maybe there was sort of an unspoken prayer in their hearts.

And then, after nearly a full day's labor, The Rock had been lifted free of its enveloping clay, and everyone was looking at it and smoothing his hands over it, caressingly and unbelievably. First they would look at The Rock, and then at one another, half scared like; and no one was saying very much, because there was nothing anyone could say that would have been worthy of that particular moment.

The Rock was about nine inches long and half as broad, and weighed

around seven pounds. But the Hodsons weren't breaking it down mentally into grams and carats, and appraising it in dollars. Not then, they weren't.

They were just staring down into that stone and seeing a pale, blue translucent world shot through with living flames of red and green, and rose and yellow—like smoldering embers floating in a bottomless well!

And, suddenly, they realized that the old mine tunnel no longer seemed dark or cold; or the labor of mining, hard and unrewarding. In one matchless moment, by the magic of one piece of rock, all that had been changed; and four persons who had entered the tunnel as common earth-beings, were leaving it as godlings, walking with the gods.

Godlings? What could a mere godling ever do that would lift him to the exalted plane of an opal miner who has just taken from his own ground the largest precious opal ever known to man!

This world's largest opal, discovered by Keith Hodson in June, 1952, was not the first great stone that had been yielded by the Rainbow Ridge mine, in Humboldt County, Nevada.

First of several incomparable gems to come from that same tunnel had been a magnificent black opal with vivid flashings of multi-colored fire. Purchased by Col. Washington A. Roebling, builder of the Brooklyn Bridge, this earlier stone had been presented in 1926 to the Smithsonian Institution, where a tentative valuation of \$250,000 had been placed upon it.

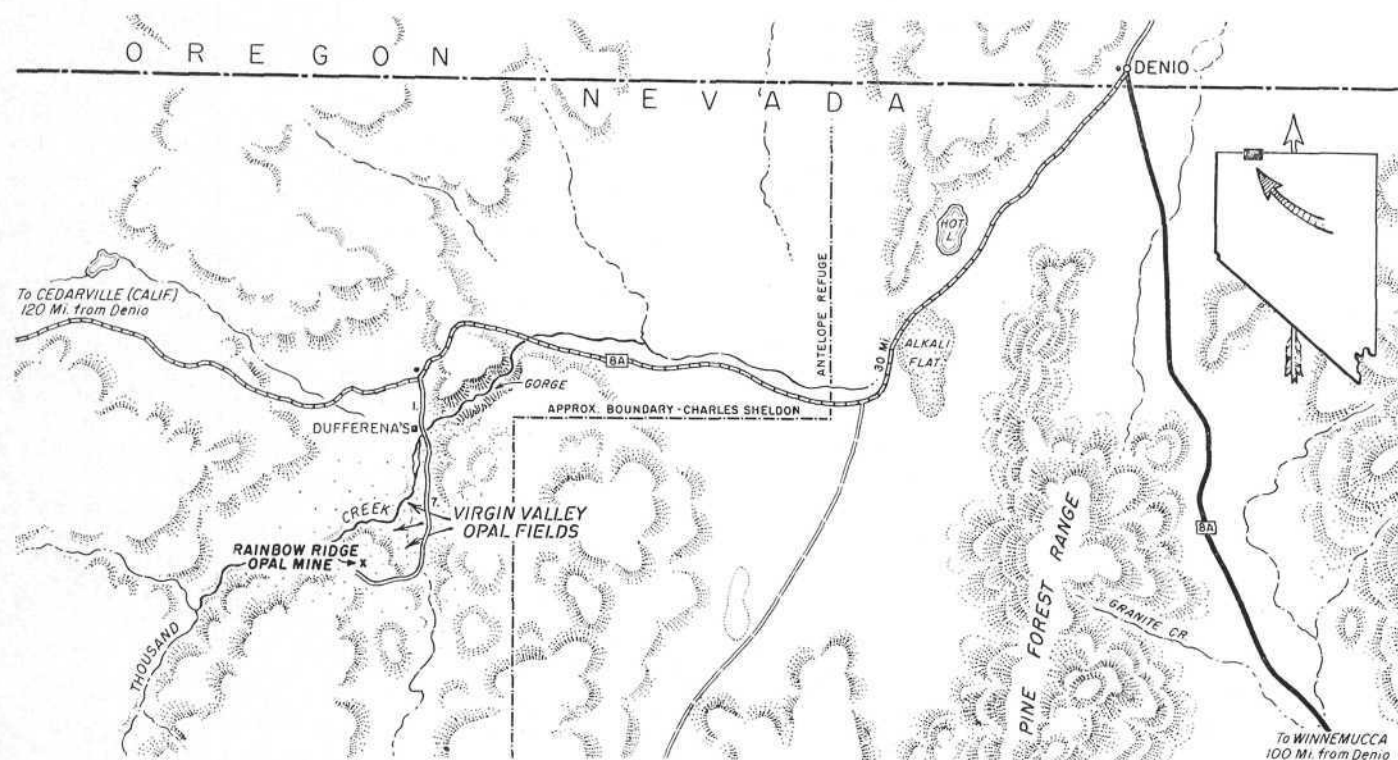
Weighing 2665 carats — around 18 ounces—the so-called "Roebling Opal" had been characterized as the largest black opal in the world.

And now, 33 years later, the mine that had produced The Roebling had yielded this second magnificent stone—a gem nearly seven times as huge as its predecessor!

Original discovery of opals in Nevada's Virgin Valley is credited to a rider on the Miller & Lux ranch, about 1906. Other stones were picked up, from time to time; and as word of those discoveries reached the outside world, a few prospectors strayed into the region, and many claims were filed.

First official recognition of the new field was that accorded by J. C. Merriam, whose report on the area appeared in the publication *Science* (Vol. 26, 1907, pp. 380-382.) Annual year-books of the U. S. Department of the Interior, dealing with mineral resources of the United States, in 1909 began carrying reports on the Virgin Valley opal deposits. With each year following, these official releases became more glowing and employed the use of more extravagant adjectives, and with the report of 1912 it was declared that in brilliancy of fire and color, the Virgin Valley's gem opal was unexcelled by that from any other locality in the world.

This sanguine report, quite naturally, brought into the valley a renewed flurry of prospecting, and opal claims were staked on every likely and unlikely spot of ground. Of the scores of claims filed, only a few were developed into







*Keith Hodson and Ed Green of Lovelock, Nevada, examine one of the opals from the famous mine.*

*Agnes Hodson holds in her hands the world's largest opal — taken from the Hodson's mine in the Virgin Valley area.*

commercial producers; and of those so developed, the foremost for more than 40 years has been the famous Rainbow Ridge, now owned by Keith and Agnes Hodson.

In 1946, immediately after Keith was mustered out of the Army, he and his family had located at Mina, in Mineral County, Nevada, where he had begun development work on several turquoise claims which they still own there.

"Dad and Mother, who live at Evansville, Indiana, have been gem collectors for more than 15 years. All of us, naturally, had heard many things about Virgin Valley; and when the folks came West on their vacation, in 1947, Dad was determined to come up here 'and buy a couple of opals.' But instead of buying a couple of carats and letting it go at that," he grinned, "we had to go and buy the whole mine!"

When the Hodsons and their two small children, Sharon and Bryan, took up residence in an old stone cabin at Rainbow Ridge, they achieved the ultimate in getting away from it all.

City dwellers since birth, they suddenly found themselves living five miles from the nearest water; 40 miles from

the nearest mail box; 80 miles, over unpaved roads, from the nearest drug store (and that in a village of only 600 inhabitants); and 140 miles from Winnemucca, their county seat.

Along with adjusting themselves to this extreme out-of-the-wayness, and desert living in general, the Hodsons began learning immediately the hard facts of an opal miner's life.

They learned that the only power tool admissible to use in an opal mine is a so-called "clay digger," operated by compressed air; that even this tool must be used with caution, and only in dead areas, where no gems are believed to exist. Blasting, they learned, is taboo at every stage of the operation. They found that as many as 30 days of hard labor might be expended without bringing to light a single carat of gem opal; and they discovered that claim jumping and highgrading are forms of private enterprise that did not pass from existence with gold rush days.

During their indoctrination they also learned that while summer temperatures in the valley may soar to more than 100 degrees, winter, at this elevation of 5400 feet, brings frigid weather and high winds that drift snow to depths of eight and 10 feet, and may

block ingress roads for weeks at a time.

Being young and enthusiastic and thoroughly enamoured of opals, the Hodsons found it possible to take in their stride all such disquieting details. Strangely enough, the toughest pill they have had to swallow is embodied in a certain refrain tossed at them from almost the hour of their arrival at Rainbow Ridge.

"Virgin Valley opals are beautiful as any in the world," runs that refrain. "But they won't cut!"

Hearing this statement, Keith Hodson comes near to forgetting his schooling in the art of self control.

"Virgin Valley opals," he asserts, "will cut! Just because no one has learned to cut them successfully, doesn't mean we'll never learn! We're working on the problem, almost night and day — and other lapidaries are working, too. Some time," he declares, "we'll discover how to do it!"

The opal's tendency to fracture is not confined to stones from the Virgin Valley, but is a detail that has beset gem cutters since the time of Caesar — the same trouble that now faces the cutter of Nevada opals, having once plagued the ancient lapidaries as they

worked on the magnificent gems of central Europe, and later on the opals of Australia and Mexico.

With increased knowledge of gem cutting, it was realized that as composition of the opal differed from that of other gemstones, so a different method must be developed for their cutting.

While most other gems are crystallized, the opal is formed of a molten hydrous silica containing from 6 to 10 percent of water. In the process of cooling and congealing, it is contended by some mineralogists, this molten silica cracked and separated into minute sections which later refilled with a similar silica-jell, thereby restoring the stone to apparent solidity.

In these refilled cracks possibly lies the secret of the opal's "fire"; but it may also be these cracks that are responsible for a peculiar stress that frequently causes an opal to explode when subjected to the friction heat of the lapidary wheel.

After ruining thousands of carats of magnificent stones, gem cutters gradually developed methods whereby opals from Europe, Australia and Mexico may be cut with comparatively little loss from fracturing.

"While none of the Old World methods have proven completely satisfactory in working our Virgin Valley opals, I'm confident there is some way in which these stones may be cut successfully," declared Keith. "When we've learned the answer to this problem, our Rainbow Ridge gems will rank with the finest the world produces!"

Until that time, the chief value of Virgin Valley opals will continue to lie in the field of cabinet specimens. Even for this purpose it is recommended that the stones be preserved in liquid, since exhaustion of the natural moisture imprisoned in the opal has a tendency to induce deterioration of the piece.

Despite the popular notion that specimen opals should be preserved in glycerine, the Hodsons object to use of this solution in its undiluted state—a 50-50 combination of glycerine and water, or even straight water, being preferable, they believe. (The Hodson's seven-pound prize opal is housed in a custom-built, sponge-padded tank, containing straight water.) But for the fact that immersion in any oil-base solution precludes later use of the gems in plastic work, Keith considers mineral oil or baby oil the ideal preservative for specimen opals.

Other misconceptions attached to this gemstone, said Keith, include the generally-held belief that opal is a form of petrified wood.

Precious opal of the Virgin Valley,

it was explained, is not a petrification in any sense; but, rather, a cast that resulted when empty pockets in the clay became filled with molten silica.

The entire Virgin Valley, geology shows, was formerly covered by a great lake, or inland sea. On the hills bordering this lake and its tributary streams grew a wide variety of conifers, including some species very similar to our present-day spruce. As branches and other dead wood from these trees fell into the streams, it was carried downward to the lake, there to be washed up on the shores as driftwood.

Time passed; geologic changes took place; and those lake beaches and their driftwood eventually were buried beneath many feet of volcanic ash or other matter. Of that entombed wood, some petrified, and some rotted away; and due to the nature of the enveloping material, that which rotted left its original form preserved perfectly in the enfolding clay.

Came more eons, and cataclysmic disturbances; and, eventually, molten

The world's largest opal, at latest reports, is being preserved in a custom-built tank somewhat resembling an aquarium bowl, padded with sponges above and below. The Hodsons have received substantial offers for it, but since no way has yet been found to cut this type of opal it is a museum specimen rather than a commercial stone, and is valued accordingly.

silica was being forced under pressure through the earth's crust. Wherever that silica encountered a bit of unfilled space, it flowed into that niche and congealed. In cases where that unfilled space had resulted from beach wood that had rotted out, leaving its form preserved in the clay, the infilling silica took the identical shape of that form, in the same manner gelatin takes the shape of its mold.

"But because an opal has assumed all the characteristics of a twig or section of tree limb — including bark, knots, and even lateral branches—most folks are convinced it's a petrification, and they won't have it any other way!" said Keith.

Conifer cones, occasionally encountered in the opal beds, are the special joy of Agnes Hodson who has collected nearly 50 of them. Most of these cones are not gem opal, but true petrifications—being naturally brown in color, and nearly perfect in appearance.

"One day a rockhound who had been working our dump, came in with the largest petrified cone we have ever

seen," recalled Agnes. "It was more than three inches long and perfect in every detail — even the individual bracts were perfectly represented. And would you believe it—that man was determined he was going to break that cone open to see what was inside it!"

"Keith said, 'For heaven's sake, man, don't ruin that wonderful specimen! We'll give you a \$50 opal for it—but don't break it!' He wouldn't trade it for the opal Keith offered him, and when he started back toward his car he was still fingering his rock hammer, and turning the cone over in his hand, and we could see he was still set on the idea of 'busting' it open!"

Due to pressure of popular demand, the Hodsons have relaxed their former restrictions and are again permitting rockhounds to work their opal dump on payment of three dollars a day. While the dump has been gleaned for a number of years there are small pieces of precious opal still to be found there; and the matchless thrill of finding even a tiny gem fragment is enough to keep an opal enthusiast searching the ground for hours at a time.

How much precious opal has been taken from the Virgin Valley in the past 50 years is any man's guess; particularly so, in view of the large quantities sold by highgraders, claim jumpers, and others who kept no record of production. Only two mines — the Rainbow Ridge and Mark Foster's Bonanza, recently purchased by the Hodsons — have been worked on a large scale. Of these, the more extensively developed is the Rainbow Ridge, which comprises six patented claims of 20 acres each, with around 1000 feet of tunneling.

In the course of its career, this mine has passed through a succession of hands; but of all its owners, none left on the valley an impression more indelible than that bequeathed by Mrs. Flora Haines Loughhead.

Flora Loughhead, in 1910, was a woman in her middle 50s. For 30-odd years she had been a staff writer on the *San Francisco Chronicle*; and with these new opal fields in Nevada attracting attention as the first important opal deposits ever found in the United States, she had been given an assignment to go to the valley and write the story for her paper.

Mrs. Loughhead went to the valley and completed her assignment. But that wasn't all.

While there she became such an opal enthusiast that she bought the Rainbow Ridge property and proceeded to throw herself, heart and soul, into the development of those claims.

"Strangely enough," said Keith, "she seemed to have a perfect flair for mining! As one example, she ran a new



tunnel—by dead reckoning—to intersect with an existing tunnel. And so perfectly did she engineer the job that her newly-run tunnel hit the old drift within six inches of the place she had planned to hit it!”

Mrs. Loughead had three sons — Victor, a writer on technical subjects; and Allan and Malcomb, who took a dim view of opal mining and tinkered old automobiles by preference. When they had grown weary explaining how their surname, Loughead, should be spelled and pronounced, the boys had adopted the phonetic spelling of that name—Lockheed. They subsequently founded the Lockheed Aircraft Corporation—in part, at least, with funds derived from Virgin Valley opals—and went on to amass fame and fortune.

Their mother, however, had stuck to her original name of Loughead, and to opals. For nearly a third of a century—until the end of her days—she remained a zealous devotee of these fire-flashing gems; and when well past the 80-year mark and grown quite enfeebled, Virgin Valleyans still recall how she would slip away from her family and her California home, and return to Rainbow Ridge to supervise work on her mine.

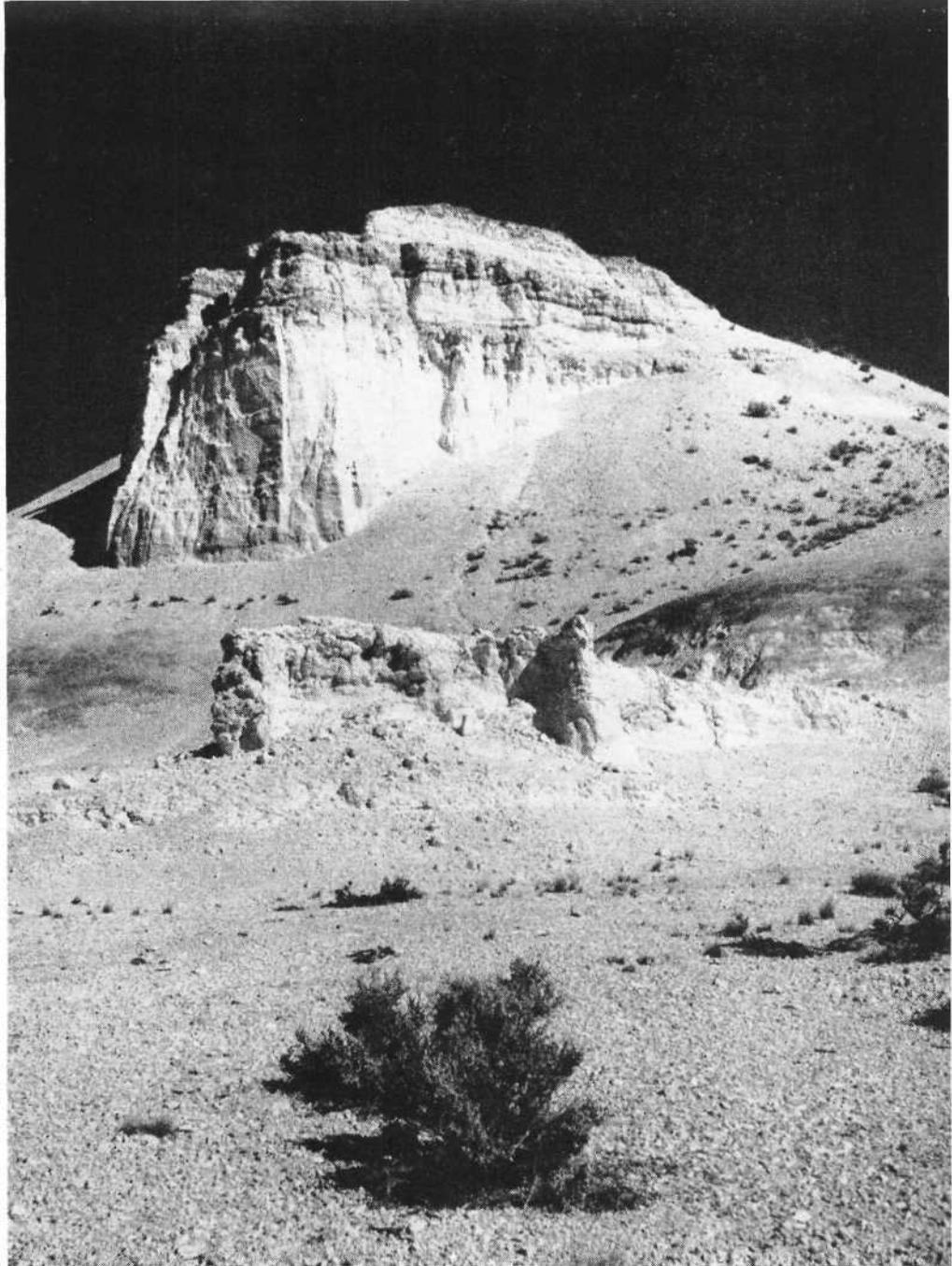
Death came to this strange woman, in 1943, at the age of 87 years; but even today, her indomitable spirit goes marching through the valley. No matter where I turned for information—whether to Keith and Agnes Hodson, or Mark Foster, or to Mr. or Mrs. Murial Jacobs—it seemed to be only a matter of moments until every conversation would introduce the name of Flora Loughead.

We remained in the valley three days. Keith took us into the tunnel—ordinarily forbidden territory to visitors—and initiated us into the secrets of opal mining. We also spent a few hours working the dump and found some tiny fire-flashing fragments to be preserved in vials of water and added to our growing collection of specimens.

And, along with other things, we learned that while opal is the stellar attraction of this little known region, it is far from being the sole attraction.

