

Desert

APRIL, 1958 35 Cents





DESERT WINDS

By CHARLES BURGER
Blythe, California

Shy errant vagabond,
Where is your home,
What joyous spirit
Taught you to roam,
Whence comes your footsteps,
And why
The fierce beat of your
Wings in the sky,
While breaking the will
Of the strongest of strong,
You sing with sheer rapture
Your mad, happy song.

Now lifting the sand dunes
With bold reckless hand,
Driving it, flinging it,
Far over the land,
Fain would I share all
Your frolic and ride
Far from all worry
Close by your side,

And fain would I ride on
Your chariot so light
Kissing a sunset on a warm,
Summer night.
Or embracing a rainbow
Brushing the dew,
Then up through a cloud bank
With stars shining through.

Fashion Notes

By ANONA MCCONAGHY
Bellflower, California

The sand dune is wearing silk moire
Of changeable weave of mauve and gray.
Her billowy skirts, wind rippled, show
White petticoats, scalloped row on row,
Fluted and ribbed both front and back
And feather stitched with a rabbit's track.
Her scarf, off the shoulder, loosely knots
With purple verbena polka dots.
The sand dune is wearing silk moire
Of changeable weave of mauve and gray.

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CLOUD SHADOWS!

By GRACE PARSONS HARMON
Desert Hot Springs, California

Cloud shadows roaming the desert,
Do you bring promise of rain?
Cloud shadows crossing the mountains,
Heralding springtime, again?

Does your still passing arouse them,
Sleeping seeds dozing below?
Are you reminding them gently,
Soon they must quicken and grow?

Or are you sweeping the rangeland—
Mobcap of clouds blowing gay—
Readying Earth for the Springtime—
Spring, and its brilliant display?

DESERT MAGIC

By WILMA ROSS WESTPHAL
Angwin, California

The desert stretches out to endless space
And blends with purple horizons beyond;
Its cacti columns rise with thorny grace
Like giant candlesticks with spiny frond;
And clinging to the sandy ground beneath
Gleam golden blossoms of the prickly pear;
The reds and pinks that deck the cactus
sheath
Are jewels in the desert's tangled hair.

Sand dunes and rocks; the canopy of blue;
The canyon's rugged cliffs against the sky;
The peace, the silence and the sun's rays too,
Bring to weary hearts a prayer—a sigh.
This space the Master Artist set apart
To bring a sense of worship to the heart!

A Work

By TANYA SOUTH

Then fill your days, your life entire,
With work toward something you as-
pire,
Some noble goal. A fine ideal
To make life earnest, deep and real,
And endless, tireless of endeavor,
Can all the lesser doldrums sever,
And guide you steadily and far
Into a sphere that none can mar.

DESERT CALENDAR

March 30-April 6 — Yaqui Indian Ceremonials, Pasqua Village, Ariz.
 April 4 — Penitente Passion Play, Talpa Chapel, Taos, New Mexico.
 April 4-6—Latter Day Saints' General Conference, Tabernacle, Salt Lake City.
 April 5-7—Ute Indian Bear Dance, Ouray, Utah.
 April 6—Easter Sunrise Services at most Southwest Communities. Outstanding programs at Grand Canyon and Wickenburg (horseback), Arizona; Death Valley, Red Rock Canyon and Juniper Hills, California; and Taos, New Mexico.
 April 6—Desert Sun Ranchers Rodeo, Wickenburg, Arizona.
 April 6-9—Spring Corn Dances at Cochiti, San Felipe and Santo Domingo pueblos, New Mexico.
 April 10-12, 14-19—2nd Shakespeare Festival, Phoenix.
 April 11—Fiesta and Evening Celebration, Mission San Xavier, Ariz.
 April 11-12 — Central Arizona Regional Science Fair, Tempe.
 April 11-12—Science Fair, Socorro, New Mexico.
 April 11-12—Maricopa County 4-H Fair, Phoenix.
 April 11-13—9th Annual Fiesta and Rodeo, Truth or Consequences, New Mexico.
 April 11-13—Arizona Horse Lovers Club Spring Horse Show, Phoenix.
 April 11-15—Ute Indian Bear Dance, Randlett, Utah.
 April 12—21st Annual White Sands National Monument Play Day, Alamogordo, New Mexico.
 April 12-13—26th Annual Wildflower Festival, Hi Vista (east of Lancaster), California.
 April 12-13—Lions Club Rodeo, Battle Mountain, Nevada.
 April 12-13 — Fiesta de las Flores, Tucson.
 April 13-16—23rd Annual Women's Invitational Golf Championships, O'Donnell, Palm Springs, Calif.
 April 13-19—19th Annual Ride of the DeAnza Trail Caballeros. Leave Calexico, California, on 13th; arrive Riverside on 19th.
 April 14-18—Desert Caballeros Ride, Wickenburg, Arizona.
 April 15—Old Timers' Celebration, Deming, New Mexico.
 April 16-20 — 22nd Annual Desert Circus, Palm Springs, California. Parade on 19th.
 April 19-20 — Fiesta de la Placita, Tucson. Children's Parade on 19th.
 April 19-20, 26-27, May 3-4—31st Presentation of the Ramona Pageant, Hemet, California.
 April 23-27 — 5th Annual Yuma County Fair, Yuma, Arizona.
 April 25—Spring Festival Days, Price, Utah.
 April 26 — Kiva Club's Nizhoni Dances, University of New Mexico, Albuquerque.
 April 26-27 — 14th Annual Desert Wildflower Show, China Lake, Cal.
 April 26-May 11—24th Annual Junior Indian Art Show, Museum of Northern Arizona, Flagstaff.
 April 27—Arizona State Spring Rodeo, Flagstaff.
 Month of April—Marjorie Reed Exhibition, Desert Magazine Art Gallery, Palm Desert, California.



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LIFE ON THE DESERT

Water Enough for Two ...

By HELEN DuSHANE

Here is the second prize winning story in Desert Magazine's 1958 Life-on-the-Desert contest—Helen DuShane's report of an encounter with Mexican Wetbacks on a remote desert backroad. These aliens had broken the laws in crossing the border without proper permits — but they were faithful to an unwritten code that sometimes enables human beings to survive on a waterless desert.

"BUT AREN'T YOU afraid, so far away from people and things?" asked our city friends as Joe and I recounted tales of weekends spent on the lonely and desolate Colorado Desert in California.

It was "people and thing," but mostly "things," which prompted us to spend as much time as possible on the desert away from our highly civilized city jobs, we explained. We like the clear cloudless skies, the panorama of Salton Sea, and the distant reaches of the desert spread before us for 50 miles in all directions.

But, the desert has given us more than fresh air and inspiring vistas.

I shall never forget our desert adventure on a day in March, 1954. We rose early from our bedrolls and cooked breakfast over an open fire of dead smoke tree branches. Bacon, eggs and coffee never had tasted better.

A gentle breeze flowed down from the mountains as we started off on an exploration hike. We followed a long-forgotten Indian trail for two miles and then broke away into the open desert. Here the going was rough because the escarpment was cut by gullies and washes. As we climbed out of a deep narrow arroyo, I saw people moving in single file along the base of the clay cliff in the distance.

They were too small for men—probably boys, we decided, as we walked toward them. Joe counted 22 figures.

Suddenly we realized that the people we were overtaking were not boys out for a weekend of adventure and fun; they were Mexican wetback laborers who had illegally crossed the U.S. border, and now were fleeing northward to farms and ranches upon which they would be able to earn a few American dollars.

But, were they dangerous? Might they harm us? We decided not to take chances and scrambled back into the wash. Here our steps were half run and half walk as we hurried away. A half mile down the wash we stopped for breath. An orange apiece, eaten under the shade of a mesquite tree, revived our courage, and we resumed our leisurely walk — keeping to the opposite direction being taken by the wetbacks.

An hour later, rounding a point in the clay cliff, we came face to face with a second group of 18 wetbacks!

That this might happen had never occurred to us. The Mexicans, apparently as surprised as we were, gaped at us, and we at them. We must have presented a ridiculous picture, but the moment was too tense for us to see any humor in the situation.

The wetbacks were squatted in the meager shade of creosote bushes eating sardines out of cans. One can for every two men was the noon ration. A gallon water bottle sat between nearly every two of them, but some had no jug of water, undoubtedly having abandoned the bottles after their precious contents were consumed.

We were 80 miles from the border in a region described by J. Smeaton Chase as the most desolate and forbidding in the country. The nearest source of good water—Harper's Well—lay far to the south and evidently the wetbacks had missed it. The trail ahead contained many more miles of sun-scorched wastes — wind blown and pocked with irritatingly soft yielding dunes and twisting tortuous washes.

