OLDEST, 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.
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 1-14 — 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.)

Cover: "Harvest Time in Canyon de Chelly." Photo by JOSEF MUECH, Santa Barbara, California

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(RANDALL HENDERSON, Editor)
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

Late 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. Aries 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. Aries 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—Arlene 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.
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 about her in *Camp and Camino in Lower California* (now out of print) when he knew her there 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 ranch 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
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.

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 these directions, or was not familiar with the terrain, for he finally brought us to the summit of an unnamed peak 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 south-easterly 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 pack was 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 Nytron rope which added four and one-half pounds. We took two-hour turns with the rope.

It was 2:30. Wednesday afternoon when we shouldered our packs and started down the steep slope, much of the time lowering ourselves with hands on trees and rocks. We welcomed the shade of the pine trees which grew on the mountainside. We were 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 dark and we made camp for the night. For sleeping quarters we scooped out little shelves between rocks on the sidehill—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 decorated 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 recrossing 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 Norten 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, 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 yearbooks 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 precedes 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 petrifaction 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 deposits of opals, 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 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 flowing 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 the nature of tree limb—including bark, knots, and even lateral branches—most fossils are convinced it's a petrifaction, 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 and 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 a limited basis. 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 have no concern for 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.

During 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 Loughead.

Flora Loughead, 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 sell the valley and write the story for her paper.

Mrs. Loughead 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 rockhounds is a seam of pale yellow opal on the Virgin Valley ranch, about four miles from Rainbow Ridge. This material, 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 rockhounds, 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 non-existent 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

THIS 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, Tetradymina 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 Tetradymina 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
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 pealing away the leafy scales and inside you will probably see the fat little grub that made it grow. Cattlemen 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 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.

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 identification. 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 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.

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
Gone was the laughter—tears and trouble, And there the desert held me, held me fast. I stepped into an ancient, crumbling past That begged no alms of God but drops of rain; Then, as I stood upon this lonely hall No spot of beauty graced this barren plain. And as I held the symbol in my hand I knew, somehow, my wandering soul had found Not barren wasteland, but a hallowed ground, Where men have lived and toiled and wept. Where fleecy clouds cast shadows As they float across the sky, It IRetU 70it6 That you can surely, truly earn! More willing now to walk the A dignified and proper oak Has made her vows and taken her first veil? And though I may wander And bend every effort to attain, There'll be is me, alone-like, me and these. All fractured elbows, and 

**DEATH VALLEY**

By Dorothy C. Cragin, 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 Nor faintest sign of cloud is in the sky. No moisture darkens the arroyo bed, And left behind them only heat and pain, With no relief, not even at the dawn. The god of desert places lifts his head Above the fields all stripped, brown and dry. No moisture darkens the arroyo bed, Nor faintest sign of cloud is in the sky. So here the trees flout impishly Their gracious heritage Or shapely elm would be a joke, Of rattlesnakes and sand, A murderous lampooning of Surrealist bad dreams!

**BLUE MESA**

By Ada G. McCollum, El Monte, California

There's a home in the desert That's quite dear to me, On a craggly blue mesa, There's a home in the desert That's quite dear to me, On a craggly blue mesa, 'Neath a Joshua tree. 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, A murderer lampooning of Surrealist bad dreams!

**EXTREMEITY**

By Grace B. Wilson, Kirkland, N. Mexico

The god of desert places lifts his head Above the fields all stripped, 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 god of desert places lifts his head Above the fields all stripped, brown and dry. No moisture darkens the arroyo bed, Nor faintest sign of cloud is in the sky. So here the trees flout impishly Their gracious heritage Or shapely elm would be a joke, Of rattlesnakes and sand, A murderous lampooning of Surrealist bad dreams!

**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, "Net 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!

**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 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 forsaking. Has made her vows and taken her first veil?
Natives in my Garden...

By CHRISTENA FEAR BARNETT

There 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 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 drought-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 bush, 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. Such plants can be purchased for use in three forms: seed, potted plants or dormant roots.

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 animals 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 was 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 domesticking 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.