Petrified wood—some of fairly good polishing quality—is plentiful throughout the area. Mrs. Jacobs even told us of one stump in the Virgin Valley badlands, ten feet in diameter and apparently caught midway between wood and stone. Some parts of the stump, she said, are still so wood-like in appearance that early settlers tried to burn the material in their cookstoves!

Another point of interest to rock-hounds is a seam of pale yellow opal on the Virgin Valley ranch, about four miles from Rainbow Ridge. This ma-



*“The Castle,” eroded from hardened volcanic ash on the Virgin Valley area of Nevada.*

terial, we found, fluoresces a vivid green and whets the interest of a Geiger counter.

It would be difficult to imagine one area with more diversified attractions than those offered by the Virgin Valley and its environs—not only for rock-hounds, but for bird students, color photographers, historians, explorers, and general devotees of the Wide Blue Yonder.

There are, however, a few facts that should be borne in mind by potential visitors.

First, it should be remembered that the valley is not an all-year vacation land. Best time to visit the region, according to Keith, is during the latter part of June and early July; and from late August, through September, and occasionally into October. During this period the weather is at its best. As

shaded campsites are virtually nonexistent in the area, the middle six weeks of summer are generally too hot for camping comfort; while winter brings snow, wind, and blocked roads.

One more item should be kept in mind by potential visitors—and this is important! No supplies or transient accommodations are available anywhere in the valley. Closest supply points for either groceries or gasoline are Denio, 38 miles east, and Cedarville, 80 miles to the west. Of this latter distance, nine miles are oiled road; the remainder gravel-surfaced.

Virgin Valley is a stern, hard world—beautiful, uncompromising, unyielding. That such a waste should have yielded two of the largest precious opals ever known to man, is but one of the strange facets comprising this strange wild land!

# Strange Hatcheries for Desert Insects

The natural world is a cooperative world—as Edmund Jaeger reveals this month when he takes a group of student companions into the desert in quest of those little-known insect hatcheries known as plant galls.

By EDMUND C. JAEGER, D.Sc.  
Curator of Plants  
Riverside Municipal Museum  
Sketches by the author

**T**HIS MORNING I suggested to three of my teen-age friends—Fred Hayward, Dick Dibble and Jerry Becker — that they accompany me on a day's hunt for plant galls. Once started, the boys appeared to have as much fun in this novel Nature

hunt as other lads would find in hunting rabbits with a gun or frogs with a sling-shot. And I am sure they learned much more.

The galls we sought were those curious insect-formed growths or deformities, sometimes fantastically ornamented, which are found on certain of our desert plants. There are many different kinds, many of them imperfectly known, each induced to grow on particular plants by different insects. Once attention has been directed to them they always excite much curiosity because of their strange forms and texture.

We first went out into the high desert where the Three-toothed Sagebrush, *Artemisia tridentata*, grows. It was not long before we had located specimens of the beautiful rose-and-green, velvety-surfaced, spongy-textured sagebrush gall. Some were small as hickory nuts, others almost the size of hens' eggs. Breaking them open the boys found, to their amazement, in the center of the light-weight froth-like tissue a number of cells inhabited by small yellowish or cream-colored larvae. I explained that these would later transform into pupa and then into small, delicate-winged flies known as plant midges.

"But how are such galls made?" I was asked.

"It is not fully known," I replied, "but some scientists believe that the plant is induced to make this special growth of cells because of a stimulating substance injected into the leaf tissue when the female insect inserts her ovipositor to lay her eggs. Others think that the young feeding larvae produce local irritations which lead to the production of the supernumerary cells and strange changes in gross plant structure.

Our next discovery of galls was on the low super-spiny shrub called Cotton Thorn, *Tetradymia spinosa*. It was now past the season of flowering and the plants were attractively covered with the soft woolly tufts of hair which cover the numerous seeds. Here and there on the whitened felt-covered stems we found the fusiform woody swellings made by the *Tetradymia* Gallfly. With a sharp knife some of the galls were cut from the stem and put into our collecting box. We hoped later the insect producers would hatch out so we could see what they looked like.

One of the boys called attention to a strange papery gall on a rank species of grass. "The cow-herders call it *Galleta* Grass," I told him. "It is a



*Fusiform oak gall*



*Galleta grass gall*



Spanish word, and I am told its translation is 'hard tack' or 'salt biscuit.' Probably the name was borrowed from sailors because this nutritious grass even when very dry is a stand-by food for cattle in years of drouth.

"The big swelling is composed of short broadened leaves, induced to grow this way by a fly. Tear open the gall by peeling away the leafy scales and inside you will probably see the fat little grub that made it grow. Cattle-men say, but I'm not at all certain that they are correct, that if horses or mules eat these galls it will make them very sick."

It was on the nearby scrub oaks that we found gall hunting really good. A half dozen various forms of gall growing on leaves and stems were readily collected. It is remarkable that there are more gall-making insects working on oaks than on any other plants. Some 740 species of highly specialized gall wasps or cynipids are confined to these trees in North America alone, each producing an abnormal growth with its distinctive form.

We found one small scrub oak beautifully decorated with many hundreds of smooth, mottled, marble-sized globes produced on the spiny-edged leaves by a small blackish cynipid gall insect of ant-like appearance. Breaking open the thin-walled light-weight globose galls we found in each a central cell or capsule where the larvae lived, effectively held in position by numerous dainty radiating fibers.

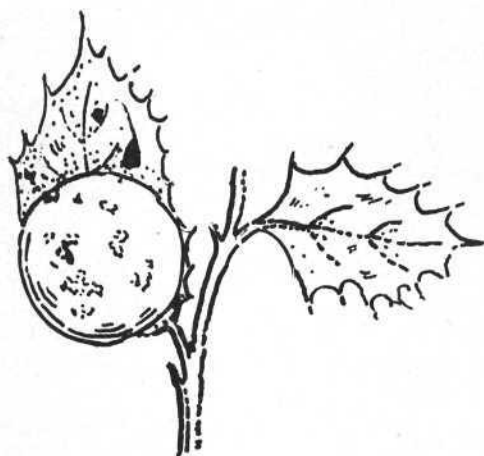
On other oaks we found some of those large pink and rose-red fleshy swellings called "oak-apples." "Are they good to eat?" one of the boys asked, and before I had time to warn him he had bitten into one. He learned his folly when the bitter juice touched his tongue. "Lots of tannic acid in that one," I told him.

"In days past the early American settler made their ink by boiling a few of such acid-filled oak-apples and throwing a few iron nails into the tea. It yielded a black, but not too durable, writing fluid.

"If you will notice, some of the dried oak-apples have many tiny holes in them. These mark the places where the numerous small wasps which developed within, emerged. I've seen as many as a hundred of them come forth from one large apple."

"Was that spindly-shaped stem-swelling on that branch over there also made by a cynipid wasp?" one of the boys asked.

"One late summer day I was lying under a scrub oak," I told him. "Suddenly I found swarming about my face what I thought to be tiny black flies. When I looked up above me I saw



*Spherical oak gall*



*Encelia gall*



*Spindle gall of cotton thorn*



*Creosote bush gall*

they were little black wasps coming from holes in a woody fusiform gall like the one you've just sighted."

Later on in the afternoon we left the sagebrush-juniper country and motored down to the low desert where creosote bush and burroweed were the dominant shrubs.

When we directed our attention to the finding of galls on the creosote bush we were rewarded by locating at least three different kinds, two of them, as far as I can learn, unrecorded in scientific literature.

The most noticeable and odd one was found on the ends of small branches. It was globose and woody, covered with numerous, very small,

narrow, much modified leaves, set in clusters or radiating leaf groups. The fresh galls were bright green but the old ones of the previous year were dark brown to almost black in color and easily seen. Each had been formed by a midge and had several larval cells near its center. These galls are sometimes mistaken by novices in desert plant lore, for creosote bush fruit.

On the creosote bush we also glimpsed numerous smaller pea-sized bud galls. These, while covered with many modified leaves like the big one just mentioned, were not woody inside but hollow and within each was about 1/10 inch long, tan to brownish larva, presumably that of a gall wasp. On one

creosote bush we counted as many as 340 of these small galls. In the immediate area were at least a dozen bushes similarly populated.

On another bush we found a much different insect home. It was made of two leaves pasted together, really grown together, to form a small capsule, and in this we found the same type of little tan maggot. We decided to send this one to Dr. E. P. Felt of Stamford, Connecticut, for an identifi-

large hole in its side revealed where some bird or rodent had gone in to eat the fat juicy grub.

Of the many gall-making organisms, plant mites, plant lice (aphids), moths and beetles, few of them either harm or benefit the plants they work upon. In only a few cases is it known that

they make nutrition levies upon the vigor of the plant host.

Yes, gall hunting and gall study can be rather exciting recreation. Great are the latent possibilities of finding new ones. I commend it to wanderers over desert trails seeking novel and interesting pastime.

## Weather Bureau Fails to Find A-Blast Bearing on Weather

The U. S. Weather Bureau has been unable to find any evidence that atomic explosions have had any effect on the weather beyond a few miles from the blast, nor could evidence be found that explosions could in the future have any effect—good or bad.

The bureau has carried on extensive research during the atomic explosions touched off at the Nevada Proving Grounds.

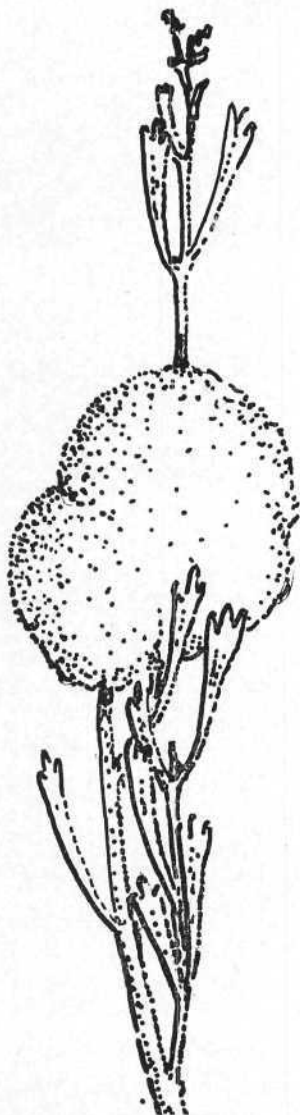
Equipped with information from the AEC and aided by cooperative studies carried on by Air Force and private scientists, the bureau has given the following answers to the three most popular theories on how the blasts are affecting weather:

1. That atomic debris serves as a

cloud seeding agent. Experiments show that the Nevada dust has very poor properties for serving as a cloudseeder.

2. That changes are produced in the electrical character of the atmosphere. Atomic debris deposited on the ground could change the electrical conductivity of the air near the ground, but the change would be in such a shallow layer near the ground that it would be insignificant in terms of usual atmospheric phenomena.

3. That the blast's dust might interfere with the amount of solar radiation reaching the earth. The amount of dust required to produce any significant reduction in worldwide incoming radiation and that produced by the Nevada explosions are separated by many orders of magnitude.



*Sage brush velvet gall*

cation. He is probably the best-known gall expert in America and has written a book describing the thousands of American *Plant Galls and Gall Makers*. Published by the Comstock Publishing Company of Ithaca, New York, it gives the student many pictures as well as keys to facilitate identification of the galls.

On the brittle bush, *Encelia*, we found several small bud swellings and one very large woody stem gall, presumably made too by a gall midge. A

## Picture-of-the-month Contest . . .

Artists who capture the interest and beauty of the desert with cameras can share their art each month with Desert Magazine readers by participating in the Picture-of-the-month Contest. Open to both amateur and professional photographers, winning entries receive cash prizes. As long as the picture is of the desert Southwest it is eligible.

Entries for the August contest must be sent to the Desert Magazine office, Palm Desert, California, and postmarked not later than August 18. Winning prints will appear in the October issue. Pictures which arrive too late for one contest are held over for the next month. First prize is \$10; second prize \$5. For non-winning pictures accepted for publication \$3 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 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

*The Desert Magazine*

PALM DESERT, CALIFORNIA



# Lost Pueblo

By LORNA BAKER  
Los Angeles, California

I stepped into an ancient, crumbling past  
And there the desert held me, held me fast  
Gone was the world of men, the world I  
knew—  
Gone was the laughter—tears and trouble,  
too;  
This was a lost, a bare and fruitless land  
That knew but sun and wind and rock and  
sand—  
No spot of beauty graced this barren plain  
That begged no alms of God but drops of  
rain;  
Then, as I stood upon this lonely hall  
On earth—I sensed a silent footstep fall,  
And hand on mine; where unseen fingers led,  
I knelt and found a buried arrowhead  
And as I held the symbol in my hand  
That seemed to cry, "this is not fruitless  
land,  
But earth as He once made it—undefiled—  
Where men have lived and toiled and wept  
and smiled."  
I knew, somehow, my wandering soul had  
found  
Not barren wasteland, but a hallowed  
ground.

## DEATH VALLEY

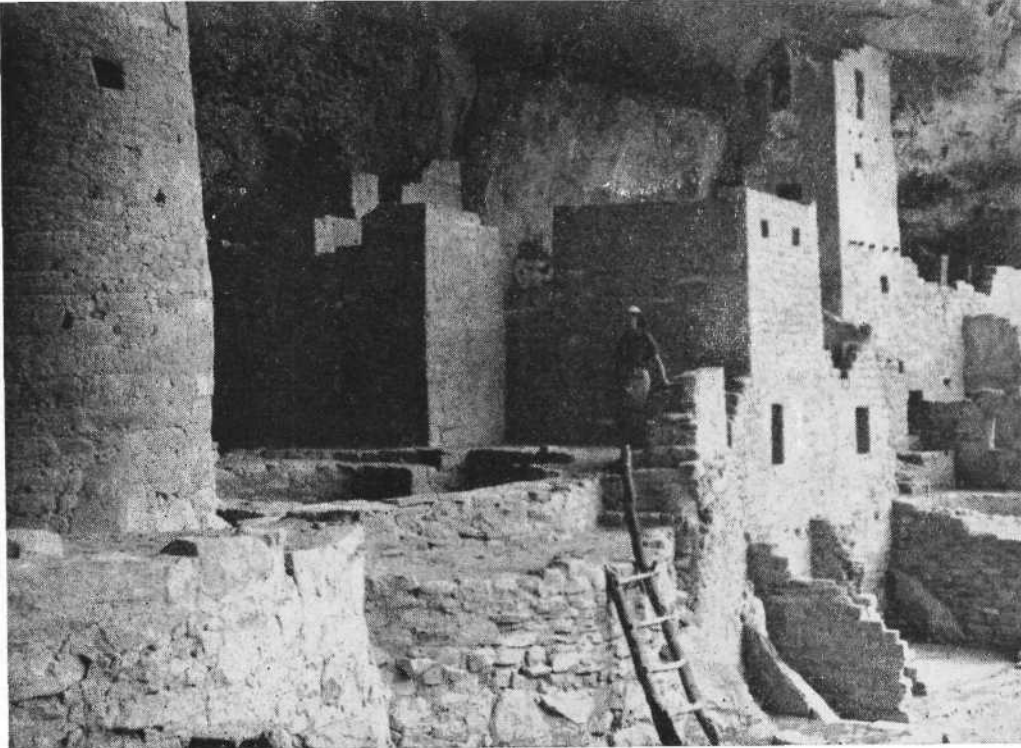
By DOROTHY C. CRAGEN  
Independence, California

I've always thought of death  
As somber  
Not pink or yellow, nor like mauve  
Or blue as indigo.  
Death does not have a golden floor  
Where fleecy clouds cast shadows  
As they float across  
A deep blue sky.  
Death does not spread  
A velvet blanket  
And press it down with finger tips  
To make the lights and shadows  
On the little hills.  
Death does not waken from their sleep  
The Desert Primrose, Verbena, or  
The Daisy of the Panamints.  
Death does not paint the sunset gold  
Upon the Peak of Telescope  
Or adorn it with the magic  
Of the dawn.  
No, death cannot be here  
But life  
And all eternity.

## BLUE MESA

By ADA G. MCCOLLUM  
El Monte, California

There's a home in the desert  
That's quite dear to me,  
On a craggy blue mesa  
'Neath a Joshua tree.  
It's not much to look at,  
Some call it a shack,  
And though I may wander  
I always come back.  
Its four walls are solid,  
They've long sheltered me,  
From the moods of the desert,  
Whatever they be.  
When the windows turn gold  
From the warm, setting sun,  
And the mantle of night  
Lights the stars one by one,  
Comes the fragrance of sage  
On the cool evening breeze.  
I thank you Blue Mesa  
For these, all of these.



Mesa Verde Pueblo Ruins. Photo by G. E. Barrett

## EXTREMITY

By GRACE B. WILSON  
Kirtland, New Mexico

The god of desert places lifts his head  
Above the fields all stricken, brown and dry.  
No moisture darkens the arroyo bed,  
Nor faintest sign of cloud is in the sky.  
The joys of normal desert life have gone,  
And left behind them only heat and pain,  
With no relief, not even at the dawn.  
The desert god himself now prays for rain.

## JOSHUA FOREST

By ETHEL JACOBSON  
Fullerton, California

In this preposterous desertland  
Of alkali and sage,  
A dignified and proper oak  
Or shapely elm would be a joke,  
So here the trees flout impishly  
Their gracious heritage  
To pop up in a fright wig and  
A jester's tattered cloak.

In this outrageous countryside  
Of rattlesnakes and sand,  
The trees vie crazily, it seems,  
Going to grotesque extremes  
With porcupines for foliage,  
All fractured elbows, and  
A murderous lampooning of  
Surrealist bad dreams!

## It Rests With You

By TANYA SOUTH

What is it that you really yearn,  
Innately, deep within you?—  
That you can surely, truly earn!  
With purpose and with sinew  
Bend every effort to attain,  
And you will gain.

Then be more honest with your  
Fate,  
More willing now to walk the  
straight.  
All that you crave, innately true  
Rests upon you.

## TOMORROW AND TOMORROW

By R. WAYNE CHATTERTON  
Caldwell, Idaho

So you are movin' to the town, old friends?  
No need explainin'! Only them that spends  
Their lives out in a dead, deserted place  
Among the ghosts of them that tired of  
space  
And sky and desert dust can know just what  
It is that takes a man where folks has got  
Good heat and 'lectric light. No blame!  
I'll go  
Myself some day. But I've got fond, ye  
know,  
And foolish, mebbe. Many times I've said,  
"I think I'll move to town." But in my head  
I thought, "Not now. Tomorrow's soon  
enough."  
And so I stayed. And snow falls on the  
bluff,  
Then winter comes, and spring, and summer,  
fall—  
And still I stay. But now you're gone, and  
all  
There'll be is me, alone-like, me and these  
Old rotten buildin's, gettin' old! The trees  
Around the graves is all that's left alive.  
I guess I'll move to town at last. I'll thrive  
Where folks is walkin' in the streets, and  
light  
Is burnin' late at night, and all the sights  
I never saw is just adown the road.  
But, look! I'll have to move before that load  
O' snow in them there clouds falls on the  
bluff!  
Oh, well, no rush. Tomorrow's soon enough!

## YUCCA

By ELIZABETH NORRIS HAUER  
San Jose, California

You stand so stately in the misty moonlight,  
In such sweet dignity, so chastely white.  
Your lovely eyes cast down in meditation  
You breathe a perfumed prayer into the  
night.

Are you the soul of some forgotten maiden  
Whose beauty through the ages shall not  
fail,  
A shy, young nun, who, other loves forsak-  
ing,  
Has made her vows and taken her first veil?



*Terraced gardens of Kiva, desert homestead of author, at left, who is showing grounds to Cyria Henderson.*

# Natives in my Garden . . .

By CHRISTENA FEAR BARNETT

**T**HERE WERE many obstacles in the path of my ambition: to landscape my jackrabbit homestead with native plants. Some I anticipated; others were whispered to me in warning; the rest I discovered as I went along.

But the fun came in trying, and the reward I receive during every moment I spend at Kiva, my 5-acre place near the Joshua Tree National Monument in California.

The first step in my plan to domesticate native plants was to seek the experts' advice. Percy Everett, superintendent of the Santa Ana Botanical Garden, kindly answered all my questions and then sent me to my task with the assurance that "native plants are not the bad actors most people seem to think them."