What thoughts raced through the minds of these 18 men as we stood confronting them? After 80 miles of walking madness in an attempt to make a little money for a better way of life, here suddenly appeared a gringo and his wife who surely would expose them to the authorities. Then to be picked up by the immigration officers, crowded into buses and ignominiously herded back over the border—there to wait, perhaps months, for another opportunity to slip into the promised land.

Poor creatures! They seemed to shrink and become even smaller as we stared at them in their ragged clothing, their sandals soled with pieces of cast-off automobile tires. Their pained bloodshot eyes showed fear.



"The poor things are scared to death," Joe said to me. "Let's just say hello and go on."

I took the cue, and with a smile sang out, "*Buenas dias, senores!*"

From each little bush came low gentle voices in reply: "*Buenas dias, senora; buenas dias, senora,*" until each man had offered his greeting. Then Joe grinned and the tension drained away.

"*Agua?*" Joe asked, pointing to his two-quart canteen, and their leader eagerly stepped forward. "*Si, si, senor,*" he said.

The cap was unscrewed and the Mexicans clustered around. Each man took one swallow. Then the canteen was handed back to the leader who returned it to Joe, saying, "*Muchas gracias, senor.*"

Joe shook the canteen and turned to me in amazement. "What do you think of that? They all had a gulp and yet they didn't take the last drink," he said. "They have left enough for two people."

New respect came into Joe's eyes as he called to the leader and held up two fingers, indicating that there was enough water for two men to have a second swallow.

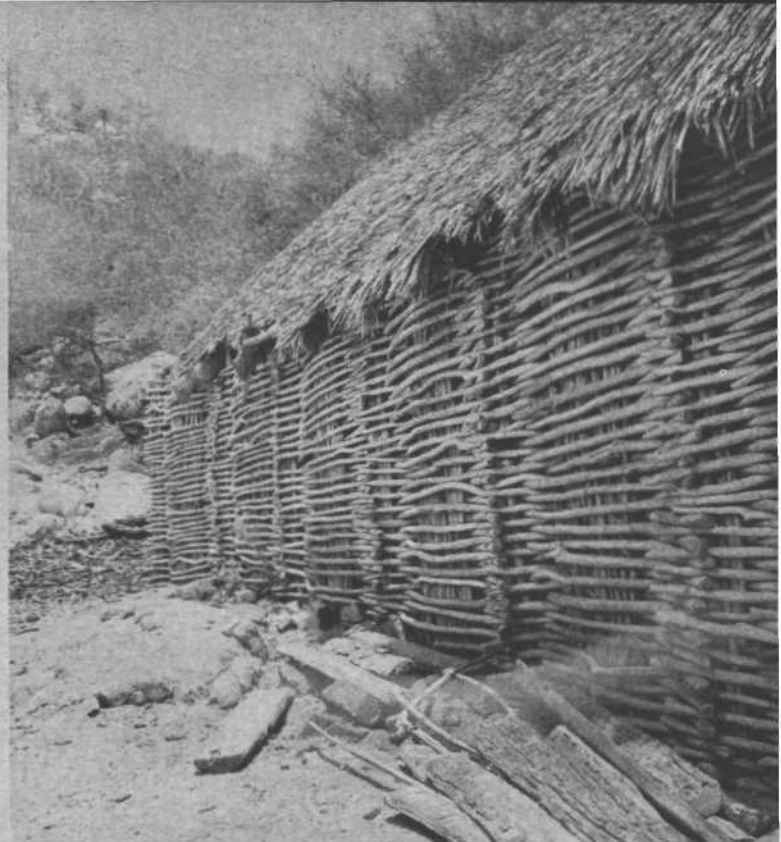
Minutes earlier we had been thoroughly frightened by these supposedly lawless men. Yet, here was a group practicing a law which is not written in a lawyer's heavy tomes; but handed down by word of mouth from generation to generation in arid places: you never take a man's last drink of water.

They had us in a spot—18 against two—and they could have demanded our water and our lunch as well. Men have been murdered for less. But, instead, they chose to be humane, observing the fundamental law of desolate waterless regions.

Our neighbors from the south proved this when their leader refused the canteen offered to him a second time, and with a smile said, "*Bastante agua por dos,*"—enough water for two.



Palm trees line the harbor at La Paz.



On Baja's tip buildings are hand woven.

Dirt Road Holiday

From Tijuana to La Paz—down the elongated Baja California peninsula to its very tip, beyond the arid interior deserts to a land of tropical vegetation. Here is the story of this 1200-mile dirt trail adventure—a rich experience despite the primitive facilities and meager supplies along the way. It's a trip in which you always are close to the sea, the land and the people.

By HELEN DuSHANE
Map by Norton Allen

LAST SUMMER we rambled the length and breadth of Baja California, exploring where we wished, living mostly off the land, stopping when the sun went down, and laying over a day or two if the area appealed to us. We made the trip because we wanted the vistas of

long lonely roads, endless coastline fading into the horizon, and a clean campsite at the end of the day's travel.

One hundred and forty-five miles south of the U.S. border at Tijuana, the pavement ends. Below this point there are no directional signs or signals because there is little traffic; no big centers of population because there is nothing to attract people in large numbers; few post offices because there is little mail; no motels because there are no tourists; no gasoline pumps because there are few cars; and no air hoses for low tires because there is no compressed air. Some people might shudder at traveling in such a land, but we like it that way.

For our own comfort we each took a bedroll, pillow and air mattress with

In La Paz—1200 miles below the U.S. border. The author, her husband, Joe, and Manuel Quinones, from left, stand in front of the car in which they toured Baja.



a tire pump to fill the mattresses. We also took a nylon tent which was never opened, but is good insurance to have against the sudden rains at the tip of the peninsula.

Our cooking outfit was as simple as our sleeping gear. A wire grate with folding legs proved its worth over and over again. In sand, the legs could be pushed down as close to the coals as one wished. In rocky soil the legs were folded flat and the grate rested on rocks banking the fire. Utensils consisted of a large skillet and a small stew pan. A two-pound coffee can held water for boiling. We used powdered coffee, eliminating the need for a coffee pot. A large galvanized bucket-tub with a bail held all the clams and lobsters we could eat. Our kitchen cutlery consisted of a serving spoon, butcher knife, paring knife and meat cleaver, the latter used for cracking lobsters. A plate, two cups, knife, fork and spoon apiece comprised our entire commissary.

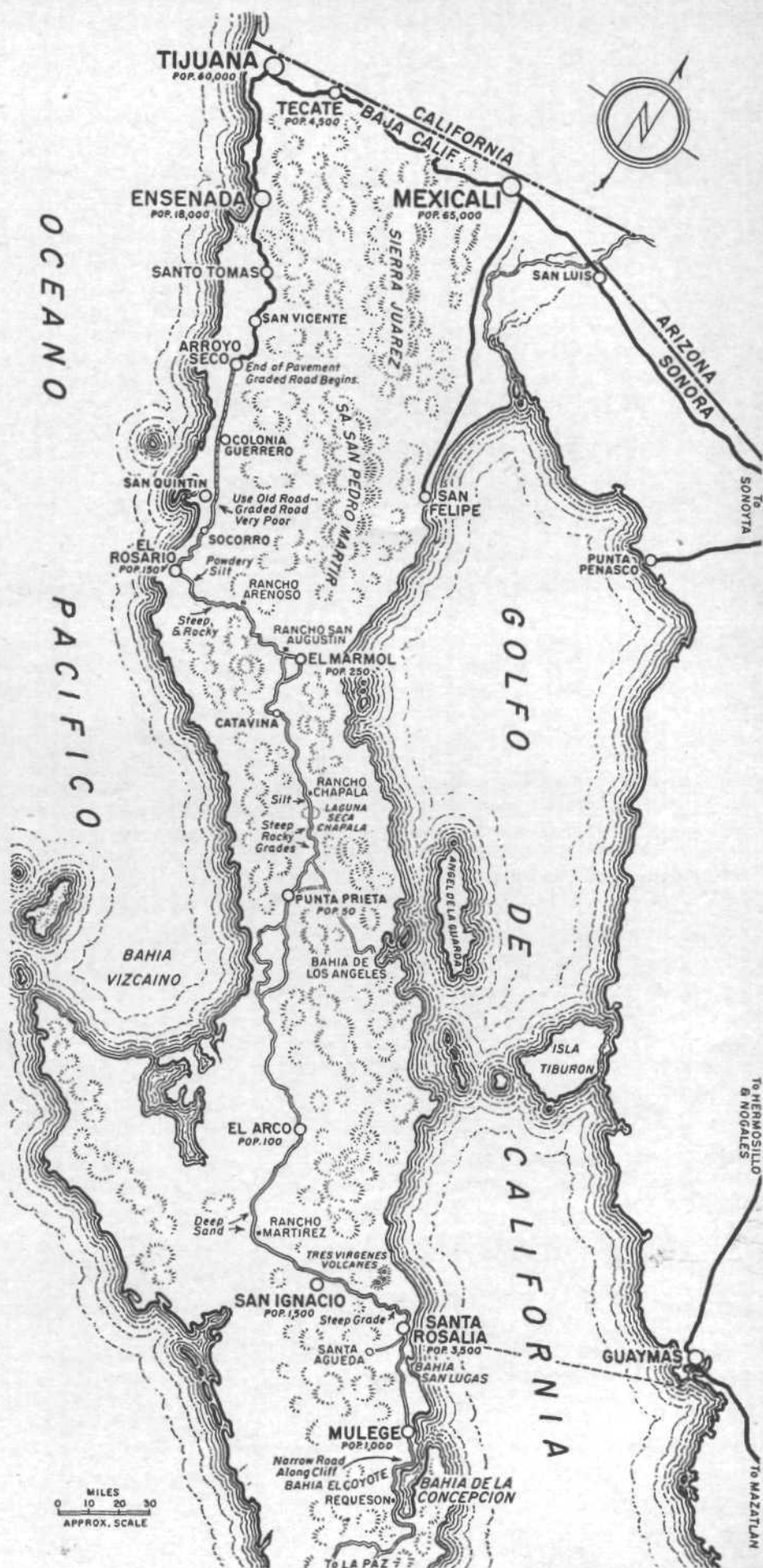
We each had a canvas ditty bag for personal articles. Our clothes were packed in a cardboard suit box for the rigors of such a trip would have ruined a leather traveling bag. We placed our cameras and binoculars in a plastic bag to protect them from dust which is 18 inches deep in some places and actually obscures the road just south of El Rosario. I traveled with two pairs of jeans, two shirts, one skirt and one cotton dress. Joe took two pairs of jeans and three shirts. We both wore tennis shoes, and packed two pairs of pajamas apiece.