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**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 ___ Hionas ___

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—Mining ___ Timbering ___ Mining ___ Tourist accommodations ___

17. ___ Martynia, or devil's claw is used by Indian women in the making of ___ Headresses ___ 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" flex 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

IT 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.

"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-toe,
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 kï. Why I do not know. But in the large kï 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 kï 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 thus: 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-toe to these uprights, so. They are in a lying position around the kï 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 kï 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 kï, the traditional shelter of the Papagoes. 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.

AUGUST, 1955
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 somewhere. 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 sunset, 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 that they are eminently worth the small trouble of saving.

26 DESERT MAGAZINE
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 gave much to the poor. All over Mexico he retained an innate sense of consideration for those weaker than himself.

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 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 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 Obregón, head of the Mexican army.

Clearly I remember standing in the bright sunlight and seeing him step from the train. Every eye on 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 Obregón 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-
Americans—all bearing the name Jones—had a narrow escape he had. A bullet came to camp later established at Douglas. J. Jones, gave his name to the army which had done so. News. Fast and I hurried out to hear the latest.

My parents were eating breakfast. I whispered to myself. We began a night of terror and silent dread. In the next instant, I saw 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 fright and excitement. Being just 20, he felt only excitement and excitement.

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 which had done so. News.

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 outlaws and their 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 prospectors. His Pick-Up Coach is water-proofed and insulated for all-weather type terrain. The Prospector's Pick-Up Coach is water-proofed 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 radio-active 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.

New and Improved Products for Desert Living

New Outdoor Cooking Utensil Ends Washing

Dispowa 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 "Dispowa-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. "Dispowa-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
FLOWERS 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 bloom 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.

The 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 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 harderier 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 Bernhardts—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, slivery-foliaged flowering shrub with small bell shaped lavender flowers. It is classified botanically as Leucotaphium Texanum.

I hasten to enumerate these facts, remembering that I failed to mention any of them once when I wrote of 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.

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

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
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 Brewer, 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 three 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

SAN JUAN and COLORADO RIVER EXPEDITIONS

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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 it 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 stumped 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

More Colorful Than Ever

New Mexico Magazine is now using a color section every month. For a year of this colorful magazine, send $2.50 to:

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BOOKS—MAGAZINES


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GOVERNMENT LAND information in all areas, many new tracts opening soon. Let us help you; write Lands, P.O. Box 3086, Inglewood 2, California.

YOUNG PROSPECTOR 29 with foreign employment experience in Greenland and Arabia desires backing by active or inpatient 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 Grindoff, 2230 Vagedo, 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 vases of wrought iron with gemstone tops.


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 curation. Harrick's Geiger Counters, 350 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 was engaged in mining and then went into the general store business. Barstow Printer-Review...

INDIAN GOODS


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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 Sears-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 racketeers" is being urged by Nevada Representative Cliff Young. He cited Los Angeles and Las Vegas as the two local 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 Smoky 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's 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

Camel Fossil Discovered

AUSTIN — The fossil remains of Pliocene period camels camelus giganteus 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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THE DESERT MAGAZINE

PALM DESERT, CALIFORNIA
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 predominantly of two types, El Paso polychrome and Chupadera, 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

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 that littering is much more considered by people than ever before. 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 Taosans Beatrice Mandleman and Agnes Martin, was featured in the opening, El Crepusculo.

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. The Were will be no admission charge. Iron County Record

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 revoives 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 unoccupied 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
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 Eso 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 is looking toward new, different kinds of economic development to try to revitalize 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 Roy Burch and Raymond Hogan, contains crystals of beryllium 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 project 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-five 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 Scossa 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

**Ivanpah, California**...

Plans were announced for the construction of a $6.5 million cement plant at Ivanpah, 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

**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 Elchert 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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**DEALER INQUIRIES WELCOME**

GOLDAK COMPANY

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Glendale, California
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 "Uranium-Tester." 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.

**BOOM DAYS IN URANIUM**

**$4 Uranium Detecting Kit Invented for Amateur Use**

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.