Extremely helpful, also, were those suggestions I received from the learned and lovable octogenarian, Theodore Payne, who is now in his 51st year of growing and selling natives at 2969 Los Feliz Road, Los Angeles.

Both Mr. Payne and Mr. Everett will admit there are some natives among the things which grow on the desert they have found very hard to domesticate. But there remain between 500 or 600 native species available for domestic planting and I am sure that is more than I will ever be able to accommodate on my five-acre nursery.

From Ted Hutchison of the Greasewood Nursery at Barstow I received

Last March, Desert Magazine asked for reports from readers who have experimented in the domestication of the desert's native plants. Among those who responded to this request was Christena F. Barnett of San Marino, California, who has converted her 5-acre jackrabbit homestead near Joshua Tree into a lovely experimental garden in the face of tremendous odds. In order to spend two days a week at the homestead she has to drive 260 miles, depend on water hauled in by a tank wagon, and in some instances gouge out planting holes in the rock with a pick. It is hard work, but the author is not looking for sympathy—she's looking for more and more gardeners to share with her the thrill of enrolling as a junior partner to Nature in bringing added beauty to the desert land.

the two most valuable of all my helpful hints.

First, Ted Hutchison told me, whenever possible collect seed and plants from approximately the same elevation at which you intend to grow them. In spite of the fact that brittle or incense bush, *Encelia farinosa*, for example, growing on our homestead at the 3700 foot elevation was the same species of brittle bush growing at near-by Palm Springs (400 foot elevation), the latter would never do at Kiva.

Secondly, Mr. Hutchison warned me to water in such a manner that there will be no lush growth in the fall that can be nipped by frost. This is done by forcing growth in the spring and then letting the plant go into a semi-dormant stage by first cutting down and then almost eliminating water by mid-summer. This time-schedule is for the higher desert elevations. On the low desert the water cut-back should start earlier so the plants can be resting by June. My guess is that watering should begin again in mid-September.

Those starting their first desert gardens of native plants will enjoy the experience a great deal more if they first learn to know the natives by family group. For those entirely without botanical background a good starting point is *Flowers of the Southwest Deserts* by Natt N. Dodge. After that, one quickly graduates to Edmund C. Jaeger's *Desert Wild Flowers*.

The novice gardener will benefit by turning first to the commercial sources near at hand. Before you buy anything get acquainted with all the nurserymen who carry natives and double-check with them as to what is most suitable for your particular location.

The next step in my plan was a plan itself. Still not having bought any plants, I made a rough sketch of my property showing the existing plants and buildings. This sketch pointed out where I already had shade and where shade was lacking; where a difference in soils existed; and general direction of wind.

I then planted my first plants—on



paper. On my sketch I placed the most drouth-resistant natives where water would be the scarcest. The plants needing more water were placed where they would be sure to get it. Again, consideration of wind, sun and soil conditions came into play to determine where each plant was to go.

For a more pleasing effect I decided to use perennials in groups of five or more. I planned to start out with camote de raton *Hoffmannseggia densiflora*, California fuchsia *Zauschneria californica*, broad leaved California fuchsia *Zauschneria latifolia*, desert verbena *Verbena goddingii*, blue flax *linum lewissii*, and as many of the pentstemon, iris and aster species as I could fit in.

Larger plants such as chuparosa *Beloperone californica*, brittle bush, Acton's encelia *Encelia actoni*, desert mallow *sphaeralcea ambigua*, and the atriplex species, quail bush, salt brush, wing scale and desert holly need to be clustered at least by threes for a satisfactory display.

If one has the space even the larger shrubs and the flowering fruits show up better when planted in groups rather than as individual specimens.

Annuals and bulbs need to be planted in masses. Most of the bulbs will succeed better if lightly shaded by a large shrub which does not require much, if any, summer watering. The same is true of the several blue delphinium species and the gorgeous red larkspur. Such plants can be purchased for use in three forms: seed, potted plants or dormant roots.

Having completed my layout I was ready for my buying spree. If you live in town away from your desert place, as I do, you may find that some of your gallon can material would benefit by another year's growth in a sunny spot right in your own backyard, protected from the hungry desert beasts. Growth can be encouraged with a little steamed bone meal, an occasional application of liquid fertilizer and perhaps a light mulch of manure. Have the plant rather husky before you risk it on the desert, but do not leave it in the container long enough for it to become root-bound.

Once you actually start planting do not skimp on care. Steamed bone meal (other preparations disintegrate too slowly on the desert), leaf mold, well rotted manure, liquid fertilizer, agricultural vitamin B and water should not be spared.

A proper question at this point would be: why take all this care with natives when they thrive untended in their natural habitat?

The answer is simply that Nature can afford to be prodigal. For every

plant that survives on the desert thousands of others fail.

Proper preparation of the planting bed is of major importance. The hole needs to be wider and deeper than the ball of soil on the potted plants. The minimum preparation would be to place loose top soil in the bottom of the hole which was first soaked to a depth of a foot below the present limit of the roots. A watering basin for the individual or group of plants is next prepared.

If you take your gardening seriously mix leaf mold, a handful of steamed bone meal and a little not-too-fresh manure with the top soil previously

placed at the bottom of the hole. Soak a second time to settle the mixture so your plant will not sink out of sight when you place it into the hole. The manure should not come in direct contact with the root ball.

Just before placing the plant into the soil a few applications of agricultural vitamin B will encourage root growth.

I have found that many plants, both domestic and native, are lost because they were planted too deep. I set my plants at Kiva no deeper than they were in the container. I made numerous checks to make sure the plants had not settled too deeply or sand had

*The author with a Mojave Yucca—one of the natives already on the homestead when they acquired it.*



drifted in before I firmed the soil and filled the water basin. These are precautions against air pockets which tend to dry out the feeding roots. A mulch was then applied on the surface of the basins. For this I used leaf mold and broken twigs. After the plant is established manure can be used.

If you are at all observant you will notice that on the desert is seldom found a young seedling of a bulb, perennial, shrub or tree which is not in the protecting shade of a larger plant. The brittle bush family is about the only exception I know of. Following the example of nature I gave my young plants some protection from heat, wind and cold by sticking brush branchlings in the water basins. A strong prevailing wind makes it necessary to place even more brush in the ground. On the higher desert areas this brush gives a measure of protection against frost, too.

Watering has much to do with the success or failure of your desert garden. Shallow, frequent waterings after the plant has established itself will leave the shrub and tree roots too close to the surface. Less frequent but deep watering will force the roots down where they can eventually shift for themselves.

I discovered as my plants grew that when my annuals were blooming there was enough lush vegetation on the rest of the desert to content the rodents, rabbits and other desert vegetarians. But when the surrounding desert flora went dormant my oasis suddenly became the number one eating place in the area. A fence is extremely necessary, I found.

I have seen a tortoise advance on a desert mallow *sphaeralcea ambigua* and crunch it to the ground. Once I saw a three foot long branch of Arizona cypress being towed away by a giant lizard.

To divert the desert animals I built a concrete water hole for them. An extra dividend from my expenditure has been the fun watching the animals and birds flock in to drink. Close by we have added a bird feeding station set high on a slippery pipe for their protection.

The handicaps were formidable and I am proud of my accomplishments.

The round trip from my city home to Kiva is 260 miles. The time available for my project was never more than two days a week. All water had to be hauled in by tank truck to fill our 800-gallon tank set on a knoll behind the cottage. Water pressure was not sufficient to do any sprinkling so I watered every stalk of green individually. Last summer this job alone took all of my two days on the desert—from dawn to dusk—plus three tank

truck loads of water each time. At Kiva the hillside was better suited for plant life than the bottom sand. A small shallow bed would often contain as many as 20 rocks. Digging the shrub and tree holes I ran into large stones—some so big I could only roll out of the way.

And when the stones were out I brought them back to place them in strategic places to prevent erosion.

This partial listing of my difficulties

is not made in search of sympathy. No one forced me to my project. It was fun! I only mention them to point out that even under such unfavorable conditions I met with success in domesticating native plants. Those with an unlimited water supply with good pressure and who reside continuously on the desert will find an immeasurable reward in beauty and satisfaction for the time they devote to the culture of their garden of natives.

## Desert Quiz:

The days are hot on the desert this month, but you don't have to stay out in the sun to answer these Quiz problems. Just relax in the coolest spot you can find, and sip a glass of ice tea or lemonade while you concentrate on these puzzlers. They include geography, botany, history, mineralogy, personalities and the general lore of the desert country—questions which we hope will whet your appetite for more knowledge of this vast and fascinating desert region. Twelve to 14 is a fair score, 15 to 17 is good, 18 or over is super. Answers are on page 42.

- 1—The cactus species reputed to be a source of water for the thirsty desert traveler is — Cholla \_\_\_\_\_. Saguaro \_\_\_\_\_. Bisnaga (Barrel Cactus) \_\_\_\_\_. Prickly Pear \_\_\_\_\_.
- 2—In the annual Snake Dance of the Hopi Indians, the Snake Clan is assisted by the — Corn Clan \_\_\_\_\_. Kachina Clan \_\_\_\_\_. Squash Clan \_\_\_\_\_. Antelope Clan \_\_\_\_\_.
- 3—Lorenzo Hubbell of Oraibi, before his death, was a — Mining man \_\_\_\_\_. Missionary \_\_\_\_\_. Indian trader \_\_\_\_\_. Medicine man \_\_\_\_\_.
- 4—Desert mistletoe never grows on — Joshua trees \_\_\_\_\_. Mesquite trees \_\_\_\_\_. Ironwood \_\_\_\_\_. Catsclaw \_\_\_\_\_.
- 5—To reach Tuba City, Arizona, you would have to cross a part of the reservation of the—Pima Indians \_\_\_\_\_. Navajos \_\_\_\_\_. Papagos \_\_\_\_\_. Hualpais \_\_\_\_\_.
- 6—The Epitaph is the name of a newspaper published in—Tonopah, Nevada \_\_\_\_\_. Death Valley, California \_\_\_\_\_. Tombstone, Arizona \_\_\_\_\_. Tortilla Flat, Arizona \_\_\_\_\_.
- 7—New Mexico territory was seized in behalf of the United States in 1846 by — Col. Kit Carson \_\_\_\_\_. General Fremont \_\_\_\_\_. Gen. Stephen W. Kearny \_\_\_\_\_. Col. James H. Carleton \_\_\_\_\_.
- 8—The army officer in charge of the first camel caravan across the United States was—Lieut. Beale \_\_\_\_\_. Lieut. Emory \_\_\_\_\_. Kit Carson \_\_\_\_\_. Buffalo Bill \_\_\_\_\_.
- 9—Father Font wrote his famous diary as a member of the expedition of—Coronado \_\_\_\_\_. Father Escalante \_\_\_\_\_. Father Kino \_\_\_\_\_. Juan Bautista de Anza \_\_\_\_\_.
- 10—The Mormons originally went to Utah to—Trap beaver \_\_\_\_\_. Secure religious freedom \_\_\_\_\_. Hunt buffalo \_\_\_\_\_. Seek gold \_\_\_\_\_.
- 11—The Humboldt River begins and ends in the state of—Utah \_\_\_\_\_. Arizona \_\_\_\_\_. Nevada \_\_\_\_\_. New Mexico \_\_\_\_\_.
- 12—Stovepipe Wells hotel is located in—The Valley of Fire, Nevada \_\_\_\_\_. Death Valley \_\_\_\_\_. The Painted Desert \_\_\_\_\_. Along Camino del Diablo in Arizona \_\_\_\_\_.
- 13—The blossom of *Encelia Farinosa*, commonly known as brittle or incense bush, is—Yellow \_\_\_\_\_. White \_\_\_\_\_. Pink \_\_\_\_\_. Blue \_\_\_\_\_.
- 14—If you found a rich deposit of carnotite, it would be reported as a discovery of—Iron \_\_\_\_\_. Copper \_\_\_\_\_. Silver \_\_\_\_\_. Uranium \_\_\_\_\_.
- 15—Playa is a word of Spanish origin meaning—Mountain range \_\_\_\_\_. Highway \_\_\_\_\_. Dry lake \_\_\_\_\_. Park \_\_\_\_\_.
- 16—Chief industry of Randsburg, California, has always been—Farming \_\_\_\_\_. Timbering \_\_\_\_\_. Mining \_\_\_\_\_. Tourist accommodations \_\_\_\_\_.
- 17—*Martynia*, or devil's claw is used by Indian women in the making of—Headdresses \_\_\_\_\_. Baskets \_\_\_\_\_. Prayer sticks \_\_\_\_\_. Brooms \_\_\_\_\_.
- 18—The Henry Mountains are in—Utah \_\_\_\_\_. Arizona \_\_\_\_\_. Nevada \_\_\_\_\_. New Mexico \_\_\_\_\_.
- 19—A National Monument may be established by — Presidential decree \_\_\_\_\_. Secretary of Interior \_\_\_\_\_. State law \_\_\_\_\_. Secretary of State \_\_\_\_\_.
- 20—One of the following Indian tribes occupies a pueblo along the Rio Grande River—Hopi \_\_\_\_\_. Acoma \_\_\_\_\_. Zuni \_\_\_\_\_. Cochiti \_\_\_\_\_.



## *Desert Marshmallow Roast*

First prize in the June Picture-of-the-month contest was won by Robert M. Riddell, Jr., of Tucson, with this captivating photograph of family fun on the desert. 4x5 Speed Graphic 5" Ilex lens; super XX Kodak; 5 sec. timed; f. 16; one 22 bulb; 3 more sec. time exposure.

## *Pictures of the Month*

### *Stovepipe Wells Sand Dunes*

The serenity of the famous Death Valley sand dunes and clouds won second prize in this photograph taken by John Meyerpeter of Bishop, California. Eastman Super-XX film; (G) orange filter; meter reading; taken with automatic rolleiflex.



# Ban-i-quash Builds a House of Grass

By FRANK A. TINKER

**I**T WAS EVENING in Sil Nakya. From the red, cholla-furred north hill we had watched the team and wagon loaded with grass come up the tortuous, rock-banked draw and enter the village.

Early that morning, so his woman had told us, Frank Lopez, whose real name is *Ban-i-quash*, or Peeping Coyote, had taken his four-year-old son and gone down to the river where the grass was standing chest-high in thick yellow clumps.

Ban-i-quash fed the horses wearily, but not as wearily as one would expect, knowing his 70 years, and had seated himself on the stool in front of the iron wash tub, which was half-filled with sand and mesquite coals, warming his hands.

Behind him in the warm, Indian-adobe house the women were working and listening. There were large slices of orange squash and a pot of pinto beans cooking. The desert entered this house and was the floor. In its dust at the feet of the Papago was a soft

gray-brown jackrabbit killed that day in the grass fields. Ban-i-quash, medicine man and elder of the village of Sil Nakya, summoned his wife who knew English, and spoke.

"You ask about the *Shaish-ki*, the desert hut I build in Tucson for the men from the schools. I do this because there is no other *ki* like this now and because we are forgetting the old things. We know we should not forget the old ways, but still the *Shaish-ki* is not built since the time of my Grandfather. There may be some of the old ones from the other villages, perhaps from the Kiy'Kima in the West, who can build this *ki*, but I do not speak their tongue and I do not know if this is so."

The Papago language, especially the Totokowany which Ban-i-quash speaks, is slow, guttural, and very definite. Muttering low in the dusk of the house, with no word slighted or pronounced carelessly, his voice was heavy with the authority of a medicine man and as he spoke he moved the coals slowly with a piece of iron so they glowed and lit the bronze in his face.

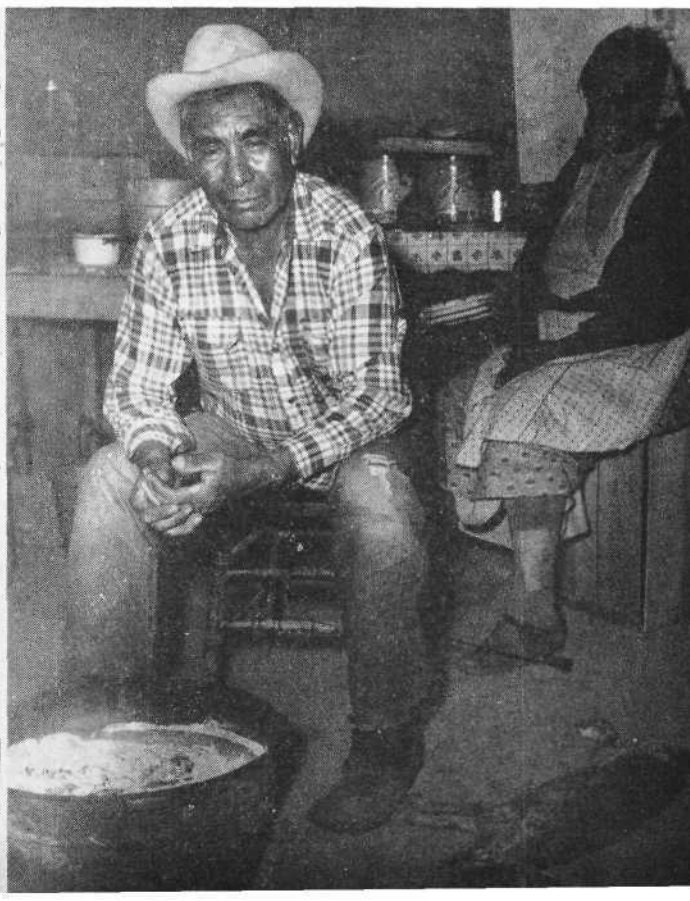
The *Shaish-ki*, the grass house of the ancient Papago Indians in Southern Arizona has long since given way to more comfortable homes of adobe. Only a few of the older members of the tribe even know how to construct a *Ki*. In order to preserve the building craft of the ancients, the directors of the Arizona-Sonora Desert Museum near Tucson called in Ban-i-quash, a Papago medicine man, and arranged for him to erect a *Ki* for permanent exhibit on the Museum grounds—and here is the Indian's story of how he did his task.

"*Nak ho so kap, ahire!* Be quiet there, child. I tell of the *ki* so that dog should not be in here or I brand him with this iron. You ask how long it takes to raise a *ki*. Oh, when they are made here in this village in the old days it takes but one day. Then a man gets only the materials—that is his responsibility, the ocotillo, the grass, and the rocks—and he says in the council that night that he is prepared. The next day there is no work and we raise a new *ki* for him and his family, all the men. Then the women make the oven outside, under the *huac-to*, and it is ready. The oven does not cook well until it is fired many times and is dry, but they can live.

"For the *ki* in the Desert Museum I go with my son and my nephew, who is Cherokee and does not know these things, and we get the *mugl-toc*,

*Ban-i-quash's wife, educated in Phoenix, spoke English and interpreted both the language and the peculiarities of the Papago to us. Photo by the author.*

*Ban-i-quash was sitting on a stool in front of the iron wash tub which was half filled with sand and mesquite coals, warming his hands. Photo by the author.*





which is ocotillo, and *o-hok-ti*, a high grass they call Johnson, since there is none of the old grass I know of in the desert now. It went when the cattle came. Then we dig the holes for the first posts, which my grandfather does with a sharp stick or a rock.

"Now I should tell you this: The men in Tucson want a small *ki*. Why I do not know. But in the large *ki* you ask about my grandfather puts four large posts erect at the four corners of the hut and we bend the other sticks over these. Thus you can make a larger *ki* and it will stand against the wind.