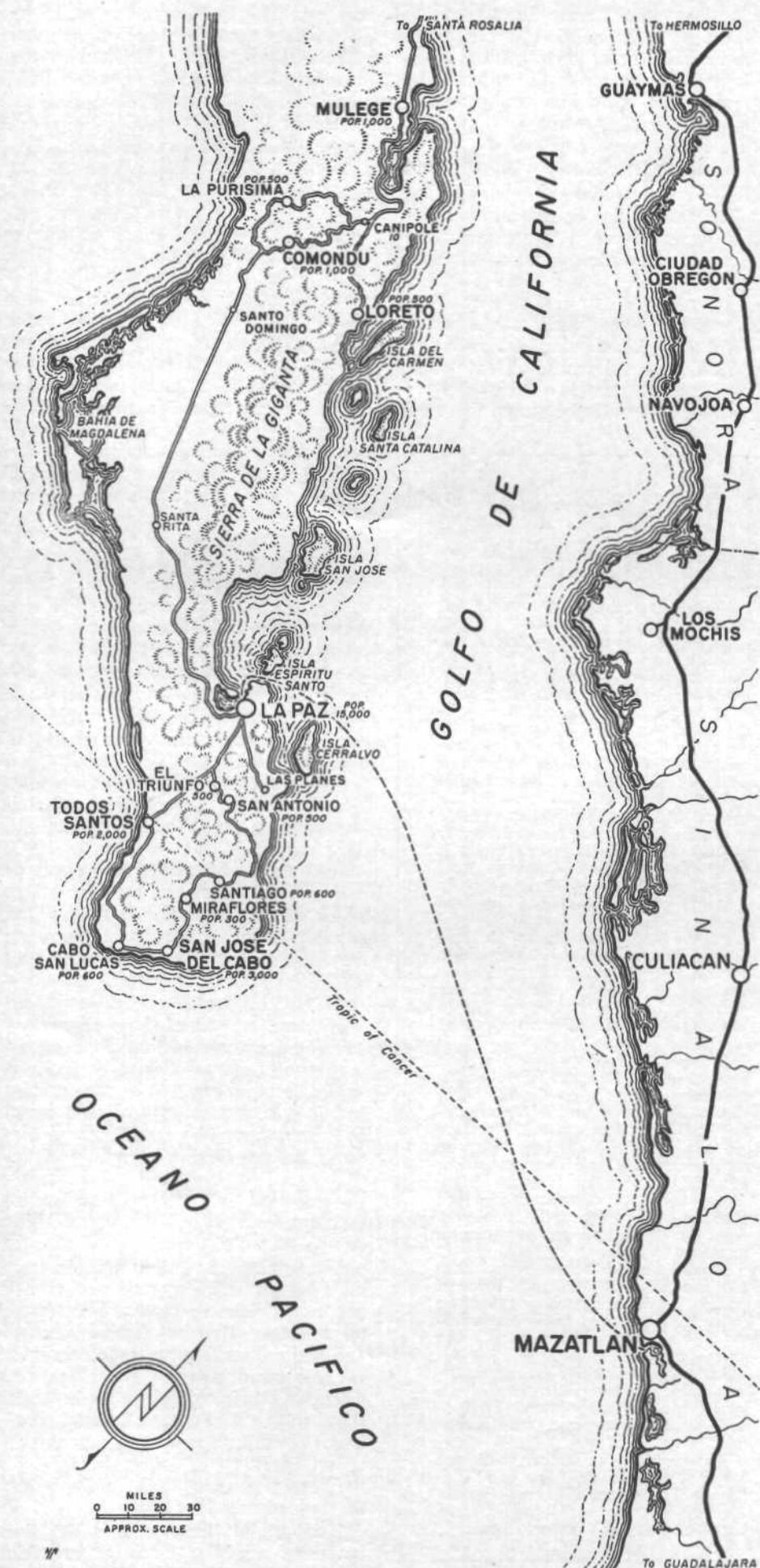
We traveled light. We had to, for our 1951 six cylinder Ford only had 11 inches of clearance. To compensate for our heavy water, gasoline and food loads, we had boosters placed on the rear springs. We took five four-ply nylon tubeless tires for spares—and this was a serious error on our part for without compressed air it is impossible to inflate a tubeless tire—a hand pump is useless for the air escapes from around the rim as fast as it is pumped in. Luckily, we made the entire trip without tire trouble—and this is nothing short of miraculous considering the rough roads we traveled over.

Equally amazing is the fact that not once did we get stuck in the sand. By using low gear and going *mu*y *despacio* we avoided bogging down on the beach roads.

The people delighted us with their soft voices, courteous ways and innate fairness. They always offered to pay when we left food or medicine—and money does not grow on bushes in Baja. The current wage for day labor is 60 to 75 cents a day.

These folks are the essence of simplicity and integrity. The further





south we traveled, the more honest we found them. The more remote the rancho and the more primitive the *pobrecitos*, the more articulate they seemed to be in choosing words in their own language which precisely expressed their feelings.

Our trip really began where the pavement ended. From this point to San Quintin the road is graded but rough. Many *Americanos* come to this seaside town to camp, fish, swim, go clamming or seek lobsters in the rocky crevices. There is a small motel in San Quintin, but accommodations are limited.

Leaving this town we changed our aggressive *Norteamericano* driving techniques. *Poco a poco* became the order of the day as we slowly progressed southward, our goal 1000 miles distant. The little *ranchitos* were further apart, and now we were truly on our own. On the third day we met only two vehicles, both trucks, and as is the custom of the road, we stopped each time to chat with the drivers. In this lonely land one invariably inquires into the nature of the road ahead, and the *bajanero* always answers that "*el camino es bueno*"—the road is good. We learned to take this information with a grain of salt. The Mexican wants to be pleasant and agreeable, so the condition of the road is always good. It would be discourteous to plant unpleasant thoughts in the mind of a stranger.

We developed a more reliable way of determining the condition of the *camino*. Asking how long it would take to drive to a certain point, we doubled the *bajanero's* estimate.

At Rancho Arenoso we loaned our tire pump to a Mexican truck driver. These people certainly depend on providence. Had we not come along, he would have sat there — waiting. Their patience is incredible.

A few miles beyond this ranch is the junction of the road to Mission San Fernando de Velicata, the only mission in Baja founded by the Franciscan order. The pious and ambitious Junipero Serra, who established the missions of Alta California, founded this one—his first—in 1769. Today, only two crumbling adobe walls remain.

El Marmol—"The Marble"—is a little town of 50 families about 275 miles below the U.S. border. Here is located the largest onyx mine in the world. I had met the *Norteamericano* manager Kenneth Brown years before and we renewed our acquaintance. He and his wife insisted that we spend the night with them. About that time a bed looked very good to us for we were weary and travel sore.

Next day Kenneth suggested that we take one of his Mexican employees to help with the driving and act as guide and interpreter. We liked the idea, so Manuel Quinones joined us. A man of 34, half Mayo Indian and half Mexican, he had lived all his life on the peninsula as had several generations of his forbears.