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**CALIFORNIABoasts 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 have advised the federal government to study the more developed Colorado Plateau area for possible clues to locating uranium at home.

**JARRILA HILLS ORE SHIPPED**

Uranium mining activity in the Jarrilla Hills near Orogrande, New Mexico, is on the upswing. Equipment was moved into the area by the Schupansky company. California's 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 shipment to an El Paso smelter.

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Adjustable for any power between 6x and 60x. Laborary quality. Wide field—5/16" at 6x—entire field in focus, no chromatic aberration, very high light efficiency. All parts brass, eyelet, plated, and with dielite finish. Complete with cowhide leather case.

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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, were granted permission to uranium 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.

New Mexico Recaps 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 nonstop to get the uranium producers on the tax paying lists. The severance tax on uranium is one-eighth of one percent of the value received. The tax is due 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., has 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—Brian 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 Meadland, Utah, and Senator Donald Adams and Leon Adams, of Monticello.

Uranium Mining on Nevada-California Border Planned

Nevada-Utah Uranium and Oil Corporation will spend $75,000 to develop 21 claims in the Halleck 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 carnallite ores. Nevada State Journal.

Here's why you need a Mineralight

Mineralight Ultra-Violet lamp has proved to be invaluable in locating mineralized areas with scheelite, uranium and other ore deposits. The MINERALIGHT shows traces not sufficient to excite other responses and detects minerals which are often found with uranium ore. (mercury tests detect as low as 100th of 1%). With MINERALIGHT you can spot outcroppings, follow float and other indications to the main vein or ore body. Complete information includes valuable Bulletin, "Uranium Prospecting With Magic Mineralight". For fun or profit, anytime you're in the field you should have a MINERALIGHT.

See the MINERALIGHT in action. Your MINERALIGHT dealer can demonstrate the various models for you and give you complete information on Geiger counters, scintillation counters, and other prospecting equipment, as well as the latest data on uranium prospecting.

"Fluorescence is a Fun Hobby With a Future!"

A flick of the switch on your Ultra-Violet MINERALIGHT shows you a whole new world. By the distinctive glow of "Fluorescence" under ultra-violet activation, you can identify not only strategic minerals like uranium and tungsten, but find valuable collectors' specimens to sell or trade.

Twenty-five years of Progress With Ultra-Violet
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 must be measured to be at least 600 by 1500 feet along the 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 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 these 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.

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Super Geiger Counter

- Designed for detecting both radioactive minerals and oil deposits.
- Detects any radioactive mineral.
- Detects radiation in samples of uranium as small as a pinhead, which some instruments costing as much as $600.00 do not detect.
- Detects beta, gamma, cosmic, and X rays.
- Detects through solid concrete, brick, stone, steel, iron, wood, water, soil, etc.
- Detects through glass. Prospects for in car with all windows closed—at any speed.
- Dust three superselective Geiger tubes (Even though two tubes are broken or off, the Oremaster Model L3TSM-55 will still operate).
- Has powerful built-in supersensitive speaker to use in rough terrain, smoke country, alone in the car—wherever you cannot hear the meter.
- Big 4½” highest quality, supersensitive speaker.
- Eight meter ranges (in addition to general prospecting, two of these ranges are adapted for MINECHIE or MOBILE prospecting: three, for ore sample and vein testing).
- Four meter-movement speeds.
- Powered by two 90-volt batteries and two flashlight cells easily replaced even in total darkness; economical to operate—total replacement cost of all four batteries only 27.50.
- Equipped with jacks for both external meter and drill-hole probe.
- Heavy duty, rain-proof, rust-proof, beautiful hammeroncased aluminum cases strong enough to hold a man’s weight.
- Shoulder carrying strap and large, comfortable carrying handle.
- Compact—only 17” long, 5’ wide, and 4” high.
- Weight only 7½ pounds complete.
- Directional—built-in directional feature to indicate the direction of the radiation.
- Tropicalized.
- One year guarantee.
- Any model Oremaster can be serviced in our laboratory in thirty minutes.