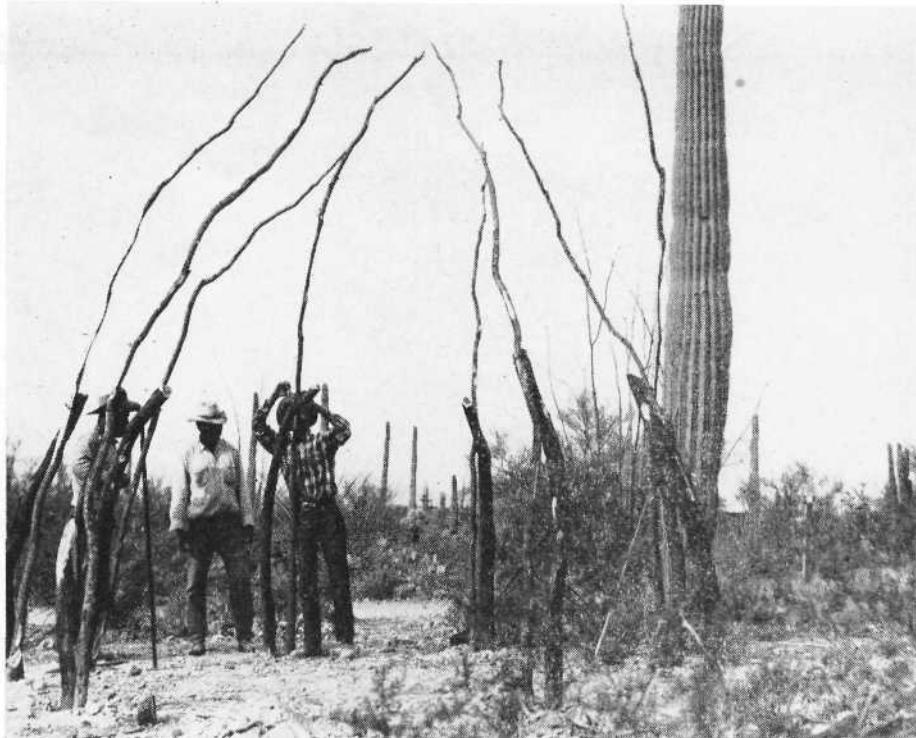
"*Nak ho so kap, ahire!* Woman, this child will be quiet. I have men here to see me. Then you tie the bottom of the ocotillo to the posts stoutly about the length of your arm, so, and they will bend when they are pulled to the center at the top. This is why you have the strong sticks in the ground first. And I should tell you this: the wire which we use in Tucson is not my grandfather's. No, then he uses the cord of the wild banana. I do not know your name for it but it grows in the ravines in the mountains and you pound it with a rock to get the cord from it. Then you must use it right away; if you keep it that night to use the next day, you bury it deep in the sand of the wash and then you can tie it in the morning. If it dries, you cannot tie it or it breaks. But the wire works all right if you do not have this wild banana.

"And now you have the framework and the strength and the rest is simple. You draw more of these ocotillo over the top and bend them and tie them there. Then, as I see my grandfather do it, we tie other *mugl-toc* to these uprights, so. They are in a lying position around the *ki* and we can place the grass over these. When we place the grass, more of these small ocotillo which bend easily are tied around the *ki* on the outside and the grass remains and will not blow. The hut then is round in all directions but the floor, and this is the desert, which is as it should be."

When Ban-i-quash laughed, it was slowly, with reason, and the women laughed with him. We laughed too, there in the darkening hut which had no windows, because he had the authority of the place and there must be a reason for his laughter if he saw it.

"The rain. Huh! Now you ask about the rain. Huh! This is true.

*Showing the steps in the building of a Ki, the traditional shelter of the Papagos. Ocotillo stalks are planted in the ground, tied together at the top, then covered with grass, and a roof of mud added. The application of mud was being started as the lower picture was taken.*





*The grass huts of their ancestors are but a memory to the Papago Indians. Today most of them have adobe houses such as this. Photo by the author.*

You see in the picture at Tucson that we put mud on the roof. This starts the water running and then it follows the grass down to the ground and runs away. But this is a joke and it is the thing in which the Shaish-ki is weak. If it rains a long time then the water enters the *ki* and it becomes miserable in there for the Papago family. I remember this well. Huh! But then you can make a small fire inside and this keeps it warm, which you cannot do when the grass is dry.

"No, there is another thing about the Shaish-ki. When we go to the mountains for water in times when there is no rain on the desert or when we change fields and use those far away, then we must hide our food and tools in caves or someplace. For animals come in and get the food and, although no one from here steals, other tribes may come and take your food. But this is the way to live, with a field of corn and pumpkins on the desert beside you and beans in the mesquite and fruit on the cactus which grows there in the hills. But then we put up the *huac-to*, which I forget to say, and this you call a ramada. Then, the women put down rocks and brush and pile mud over it so when the brush is burned the oven is left standing. It is finished. This is the way the Papago live, and the people in my grandfather's time."

Under the ramada across the way, near the small mission church which the priest visits once a month from Covered Wells, there was a long fire burning between rows of rocks and

several women from the family were cooking food in pots placed on these rocks. It was not quite dark and a girl came past from the government well carrying a large square tin of water on her head and walking very carefully.

"Ho, woman, now he asks a difficult thing. No, there is no ceremony in a new house unless that is the council house. Ceremonies are only for rain, or when we go after salt, or for feast days. This is called *chugh-ki-ta*. And no, I cannot tell you about the sand painting I make in the Tucson Shaish-Ki because this turns the medicine against the person that makes it. That is right, it is not a complete painting and I leave out the part which makes it holy. This is understandable. It should not be permitted to remain overnight and it should not be discussed.

"Well then, if you ask, I do this painting in the morning so that it will be finished before afternoon and the ceremony can be done before sundown, for that is the rule. I must whip the two young men with my sticks who help me to drive out the evil that comes into them from watching. Then the pile of sand is the earth, the white stripes on the east are the paths of the sun, there are deer tracks and hunter tracks with blood, and the animals are those which hold the power of healing. This is a painting to cure wind-sickness, you see, a pain in the joints of arms and legs. And the seasons are the clouds, the north by red, south by green, east by white where

the sun first shows, and west by black. It is rare that a painting is explained and this is the end of it."

Perhaps he meant winds instead of seasons, as it came to us from the woman. But it was growing dark in the house and the kerosene lamps were being lit. A coyote yapped on the east hill, which the door faced, and we asked our last question.

"Yes, there is something I want to say. This is about the council-house. You remember. In my grandfather's time, all the men get together each night to tell the stories of the tribe. Then we can know about things like the Shaish-ki and the old customs. Now there is no way to keep these things for the young men, and they go to Sahuarita and Marana to pick cotton. It may be that my story here to you keeps these things from dying a little. And this is funny, if you think of it."

There is little ceremony about parting in Sil Nakya. We left with just the "Adios" which Ban-i-quash understood from his trips to St. Francis in Magdalena, Sonora, where all the Indians in this loyal tribe have gone since Kino died there in 1711. Then we went out to the road and down past the reservation school and the *charcos* to the main highway.

Perhaps the *ki* in the Desert Museum and our writing about it will, as Ban-i-quash says, keep the old ways known a little longer. That is hard to say. But there is no doubt but that they are eminently worth the small trouble of saving.



# LIFE ON THE DESERT

A Former Douglas, Arizona, Resident Remembers the---

## ... Battle of Agua Prieta

By CORDELIA BRINKERHOFF

ONE DAY in the Fall of 1915 I looked up from my school books to see our teacher looking strangely at the class. With carefully controlled emotions she called us to attention.

"Children," she said "in a few hours a battle is to be fought in Agua Prieta." We listened in shocked silence. We all knew that only a ditch separated our town of Douglas, Arizona, from Agua Prieta on the Mexican side.

Our teacher went on: "Pancho Villa the bandit has sent word that he is coming with his army to fight the soldiers of the Mexican government. It is his wish that the Mexican women and children be evacuated and that the American schools be emptied."

Such courtesy was typical of this man who had turned against his government because he felt that a great injustice had been done him. But although he fought with savage ferocity, he retained an innate sense of consideration for those weaker than himself. To many, Villa was a Robin Hood, who killed and stole on occasion, but who gave much to the poor. All over Mexico gay fiestas were held in his honor.

The teacher continued her instructions: "We want you all to go straight home. Tell your parents to take you out of town if possible, but if not, to place you with someone who has a brick house."

In a daze I walked to the door. At the top of the flight of stairs I looked to the south. Far out in the foothills a cloud of dust rolled toward the sky. Out there was approaching danger.

At the foot of the stairs I met my little sister. Hand in hand we hurried home to our mother. I was glad that we lived in a brick house.

Looking back I can well understand the apprehension of my parents. What should they do to protect their children? We had no car. Few in our town owned automobiles in those days. The trains followed the Mexican border. By the time we reached home a

Pancho Villa announced a forthcoming attack on Agua Prieta just across the border in Mexico, but residents of Douglas, Arizona, had reason to fear for their own safety. There were sure to be stray bullets and shrapnel — but, even worse — American trains were transporting Mexican soldiers to Agua Prieta to do battle with Villa and that would anger him — possibly to the point of revenge. To an 11-year-old girl the three-day Battle of Agua Prieta was an experience never to be forgotten.

decision had been made. At the gate mother and our little brother were awaiting us.

"Your father and I have decided that we will stay in our own home," mother said. "After all, our house is made of brick."

Inside, mother pointed to an inner wall and said. "When the shooting starts we will sit by that wall. There we will be away from the windows. I am sure we will be safe."

Just then father came home with the latest news. In an age of radio and television it is hard to realize that less than 40 years ago news traveled very slowly. Even our government did not know of Villa's plans until his warning message arrived the previous evening.

From his mountain hideout Villa could easily have staged a sneak attack on Agua Prieta. But instead, he chose to send a note of warning so that there would be no needless slaughter of those who were unable to fight.

We listened eagerly as father told of the excitement in downtown Douglas, a scant ten blocks away. Because of Villa's warning the United States was able to prepare for the protection of its citizens, he told us.

American soldiers, already stationed at Douglas, were busy enlarging the deep trench on the border. There they would dig in to guard Douglas. From

Nogales, Mexico, Mexican soldiers were being hurried to the impending battle scene on American trains.

Father was also able to tell us that the Mexican women and children were evacuated to our side of the border and put into a camp as Villa had ordered. These people were very poor. The more prosperous were able to live in adobe huts, but most lived in caves.

The next bit of news we heard was even more amazing. Americans were flocking to Douglas to see the excitement. The box cars in the railroad yards were already lined with spectators. Father likened the mood downtown to that created in college towns on the Saturday afternoon of a "Big Game." Villa would be hurling bombs, not footballs, however.

Father's report was interrupted by the arrival of two telegrams. They were from relatives in other states begging us to leave. Even though it was impossible, we were consoled by the concern felt for us.

After making every preparation for our comfort during the battle, we became uneasy as time hung heavily upon us. Mother proposed a diversion: we would go down to the railroad station to watch the arrival of General Obregon, head of the Mexican army.

Clearly I remember standing in the bright sunlight and seeing him step from the train. Every eye in the station was upon him. I remember wondering at the time how he had succeeded in reaching the rank of general despite the handicap of having only one arm. He later became president of Mexico.

Upon our return home our older brother was waiting for us. He was bursting with news. He told us that he would have to work that night at the Gadsden Hotel where he was employed, and also that General Obregon had taken quarters there and would soon be in conference with the American military men. Excitement began to mount.

No sooner had my brother finished talking when my father, a railroad man, received word that he too would have to work all night. Mexican sol-

diers were still arriving at the jammed station and all hands were needed in the operation.

I looked up at mother. She would have to stay home alone with three small children while a battle raged a few hundred yards away. Her serene face did not betray what must have been a great feeling of alarm. Quietly she prepared our supper and when our faces were turned, locked the doors and windows.

At dusk the rat-tat-tat of machine guns began. Still unruffled mother glanced toward the inner wall. I remember picking up a chair, placing it against that wall, and sinking into it. This room would be our ark of safety, I whispered to myself.

More guns began firing. The noise steadily increased as the minutes passed. Shrapnel burst in the sky above Douglas. The shots were going wide. Whistling sounds told of bullets going over our house. Near midnight the cannon started to bellow and we huddled closer to mother.

The battle's roar reached its peak as my brother came home. He was excited. Being just 20, he felt only exhilaration at the sound of the battle. The cannonading continued, and finally, from sheer exhaustion, we fell asleep.

I awoke to the sounds of a normal day. My parents were eating breakfast and I hurried out to hear the latest news.

Sadly father told me that eight Americans—all bearing the name Jones—had been hit during the night. The only soldier to die of his wounds, Harry J. Jones, gave his name to the army camp later established at Douglas.

Many of those foolish sightseers on the box cars had been picked off by snipers. Father also told us of the narrow escape he had. A bullet came through a roundhouse window just seconds after he stepped away from it.

Soon after breakfast the firing started again. This time the heavier guns led off followed soon afterwards by the machine guns.

Our parents decided that it would be safer if we sat behind the house. There we stayed all during that second day in safety.

Toward evening my brother rushed into the house. He had an alarming report. Villa, furious because of the American aid given to the Mexican army, was threatening to level Douglas. We began a night of terror and silent prayer. Unknown to us, however, the tide of battle was shifting hard against the outlaw and his plans for revenge, if he had any, had to be postponed. Douglas escaped, but months later the

helpless town of Columbus, New Mexico, paid the penalty for the aid the United States had given to General Obregon and his federal troops at Agua Prieta. In the dead of night Villa and his men rode through Columbus, burning, killing and pillaging.

As morning advanced, the sound of battle grew dimmer. Father spoke to us with eyes twinkling. A man he knew had decided to sleep in his bath tub for safety's sake. While this gentleman was at work the next day, a bullet popped through the roof and pierced the tub. When he returned home and saw this he nearly died of heart failure—in fact, father ventured, he would probably be feeling better right now had he been shot instead of frightened.

We spent all day in the house and

were very conscious of the diminishing sounds of the fighting.

That night only an occasional shot was heard. Next morning brother, still very much excited, dashed in to tell us that it was all over. Villa had been beaten back, but he escaped with his strongest men.

Many of our townspeople walked out to the battlefield that afternoon. Most of those who had followed Villa were peons dressed in rags. Saddest of all was the fact that many of those who lay in death were mere children, some as young as 12 years old.

A week later school re-opened. Once again I climbed the long flight of steps and looked to the south. The desert was quiescent; no dust rolled up from the hills. Douglas dozed in the sunlight.

## New and Improved Products for Desert Living

### New Outdoor Cooking Utensil Ends Washing

Disposa Ware Corporation, 4th and Cambria Streets, Philadelphia, has come up with a new outdoor cooking utensil which ends dish washing problems, and, at the same time, frees valuable packing space once reserved for pots and pans, plates, cleaners, scrapers and other cooking accessories. The "Disposa-Pan" is a sturdy, heat-resistant steel frame into which the camper places rigid aluminum inserts that are cheap enough to use and to dispose of. After cooking in the insert, it becomes a plate. Still later, it can be used to store left-overs, and then for reheating. "Disposa-Pan" is available in three models. Inserts retail at 88 cents for 15; \$1.65 for 30. Holders complete with insert supply range in price from \$1.98 to \$2.98.

### Living Unit Fits on Pick Up Truck Beds

A coach unit that fits on top of any standard half, three-quarter or one ton truck bed is being manufactured by Nuclear Instruments Corporation, 350 West Washington Blvd., Venice 3, California. The manufacturers claim that this home-on-wheels is scientifically balanced for effortless driving and handling over all type terrain. The

Prospector's Pick-Up Coach is waterproofed and insulated for all-weather service.

Home comforts and conveniences include butane stove, sink, ice box, 110 volt light, inlaid linoleum and interior appointments, and dinette with innerspring cushions that make into full size double bed. Sells for \$795 F.O.B. Los Angeles.

### Low Cost U-Ore Assaying Kit Now on Market

For \$2.95 every prospector can become his own assayer. Menlo Research Laboratory, Menlo Park, California, announced that a new radiometric assayer's kit recently perfected is now on the market. Known officially as "Standard Uranium Ore Sample Kit," the new item enables anyone to determine the percentage of uranium in an unknown mineral specimen.

The kit consists of a measured quantity of natural uranium ore in radioactive equilibrium, the uranium content of which has been precisely determined by certified chemical assay.

With the standard sample, a duplicate but empty container is furnished together with a simple chart and instructions for use. In determining the percentage of uranium in a mineral sample, which is known to contain uranium, a sufficient representative sample of the ore is crushed by any convenient means to the approximate fineness of ordinary beach sand. The empty container is then filled with this sand and radioactive readings are taken of both the unknown sample and the standard with either geiger or scintillation counter.

The readings are then referred to the chart and the percentage of the unknown sample is read off.



## HOME ON THE DESERT

# Flowers That Blossom in August . . .

By RUTH REYNOLDS

**F**LOWERS THAT BLOOM in the spring are the desert garden's loveliest, but flowers that bloom in August are its heroes.

In my garden these gallants range from Oleander to Zinnia, and include Texas Ranger, Crape Myrtle and Lantana. These plants never cease to amaze me. Not only do they blossom in the burning August sun, but most of them were planted during the previous August—which is hardly a proper time for planting anything.

"You would be surprised," a nurseryman recently said to me, "at the number of people who wait until they see a plant in blossom before they make up their minds to buy it."

I wasn't surprised. I am one of those people. Or used to be. This summer I shall be very sensible—for there is no spot left for me to plant anything.

This summer I shall need to be very industrious also, for I have a problem. The oleanders, which I had thought indestructible and trouble-free, are giving me trouble. They are afflicted with a gall which is becoming rather prevalent here in Tucson. It doesn't kill the plants but mars their branches with black scaled knobs and distorts their growth.

According to Dr. Alice McLaughlin Boyle, of the University of Arizona's Plant Pathology department, this is a bacterium-caused disease and may be controlled by pruning—cutting off all affected branches about eight inches below the blemish with shears dipped in a five percent formaldehyde solution. Dr. Boyle further suggests spraying with an insecticide (malathion) as insects such as aphids are suspected of spreading the disease.

My oleanders required drastic pruning this spring, and although they are much improved, I still find traces of gall which I try to deal with promptly—and personally, not trusting that tedious use of formaldehyde to a less interested person.

This may require a little more industry than I'd counted on, but I'm fond of the oleanders. Because of their widespread use in this area many people may consider them too common, but their profuse and many-colored flowers, their durable ever-greenness and their adaptability to our soil

When the August sun beats down, most of the desert plants either wither or go into an unlovely dormancy. But not so the Oleander, Zinnia, Lantana and a few of the other hardy ones. They blossom forth in rainbow hues to defy the sun and proclaim the beauty of the garden.

and climate make them, I believe, the most important flowering shrub of our desert gardens.

They can also be the least, or one of the least, expensive, as they are so easily grown from cuttings.

Plants can be bought of course, but to buy them isn't standard practice. Around pruning time—usually just before spring growth begins—friends and neighbors, and total strangers, will be generous with prunings which can be cut into twelve inch lengths and "started," standing upright in a container of water.

The "sticks" should be three-fourths of an inch, or less, in diameter, with all leaves cut off. The water should be changed every day or two. My method is to flush it over the top of the pail with the hose—turned on gently so as not to injure the small roots as they form.

In three or four weeks the cuttings should be rooted and ready to plant in the ground, where all they ask for is an always moist soil until they are established.

When choosing colors for the hedge around the back of our lot I was told that the white ones were faster growing and hardier than other colors. So our hedge is predominantly white, and they may have grown a little faster than the pinks and reds among them, but they are no more disease resistant. Actually the only oleanders not affected by the gall are the Sarah Bernhards — pale, pale pink singles with slightly larger leaves. They do seem to be of a truly superior strain. They burst into a pink cloud of bloom in late spring and continue to bloom, more sparingly, throughout the summer.

The white ones though are our favorites because they show up so beautifully at night under the lights of the badminton court—our summer-evening center of activity. Many people

with lighted outdoor living areas must have discovered this night time charm of the white flowers.

This year, taking my cue from the oleanders, I have several rows of large white zinnias across the end of the garden that borders the court, and there in the outer fringe of light they take on a touch of glamour the light of day denies them.

I realize that zinnias of any color, like oleanders, may have little appeal for some people. They are not appealing to the sense of smell or touch and the too critical eye may see them as ungainly, but for color they are unsurpassed. And they are impervious to desert sun. I may as well confess: I like zinnias. And when I see that "Youth and Old Age" notation after zinnia in the seed catalogs I feel that the zinnia is a flower after the desert's own heart—that the flower and the land have a heritage in common: the shining youth of our own era and the endurance of ages past.

But to speak a more practical word in favor of zinnias, they have been improved in recent years. They come now with shaggy, curled or quilled petals and carry such intriguing names as Giant Dahlia Flowered, Cactus Flowered and Burbank Hybrids. Then there are the daintier Dwarfs for low borders.

My personal preference is for mixed types of the same or nearly the same color massed together. This year, at some distance from the white flowers, I have purple-lavender shades that pick up the color of the Crape Myrtle and Texas Ranger in the background against the garage wall.

A Texas Ranger is a non-deciduous, silvery-foliaged flowering shrub with small bell shaped lavender flowers. It is classified botanically as *Leucophyllum Texanum*.