While Manuel's wife packed his bedroll and ironed a pair of pants for the trip, the Browns told us about the onyx industry. This material must be drilled out, for blasting would fracture it. Onyx will not absorb liquid as does marble, and this quality plus durability and attractiveness has led to its popular use as soda fountain and bank counters, fountain pen desk sets

and many other items. Onyx comes in shades of green, rust, yellow, red and white. The most monumental order Kenneth has received during his many years at the mine involved preparing slabs of perfectly white onyx for the huge 30-foot figure of the Indian god of peace which stands in the St. Paul, Minnesota, city hall.

El Marmol has no modern utilities, and water is at a premium. Mrs. Brown's vegetable garden survives on water hauled from a well 10 miles away, as is their drinking water. From a local well each Mexican worker receives 10 gallons a day of highly mineralized water. Because of this water's high soda content, no trees grow in El Marmol, and the town is bleak

and hot. However, inch for inch, the local school house probably is the most valuable in the world. Erected by the miners for the education of their little ones, it is entirely built of onyx slabs.

We left El Marmol late in the afternoon. Fifteen miles down the road is a primitive rock shrine, one of the many we saw on the trip. This shrine and a few others had a locked receptacle for the change which is offered with a prayer for a safe journey. Time and the elements undoubtedly have destroyed many of these shrines, but nothing short of a catastrophic event could level the one near El Marmol, for it was hollowed out of solid rock. In the recess is a statue with candles on the little altar. A fragile-appearing wrought iron cross on top of the boulder makes a sharp contrast to the solidity of the granite. It is the belief of the natives that burning a candle at these shrines is necessary for a safe and happy journey.

At sundown we saw several coyotes foraging for food. One came so close to the car I could have touched him with my hand. Completely unafraid, he stood and watched us come and go, and then trotted off looking for his supper.

We spent several stifling days crossing the Vizcaino Desert, rich in cardon, bisnaga, pitahaya, cirio, copal and elephant trees (*Desert Magazine*, Oct. '55, Nov. '56, Dec. '56). Manuel knew the names of all the plants and their uses.

In Baja plants are either good or bad. Manuel pointed out one plant which he said would bring tears and possibly even temporary blindness to the eyes of the person who stands near it. The *bajaneros* call it *mal de ojo*—"bad for the eyes."

Because we traveled so slowly — never more than 100 miles a day—the opportunity to observe the people, wildlife and botany was one we seldom had in our own country of high speed and freeways. The art of seeing Nature's minute details is rapidly disappearing. People travel today mainly to "get some place," but if and when they get there, they have seen nothing on the way.

We particularly enjoyed the friendly little burros which roamed about, with not a *ranchito* in sight. They were most frequently the familiar brown and white ones, but on three occasions we saw pinto burros. The black and white of their coloring made them stand out in a country of pastel shadings. The burro came to the peninsula as an emissary of labor, brought by the Jesuits to carry their burdens over the rugged new land.

Today, the burro still is the link between *pueblito* and countryside.

BAJA CALIFORNIA TRAVEL HINTS

A Baja California vacation is an adventure, and should be planned as such. Proper equipment and wise choice of supplies are important — and so is the driver's attitude. Condition of the roads prevent this from being other than a leisurely trip. Don't set a rigid timetable and then attempt to keep to it—be prepared to camp wherever night finds you.

Here are some travel hints for your Baja motor trip:

Insurance on automobiles costs approximately \$1 a day, and may be bought in Los Angeles, San Diego, El Centro and other large border towns.

Tourist Permits cost \$3 per person and are good for six months. Obtainable at the border towns or in Los Angeles, San Diego and El Centro.

Smallpox vaccination evidence is required by U.S. of every returning citizen from any point 100 miles south of the border. Local Public Health officer can give necessary vaccination and written statement free of charge before you start.

Road conditions are primitive. High centers of many stretches are greatest menace to modern cars. Any car previous to 1957 models and in good condition can make trip. Some grades are 22 percent. No trailer should attempt road south of San Quintin.

Gasoline should be strained unless delivered from a pump. An old felt hat is excellent for this purpose. Gas prices average 30c a gallon. In southern districts gas quality is inferior. Carry extra fuel for emergencies. White gas for stoves and lamps not available.

Tires and tools. There is no compressed air, making tubeless tires worthless. Carry extra tires, several tubes, puncture kit, tire pump and extra rear axle, spark plugs, fuel pump, fan belt and all necessary installing tools.

Overnight accommodations are scarce. Below Ensenada only three towns have hotels: Santa Rosalia, La Paz and San Jose del Cabo. In Loreto, Senora Blanca Garayzar offers

transients clean accommodations and excellent food in her home. There are a few other places to stay, but the average traveler will not find them suitable.

Campsites are numerous, clean and beautiful along the entire length of the peninsula. There are no established campsites or facilities.

Malaria rumors periodically make the rounds in Baja. Three tablets of 50 mg. of vitamin B1 taken before going to bed ward off mosquitos which do not like the B1 odor. Liquid repellents wear off and must be re-applied in the middle of the night.

Water is made safe for drinking 30 minutes after one Halazone tablet is added to each pint. Carry at least 10 gallons of water. There are long stretches where no water of any kind can be obtained.

Food. Most stores carry Mexican canned foods. Quality is inferior to American, but food is safe and nutritious. Fish, lobsters and clams are plentiful. Local fishermen are always willing to sell what they have caught for a few cents.

Clothing. Baja's summers are warmer than Southern California's. Humidity along the gulf makes light cotton clothing a must. Nylon garments are not porous and therefore are not suitable. Bathing suits are recommended, for frequent swims must be taken in lieu of baths. Mexicans look with disapproval on the wearing of trousers by women, and skirts or dresses should be worn in town.

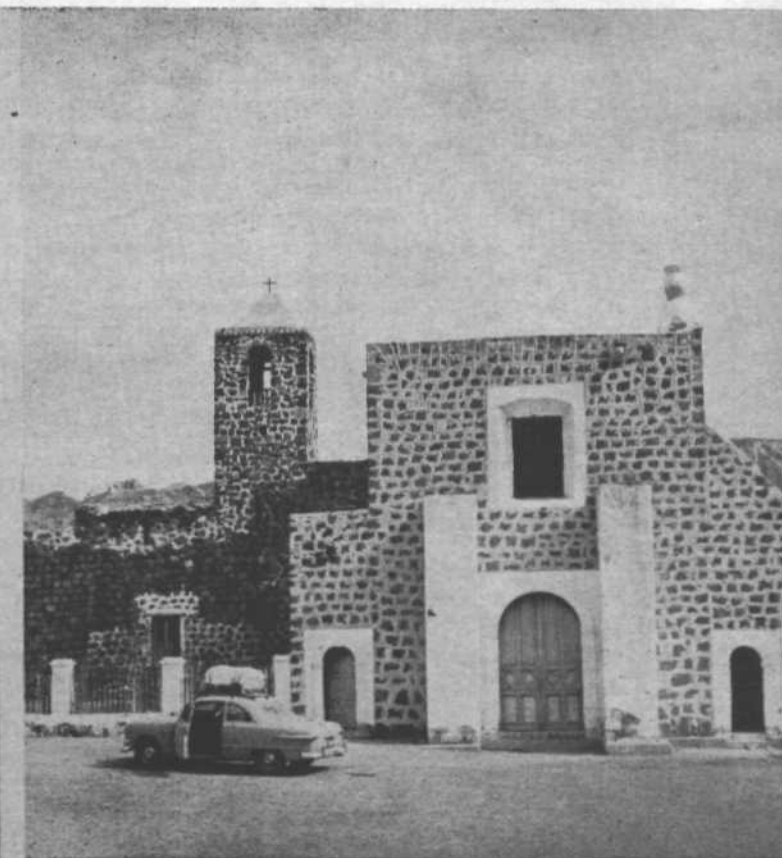
Money should be converted into Mexican pesos at the border town of entry. Take enough money for the entire trip for it is virtually impossible to cash a check. Prices usually are quoted in pesos.

Language difficulties are not insurmountable. Very little English is spoken and a paper-bound English-Spanish dictionary is a wise investment.

The people. The further south one travels the more charming and helpful are the natives. They will go out of their way to assist in any way possible, but don't expect haste.



One of many roadside shrines along the Baja California trail.



Mission Santa Rosalia Mulege, built by the Jesuits in 1705.

Entering San Ignacio, a town of 1500 people.

Bajaneros with their catch—two small turtles.



Trucks roar over 100 miles of engineered roads into La Paz, a city of 15,000 near the tip of Baja; but the burro comes and goes over the peninsula where the truck cannot pass. He negotiates mountain trails, inching his way around turns and being careful not to brush the load against the canyon walls. He eats almost anything, and usually is docile.