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Sweet Home, Oregon
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 Southwestern part of the United States.

The Phoenix Gazette reported that armed guards turned back rival claim holders seeking uranium in the Mazatzal wilderness area east 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. They have in this uranium hunting 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 mining companies and other sections of the state. In Cave Creek recently, authorities were called in when a difference of opinion threatened to break into gunplay.

The San Francisco Chronicle reported that trouble may result from the situation in the famed Arizona Strip. There are 500 uranium claims that 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 squared has made its way into the Elko country, reports the Nevada State Journal. Five brothers and their wives have been asking the district court to return to them 21 mining claims located in the Salmon River Mining District in northeastern Elko County. They want the prospectors to have their holdings divided equally, 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 Bureau of Mines of the U.S. Department of Interior. 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.

Uranium Penny Stocks Boom Leveling Oil

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.

Mobe Mines, Inc., announced the discovery of a new ore roll and a high-grade ore lease in the company's Lincey 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

Union 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

Prospector's Headquarters

GEIGER COUNTERS AND SCINTILLATORS

The "Sniper" Geiger Counter—Model 105...$29.95
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ULTRA-VIOLET MINERALIGHTS

Model 1X—Operates on 110 AC only...14.75
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Model 118X—Operates on 110 AC without case & batteries...11.00
With 304 case and batteries...46.00
With 304 case and batteries...46.00

CHEMICAL TEST KITS

Kit for 14 Minerals (Uranium included)...
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"Facts You Should Know About Uranium" by R. W. Ramsey...
"Uranium Prospectors Hand Book"...
"The Uranium and Fluorescent Minerals" by H. C. Duke...
"Popular Prospecting" by H. C. Duke...
"Uranium, Where It Is and How to Find It" by Proctor and Hyatt...
"Mining and Mining Equipment" by Mineger...

MAPS

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

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Fluorescent Minerals set—10 Specimens—boxed...
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AUGUST, 1955
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 uninterrupted 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 librarian we did manage to get gasoline from fellow Rotarians and, by visiting airports and gasoline bottlenecks in back of farmers’ buildings, we inched mile by mile to our destination.

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 and saw it as when we crossed the Rio Grande coming home by way of Laredo, Texas, for there is better distribution of gasoline along that route.

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 particularly 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 in 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.

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 none has 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 developed 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 the great advantage of standard size 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 double-jawed 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 step 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 shapes can be cut. A complete description 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.
Glenn, vice president; Mildred Rice, secretary; Clarence Rice was named president; Clyde Rice was named president; 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, of industrial development.

Areas involved are the region served by Nevada State Journal, 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, of industrial development.

Meetings will be resumed in September.

HILLQUIST TRIM SAW

- Fully automatic.
- Core plugging.
- Exclusive ramrod heads up to 1/2".
- Action prevents partial drilling and saves time.
- Drills finest holes up to 1/2".
- Drills best and fastest.
- Drills easily. The equal of any reasonable price, except motor.
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HILLQUIST GEM DRILL-HOLE SAW

- "The Cadillac" of trim saws. Exclusive "up-and-down" action. No-splash."No-splatter"""No-splatter"
- Complete with every detail.
- Everything for new free lapidary catalog.
- Full of helpful lapidary equipment-send for our big FREE CATALOG!
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- Brain automatic feed on 12" wheels.
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GENUINE TURQUOISE: Natural color, blue and bluish green, cut and polished cabochons — 25 carats (5 to 10 stones according to size) $3.00 including tax, postpaid. In U.S. (Package 30 carats 10 to 20 cabochons) $6.15 including tax, postpaid in U.S. A. Elliott Gem & Mineral Shop, 235 E. Seaside Blvd., Long Beach 2, California.

MINERAL SPECIMENS, cabochons and cutting materials of all kinds, western jewelry. Beautiful travertine for bookends, paper weights, spheres, etc. Write for prices. Eighteen miles south of Battle Mountain at Copper Canyon, John L. James, Box 495, Battle Mountain, Nev.