I hasten to enumerate these facts, remembering that I failed to mention any of them once when I wrote my married daughter that I feared the Texas Ranger was dying, and she telephoned, long distance, to ask "Who is this Texas Ranger?"

I explained its identity and later was able to report its condition improved. I started watering it more often and less thoroughly which not only saved the Ranger's life but the garage foundation as well—for which my husband was very thankful.

Since then the Ranger has bloomed

beautifully if briefly several times for several summers and even when not in bloom is very attractive there beside the Crape Myrtle which is in continuous (lavender) bloom the whole summer through.

From my bedroom window I look out at it the first thing each morning and am a little surprised to see it still blooming its heart out—just as I knew it would be.

The Crape Myrtle has an affinity for sunshine and likes the desert well. It is deciduous and with time and training may become a tree. Its crepe-like flowers, on spikes 6 to 8 inches long, may be watermelon red, pink or white as well as lavender.

The lantanas are banked against the house on the other side. They too bloom faithfully all summer. Mine happen to be red — not lavender — which now strikes me as being particu-

larly fortunate, even though I can't see them from the bedroom window.

It isn't that I don't like my purple-lavender view. That's the way I planned it and it is quite striking. But I sometimes wonder if a little pink or yellow wouldn't be an improvement—wouldn't show up nicely against our new Mojave brown exterior paint job.

"But no," I tell myself, "I like lavender." Still, this morning when I looked out the window I tried to picture a more vivid color scheme. I wakened Ted who was sleeping peacefully to ask him if he remembered our high school class colors — pink and lavender. He groaned companionably so I said, "With all those lavender flowers, don't you think that if we had Desert pink instead of Mojave brown paint—?" Ted groaned so uncompanionably that I rushed to the kitchen to start the coffee pronto.

## LETTERS

### Keep Out . . .

Montrose, California

Desert:

With some apprehension I am ordering a copy of *Physiology of Man on the Desert*. I am apprehensive because there is little information of value in such a book for a man headed for the desert who meets up with signs that read: "OFF LIMITS, KEEP OUT, U.S. MILITARY." Like you I greatly resent so many inroads upon the wilderness by agencies whose activities are destructive. (In this category, along with the military, I include vandals, rockhogs and litterbugs.)

I'm opposed to such "progress" of "civilization" in God's country. Keep up the good work.

BOB ORR

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### Circle Vista Missed . . .

Santa Fe, New Mexico

Desert:

I enjoyed the article by Charles Gallenkamp, *Where Ancients Wrote in Stone*, in your May issue. My visits to the San Cristobal petroglyphs came to life again while reading this story.

I cannot recall seeing the rock serpent pictured with the article which prompts me to wonder if writer Gallenkamp missed something that amazed me at San Cristobal:

High on the rocky mesa we chanced upon a spot where the rocks formed a small but almost perfect circle, perhaps 20 feet in diameter. From this location we had an excellent view of the valley and pueblo ruins below. The floor of

this circle was quite flat and covered with dry grass. Examining the rock wall at this spot we found evidence that it had been made by man.

Not being an authority in this field I could not say whether this circle's use had been for a lookout station, fortress or religious temple. In any event, it was fascinating.

MRS. EMMETT DAVIS

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### More on Paul Case . . .

Riverside, California

Desert:

Your readers will be interested in knowing what became of Paul Case, one of the two bank robbers captured by Ace Gardner (*Desert Magazine*, June, 1955), after he was sent to prison with a life sentence. He was only 21 years old then and, apparently, a cinema-struck kid.

Case became quite a brilliant prisoner and took a number of good courses, including law and engineering. He became editor of the prison magazine and many people became interested in his behalf, starting a campaign for his release. This movement spread to many parts of the nation and he finally gained his freedom by parole in 1926, I believe.

Early in 1925 I was offered appointment to the wardenship of San Quentin. Visiting the prison I met many famous prisoners including Case who was at that time in the midst of his campaign for release.

If memory serves me correctly, after he was paroled he took a job out of state and I have never heard anything about him since that time. I hope he went straight.

J. R. GABBERT

### Desert in Europe . . .

Backby Lapptrask, Finland

Desert:

I am an American living in Finland. I have to depend on kind friends in the United States to send me magazines and other reading. One friend sent me some 1945-46-47 *Desert* magazines. No one can imagine the pleasure I have derived from them.

I spent part of my childhood at Wickenburg, Arizona, and I love the desert. Wickenburg, as I knew it, was a mining camp. I remember Henry Wickenburg and the places he hid out from the Indians. Memory is a rich and wonderful thing when one grows up in such surroundings. A pleasure of life would be to hear about the Wickenburg of today. What has happened to the old mines, and what has kept the town growing?

What *Desert* magazines I have are precious to me. I show them to the people in the village in which I live, and say, "This also is America." In this far north land, with its clearings in deep forests, long nights and long days, rain and snow, flowers pastel in color that make my brave California poppy look very bold, it is hard for the people to visualize the deserts of America. The history of the American desert is so rich and new, compared to that of Finland.

I want to send a big "Thank You" for the pleasure you have given me.

MRS. C. W. SILFRAST

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### Poison Bait . . .

Springville, California

Desert:

I read with concern the Golden Gate Audubon Society's announcement (*Desert*, June, 1955) that America's bald eagle is in danger of becoming an extinct species.

I am convinced that we cannot save the remnants of our bald eagle population or of any other wildlife unless the use of poison bait is prohibited on public lands.

I very shamefully admit that I have worked with poisons. When, in 1938, I became fully cognizant of the great harm brought about by poison, I refused to work with it again. Each victim of poison bait becomes a lethal bait in itself. The bald eagle dies when he eats these baited creatures.

My primary reasons for refusing to work with poison are: concern for the remnants of our birds and other wildlife; my respect for good dogs and for their masters; and my own self respect. For me to ever work with poison again would be to sacrifice all my ideals in regard to honest wildlife conservation.

I believe we should all work toward the outlawing of poisons from our public lands.

LESTER REED



# Here and There on the Desert...

## ARIZONA

### Hopi Problem Under Study . . .

FLAGSTAFF—Moving to solve the pressing and long-standing Hopi Indian problems, the Bureau of Indian Affairs will conduct a series of meetings in the Hopi Indian villages this summer. Problems have arisen from grazing restrictions, definition of Hopi reservation boundaries, and the injection of disruptive influences into the Hopi way of life by outside forces, observers said. Another problem stems from the fact that the government has for many years tried to deal with the Hopis on a tribal basis rather than by individual self-governing and independent villages. *Coconino Sun*

### Reservation Lease Bill . . .

WASHINGTON, D. C.—A bill was introduced in the Senate to authorize the Secretary of the Interior to grant leases of 25 years on the Colorado River Indian Reservation. Sponsor of the bill is Senator Barry Goldwater. Purpose of the bill is to allow continued development of the reservation while Congress determines the beneficial ownership of the entire reservation. Income derived from leases on the northern half of the reservation will go to the Indians of the Colorado River Tribes, while income from the southern half will be used for development of the land. *Yuma Morning Sun*

### Prospectors Blamed . . .

TUCSON—Richard Reeve, owner of the Bellotta Ranch, filed a complaint with Land Commissioner Roger Ernst charging prospectors with doing "irreparable harm" to leased grazing properties. In addition, Reeve charged that paper wrappings from dynamite used by prospectors on his range had caused the death of 12 cattle in the past six months. Ernst said his department is working with ranchers and miners on a new mineral code which he hopes will iron out some of the difficulties. *Phoenix Gazette*

### Illegal Entry Declines . . .

YUMA — Illegal entry into the United States by Mexican wetbacks has decreased in the Yuma area, according to Robert Brewster, chief patrol inspector. Only 3689 aliens were apprehended during the first four months of this year compared to 23,430 during the same period of 1954. *Yuma Morning Sun*

### Mourning Dove Travels . .

ARLINGTON — An exception, rather than a rule, is the interesting report of a mourning dove, banded at the Arlington Game Management Unit on August 14, 1953, and shot by Sr. Carlos Moreles at el Rancho de San Antonio de Gomez, near Totatlan, Jalisco, Mexico on April 19, 1955, more than a thousand miles away. Usually, the doves banded in Arizona are taken during the same season or the next season within a few miles of the banding site.

The wing boxes used to collect dove wings are receiving a wide play by hunters and Department technicians are grateful for the cooperation of the hunters in collecting the wings. A fact gained from the wing collections is that hunting seems to be the best in the Buckeye area and near Arlington. —*Buckeye Valley News*

### Horses Face State Ban . . .

SELLS — The Arizona State Livestock Sanitary Board has ordered a quarantine on the movement of horses from the Papago Indian Reservation. Four positive cases of glanders, an infectious respiratory disease, were discovered among reservation horses. *Phoenix Gazette*

### Water Strike Valuable . . .

KANAB — Water, flowing at 100 gallons per minute from an artesian well, was struck recently by a uranium drilling crew near Kanab. One old-timer was heard to state: "With this kind of water, that area would be better than a uranium claim." *Phoenix Gazette*

GRAND CANYON — Grand Canyon National Park superintendent Preston P. Patraw's retirement was set for July 16, Secretary of the Interior McKay announced. Patraw joined the service nearly 33 years ago. Service Director Conrad L. Wirth said his departure "will result in the loss to the service of one of its ablest administrators." *Phoenix Gazette*

### SAN JUAN and COLORADO RIVER EXPEDITIONS

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### MEXICAN HAT EXPEDITIONS

Blanding, Utah

### Meteorite Seen Over Yuma . . .

YUMA—A meteorite that "looked like a new moon" according to one observer, was spotted over the Yuma skies as it streaked by. The meteorite was traveling in a westward direction. Directing the search to find if and where the meteorite fell is Dr. Harvey H. Nininger, director of the meteorite museum at Sedona. *Yuma Morning Sun*

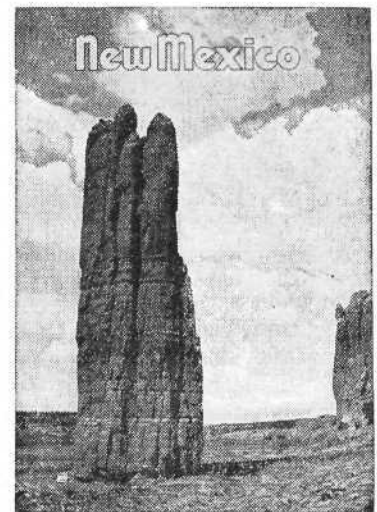
### Anti-Litter Effort Rewarded . . .

SEDONA—Keep America Beautiful, a national organization, placed the Sedona Garden Club's "Stash Your Trash" drive at the top of its honor list in recognition of community effort in the anti-litter war. The Sedona club has stamped more than 10,000 litter bags for distribution through filling stations and grocery stores according to Mrs. Douglas Rigby, committee chairman. *Verde Independent*

### Yuma Mourning Ceremony . . .

YUMA — The *Keruk* or mourning ceremony of the Yuma Indians was held in mid-June at the Ft. Yuma Indian reservation. Indians from many of the Southwest's tribes attended. Traditionally staged to change the fortunes of the tribe after it had suffered serious adversities, the *Keruk* takes four days to perform. Fasting and meditation continues for another four days. *Yuma Morning Sun*

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MODERN CABIN, air conditioned, on Salton Sea. A real buy at \$3950.00. \$500.00 down, easy monthly payments. Pon & Co. 711 N. Azusa Ave., P.O. Box 546 DM, Azusa, California.

FOR SALE: Three story brick building full of antiques, relics, etc. Ideally located in fabulous Virginia City, Nevada. Inquire Paul Smith, Virginia City, Nevada.

FOR SALE—Rock shop, 3-bedroom house, large patio for display with angel-wing, large lot. Rock collection estimated \$1500. Fred Adams, 3321 Tweedy Blvd., South Gate, California.

70 A. GROUND, Large Slate Mine. Some building sites and timber. Price \$8,500 —small down payment. 6 miles north Placerville. Bill Powell, Box F. Kelsey, California.

THE IRONWOOD SHOP — Alpine, Calif. \$5500 total price buys 50 foot frontage Highway 80, Shop and Equipment. Consider good station wagon or half cash. High-class clientele. Owner will cooperate to reestablish business. Hi-5 Realty, P.O. Box 217, Alpine, California. Hickory 5-3150.

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YOUNG PROSPECTOR 29 with foreign employment experience in Greenland and Arabia desires financial backing by active or inactive partner in legitimate 24-hour day—7-day week prospecting venture. I have necessary stamina, determination, and equipment, including jeep, "Precision" 111B Scintillator, etc. But lack necessary capital to sustain an all-out effort. Write Charles Orndoff, 2230 Vagedes, Fresno, California.

GEORGE SMITH, formerly of Fresno, invites all of his old friends to visit him at the United Gem Shop, Yermo, California, on the new oiled road recently built from Yermo to Calico. He will have there on display after September 1 his fabulous collection of polished rock specimens, including ornamental tables of wrought iron with gemstone tops.

RECUPERATING AMATEUR Prospector, Rock Analyst. Equipment. Will do light work in mountains or desert for board. Floyd Kenworthy, 6832 Lemon, Long Beach, California.

URANIUM MAP of Southwest. Geiger counters, scintillators, snoopers, \$29.95 up. Free catalog, or better, send \$1.00 for authentic uranium map of Southwest Desert and catalog. Harry's Geiger Counters, 360 So. Hawthorne Blvd., Hawthorne, California.

## CALIFORNIA

### Navy Given Extension . . .

EL CENTRO — Imperial County Supervisors granted the Navy's request for a 60-day extension in their order to re-open the Niland-Blythe Highway. Board members indicated that they will renew their efforts through regular channels to obtain Federal funds for construction of the proposed Glamis replacement road across the sandhills. If the replacement road is secured, the Navy would be given full control of the Niland-Blythe road which they now keep closed during daylight hours five days a week. *Imperial Valley Weekly*

• • •

### Pipeline May Bring Road . . .

NILAND—Members of the Salton Sea Highway Association believe that the Southern Pacific Railroad's Texas-California oil pipeline may be the opening wedge for construction of a paralleling Niland to Yuma highway. Walter Davis, Southern Pacific official at Niland said the pipeline construction company must have a road before it can build the Niland-Yuma link. He said that the railroad, in the midst of a program to motorize its track maintenance department, must have a road too. *Riverside Daily Enterprise*

• • •

### Scotty's Successor Named . . .

SACRAMENTO—The Senate and Assembly of the State of California resolved that Alkali Charlie Brown, the Sage of Shoshone and capable state senator from the 28th District, be designated Prospector Laureate of California and the successor to Death Valley Scotty who died in January of last year. Brown was born in Georgia in 1893 and arrived in Inyo County in 1906. For 15 years after his arrival he engaged in mining and then went into the general store business. *Barstow Printer-Review*



### Controls Placed on Water . . .

INDIO — The critical Lake Mead water situation has caused the Bureau of Reclamation to request Coachella Valley County Water District and other water-using agencies diverting water at the Imperial Dam, to limit their water requests to essential irrigation and domestic needs for the next year. *Coachella Valley Sun*

### Conservationist Honored . . .

TWENTYNINE PALMS — A bronze plaque honoring Minerva Hamilton Hoyt (*Desert Magazine*, June, 1955) conservationist whose efforts led to the creation of the Joshua Tree National Monument, was unveiled on Memorial Day at the Monument's Salton View. *Desert Trails*

### City Given Bomb Shelter . . .

PASADENA—Miner Mike E. Lee, 77, has given permission to the city of Pasadena to use his 2000-foot long horizontal mine shaft as a bomb shelter. The shelter is not, however, centrally located. It is in the hills of the Mojave desert, 17 miles west of Randsburg and 37 miles north of Mojave. *Pasadena Star-News*

PALM SPRINGS — Nick Valenti, 70, became the first known person to die from a rattlesnake bite in the Palm Springs area. The snake struck him in the finger. *Desert Sun*

## NEVADA

### Hoover Dam Cuts Power . . .

BOULDER CITY — Inadequate water supply, silt and increased power demands have forced a 35 percent output reduction at Hoover Dam, Bureau of Reclamation officials announced. The reduction will hit water and power users in southern California, Arizona and Nevada. The bureau said present output is down 65 percent of normal. Present power output must be used as a guide for the year ending May 31, 1956. Meanwhile the Southern Nevada Power Co. announced awarding of an \$8.25 million contract to the Stearns-Rogers Co. of Denver for construction of a second steam generating plant at Whitney. The project is being undertaken to meet the decline in power production at Hoover Dam and increased demands for electrical energy in the Las Vegas-Henderson area. Lake Mead's record low is not a cause for concern, experts warned, however. The reservoir is now doing the job for which it was originally designed: supplying water stored in bountiful years to make up for deficient years of inflow. *Nevada State Journal*

### Public Land Racket Hit . . .

WASHINGTON, D. C. — A congressional investigation of "public land rackets" is being urged by Nevada Representative Cliff Young. He cited Los Angeles and Las Vegas as the two focal points of what he calls "the nation's newest racket." The land promoters solicit victims by mail and advertising throughout the country, he said. Usually, Young said, victims are charged \$100 and up for filing applications under the Small Tract Act, Homestead Law, Desert Entry, etc. with the Bureau of Land Management. Actually, it only costs \$25 for the filing fee — the rest is the promoter's profit. Young also reported that some promoters have filed as many as four people on the same tract of land. *Nevada State Journal*

### Fair to Feature Art . . .

ELY — Artists from five Nevada counties will show their work at the Nevada Fair of Industry to be held at Ely August 25-28. Counties whose artists were invited to display include White Pine, Nye, Lincoln, Eureka and Lander. The White Pine branch of the American Association of University Women is sponsoring the Fair's art division. *Ely Record*

### Train To Be Displayed . . .

CARSON CITY — A historic Virginia and Truckee Railroad train will be displayed on the Carson City post-office lawn following approval of the plan by the Post Office Department. The train once hauled mail from Reno to the Carson City Post Office. It was stored in the old V&T roundhouse in Carson City following its active service. *Nevada State Journal*

### State Employment Up . . .

CARSON CITY—Nevada employment is running seven percent above last year and is gaining steadily month by month, the Employment Security Department announced. During April a total of 76,500 were working in the state. The mining industry engaged 5100 men; 13,300 were working for local, state and federal government; 4700 in manufacturing; 9500 construction; 8900 transportation and utilities; 15,500 trade; 17,400 services; 2100 finance, insurance, real estate. *Nevada State Journal*

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### Camel Fossil Discovered . . .

AUSTIN — The fossil remains of Pliocene period camels *camelus gigantus* have been found on uranium claims north of Austin. Many large bones were uncovered including a jawbone with teeth. *Reese River Reveille*

SILVER CITY—The first woman resident of Silver City, Mrs. Isabella Wilson, died recently in San Francisco at the age of 103. Her first husband, Harvey Tompkins, was a mining engineer. They set up housekeeping at Silver City in a tent. *Territorial Enterprise*

CARSON CITY—Ernest H. Brown has been named forester for the Carson Clarke-McNary district. Brown comes to Nevada from California's division of forestry. He began his career in California as a forest fire-fighter in 1939. *Nevada State Journal*

## NEW MEXICO

### New Museum Board Named . . .

SANTA FE—Gov. John F. Simms announced three new appointments to the Museum of New Mexico Board of Regents. Named were Dr. Norris E. Bradbury, Los Alamos; A. V. Wasson, Santa Fe; and Oliver Seth, Santa Fe. Retained on the board were Henry Dendahl, Santa Fe; and Fray Angelico Chavez, Jemez Pueblo. All of the terms run through 1958. Under New Mexican law, the governor automatically becomes sixth member of the body. *New Mexican*

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### Seek Return of Shrine . . .