We saw several men riding burros, but never a woman. Apparently Baja women walk—if they go anywhere at all. They spend most of their time near the *casa* caring for a cluster of brown-eyed *niños* and a scattering of scrawny chickens and constantly-foraging pigs. The early padres forbade the keeping of pigs in the mission villages because on several occasions pigs had killed young babies while the mother was away. So even today we saw pigs on the *pueblito* outskirts and at the *ranchitos*, but very few in the towns.

After supper one evening we walked for several miles along the beach,

hunting for shells, skipping stones on the water, and watching the sun go down in a great blob of red which covered the landscape in a warm mel-low afterglow. Because of its southern latitude, this is a land of long twilights.

On returning to camp we saw footprints of people, burros and *mulas* that had come out of curiosity to see the *Nortes'* possessions. Not one thing was touched although our coffee, sugar, skillet and bed rolls were out in plain sight.

We built up the fire and sat around it. In the gathering dusk Manuel pointed out a lone woman, burdened with a huge bundle of wood, trudging along the edge of a low hill. I looked at our campfire and wondered how many meals she could cook with what we were burning just for fun. I asked Manuel if she would find what we would leave behind. He chuckled at my concern. We would not be half a mile away before she would arrive to

pick up what wood remained, he assured me.

Again we saw coyotes in the brush, as well as many rabbits and crows. The latter seemed to be eating the fruit from the cardon. This largest of all cacti is similar to the saguaro of Sonora and Arizona, but where the saguaro has a few branches extending out from the central trunk, the cardon has many—up to 30 in some instances. The saguaro gives the impression of waving its arms in all directions while the cardon always is reaching for the sky. Cardon flowers usually appear in March or April, although just south of Rosario we saw many still in bloom in late June. The flowers are creamy white with curling petals—a truly exotic sight. The fruit is covered with yellowish spines which defy removal.

With the aid of a *kuibit*, a long pole to which is tied a smaller wooden crosspiece, we knocked off several of the fruits.

Kuibits are found here and there leaning against the hardest cardons,

Colorful Wildflower Show in Prospect

Indications are that the current wildflower season will be remembered as one of those rare great blooming periods in the Southwest. April will see flowers at their peak of bloom in most high desert areas, and botanists, photographers and flower lovers will find some species to admire along almost every back country road.

Joshua Tree National Monument's April flower prospects are outstanding. Naturalist Bruce W. Black recommends that visitors during late March and early April follow the roads through the Monument from Joshua Tree community and from Twentynine Palms to Cottonwood Spring to see the most colorful flower displays. These plants are expected to be in prominent bloom: mallow, poppy, coreopsis, bladder-pod, desert plume, lupine, chuparosa, verbena, desert dandelion, pincushion, blazing star, dune primrose, large white desert primrose, Mojave aster, gilias, phacelia, ocotillo, brittle-bush and creosote. Joshua trees should be in full flower.

Lucile Weight of Twentynine Palms makes the following April wildflower forecasts for these desert areas: Highway 95 from Yuma to Quartzsite, Arizona, has been a riot of bloom since the end of February, with many young plants expected to be blossoming through April, especially mallow; Highway 60-70 from Indio to Blythe, particularly east of Desert Center, has had unprecedented display, and the roadsides still contain many young plants which should show color in April (blooming in March were: lupine, chuparosa, encelia, evening primrose, desert dandelion, poppy, mallow, verbena, datura, gerardia and desert lily); and the high desert areas along Twentynine Palms Highway and Baseline Highway from U.S. 99 to the Desert Center-Rice Junction, and Amboy Road to U.S. 66 at Amboy also will have much bloom in April. Those who hike through the foothills of such moun-

tains as the Cady, Providence, Bristol, Old Dad, Ship, Whipple and Chuckawalla will be richly rewarded with wildflower displays, she added.

From the Antelope Valley in the Lancaster-Palmdale area, Mrs. Jane S. Pinheiro writes that the past winter has been one of the most mild in the memory of many long-time residents. Consequently, all growth is a month to six-weeks ahead of schedule. In the valley's western foothills, poppy, gilias and coreopsis began blooming in mid-February. Foliage on Great Basin Sage is the most luxuriant in the memory of most observers. Despite the early blooming of many plants which normally appear in April, Mrs. Pinheiro is optimistic about that month's flower prospects. She predicts poppy and gilias blossoming will continue, with mariposa and many other plants which have not bloomed in several years also appearing.

The peak of wildflower bloom will have passed in low desert areas by April, but visitors to the Coachella and Imperial valleys may find worthwhile displays on the higher ground along the valley sides. Sweet-bush, encelia, primrose, hairy-leaved sunflower, chuparosa and verbena are among the blossoms to be seen. Smoke trees and agaves (especially along the Palms to Pines Highway) are expected to bloom in late May and June.

Recent rains have aided the April flower outlook in the Anza-Borrego Desert State Park, Supervisor Clyde E. Strickler says. Ocotillo was in full leaf in March and is expected to be in bloom during April.

Death Valley National Monument Naturalist Meredith Ingham writes that flower conditions are excellent this year, with these blossoms expected to show above the 3000-foot elevation during April: evening primrose, globe mallow, phacelia, desert five-spot, Mojave aster, desert-star and ghost-

flower. Cacti flowers also should be at their peak during the month.

James W. Schaack, park naturalist at Lake Mead National Recreation Area, expects the early blooming cacti, such as hedgehog and beavertail, to show blossoms in April. In addition, these flowers also are anticipated: ocotillo, lupine, globe mallow, larkspur and marigold. The April Lake Mead display, he writes, will be one of the most colorful and complete in memory. Schaack recommends visits to Willow Beach, Temple Bar, Katherine Wash and Cottonwood Cove, all on Lake Mohave or the lower stretches of Lake Mead. For those who miss the early showings at these places, a drive to Overton on the north end of the Recreation Area may be productive, for the display along this road usually reaches its peak three to six weeks later.

Supervisory Park Ranger Robert J. Heying predicts at least 58 species will show bloom in April at Saguaro National Monument near Tucson. Included in his list are such rare plants as dock, all-thorn, fairy-duster, goats-beard, thread plant, clematis, tack-stem, caltrop and windmills.

For the Globe, Arizona, area, Naturalist Earl Jackson of the Southwest Archeological Center predicts a good April flower show. The hills between Globe and Tonto National Monument and between Globe and Coolidge Dam should contain bluedick, wallflower, poppy, marigold, mallow, lupine and owl-clover blossoms. The foothills just south of Globe are expected to produce dense displays of mariposa.

At Southern Arizona's Organ Pipe Cactus National Monument the outlook for an outstanding wildflower show during April is excellent, Chief Park Ranger John T. Mullady writes. The Monument's two scenic drives are in good condition and should afford many flower vistas.

and are made from any long slender piece of wood, usually from the dry ribs of cardon skeletons.

Small well-defined trails lead from tree to tree. Evidently the natives make regular rounds to pick the fruit. Split open with a knife, the magenta colored pulp is revealed. This is eaten along with the seeds in the fruit's center. Cardon fruit is sweet and delicious. The flavor cannot be compared to any of the common fruits used in the U.S.

Manuel explained that there are three kinds of cardon fruit—white, red and yellow. Until the fruit splits there is no way to determine the pulp's color. We ate both the white and the red and could discern no difference in flavor.

The further south we traveled, the more lush and tropical the growth in the canyons appeared. So thick were the palms, papayas, mangos, figs, citrus and avocados that upon descending into inhabited canyons we could see only the trees—no trace of a village. As we approached, the little houses gradually came into view. In addition to the inevitable adobe were houses of palm frond thatching. Sides and roof are all of palm fiber which blends in with the landscape so completely the houses can scarcely be seen.

After two weeks of crossing and recrossing the peninsula we arrived in La Paz, a fisherman's paradise. During the winter months sea trout, totuava, giant grouper, cabrilla, white sea bass, pompano, yellowtail, bonefish, barracuda and red snapper are caught here. In April come the marlin, yellowfin, tuna, sailfish, dolphin and roosterfish, staying until the end of October. The Gulf in this vicinity is rimmed with many bays and inlets.

There are three hotels in La Paz, and we stayed at La Perla, chiefly patronized by well-dressed and soft-spoken Mexican businessmen. La Perla serves a delicious dinner for one American dollar, and a room for two with twin beds and bath costs five dollars. We rested there a day, and because no boats were to leave immediately for the Mexican mainland, we toured the very tip end of the peninsula.