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SISKIYOU RHODONITE—good pink with some yellow or green—black matrix lines form unusual designs. Takes beautiful polish, 50c sq. in. Matched slabs on orders over $2.00. Warren Parker, Etna, Calif.


ROUGH NEVADA Turquoise suitable for cutting. Mixed blue and green. All pieces large enough for jewelry settings. Two oz. $2.00. Write Chuck Johnson, P. O. Box 38, Fernley, Nevada.

OREGON AND California Agates and jaspers. Dinosaur bone, Indian arrowheads and stone implements, Pioneer Trading Post, 7875 Santa Monica Blvd., Hollywood, California.

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MINERAL SPECIMENS, cutting and tumbling materials of all kinds, western jewelry. Beautiful travertine for bookends, paper weights, spheres, etc. Write for prices. Eighteen miles south of Battle Mountain at Copper Canyon, John L. James, Box 495, Battle Mountain, Nev.
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. C. F. Burr, president 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 Barrit will continue as secretary-treasurer, Mary Alice Winn, 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.

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 mudslide 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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AUGUST, 1955

43
The various gem and mineral clubs in Churchill County, Nevada, have 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

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<tr>
<th>Size</th>
<th>6x1/2&quot;</th>
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<td>100 grit</td>
<td>$3.50</td>
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<td>320 grit</td>
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Shipping weight: 2 lbs. 3 lbs. 5 lbs. 6 lbs. 9 lbs.

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**DURITE (Silicon Carbide) ROLL SANDING CLOTH**

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<tr>
<th>Dry Rolls</th>
<th>2&quot; wide, 25 ft. long — $2.00; 150-foot roll — $9.00</th>
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<td>3&quot; wide, 15 ft. long — $2.00; 150-foot roll — $13.25</td>
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<td>10&quot; wide, 5 ft. long — $2.00; 150-foot roll — $35.00</td>
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<td>12&quot; wide, 5 ft. long — $2.25; 150-foot roll — $47.70</td>
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**DURITE SANDING CLOTH**

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<tr>
<th>Round disks</th>
<th>Available in 120, 150, 180, 220, 320 grits</th>
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<tr>
<td>Wet Rolls</td>
<td>6&quot; 5 for $1.00; 25 for $3.00: 8 for $1.00; 25 for $2.25</td>
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<tr>
<td>8&quot; 3 for $1.00; 25 for $7.00: 5 for $1.00; 25 for $4.10</td>
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<tr>
<td>10&quot; 2 for $1.15; 25 for $11.00: 3 for $1.00; 25 for $6.45</td>
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<td>12&quot; 2 for $1.35; 25 for $16.00: 2 for $1.00; 25 for $9.45</td>
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THE VICE of 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.

Pearl Blossom, 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 Janszsy 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 muscovite 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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Frank A Tinker writes that he has never enjoyed doing an article more than his *Bam-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 one on the political implications of the Battle of Agua Prieta.”

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, Christina Fear Barnett, is a former teacher in agriculture at UCLA.

In 1886 he laid formal claim to his spot with these scribbled words: “To all who this may concern that I put Lynch do lay claim on this bottom 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

**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-e-xico 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 concern that I put Lynch do lay claim on this bottom for my home and support Wrote the 8th month of 1886 by P Lynch.”

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**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 buildin’ from Bar-stow 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 asbes-tos 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 jist 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.”

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**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.

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In 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 lindin’ 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 multicolored 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.
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 “rendering” 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, cinder cones, Indian villages, churches and missions, ghost towns, forts, museums, botanical gardens and principal cities.

Written by Nat 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.


BOOK HONORS PIONEER DEATH VALLEY WOMAN

“Feeble by nature, worn to a shadow by her privations and agony, embraced 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 Jayhawk woman “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 later in the San Francisco Call.

At the 1902 Jayhawk 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 Americans 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 daybreak 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.


"New Mexico is a graveyard for dreams of wealth," writes Ferguson. 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.

Ferguson 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.

Books reviewed on this page are available at Desert Crafts Shop, Pioneertown. Add three percent sales tax on orders to be sent to California.
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