TAOS—Taos Pueblo Indians have petitioned the New Mexico congressional delegation to support legislation to return to them exclusive jurisdiction over their ancient Blue Lake Shrine. The Pueblo's right to the land has been recognized by the Spanish Crown and by the Republic of Mexico. The United States, in taking over the Southwest from Mexico, pledged that Mexican citizens, which included all Pueblo Indians, would be "maintained and protected in the free enjoyment of their liberty and property." It is upon this point that the Taos base their claim for return of the shrine. The problem is of long standing having come to a head in 1939 and again in 1947. The New Mexico Association of Indian Affairs is standing behind the Taos claim. *New Mexican*

### Set Age of Pueblo Ruins . . .

LAS CRUCES—University of New Mexico Anthropologist Dr. Frank C. Hibben set the age of the pueblo uncovered recently near the runway of Condon Field at approximately 800 years. The pottery found was predominately of two types, El Paso polychrome and Chupidera, common for the area, Dr. Hibben pointed out. The pueblo was made up of six rooms and a patio. Besides the pottery, human bones were found in the ruins. *Las Cruces Citizen*

### Cattle Theft Increasing . . .

LORDSBURG—Sherwood Culberson, president of the New Mexico Cattle Growers' Association, reported an alarming increase in cattle theft in the state. The Cattle Sanitary Board has, during the past few months, been investigating as many as six different cases at once. Culberson said that the cattle owner had to depend on a four wire fence and an average of one law enforcement officer per 150,000 acres of ranch land to protect his property. *Springer Tribune*



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### Litterbug Damage Down . . .

SANTA FE — The New Mexico Game and Fish Department officials have publicly praised the state's news media for its work in urging picnickers and sportsmen to clean up their litter. "Reports are coming in from all over the state from personnel of the Department telling how much more considerate people are being about picking up their rubbish and cleaning up their campsites," the Department declared. *Eddy County News*

### Apache Plan Dude Ranch . . .

MESCALERO—Apaches may turn part of their mountainous 719-square-mile reservation into a dude ranch according to the tribe's business committee, headed by Wendell Chino. The reservation is located in one of the most picturesque areas of New Mexico. A profitable dude ranch, Chino believes, will do much to help his people's material well being. *Riverside, California, Daily Enterprise*

### New Art Gallery Opens . . .

TAOS — Grand opening festivities were held in June for the Southwest's newest art gallery, Gallery Ribak-Contemporary Art, in Taos. Owner-manager of the gallery is Louis Ribak whose art, along with that of fellow Taosenos Beatrice Mandleman and Agnes Martin, was featured in the opening. *El Crepusculo*

### UTAH

### Zion Amphitheatre Reactivated . . .

SPRINGDALE — The South Amphitheater at Zion National Park will be reactivated this year after many years of non-use due to inadequate equipment and seating arrangements, Superintendent Paul R. Franke announced. This amphitheater, located near the South Campground and Zion Inn, has been completely rehabilitated, and through funds provided by the National Park Service and the Zion-Bryce Natural History Association, has been equipped with modern sound and projection equipment. A regular schedule of recorded music, bird songs, sound movies and naturalist lecture programs will be computed each week by Park Naturalist Myrl V. Walker. There will be no admission charge. *Iron County Record*

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### Land Transferred to State . . .

SALT LAKE CITY — Approximately 100,000 acres of potentially valuable mineral lands were transferred from the public domain to the state of Utah, Acting Secretary of Interior Clarence A. Davis announced. The land is scattered in 10 Utah counties. Only recently surveyed school sections are immediately affected by the order. Unsurveyed sections will remain in withdrawn status until surveyed at which time they will pass to state ownership automatically. The land order approved by the acting secretary revokes seven executive orders creating mineral reserves in Utah. These reserves, dating back to 1910, were created to prevent reckless exploitation of mineral resources and fraudulent agricultural entries to obtain mineral rights. *Salt Lake Tribune*

### New Zion Road "Feasible" . . .

SPRINGDALE — Loop Road into the as yet unconquered Kolob Terraces of Zion National Monument is feasible and would open an area even more breathtaking in its beauty than Zion Park itself. This was the opinion expressed recently by Paul R. Franke, superintendent of the park. Franke spent a week exploring the great Kolob area with a party of National Park Service experts. The proposed route would leave U. S. Highway 91 at a point some 16 miles south of Cedar City and enter the Finger canyons of the Kolob Terrace through Taylor Dry Creek. Franke said details of the exploration would not be available until the formal report of the party is completed for presentation to the national director of the NPS in Washington. *Salt Lake Tribune*

### Rainfall Down 70 Percent . . .

CEDAR CITY — Rainfall in the Southern Utah area during the first five months of this year is 70 percent below the area's 33-year average, the Southern Utah Power Company reported. From January to May only 1.60 inches of rain were recorded compared to the normal 5.52. These figures compare to the equally low snow depth measurements. *Iron County Record*

### New State Shrine . . .

ST. GEORGE — The 82-year-old winter home of Brigham Young at St. George has been purchased by Gordon C. Young, president of the Brigham Young Family Association. The 10-room residence will be restored to its original condition, complete with furnishings of the Church of Jesus Christ of Latterday Saints, and dedicated as a state shrine. Young paid \$9200 for the home. *Washington County News*



# MINES and MINING

## New York City, New York . . .

Silver is selling today at the highest price in 35 years. Industry, for the first time in many years, is paying as much as Uncle Sam for the metal. Civilian price has advanced to 90½ cents an ounce. Industrial demand for silver is running a reported 15 to 20 percent higher than a year ago. The price jump came about when industry increased its demand; Mexico, once the chief supplier, pledged most of its output to other nations; and American silver was going to the U. S. Treasury. Mexico's silver is going, in the main, to West Germany and to Saudi Arabia, who want it for coinage. Riverside, California, *Enterprise*

## Sulphurdale, Utah . . .

American Sulphur and Refining Co. of Beverly Hills, California, launched the fourth plant engaged in commercial production of sulphur from deposits at Sulphurdale. Officials of the company announced that through use of a solvent extraction process based in part on patents developed by Esso Research and Engineering Co., many other low grade deposits in the western United States may attain commercial stature. *Salt Lake Tribune*

## Mexico City, Mexico . . .

Mining, traditional backbone of Mexico's economy, is in the doldrums and the government has appointed a special commission to try to revive it. The committee, headed by Marte R. Gomez, former minister of agriculture, is expected to revise the tax laws. The jerry-built tax structure is mainly to blame for their plight, mining men assert. Mining taxes provide about 20 percent of the Mexican government's income, and the tax structure has grown up over the years as successive governments thought of new ways to take more out of what was once the nation's chief source of wealth. As an example of the mining slump, zinc exports are down from an average 23,000 tons per month last year to 18,562 tons a month so far this year. *Phoenix Gazette*

## Cordova, New Mexico . . .

Two Lubbock, Texas, prospectors have uncovered what appears to be a bonanza lode of beryllium in the Santa Fe National Forest near Cordova in northern Santa Fe County. The vein, say prospectors Ray Burch and Raymond Hogan, contains crystals of beryl running up to 10 inches wide and five feet long, record dimensions for southwest deposits. The vein runs eight feet in width on the surface and heads diagonally downward into the mountainside. Beryllium has long been on the nation's list of critically-needed metals. *New Mexican*

## Washington, D. C. . . .

The Papago Indians of Arizona were given control over the minerals on their 2.7 million-acre reservation following signature by the President of a bill supported by all members of the Arizona congressional delegation. Before passage of the law, the Papago was the only Indian tribe that did not have exclusive control over development of mineral resources on a reservation. *Phoenix Gazette*

## Las Vegas, Nevada . . .

Some 2000 mining men are expected to meet in Las Vegas, Nevada, for the 1955 Metal Mining and Industrial Minerals Convention of the American Mining Congress. Dates for the event are October 10, 11 and 12. Discussion will range from national policies and their effects on the mining industry to latest advances in mine and mill operations. Chairman of the National Program Committee for the AMC Convention is L. J. Randall, president of the Hecla Mining Co. of Wallace, Idaho. Speakers for the event will include top leaders from industry, mineral policy making officials of the Federal Government, and a substantial number of Congressmen and Senators interested in maintaining a strong domestic mining industry. *Territorial Enterprise*

## Boulder City, Nevada . . .

The Bureau of Mines experiment station at Boulder City will be the site during the next 12 months of a research and development program seeking an improved process for the production of titanium sponge metal under a cooperative agreement between the Federal Government and the Wah Chang Corporation, Senator Alan Bible announced. Wah Chang, world leader in the tungsten industry, will bear the major part of the project expense. Main objective of the project is to conduct pilot plant tests looking toward further improvement of a process for making high quality titanium sponge which Wah Chang developed on a small scale at its Glen Cove, New York, laboratories. *Pioche Record*

## Battle Mountain, Nevada . . .

Construction of a 175-ton-per-day barite mill at Battle Mountain by the Magnet Cove Barium Corporation of Houston, Texas, was assured by resident manager Pete Edgar. Twenty-three acres adjoining the town of Battle Mountain on the west and north of the Southern Pacific tracks are being cleared for the new construction. Ore will be brought in from the Graystone Mine and from other properties now held by Magnet Cove. The company is a subsidiary of Dresser Industries of New York, and the new mill at Battle Mountain is the company's first entry into the western field. *Nevada State Journal*

## Washington, D. C. . . .

Senate and House interior committees have approved bills designed to stop widespread abuse of mining claim laws in forests of the Southwest. Loopholes in existing mining laws have permitted phony prospectors to acquire valuable stands of timber, erect summer homes, hot dog stands, service stations, etc. on the public domain. The legislation is backed by the American Mining Congress and the American Forestry Association as well as many groups representing conservationists, sportsmen and others interested in proper use of federal lands. In the past three years the number of mining claims has doubled in the 12 Western states. In Arizona claims on file have jumped seven times in three years while the totals in New Mexico and Utah quadrupled. *Phoenix Gazette*

## Ivanpah, California . . .

Plans were announced for the construction of a \$6.5 million cement plant at Ivanpah, near Baker, by the National Cement Corp. of San Francisco. The company anticipates 125 employees for its new operation. *Apple Valley News*

## Ely, Nevada . . .

Production of a tungsten concentrate has been initiated at the Tungstania property, 90 miles northeast of Ely, by Strategic Metals, Inc., a Nevada corporation. New equipment, delayed in shipment by winter, has been installed. *Nevada State Journal*

## Denver, Colorado . . .

Western Colorado has three major coal regions capable of supplying fuel for the world for hundreds of years, according to a report issued by Thomas Allen, chief state coal mine inspector with offices in Denver. The regions classified by Allen are: the Green River area; the Uinta area; and the San Juan River region. *Dove Creek Press*

## Winnemucca, Nevada . . .

Extremely high grade gold ore has been discovered in the Scossa mining district, 65 miles west of Winnemucca, by John Etchart and Frank Hardin, lessees of the property. The old Scossa camp has been reactivated and roads have been improved. At present there are seven men employed at the property. *Humboldt Star*

Cornelius (Con) Kelley recently announced his retirement as chairman of the board of directors for the Anaconda Copper Mining Co. *Salt Lake Tribune*

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# BOOM DAYS IN URANIUM

## \$4 Uranium Detecting Kit

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A four dollar uranium detecting kit for amateur prospectors has been invented by two University of Wyoming professors. The kit features a "long wave black light device" that will detect the valuable mineral. The inventors, Dr. Carl A. Cinnamon, head of the physics department, and Warren M. Mallory, associate professor of electrical engineering, call their kit a "Urani-Tector." It will fold up compactly into pocket size.

"It was our aim," Mallory said, "to produce a uranium detection method that would be within the reach of the average hobbyist, fisherman, hunter, geologist or vacationer."

The uranium detector in the kit uses a principle of harnessing the ultra-violet rays of the sun for detection purposes. The kit includes chemicals and other paraphernalia which will enable the prospector to determine whether the ore is of commercial value.

The specimen to be tested is placed inside the device and viewed through an eye cup. When the sun's rays reach it through a special black-glass window, uranium can be detected by a bright yellow-green glow. *Humboldt Star*

#### Tests May Aid Prospectors

The Atomic Energy Commission launched a test program in the Sierra Ancha Mountains north of Globe, Arizona, aimed at improving prospecting methods. The AEC hopes the tests will reveal structure patterns which will help prospectors detect uranium. The initial test involves boring into the mountains with a diamond drill. Plans for future tests, if any, were not made known. *Phoenix Gazette*

#### AEC to Help Miners

The Grand Junction Operations Office of the AEC announced that an engineer of its Mining Division is now available at Salt Lake City to serve the public in matters dealing with uranium mining and ore procurement. Wm. J. Egan is in charge of the office located at 222 South West Temple Street. *Mining Record*

Three thousand claims have been filed on 60,000 acres of land in Lyon County, Nevada, and most all have been taken up in the past 15 months, according to the records of veteran recorder James F. Barton of Yerington. *Nevada State Journal*

#### Rich Strike Reported in Twentynine Palms Mountains

The Southern California Uranium Co., headed by former Washington governor and senator Mon Walgren, has reportedly made a rich uranium strike on Copper Mountain, five miles west of Twentynine Palms, California. Government geologists have called the find the "hottest thing in the Southwest." The U. S. Bureau of Mines assays have hit around .65 to .92 and a Smith and Emery (Los Angeles) assay went from .26 to as high as 4.52 on some ore samples. The ore has a two-way value for it is high in thorium, which is used in the manufacture of porcelain finish and numerous other industrial products, and can also be used for atomic energy, but not in the weapons field. Ros C. King and Ray Felzer, both of Indio, are also principals in the mining company. *Coachella Valley Sun*

#### Nevada Hopes to Get Uranium Ore Mill

Establishment of an uranium purchasing station and mill in Nevada may be among developments of the near future if favorable results are obtained from explorations into the subject being conducted by Sen. George W. Malone and the AEC. A detailed report is being prepared for Malone by the AEC. Discovery of what appear to be promising uranium deposits in various parts of the state, particularly in the central and northern portions, and increasing activity among prospectors are believed to indicate that uranium production on a large scale may be possible. Difficulties in shipping ore to a mill have retarded development of valuable production areas, mining men claim. *Pioche Record*

#### California Boasts 100 Known Uranium Deposits

Kern County is credited with the largest number of known uranium-bearing mineral deposits in the state of California, according to a recent report. San Bernardino County ranked second. There are now 100 distinct localities in which uranium deposits have been recognized in California, scattered from Imperial County on the south to Plumas County on the north. The recency of these discoveries, the complexity of the geology of the deposits, and the obvious differences between the individual deposits, account for the present lack of detailed information concerning the California deposits. California prospectors were advised to study the more developed Colorado Plateau area for possible clues to locating uranium at home. *Barstow Printer-Review*

#### Jarilla Hills Ore Shipped

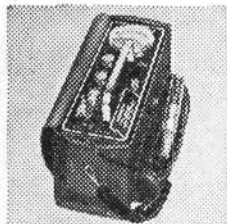
Uranium mining activity in the Jarilla Hills near Orogrande, New Mexico, is on the upswing. Equipment was moved into the area by the Schpansky and King Co., Oregon, who leased 15 claims from Albert Culver and Jim Caldwell. At present the ore is being taken out of an open pit for shipping to an El Paso smelter. *Alamogordo Daily News*

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## Uranium Hunters to Work Disputed Yuma Base Claims

Lt. Gen. Carter Magruder, Army Deputy Chief of Staff for Logistics at Washington, D. C., has granted permission to uranium miners to work their claims on the Yuma Test Station. The miners, who trespassed into army land to stake hundreds of claims, hailed the decision as a major victory in their long standing battle to open unused portions of military bases for prospecting. The miners must agree, however, to move out temporarily whenever any particularly dangerous tests are to be conducted. The AEC has assayed uranium ore samples taken from the YTS and found them to be high in value, some running \$204.40 to the ton at the mine. *Los Angeles Times*

## New Mexico Reaps Only \$300 from Uranium Levy

Despite the great uranium boom sweeping over New Mexico which has tied up millions of acres of state land under "prospecting permits" at \$25 a section, the state has received only \$300 in royalties on production during the past two years. Only five of the 55 uranium producing mines are paying the state's severance tax on ore taken out. The Bureau of Revenue is working now to get the uranium producers on the tax paying lists. The severance tax on uranium is one-eighth of one percent of the value after royalty payments are deducted. The land office people are optimistic about the early future. They think that some of the big companies that mine with bulldozers instead of shovels will soon be in operation on state land and the royalties will be better. Columnist Will Harrison in *The New Mexican*

## Fund Applications Increase

A marked increase in the number of applications for exploration assistance was noted by the Defense Minerals Exploration Administration. In the first three months of this year, 117 applications were received—a 50 percent increase over the last quarter of 1954. In each quarter of the past year the number of uranium applications exceeded the number received in the preceding quarter. *Mining Record*

## AEC Reveals New Buying Program for Thorium Ore

Another indication of AEC's future demand for thorium was revealed in a letter from Lewis I. Strauss, AEC chairman, to Governor Edwin C. Johnson of Colorado. Strauss stated that AEC was prepared to negotiate contracts at a price up to four dollars for thorium oxide contained in ore concentrated to 50 percent thorium content. Up until the present, the AEC has purchased thorium for "research and stockpiling purposes." Strauss suggested that persons or companies with thorium holdings contact the Commission or one of the three following firms in the field: Lindsay Chemical Co., 258 Ann St., West Chicago, Ill.; Rare Earths, Inc., Box 488, Pompton Plains, N. J.; Maywood Chemical Works, Maywood, N. J. *Mining Record*

## First Palo Verde Valley Uranium Ore Is Shipped

Palo Verde Valley's first shipment of uranium ore left during the early part of June, destined for Marysville, Utah. Mule Mountain Minerals, Inc., announced that their initial shipment consisted of three tons. The ore was mined by hand and hauled down the mountain by burro. *Riverside Daily Enterprise*

## Blue Lizard Sells For Million Dollars

MONTICELLO, Utah—Briant G. Badger, of Salt Lake City, President of the Lucky Strike Uranium Corporation, has announced purchase of the Blue Lizard Mine in San Juan County for \$1 million.

Details of the sale involve a \$10,000 down payment with \$90,000 due within 30 days, \$400,000 cash to be made up out of public offering and the former owners agreeing to take the remaining \$500,000 in shares.

The Blue Lizard mines, located in the heart of the Red Canyon uranium district in southwestern San Juan County, were previously owned by Preston and Wiley Redd of Blanding, Utah, and Senator Donald Adams and Leon Adams, of Monticello. *San Juan Record*

## Uranium Mining on Nevada- California Border Planned

Nevada-Utah Uranium and Oil Corporation will spend \$75,000 to develop 21 claims in the Hallelujah Junction-Red Rock area on the California-Nevada border, Elmer G. Jones, vice president and director in charge of mining operations, announced. The company plans to "grid test" (every 100 feet) the entire ground area with scintillators and other testing devices, to prove up all uranium ore deposits which may exist on the claims.

Good surface showings, particularly on those claims in Nevada, have already been indicated, some of the surface samples showing .47 percent uranium oxide of the autunite and carnotite ores. *Nevada State Journal*

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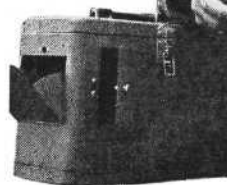
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# Federal, State Laws Determine Mining Claim Filing Procedure

Securing a mining claim involves more than burying a few scribbled notes under a rock monument, a glance at the mining laws reveal. The procedure is an exact one and failure to follow it could result in serious loss of time and money.

Here is the step-by-step procedure for obtaining a patented claim:

First it is necessary to discover a mineral. Anything short of a real discovery will not do. To stake a claim on land that looks like it might yield uranium is a waste of time for until the uranium is found you can not proceed with the subsequent filing steps.

The claim must be staked out following discovery. This is done, in most states, by placing 4x4 inch posts or monuments not less than 18 inches high at the four corners of the claim. The claim can measure up to 600 by 1500 feet along the vein. Its boundaries must be "reasonable," that is, it cannot be too irregular in shape or stretched out for miles along a vein. Besides posting the corners, middle posts should be sunk at each end of the claim.

A discovery monument, usually placed at the point of mineral discovery, should contain all pertinent claim papers. These should be placed so that they can be easily examined.

Supplemental to the United States mining laws each State has statutes relative to location, manner of recording of mining claims,

etc., which must be observed on Federal land.

The monument must be erected within 90 days after filing the location notice with the county recorder. A proof of development work also must be filed within 90 days. Development work consists of digging a shaft or open cut or tunnel usually at least four feet by six feet by 10 feet deep or long.

Filing these papers places the prospector in line to pay a use tax to the county for now he owns a claim—taxable real estate.

Failure to file the development work outline results in the prospector forfeiting all claim to the location for two years.