We made the three-hundred mile trip in three and a half days. The road follows the shoreline, and we camped at the water's edge every night. Backdrop for the wild beautiful scenery was the lofty Sierra de la Victoria whose high country abounds with deer. Growth on the Tip was lush, with few cacti varieties, but many trailing vines—a riot of color with their yellow, purple, crimson and magenta blossoms. The most conspicuous



Clamming in Baja does not require hunting. Joe and Manuel pick them off inlet floor and drop them in floating tub.

flower was a yellow morning-glory. Some of our old Southern California friends grew in the sandy washes—rabbit brush and matilija poppy were especially common.

A dreaded *chubasco*—a fierce storm accompanied by high winds which lash and tear apart the natives' flimsy homes—was threatening when we returned to La Paz. At the peninsula's tip *chubascos* have forced the ocean water over the top of 200-foot-high offshore rocks. Mazatlan, on the mainland, had wired that 100-mile-an-hour winds were advancing. The port of La Paz was closed. No ships could leave. Next day a tropical storm sent a deluge of water, but the *chubasco* faded into the limbo of forgotten things.

The following morning I asked if the boat would sail.

"*Si, si senora*, today in the afternoon."

When should we have the car on the dock for loading?

"*Ahorita, senora!*—now!"

So, being *Norteamericanos* where the word "now" means "immediately," we drove to the dock and waited. Two hours later we were told the boat

would sail at 10 the following morning. Actually, we pulled anchor at noon. The voyage to Mazatlan is a short one, only taking 24 hours. That afternoon we saw many fish—marlin, swordfish, shark and even the giant manta ray so dreaded by pearl divers.

The La Paz-Mazatlan boat is not on a regular schedule, but passage usually is made once a week. Fernando Chacon, the shipping broker, speaks English and his office is within half a block of the dock.

One cannot conquer Baja California in one or even several trips. There are too many inlets, bays, estuaries, side roads, canyons and inaccessible places. Each month brings changes in weather, wildlife habits, maturation of flowers and plants, sea life, and in the *camino* itself. With one good storm, *el camino* becomes a churning sea of mud, impassable to even the native *bajanero*.

Leaving La Paz we sailed alongside a palatial white yacht, but we had no envy in our hearts. We would rather live a life hampered by lack of *centavos* than to be *muy rico*. It is the only way that one can get to know the people, and the earth itself.

NAVAJO SHRINE in SANTA FE

A Navajo medicine man, a white trader's wife and a philanthropic New England woman met in a snow storm and soon discovered they shared the same dream: to preserve the symbols of an ancient but rapidly disappearing culture. In 1937 their vision was realized—sand paintings, recorded chants, fetishes, baskets, masks and other evidence of Navajo religion and art were placed in an unusual museum near Santa Fe for perpetual preservation. The passing years have seen the transformation of this cultural storehouse into an Indian shrine.



Hasteen Klah

By DOROTHY L. PILLSBURY

HF HASTEEN KLAH, one of the greatest of Navajo Ceremonial Men, had not harbored for many years a persistent foreboding that the outward evidences of his people's religious culture might vanish from the earth, there might not be a hogan-shaped building on a red hillside two miles from the old Plaza in Santa Fe. Lost to all the world might have been a wealth of myths, chants, symbolism and, above all, sand paintings which traditionally are destroyed at sunset following the day's ceremony.

If Mary Cabot Wheelwright of Boston had not migrated to the little Spanish village of Alcalde along the Rio Grande where she still lives, there might not have been a treasure house of Indian lore in the shadow of the fabled Sangre de Cristo Mountains.

If Frances Newcomb had not been the wife of a trader to the Navajos who lived among the tribesmen in a remote part of their reservation; if she had not won the friendship and confidence of her Indian neighbors, much of the interpretation of the intricate symbolism of their religious art might have perished from the earth. Great would have been the loss.

That all three of these people did meet, and with the help of many others produced the Museum of Navajo Ceremonial Art, is a triumph of destiny. By 1937, Santa Fe had a privately owned and operated museum on a ruddy hillside with its strangely oriental landscape of dwarf cedar and pinyon trees dotting the sunburned earth. To it came scholars and tourists from all over the world to revel in its collections and to study in its library. But, destiny showed its hand again and the museum was transformed into an Indian shrine.

Reason for this is easy to understand. The Navajos, always a dynamic people, have in recent years witnessed an acceleration in their cultural change. Children are learning the white man's ways in school, more and more young adults are moving to large cities, new wealth with the promise of social improvement has come to the tribesmen from uranium and oil leases and royalties.

Many of the younger Navajos—especially those who have moved from the reservation—have not seen a major ceremony for many years. In ever increasing numbers they come to the museum to see the preservation of the

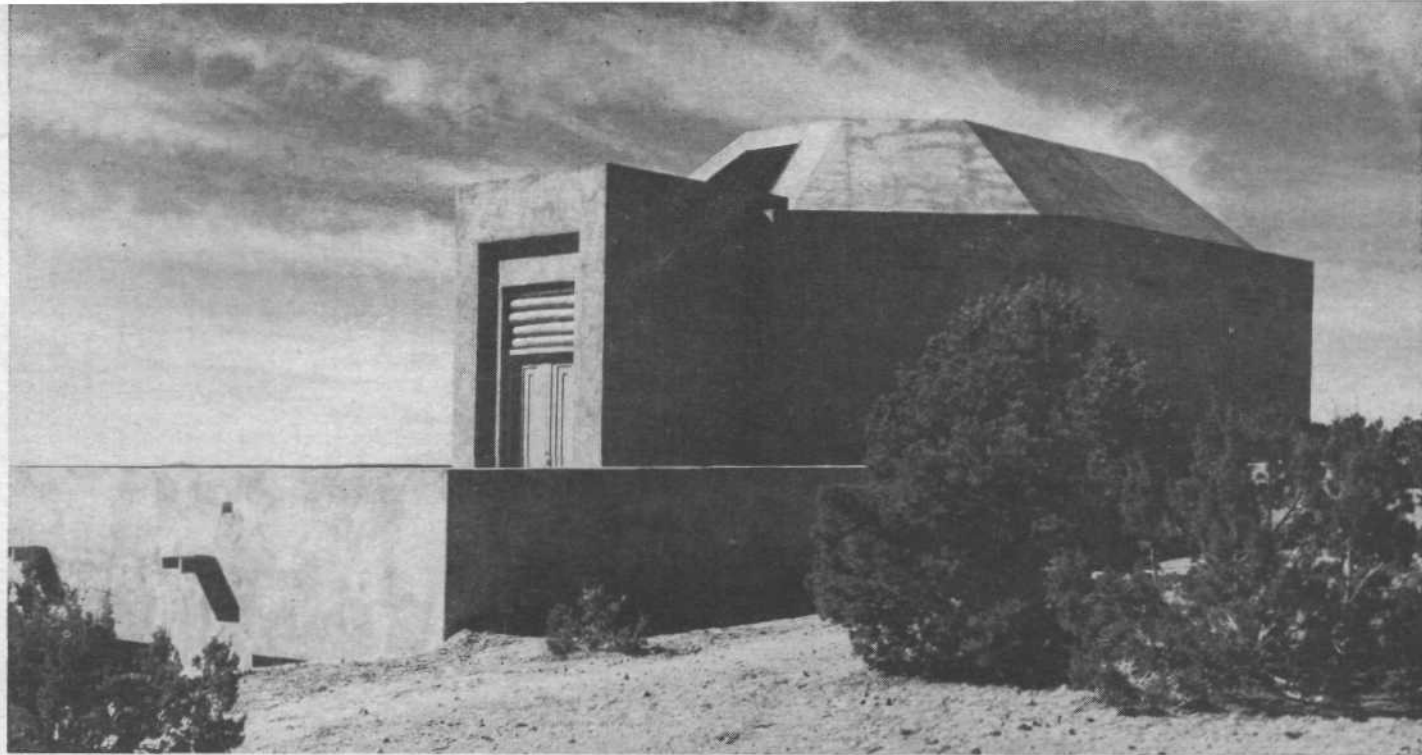


Mary Cabot Wheelwright

religious culture of their people. Trucks rattle up loaded with Navajos who work on the railroads or who have found jobs in nearby cities. Some of them stop by the reservation to pick up their "old folks"—women in full skirts, velveteen basques hung like Christmas trees with priceless old silver and turquoise jewelry—men in big black hats, blanket-wrapped against the cold.

Typical of the Indian visitors was a young man working in Los Angeles heavy industry. He and his bride were on their honeymoon trip. When asked by Director Kenneth Foster if he found relocation in a great city hard to take, the young man said it was pretty bad at first. Then he grinned and said, "It's all right now."

Members of other Indian tribes also visit the museum. Elders of Rio Grande Pueblos silently stalk through the rooms, pointing out the great collections of pottery, silver, medicine bundles, prayer sticks and all the intricate paraphernalia of Indian religious rites. Before some leave, they go up to Director Foster and produce a particularly cherished object of their own ceremonies. "Will you take good care of this and keep it for us?" they ask.



Museum of Navajo Ceremonial Art. Hogan-like building, designed by William Henderson, won first prize at the First International Exhibition of Architectural League in New York.

Hasteen Klah, Mary Cabot Wheelwright and Frances Newcomb met in a dramatic way as a wind-lashed snow storm roared over the painted earth of Navajoland one November day in the 1930s. Mary Wheelwright had bumped over terrible roads to the village of Chinle at the entrance to famous Canyon de Chelly in Arizona. In the mountains behind Chinle she had seen her first *Yehbechai* given the last night of a nine day healing ceremony.

That *Yehbechai* must have been similar to one I saw in November, 10 years later. Around a great central fire in a deep valley surrounded by high wooded mountains, dozens of white covered wagons were drawn up in a

fire-reddened semicircle. Hundreds of Navajo men wandered from wagon to wagon where the women and children displayed their wealth of silver jewelry around smaller fires and dispensed hot coffee, mutton stew and fried bread.

All night an artist friend and I, the only non-Indians present, sat against the *Yehbechai* House from which came the weird chanting with its oriental intonations. We thrilled to the falsetto singing of masked dancers who appeared from time to time before the great central fire to dance with stiff, almost mechanical-toy gestures. "This is not the United States of America," we whispered. "This is Tibet or some unknown valley in Mongolia." At dawn, physically and emotionally ex-

hausted, we returned to our car and sped home.

But Mary Wheelwright did not rush home after she witnessed the *Yehbechai*. She started out over the mountains to Frances Newcomb's trading post, arriving there during a snow storm. Among the many people in the small building seeking shelter from the storm was Hasteen Klah.

For 30 years it had been Klah's prayer that the evidences of his people's religious culture should not perish from the earth. He could not write, sketch or paint. But he had learned to weave and on the walls of the museum today hang exquisite tapestries from Klah's loom, some of them eight square feet in size, perfect in coloring

Room in the museum showing tapestries woven by Hasteen Klah and furniture carved by Indian and Spanish-American craftsmen.





Last year Hozhoni Hatrali Begay rededicated the museum. In background is symbolic reproduction of Shooting Chant Sand Painting.

and detail, reproducing sand paintings used in Navajo ceremonials.

Frances Newcomb could do what Klah could not—sketch and paint the intricate designs of sand paintings. For years the Navajos had welcomed her to their ceremonials, but they would not permit her to take a single note nor make a single sketch. Like Klah, she memorized the intricacies of design and color in sand paintings and the other ceremonial symbols. These she laboriously recorded at home. Today, Mrs. Newcomb is considered an authority on Indian symbolism and is a Research Member of the museum. From her present home in Albuquerque she fills many requests for lectures in her specialty.

Following this first meeting in which

the mutually-felt desire to see these religious symbols preserved was warmly expressed, Klah and Mr. and Mrs. Newcomb came to Alcalde to visit Mary Wheelwright. More meetings followed and the plans for a permanent home for these treasures took form. In 1937 this privately owned and operated museum was built on its cloud-flecked hillside. Its 10 acre site was donated by Miss A. E. White of Santa Fe, and it is supported by Miss Wheelwright, public memberships, entrance fees and sales of its publications and other materials.

The Museum of Navajo Ceremonial Art is a beautiful eight-sided hogan-shaped building with a cribbed roof and a simulated smoke hole formed by a window. Its heavy doors, wood-

work, furnishings and display shelves were hand-carved by Indian and Spanish American craftsmen. On its sand-colored walls hang reproductions of Navajo sand paintings and Klah's great woven tapestries. The museum is open week days (except Mondays) from 9 a.m. to noon and from 1 to 4:30 p.m. Admission fee is 25 cents. On Sundays, visitors are received from 3 to 5 p.m. without charge.

Klah dedicated the completed building in November, 1937, with a Blessing Way Ceremony. He died that same year and at his request was buried a little beyond the great carved door of the front entrance.

Today the museum contains 400 sand paintings reproduced in various ways. It has recordings of 1000 Navajo chants with comparative material from Tibet, Mongolia and other Asian sources. It holds a wealth of ceremonial objects—enough to reproduce almost any ceremony. Outstanding is the museum's library on Navajo art and religious culture.

In November, 1956, the building and its contents were rededicated. Hozhoni Hatrali Begay, the descendant of 10 generations of Ceremonial Men, was brought from his Red Rock hogan to repeat the Blessing Way Ceremony. To this ritual came four generations of the late Hasteen Klah's family, including "Mrs. Sam" who had carded, spun and dyed the wool for the tapestries Klah wove in his effort to perpetuate the ephemeral sand paintings. Among this delegation of Klah's descendants were two young Navajos who no longer herded sheep, but were now employed by uranium companies.

Paul Jones, a nephew of Hasteen Klah and Chairman of the Navajo Tribal Council, sent the dedication speech, a most poignant communication in which he gave thanks to Mary Wheelwright for her vision and generosity in establishing the museum. He remarked that she and members of her staff had not regarded the sacred Indian objects as mere curiosities, but preserved them in a form which is pleasing to the Navajos and in which they can take pride. Miss Wheelwright has kept alive something of the religion of a people who never had a written language, he wrote.

So in the dramatic meeting more than a quarter of a century ago of a lady from Boston, the wife of a trader to the Navajos, and a dedicated Ceremonial Man, destiny played its part. Klah evidently saw the hand writing on the wall long before that time. Now, modern young Navajos are beginning to see it, and the hogan-like building on a red New Mexican hillside which started as a museum, has become an Indian shrine.



Author examining opalite ledges where miners "gophered" beneath the overburden to rich cinnabar ore. Old stulls still are in place.

Opalite at the Silver Cloud . . .

Here's a field trip for the coming warm summer months—to the high desert of northern Nevada for red cinnabar-streaked opalite. Tons upon tons of this material can be found in the quicksilver glory hole of the remote Silver Cloud Mine. Cut and polished, these stones are very colorful and attractive.

By NELL MURBARGER
Map by Norton Allen
Photographs by the author

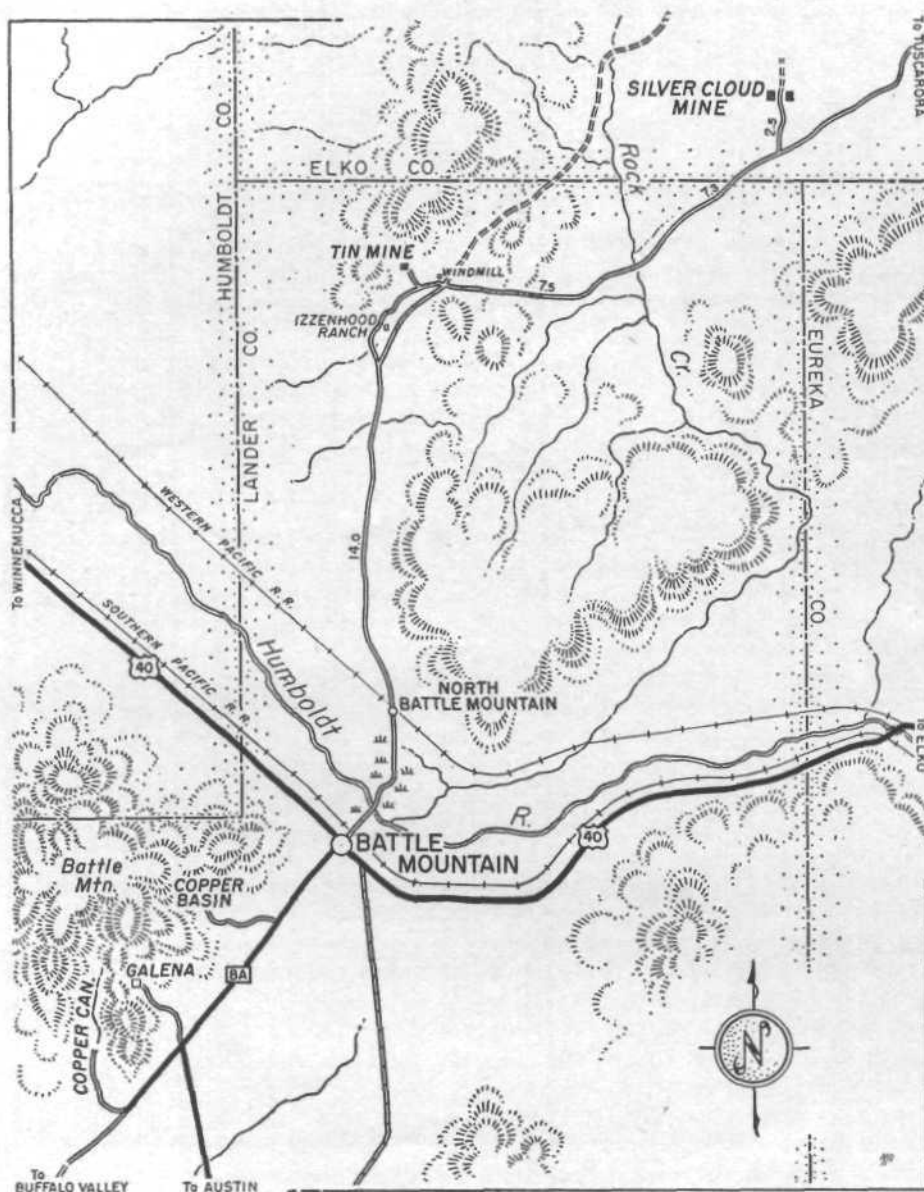
IN THE HIGH WIDE valley of the meandering Humboldt River lies the small desert station of Battle Mountain, Nevada, cottonwood shaded and hemmed by immensity. The dry bordering hills, cloaked in the feathery gray of sage and capped by the bold green of junipers, roll back to lofty summits where snow falls early

and lies long, and canyons are laced with cascading streams and waterfalls. Linking the little town with these hinterlands is a spiderweb of sun-splashed backroads and dim trails.