After the filing of the location and development of work notices, the prospector has until the following July to complete assessment work on his claim to the amount of \$100. Failure to complete like assessment work each year voids the claim and anyone else can relocate it. In short, a claim must be worked.

The United States mining laws do not limit the number of locations that can be made by an individual or association.

If you want patent to your claim you must have expended \$500 in labor or improvements of a mining nature on your claim plus compliance with all the other mining laws.

One may develop, mine and dispose of mineral in a valid mining location without

obtaining a patent, however, but possessory right must be maintained by the performance of annual assessment work on the claim in order to prevent its relocation by another.

In general, to obtain a patent a survey must be applied for to the public survey office in the state wherein the claim is situated. Applications for patent are filed in the district land office. A notice of the application is required to be posted on the land prior to filing the application.

Cost of the patented claim depends on the varying costs of the land (usually \$5 an acre), publication, survey and abstract of title.

The standard procedures for staking claims on the public lands of the United States and Alaska are outlined more completely in Circular No. 1278 of the Bureau of Land Management. The rules stated therein are applicable to uranium and thorium ores.

The principal difference between prospecting for uranium and thorium ores and prospecting for other metallic ores on public lands stems from the Atomic Energy Act which provides that all uranium and thorium on those lands which were vacant and unappropriated on August 1, 1946, when the act became effective, are reserved "for the use of the United States." It is the view of the AEC, however, that this provision does not prevent the staking of a valid claim and the mining and selling of the ore.

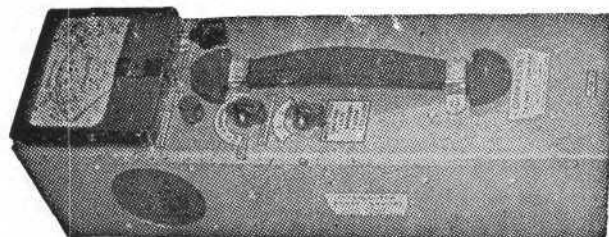
• • •

## Nuclear Power Is Good for Railroads

Atomic-powered railroad locomotives may be one of the next steps in the use of nuclear energy for peace.

The Atomic Energy Commission announced that an agreement has been signed by the Commission and by the Baldwin-Lima-Hamilton Corp. of Philadelphia, Pa., and the Denver and Rio Grande Railroad of Denver, Colo., for a study of a nuclear power reciprocating engine under the AEC's Industrial Participation Program.

The companies will weigh the engineering, technical and economical aspects of a nuclear-powered engine of this type and make recommendations concerning the role industry might undertake in carrying out the development. There are many potential applications of a power generating unit of the type under study, including locomotive propulsion.



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# Summer Brings on Hot Tempers as Incidents mar Uranium Boom

Potentially explosive situations involving modern day uranium prospectors—the kind of situations that the gold rushes of earlier times are remembered for in violent and tragic legends—are beginning to crop up in the newspapers of the Southwest.

The *Phoenix Gazette* reported that armed guards turned back rival claim holders seeking uranium in the Mazatzal wilderness area of Tonto National Forest, 70 miles northeast of Phoenix. Associates of Glen Gowan Mines appealed to authorities to open an alleged roadblock, where they said men had been posted by Pine Mountain Mercury Mine. Pearl Charles, assistant supervisor of Tonto Forest, said public trails are open to public use. But in this uranium hunter-miner squabble, there may be legal questions of private property interest in the road leading to the mine. Arizona's mounting uranium fever has resulted in some blockading and field prospecting tactics that amount to a cold war between established mines and prospectors in other sections of the state. In Cave Creek recently, authorities were called in when a difference of opinion threatened to break into gunplay.

The *Southern Utah News* reported that trouble may result from the situation in the famed Arizona Strip. There some 500 uranium claims have been marked, but not a single application for lease has been filed with the state. The effect of this is that anyone could move into that area, file claims on the same lands, and beat the original discoverer out of his find.

One uranium squabble has made its way into the Elko court, reports the *Nevada State Journal*. Five brothers and their wives are asking the district court to return to them 21 mining claims located in the Salmon River Mining District in northeastern Elko County. They want an agreement cancelled in which they turned the group of claims over to a man who, they assert, falsely represented himself as the agent for a mining company.

## Uranium in New Mexico Described in Booklet

SANTA FE, N. M.—A new booklet entitled "Uranium in New Mexico" has been issued by the New Mexico Mining Assn. in cooperation with the New Mexico Bureau of Mines and Mineral Resources. Incorporated in the pamphlet are brief descriptions of uranium-bearing formations, a map showing where the mineral has been discovered, copy of ore price schedule of the AEC, and hints to the prospector as well as laws relating to filing of claims. This pamphlet answers many of the basic questions that occur to the amateur and the experienced prospector and condenses the data for easy reference. As long as the supply lasts they will be issued free to all applicants. Mail requests should be sent to New Mexico Mining Assn., P. O. Box 1125, Santa Fe.

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## Uranium Penny Stocks Boom Leveling Off

Penny uranium stocks, some of which doubled and tripled last year, appear to be leveling off as the "men are being separated from the boys." Brokers in Salt Lake City regard this as a healthy sign, brought about by the fact that more and more uranium companies are now into the working phase of their operations. Millions of shares of penny stocks trade daily on the over-the-counter market. Actually, a few pennies will not buy a share of most uranium stocks, some of which sell as high as six dollars or eight dollars a share. Some 50 uranium stocks trade actively in the Salt Lake exchange, the last securities auction market in the world. *Humboldt Star*

Moab Mines, Inc., announced the discovery of a new ore roll and a high-grade ore log in the company's Lucky Nine uranium mine in Montrose County, Colorado. *San Juan Record*

## Nevada Strike Draws Prospectors

Mel Colgrove's uranium strike south of Carson City created considerable interest among prospectors who have started a rush to the area. Colgrove's discovery was the second in recent months for the Carson City area. He reported that an assay showed .25 percent uranium. *Nevada State Journal*

## Ore Company Operates

Utaco Uranium Inc. joined the list of active companies in Southeastern Utah recently with the start of an extensive drilling program. Assessment work was begun on the company's 132 claims in San Juan and Grand Counties. *San Juan Record*

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"Uranium Color Photo Tone"	1.00
"Facts You Should Know About Uranium" by R. W. Ramsey	1.00
"Uranium Prospectors Hand Book"	1.00
"The Uranium and Fluorescent Minerals" by H. C. Dake	2.00
"Popular Prospecting" by H. C. Dake	2.00
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"Minerals for Atomic Energy" by Nininger	7.50
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## MAPS

Map and Geology (Uranium and Mineral Districts of California)	1.50
Map of Kern County (New Section and Township)	1.50
Map Uranium and Minerals (The Nine Southwest States)	1.00
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Book and Map "Lost Mines and Treasures of the Southwest"	2.00

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# AMATEUR GEM CUTTER

By LELANDE QUICK, Editor of the Lapidary Journal

This page begins its fourteenth year in this issue for it was in the August, 1942, issue that it first appeared. It has been published uninterruptedly with one exception. Last month, with only one month to go to complete thirteen full years, we had to forego writing it because we were delayed in getting away on a scheduled three week trip to Mexico City and because of the

great task of getting the new *Rockhound Buyers Guide* and the June issue of the *Lapidary Journal* on the press before leaving.

It was a well earned vacation, as most vacations are, and we can just advise briefly that if any readers are contemplating going to Mexico City by automobile over the so-called new road from Nogales, Arizona, that they postpone the trip while crops are being harvested because there is no gasoline and you can't go far without gasoline.

We might also add that you can't go far with it either for it is the poorest gasoline we have ever used. This is probably because so much of it is bootleg gas and no doubt diluted. We finally limped into Mexico City at the greatest speed we could attain—30 miles an hour. Being a Rotarian we did manage to get gasoline from fellow Rotarians and, by visiting airports and gasoline bootleggers in back of farmers' buildings, we inched mile by mile to our destination, coming home by way of Laredo, Texas, for there is better distribution of gasoline along that route.

At no spot along the 2000 miles of Mexican roads that we traveled did we see any rocks that looked promising as gem materials or find any gems or gem materials for sale.

We have been in every corner of Texas many times but never were we so glad to see it as when we crossed the Rio Grande at Laredo — where we immediately consumed two quarts of good and safe water in a half hour. We knew for sure we were home when we walked into a motel office in Marfa, Texas, and found a copy of the new *Rockhound Buyers Guide* on the proprietor's desk. We had never seen it and it was quite a thrill to find our first copy so far from home.

Soon we were surrounded by rockhounds from all over the place. The San Antonio Rock and Lapidary Society was holding a three day Memorial Day week-end field trip in the area and holding a barbecue at Frank Woodward's ranch in nearby Alpine, home of the famous Texas plume agate. We met several of our old friends and made new ones, stopped along the way at several rock shops but had to miss many more. We par-

ticularly noticed the efficient set up of three new rock shops that have been opened within the last year in New Mexico, Texas and Arizona. They are a far cry from some of the places existing 13 years ago when this page was started. Rockhounding has become a big business and proper business methods are being applied to rock merchandising by people who have had some business experience, many of them risking a large amount of capital and being anchored seven days a week to one spot.

We repeat the advice we have offered many times—stop by the rock dealers' shops on your travels for they have much better material for sale at reasonable prices than you are likely to find yourself. And they have one great advantage over the traveler—they know the rocks in their own areas.

\* \* \*

Since the invention of the Van Leuven cabochon machine several years ago many have tried to make a machine that would automatically turn out cabochons to any desired size. We have seen a couple of these deals but have not been impressed. They usually require as much work and attention as grinding by the usual procedures—and they eliminate the fun and pride of personal accomplishment.

Recently, we received a photograph of a machine that impresses us, as does the work it turns out, several examples of which have been submitted to us. It was devised by C. S. Williams of Medford Lakes, New Jersey, an old friend. Mr. Williams is a great opal enthusiast and he built his machine with oval cabochons in standard sizes in mind. The evolution of all modern lapidary equipment has been the result of study and application of the amateur gemcutters' ideas.

The machine consists of a doubly swinging arm carrying a shaft, upon the end of which is mounted the stone to be cut. This arm carries a cam which engages a variable stop which determines the size of the stone. It also carries a longitudinal adjustment and tension springs.

With one cam, oval in shape, with a diameter difference of two millimeters it will cut stones 5x7, 7x9, 10x12 etc. as long as the diameters of the stone being cut differ by two millimeters. Another set can be cut by using an oval cam with a five millimeter difference such as 5x10, 10x15, 20x25 etc. Squares, hexagons, rounds and almost any other shape may be cut. A more complete account of the machine will be published in the August issue of the *Lapidary Journal*, procurable from our Desert Magazine Crafts Shop for 50 cents a copy after August 1.

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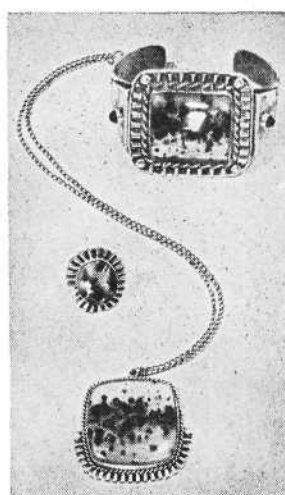


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# GEMS and MINERALS

## Railroad to Survey Mineral Wealth of Northern Nevada

Western Pacific Railroad's industrial department will undertake a mineralogical survey of portions of the territory served by the line during the coming months. Areas involved are the region served by Western Pacific between Portola, California, and Winnemucca; and from Reno Junction to Reno.

This is a highly mineralized region and already produces gypsum in large quantities, sulphur and iron ore. It is considered probable that many other commercially profitable deposits may be awaiting development.

The survey will consist of a careful examination and appraisal of all known mineral resources in the area. To supplement published data and other information being gathered, the first hand knowledge of mine owners and operators in the areas involved will be welcomed by the railroad's director of industrial development, F. B. Stratton, 526 Mission St., San Francisco, California.

This mineralogical survey is part of a long range program of service to the area served by the railroad and Western Pacific has no interest in the acquisition or exploitation of any properties involved, it was reported. *Nevada State Journal*

The Desert Gem and Mineral Society of Palo Verde Valley, California, elected officers and then recessed for the summer. Clarence Rice was named president; Clyde Glenn, vice president; Mildred Rice, secretary; and Cora Addison, assistant secretary. Meetings will be resumed in September. *Palo Verde Valley Times*

### MIGHTY ROCKHOUNDS FROM LITTLE PEBBLE PUPS GROW

"Good rockhounds from little pebble pups grow"—from the East Bay (Oakland, California) Mineral Society bulletin.

A California newspaper editor recently caused a stir among rockhounds by defining pebble pups as the canine companions of rockhounds. To speak for the noble dog in this question would be impossible, but few, if any, dogs are members of gem and mineral clubs.

However, those clubs have for many years termed their junior members as pebble pups and would undoubtedly be somewhat reluctant to change this definition.

Of course, rockhounds generally are noted for their wit and good humor. It could quite possibly be that in an isolated case a rockhound would have a dog that accompanied him on many a field trip and would loosely refer to this animal as a pebble pup. The strict definition of the term, however, must be reserved for junior members of the rockhound societies.

"Fantasy in Gems" is to be the theme for the Whittier Gem and Mineral Society's Sixth Annual Gem Show, it was announced. Show is planned for Saturday and Sunday, October 22 and 23 in the Smith Memorial Hall, corner College and Pickering Streets in Whittier. Saturday hours are from 10 a.m. until 10 p.m., while Sunday hours are 10 to 7 p.m.

### DESERT MOUNT NEAR HINKLEY YIELDS OPALS

Opal Mountain, 15 miles east of Hinkley, California, is an excellent source of honey opal which is found in veins running through the mountain.

A representative of Tiffany's, New York jewelers, is reported to have found a fire opal valued at \$2,999 on Opal Mountain not long ago.

The mountain can be reached by car. A good desert road leads up to the base and circles it. It is necessary, however, to dig for gem specimens. (From the Barstow, California, *Printer-Review*.)

Santa Clara University, of which he is a graduate mining engineer, has engaged Capt. John D. Hubbard of Paradise, Butte County, California, to rearrange and classify between 40,000 and 50,000 mineral specimens in the university's Galtes Memorial Museum. A San Jose *News* story on the project reports "Cap" finding gold and uranium in some of the specimens. *California Mining Journal*

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**TERMINATED SULPHUR** crystals—new rare find with stibnite and cinnabar on sinter. Only known locality. Deposited by volcanic gases. Steamboat Springs, Nevada 1" to 12" in size, from 50c to \$7.50, according to quality. Specify size. Dealer inquiries invited. Postpaid. In Reno, phone 3-1429. Frey Minerals, Box 9090, Reno, Nevada.

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More than 2000 persons thronged through the arcade at the Brawley, California, civic center to view a collection of rocks and gems exhibited by Brawley rockhounds April 30 and May 1. More than 20 displays covered every phase of rock collecting from hunting to polishing. The Brawley show is unique as one of the few display type shows where collectors can swap, buy or sell their rocks, shells and other items. *Imperial Valley Weekly*

W. W. Merk of the Fresno Gem and Mineral Society offers some easy ways to identify minerals that fluoresce under ultraviolet light. Minerals giving a predominately blue color are anorthoclase, aragonite, celestite, cerussite, hydrozincate and scheelite; green: gypsum, opal, willemite and various secondary uranium minerals; yellow: apatite, barite, pectolite and powellite; orange: spalerite and zircon; Red: calcite, halite, spodumene and spinel.

## MINNESOTA GEOLOGY BOOK BEST-SELLER

The book *Minnesota's Rocks and Waters*, written by Schwartz and Thiel from the University of Minnesota has become a local best-seller.

The authors answer questions about oil, uranium and gold in Minnesota with these facts: The conditions for oil are not right; uranium is not in Minnesota in commercial variety; gold always turns out to be mica flakes or iron pyrites; while 30 diamonds have been found in Wisconsin, Minnesota diamonds so far turn out to be clear quartz crystals. (From the *Rock Rustler's News*, publication of the Minnesota Mineral Club.)

## "GEMOLOGISTS" GRADUATE

Receiving diplomas as *Rockhound Gemologists* recently were six members of the San Diego Mineral and Gem Society. Completing the two-year course in *Gemology* offered by the society were Charles Fryer, Marion Dugger, Parker Borden, Pansy Kraus, Charles Walker and Joseph Rogers.

Fourteen students have completed the first year of study and will be ready to start on their second year in the fall. A new class, instructed by Ed Soukup, will start at the society's headquarters at Spanish Village in October.

The initial camp meeting and rock hunt of the San Antonio, Texas, Rock and Lapidary Society was held at the Woodward Ranch near Alpine over the Memorial Day holiday. Club members hope to make the event an annual one.

Most people who buy geological maps also buy regular topographical maps so they won't get lost. Even so, the national park and forest rangers have had to rescue a lot of lost uranium hunters.

## ANSWERS TO QUIZ

Questions are on page 22

- 1—Bisnaga, or Barrel cactus.
- 2—Antelope Clan.
- 3—Indian trader.
- 4—Joshua Tree.
- 5—Navajo reservation.
- 6—Tombstone, Arizona.
- 7—Gen. Stephen W. Kearny.
- 8—Lieut. Beale.
- 9—Juan Bautista de Anza.
- 10—Secure religious freedom.
- 11—Nevada.
- 12—Death Valley.
- 13—Yellow.
- 14—Uranium.
- 15—Dry lake.
- 16—Mining.
- 17—Baskets.
- 18—Utah.
- 19—Presidential decree.
- 20—Cochiti.

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## INDIANS WERE ROCKHOUNDS TOO, UCLA PROF. REPORTS

Indians through necessity had a functional knowledge of rocks and classified them according to their uses, guest speaker Dr. Clement W. Meighan of the UCLA archeology department told members of the Hollywood Lapidary and Mineral Society recently. They grouped rocks into four general classifications:

1. Rocks that can be chipped (glassy materials such as obsidian and quartz).
2. Rocks that can be ground or shaped (granite and limestone).
3. Rocks that can be used for paint (red ochre).
4. Rocks that aren't good for anything.

Dr. Meighan added that Indians collected rocks "just for fun" as well as for religious and magical purposes.

New officers of the Coachella Valley Mineral Society are Clifton Carney, president; Gaylon Robertson, vice president; Mary Alice Winn, secretary; Jessie Hamner, treasurer; and George Smith, director.

"A Family Hobby" is the theme of the sixth annual gem and mineral show of the South Bay Lapidary and Mineral Society, to be held August 27 and 28 at Clark Stadium, 861 Valley Drive, one block west of Pacific Coast Highway, and two blocks south of Pier Avenue, in Hermosa Beach, California. Interesting displays by the children, a fluorescent display and a uranium display, including specimens from California and Nevada mines, are a few of the interesting attractions that may be seen. Door prizes will be given and admission will be free. Hours for the show are: Saturday from 10 a.m. to 10 p.m.; Sunday from 10 a.m. to 6 p.m.

At the annual election of officers of the Mineralogical Society of Arizona Mrs. Katherine Trapnell was elected president for the coming year and E. R. (Jim) Blakley vice president. New directors elected were C. F. Burr, Harry V. Hill, Joseph W. Harris and Susan B. Cummings. Mrs. Edna Barritt will continue on as secretary-treasurer, Mary Ann Probert, historian and Ida M. Smith, corresponding secretary.

The Orange Coast Mineral and Lapidary Society will hold its annual show August 9-14 in conjunction with the Orange County, California, Fair.

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## ACTINOLITE AREA TOLD

Rockhounds in quest of actinolite can find this mineral in the San Gabriel Mountain community of Wrightwood, California, report Robert and Ella Brewer of the Pasadena Mineralogical Society of Southern California.

The actinolite, a calcium-magnesium-iron amphibole, is found in a huge scar on the mountain visible from the highway. This scar was formed by several mudflows during the past few years. Some boulders in the mud slide area contain excellent specimens of actinolite, the more spectacular of which consist of green blades up to six inches long. The usual finds are of masses of needles and small blades.



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13 x 18 mm Oval  
SS with GF Trim  
\$3.15 each  
3 for \$7.05



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## NAMES MEAN MORE THAN YOU THINK

The ancient Greeks knew a purple stone which they considered to be a remedy for drunkenness, so they called the stone *amethystos*, from *a* (not) and *methyein* (to be drunken), from *methy* (intoxicating drink). This is our amethyst.

The aquamarine has a beautifully descriptive name, taken from the Latin *aqua marina* (sea water), suggested by its color. Jade (the name borrowed from the French), was supposed to cure a pain in the side and, therefore, was called in Spanish *piedra de ijada* (stone of the side); hence the word jade.

Turquoise is from the French meaning properly Turkish, applied to the stone because it was first brought from, or through, Turkey. Latin *rubeus* (red) is the origin of ruby. (From *The Sphere*, bulletin of the Hollywood Lapidary and Mineral Society.)

Mrs. Kathleen Miller, a long-time resident of the West, reported in the El Paso Mineral and Gem Society bulletin, *The Voice* the ever increasing number of recreational places in the El Paso area that the Armed Forces have encroached upon. Many of these spots had a bit of shade and water and furnished pleasure to hundreds of persons who love and appreciate outdoor recreation. According to Mrs. Miller's list, the following local areas have been absorbed by Uncle Sam: Cottonwood Springs, just beyond El Paso on the eastern slope of the Franklin mountains; Soledad Canyon, between El Paso and Las Cruces, wild and beautiful, rich in scenery and ancient lore; all of the eastern slope of the Organ Mountains and portions of the west—a country rich in mineral deposits, caves, ancient Indian camps and scenery; Ropes Springs near Las Cruces.

Pearlblossom, California, Gem and Mineralogical Society is looking for a name for its new bulletin. Suggestions should be sent to editor Mary Frances Berkholz. The editor, Kali LePage and Bill Jenderzy were named to the board of directors by President Anna Tyler. A recent field trip took the club to Cinco above Mojave where feldspar and quartz crystals were found.

Hot weather won't keep members of the San Diego Lapidary Society out of the rock picking areas if a suggestion that appeared in the club's publication, *Shop Notes and News*, is carried out: "Maybe we should have the field trip committee purchase some canvas, poles and rope, and then have them build an awning to put over the best spots so that we could all dig in comfort during the hot spells."

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### THE PROSPECTOR'S CATALOG

We are pleased to announce the advent of a new *Minerals Unlimited Catalog*, specifically designed for the amateur or professional prospector. If you are interested in Geiger Counters, Mineralights, Blowpipe Sets, Gold Pan or any of the other equipment necessary to a field or prospecting trip, send 5c in stamps or coin for your copy.

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The various gem and mineral clubs in Churchill County, Nevada, combined forces recently to present an attractive and informative display of the area's natural resources. Individual prospectors also contributed to the show. On display at the Fallon chamber of commerce office, the gems and minerals were viewed by many local residents including students, as well as tourists. *Fallon Standard*

Installed in June were officers of the Santa Cruz, California, Mineral and Gem Society. Taking office were Gerald Butterfield, president; Peter B. Hitchcock, vice president; Albert Gregson, treasurer; and Kay Pappas, secretary.

## Gem Stones Rocks Write Your 'Wants' to Merrell's ROCK HOUSE 329 E. Alosta (Hiway 66) Glendora, California

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80, 100, 120, 180, 220	\$.83	\$.52	\$.39	\$.30
2F (320), 3F (400)	.38	.57	.41	.32
Graded 400	1.09	.73	.57	.48
Graded 600	1.35	.94	.78	.69

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2" wide, 25 ft. long—\$2.00;	150-foot roll—\$ 9.00
3" wide, 15 ft. long—2.00;	150-foot roll—13.25
10" wide, 5 ft. long—2.00;	150-foot roll—39.77
12" wide, 5 ft. long—2.25;	150-foot roll—47.70

Wet Rolls

3" wide, 10 ft. long—\$2.00;	150-foot roll—\$21.60
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Available in 120, 150, 180, 220, 320 grits

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6" 5 for \$1.00; 25 for \$ 3.90
8" 3 for 1.10; 25 for 7.00
10" 2 for 1.15; 25 for 11.00
12" 2 for 1.65; 25 for 16.00

Dry

8 for \$1.00; 25 for \$ 2.25
5 for 1.00; 25 for 4.10
3 for 1.00; 25 for 6.45
2 for 1.00; 25 for 9.45

### CONGO OR FELKER DI-MET DIAMOND BLADES

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## THE *Desert* MAGAZINE CLOSE-UPS

Frank A Tinker writes that he has never enjoyed doing an article more than his *Ban-i-quash Builds a Home of Grass* which appears in this month's issue. At the present time he is doing more research on the Papago Indians and considers anything he writes about them a labor of love since he believes that they "are not only interesting, but completely admirable people in character."

Tinker is a former member of the United States Foreign Service. He resigned from the Service last year and returned to his former home in Tucson to devote full time to free lance writing. His wife often accompanies him on field trips after material. They have three children under eight years of age.

"My wife," writes Tinker, "is resigned to marriage and life with a very dull person who would rather do an article on Papago for a few dollars than one on the political implications of the St. Lawrence Seaway for several hundred."

Most of his writing is on natural history, although he has done several pieces on politics, aviation and travel.

• • •

Desert gardeners who absorb the wealth of information in this month's *Natives in My Garden* will not be surprised to learn that its author, Christena Fear Barnett, is a former teacher of agriculture in the Los Angeles City School system.

Mrs. Barnett was born on a ranch in the western end of Riverside County, California. As a child she showed great love for gardening and Nature, she recalls. After graduating from Pomona College she did graduate work in agriculture at UCLA.

During her Sophomore year at Pomona she was married to Harold A. Barnett who is one of the state's more prominent civil engineers today. The Barnetts make their home in San Marino.

At her San Marino home her gardening specialties are shade loving exotics. But at her five acres at Joshua Tree National Monument her attention shifts to natives of the arid region.

"From both gardens I receive intense pleasure," Mrs. Barnett concludes.

• • •

*Battle of Agua Prieta* is Cordelia Brinkerhoff's first venture into the writing field. As a girl of 11 in 1915

she experienced the never-to-be-forgotten excitement, terror and danger of one of Pancho Villa's border attacks. She makes this the subject of her vivid story in this month's issue.

In 1912 she moved to Douglas, Arizona, with her family from New Mexico. After six interesting years on the border climaxed by the Villa attack they moved to Los Angeles. The city,

however, has never claimed her spirit. The Brinkerhoffs and their four children have spent much time traveling in the Southwest. In 1951 they bought a trailer and for 18 months made the Tucson area their headquarters. Mrs. Brinkerhoff is a gifted painter and reports that she has never been without a fitting subject to paint while on the desert.

### FALL DATE SET FOR DESERT CAVALCADE

The International Desert Cavalcade at Calexico, California, traditionally held in the spring, will take place during the fall next year, directors announced. Although exact dates for the 1956 show were not picked, it will be held between October 15 and November 15.

Donald M. Starr, Holtville rancher and vice president of the Cavalcade Association, moved into the president's chair following the resignation of President Dan Klein who plans to leave Imperial Valley in the near future.

A meeting with the Imperial County Board of Trade will be arranged soon to discuss financial support for the Cavalcade's '55-'56 fiscal year. *Cal-exico Chronicle*

### Enjoy, But Don't Destroy . . .

In the 1870s old Pat Lynch had cabins and cave shelters in what are now Echo Park and Castle Park in the Dinosaur National Monument.

In 1886 he laid formal claim to his spot with these scribbled words: "To all who this may consarn that I pat Lynch do lay claim on this botom for my home and support Wrote the 8th month of 1886 by P Lynch."

The most characteristic of the original notes he left may well be used as a motto by all conservationists:

"If in those caverns you shelter take  
Plais do to them no harm  
Lave everything you find around  
hanging up or on the ground."

—*This Is Dinosaur*, edited by  
Wallace Stegner

## Hard Rock Shorty of Death Valley



"Naw! They ain't no railroads in Death Valley," Hard Rock Shorty was explaining to the tourists who had stopped at the Inferno store for a cold drink of soda pop.

"Too hot fer 'em here," Shorty went on.

"Some outfit with a lotta money tried buildin' one right after they made that big strike up in the Funeral Mountains, 'way back in the '80s.

"Started building from Barstow in the winter, and had the rails laid all the way to Furnace Creek by the time summer come.

"Then it began to get hot. Railroad crew had to wear asbestos gloves t' handle them rails an' spikes. Chinese cooks quit their jobs. Couldn't stand the heat. But that didn't make no difference. The camp flunkey'd make a big pot o' stew an' set it out in the sun fer a half hour

and it was jest as good as if the chinks had cooked it.

"Finally got the track ready and brought in a big steam locomotive. That is, they tried to, but one day it really got hot an' them rails started bucklin'. Kept gettin' hotter, 'n them rails set fire to the wooden ties. An' there the engine was stranded in Death Valley with no track t' git out on.

"Engine crew jest walked off and left it. That afternoon the boiler got t' generatin' steam faster'n it could blow off, exploded. But didn't make much difference 'cause it got so hot the next day the whole works, includin' the rails, all melted an' ran off in the sand.

"Only last week a prospector found a piece o' that iron down there in the sand dunes an' wuz stakin' out a claim when Pisgah Bill happened to come along an' told him how it got there."



## Just Between You and Me

By RANDALL HENDERSON

**I**N JUNE, Cyria and I followed the paved highways to Southern Utah, which we regard as the most colorful of all the scenic areas in the Southwest.

Our goal on this trip was the Capitol Reef National Monument, formerly known as the Wayne Wonderland. For the motorist, the explorer, the photographer—and for those who prefer the less-crowded recreational areas for their summer vacations—this truly is a Wonderland.

Capitol Reef was established as a National Monument by presidential proclamation in 1937—but it was not until 1950 that the Park Service appointed a full-time custodian for the new recreational area. The nearest paved highway ends at Torrey, 12 miles away, although there is a well-graded gravel road through the Monument.

\* \* \*

Capitol Reef has two rare assets. Its colorful sandstone cliffs are comparable to those of Zion and Bryce National Parks—and its superintendent is Charles Kelly. If you want scenery—Capitol Reef has it in abundance. If you want information—Charles Kelly is a walking encyclopedia, and a very courteous one at that.

Kelly was a regular contributor to *Desert Magazine* before 1950 when the Park Service employed him as the sole guardian of its 33,000-acre playground at Capitol Reef. Now he is so busy passing out information to visiting motorists and uranium hunters—and preparing the various reports that are required of Park Service administrative officers, he has no time left for free lance writing.

Uranium prospecting has been his biggest headache. Normally, mining and prospecting are prohibited in national parks and monuments. But because this area is part of the great sedimentary plateau which has yielded so much uranium, the AEC was authorized to issue prospecting permits within this Monument. However, the terrain has now been so thoroughly prospected that no more permits are to be issued in the future. Several claims are being developed, but no big strikes have been made.

However, the road through the Monument is the access route to a great potential mining area beyond the Monument boundaries, and trucks and jeeps—as many as 50 or 60 a day—stop at the Monument headquarters for information or clearance.

Cyria and I remained five days at the Pleasant Creek Guest ranch, just inside the Monument, where Lurton and Margaret Knee have modest accommodations for a limited number of guests. Lurton is developing some uranium claims, but devotes most of his time and his jeep station wagon to guide service for guests who want to make trips into the Valley of the Goblins, Cathedral

Valley, Circle Cliffs or any of the many scenic attractions which are in and around Capitol Reef Monument.

Riding with him day after day we learned about the intensive search that is going on in that region for uranium ores. It was easy to spot a prospector. The rig invariably was a jeep or a pickup truck—with a drum of water, or gasoline, or both, in the back of the vehicle.

The customary greeting, when we met one of these outfits on the road: “Are you findin’ anything?”

To which Lurt generally replied: “Naw, we’re just prospecting for scenery.”

Monuments marking newly staked claims were everywhere. The new generation, the uranium prospectors, are not doing as thorough a job of staking their claims as the old-time miners. The law requires that the 20-acre claims be marked by four corner posts or monuments, with possibly a couple of more at the ends of the claim. Legally, the corner markers need be only four by four inches and 18 inches high. But the prospectors who combed the western deserts for 100 years preceding 1949 built their monuments well. Generally they erected cairns three feet high and often that wide at the base. They were put there to stay—and did.

But the uranium prospectors of today haven’t the time and patience to gather so many rocks. More often than not, their claim markers consist of five or six rocks piled one on the other to the required height. They’ve complied with the law—and no more.

But it is not important. Probably only a tiny fraction of the claims now being staked will ever be worked. An active Geiger count doesn’t always mean a profitable claim. Time and the elements will soon disburse the little piles of rocks and the evidence of the uranium boom will remain only where important discoveries have been made.

\* \* \*

While mile-high climate and fantastically eroded multi-colored cliffs are the main attractions at Capitol Reef, the headquarters village of Fruita also is the home of Doc Inglesby—the world’s No. 1 rock collector. Doc’s personality is no less colorful than the heaps of rocks which are piled up in the yard, and threaten to crowd him out of the house. Although he lives in the heart of the uranium boom country, he spurns commercial prospecting. “Never had a Geiger counter in my hands,” he will tell you. In the Capitol Reef region, outside the boundaries of the Monument, he has found many varieties of beautiful gem stones, and I am sure Doc finds infinitely more pleasure cutting and polishing his stones—and telling visitors about them—than he would digging uranium out of the hillside.



# BOOKS of the SOUTHWEST

## SURVEY HEALTH OF THE ARIZONA INDIAN

Until August, 1954, the health of the Indian of the United States was in the hands of the Bureau of Indian Affairs. At that time an act of Congress transferred it to the U.S. Public Health Service.

*Indian Health in Arizona* is the comprehensive survey and analysis conducted by the Bureau of Indian Affairs, in conjunction with the University of Arizona, the publishers. It is the second annual report of the Bureau of Ethnic Research and written by Bertram S. Kraus, with the collaboration of Bonnie M. Jones.

Although Indians, whether living on or off reservations, are free to seek private medical advice and care, the majority are dependent for such service upon the federal government. Financial limitations always have been present, plus the factor of "translating" medical help, as well as "tendering" it. This the Bureau of Indian Affairs has done. The survey shows in general that individuals under 24 years of age comprise a much higher proportion of the total Indian population than they do in other parts of the U.S. Another thing, the health budget is limited only to preventive dentistry among Arizona Indians under its jurisdiction, concentrating primarily on children.

This report should prove not only vastly informative for those working closely with the Indians, but should be highly interesting for the student of environment and heredity among the American people. Complete charts showing the results of the survey among Indian Out-Patients and In-Patients are given, along with dental services, growth and physical constitutions of Indian children.

Published by the University of Arizona, Tucson. Paperbound; 7 maps, 39 tables, 30 figures, 24 appendix tables. 164 pages. \$2.50.

## ILLUSTRATED VACATION GUIDE TO SOUTHWEST

Here is a guide to the Southwest for vacationers and travelers. *The American Southwest* by Dodge and Zim, presents in full color illustrations and text a roundup of the area's animate and inanimate features plus a historical background sketch of the desert's Indian tribes.

Highly appealing are the fully illustrated sections on flowers, trees, birds

and animals classified according to life zones: mountain, mesa and desert. The area's chief minerals and their characteristics are also found in the book.

Complete bibliographies are presented with each subject by the authors as an aid to the reader who is interested in expanding his knowledge of the Southwest.

Travel information is made available for those thinking of visiting the many National and State parks and monuments as well as the other and lesser known attractions such as volcanic plugs, volcanic dikes, lava flows, cauldrons, Indian villages, churches and missions, ghost towns, forts, museums, botanical gardens and principal cities.

Written by Natt N. Dodge, regional naturalist for the National Park Service and Herbert S. Zim, professor of education, University of Illinois, this book is the first in a series of guides to regions of the United States.

"Everywhere you look, there's something to see," the authors comment. Their book bears this out.

Published by Simon and Schuster, New York, 160 pages. Pocket size. Illustrated in color. Maps. Index. Paperbound, \$1. Clothbound, \$1.95.

• • •

## BOOK HONORS PIONEER DEATH VALLEY WOMAN

"Feeble by nature, worn to a shadow by her privations and agony, embarrassed by her three children—she was a lofty soul of hope to that band that would not yield to despair."

Thus L. Burr Belden pays tribute to the character of Juliet Brier in *Death Valley Heroine*. The book gives choice accounts of the memorable Jayhawker "short cut" to the California gold fields in 1849. Feature of the book is Mrs. Brier's own vivid recital of the painful journey through Death Valley—the Christmas Day of 1849 spent without celebration—which appeared years later in the *San Francisco Call*.

At the 1902 Jayhawker reunion Mrs. Brier wrote another report published following her death in three California newspapers in 1913. She died at 99.

The book is a fine tribute to Mrs. Brier, and a vivid revelation of the courage with which the pioneering women of the Southwest faced their problems.

Published by Inland Printing and Engraving Co., San Bernardino, California, 78 pages. \$4.00.

## RICH HISTORY OF LLANO COUNTRY TOLD IN BOOK

Although the title may be misleading, *We Fed Them Cactus* is a love story—the love of a woman for the northern New Mexican Llano country, and her love for the full, rich life she and her forebears experienced there.

Fabiola Cabeza de Baca writes of life before, during and after the coming of the *Americanos* to the Hispanic cattle and sheep empire. The reader receives vivid accounts of the early days, handed down from the de Baca pioneers to succeeding generations. The rodeo was not a flashy carnival, but hard work tempered by excitement and danger; the fiesta lasted until day-break so those who traveled 40 and 50 miles to attend it would not have to start home in the dark of night; cattle rustlers had to be caught and brought to justice; and when rain was scant, all knew that the year would bring added hardship and privation.

The author does not write with bitterness about the transition period which sees her family's way of life radically changed. She uses kind words to record the courage of the homesteaders whose plows hastened the Llano's death.

And when, finally, a drouth finishes the Llano and her father is forced to feed cactus to his dying cattle, she does not dwell long on the end of an era, but begins a fresh chapter for a new age.

Published by the University of New Mexico Press, Albuquerque. Drawings by Dorothy L. Peters. Glossary and index. \$3.50.

• • •

Man's repeated search for the Seven Golden Cities in the upper Rio Grande valley are reviewed by Harvey Fergusson in his book, *Rio Grande*, written in 1931 and now back in print. Ten illustrations by Colden Whitman appear in the new edition.

"New Mexico is a graveyard for dreams of wealth," writes Fergusson. Those dreamers who came with cross, gun, fur trap, wagon and railroad have all been absorbed to some degree by the land and its people. The Rio Grande valley remains one of the few places on earth where the past shows through the layers of modernization.

Fergusson writes history with emphasis on men and events. The reader never bogs down with places, dates and incidentals.

Published by William Morrow and Company, New York. Illustrated. Index. 291 pages. \$5.00.

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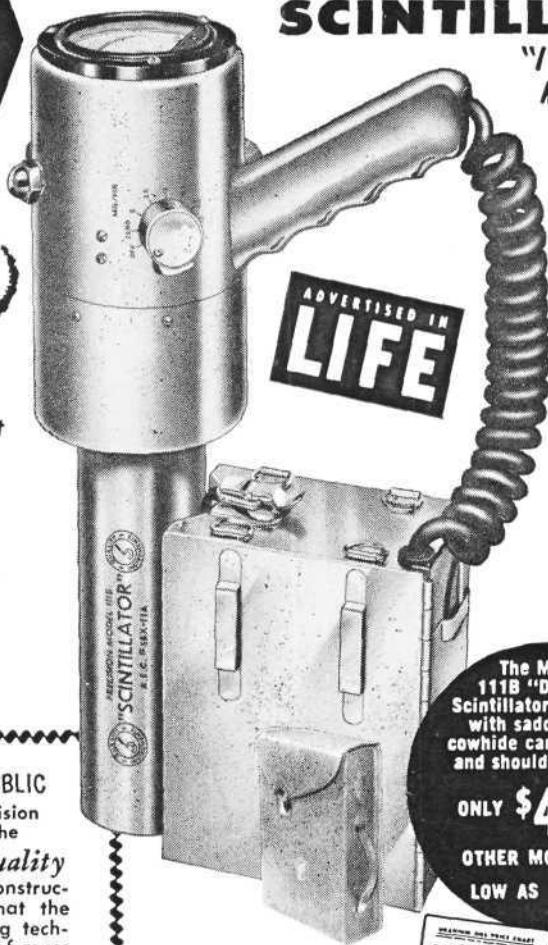
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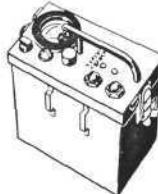
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