This is the Land of Yesterday. Over the years its sagebrush has fed the campfires of many men. Roving Indian bands, questing explorers and bea-

ver trappers, covered-wagon emigrants, saddle-weary cavalymen, and a restless horde of prospectors have tramped these hills, leaving behind tokens of their transient presence. Here lie Indian battlegrounds, pioneer trails and a whole galaxy of ghost mining camps: Copper Basin, Copper Canyon, Galena, Bannock, Lewis, Betty O'Neal, Dean, Hilltop and many others. Rock-hounds find these sites happy hunting grounds!

At Copper Basin, turquoise, chrysocola, malachite, azurite, cobalt, nickel and dozens of other minerals are being collected. A half-dozen miles down the range in a pretty spring-watered canyon are the rock ruins and mine dumps of Galena, built nearly a



century ago. Hidden in the high sagebrush are old steel safes and milling machinery, and from the mine dumps and bordering canyonsides rockhounds harvest cerussite, sphalerite, pyrites, brachiopods and trilobites.

Elsewhere in the Battle Mountain vicinity, collectors have found cuprite, chalcocite, arsenic, bismuth, bornite, stibnite, copper, fluor spar, scheelite, titanium placer, manganese, rhodochrosite, uranium, garnets, barite, antimony, coal, jade and calcite crystals. Along the east edge of Buffalo Valley are several small dead volcanic craters, and in their red cinders and black lava I have collected tiny "Nevada diamonds" (obsidian) hard enough to scratch windshield glass. Farther south at Dacie Creek is petrified wood.

Every summer for the past dozen years, I've made at least one collecting or exploring trip in the Battle Mountain area. Soon after arriving last June, I ran into my friend Bill Swack-

hamer, a local merchant who knows this area like the inside of his coat pocket. It was he who told me of the old Silver Cloud Mine.

"It's about 35 miles from here over a good dirt road that leads through some fine cattle country. At the Silver Cloud there's probably 100,000 tons of white opalite heavily streaked with rose-red cinnabar," Bill said.

"Be sure to take water and plenty of blankets," he added. "The elevation's high up there, and the nights are chilly—even in June."

Early next morning I left Battle Mountain on a gravelled road that intersects U.S. 40 directly across from the Swackhamer store. Soon after bumping over the Southern Pacific railroad tracks, the road crosses the Humboldt and embarks upon an earthen dike that carries it through a wide slough bordering the river.

Spread over hundreds of acres is a sheet of dead water so shallow that

PERMISSION TO COLLECT SPECIMENS

Soon after Nell Murbarger made this trip to the Silver Cloud Mine, the Big Butte Mining Company resumed mining operations there — but rockhounds are welcome. Here is a letter from General Manager E. T. Carlou outlining the mining concern's policy:

Battle Mountain, Nevada
February 24, 1958

Dear Miss Murbarger:

Yes, you may run this story about our beautiful rock. As long as rockhounds don't haul off highgrade — some runs 200 pounds to the ton—they will be welcome.

Beautiful jewelry has been made from some of our rock, and we will be glad to select samples and save them for rock cutters.

Yours very truly,

E. T. CARLOU
General Manager
BIG BUTTE MINING CO.

much of its surface is whiskered with tall thin cattails and reeds. In this unstable world live a multitude of red-winged blackbirds and lesser numbers of their gaudily-plumed relatives, the yellow-headed blackbirds. Swinging from reeds along both sides of the road were their neat pouch-shaped grass nests, and only the screaming avocets and killdeer could make themselves heard in the uproarious bedlam created by the ringing "ok-a-lee" cries of the male redwings and the rusty-hinge croaking of the yellow-heads.

Long-legged herons and egrets, each ingeniously balanced on one foot, scanned the water for food, and hordes of mudhens and ducks paddled silently through watery lanes in the reed forest. Small islands protruding from the surface of the slough were covered with impenetrable 12-foot high thickets of wild pink roses so laden with bloom that the area smelled like the inside of a florist shop.

After five miles of alternately traveling between aquatic sloughs and arid alkaline flats speckled with greasewood, my road crossed the Western Pacific tracks at the North Battle Mountain siding, and turned northward up the trough of a wide dry valley. Extending west 30 miles to the Sonoma Range, and north even farther to the Osgood and Santa Rosa moun-

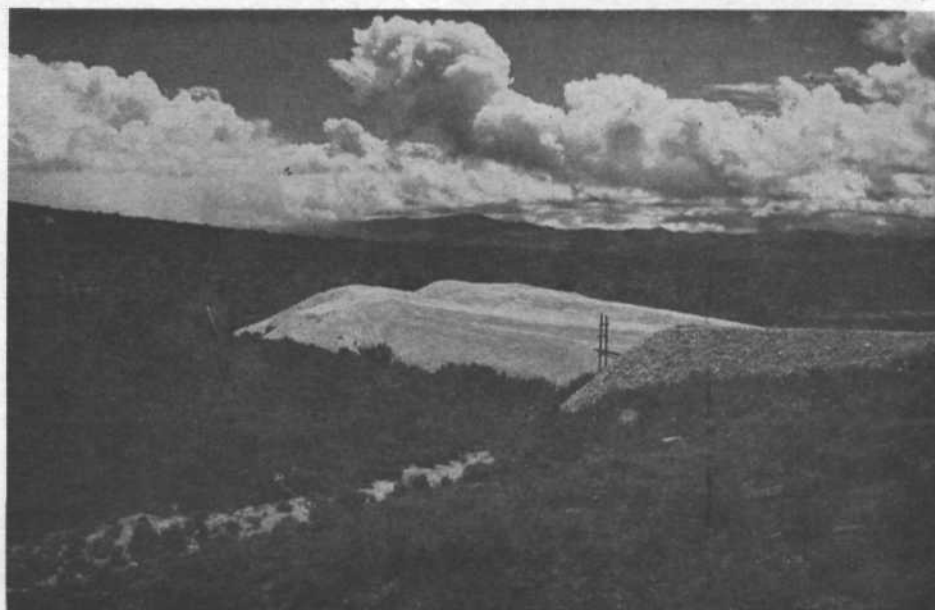
tains, this great million-acre desert plain lies nearly 6000 feet above sea level, and most of it is as flat as a field made ready for irrigation. Yet, in all this vast immensity I could not see a single habitation, plowed field or tree.

While crossing this valley I entered an area carpeted with white primroses, each plant displaying a whole bouquet of large tissue-petaled flowers. Meadow larks and horned larks were singing; jack rabbits watched both my approach and departure with supercilious detachment; and a big buck deer, browsing beside the road, lifted his head to stare at me for a moment before bounding off across the flat.

Eighteen miles north of Battle Mountain I sighted a grove of tall Mormon poplars and a group of buildings, headquarters of the old Izzenhood Ranch.

North of the road beyond the ranch is a rough trail to the abandoned workings of an old lode tin mine. In a deeply-cut arroyo immediately below the discovery shaft is a gravel bed in which native tin dioxide—cassiterite—specimens occur. They are sparse, however, and without panning or sluicing equipment, difficult to find.

Beyond the ranch and a windmill and stock tank, the road forked and I followed the easterly course up a gentle winding grade. Three miles from the stock tank I came to a low saddle from which it was possible to look over a vast expanse of country leading away toward the Tuscarora Range.



The white dump of the Silver Cloud Mine stands out sharply against the dark high desert.

The road dropped down to Rock Creek, a small clear stream, and veered northeast. I was now deep in the immense W. T. Jenkins Ranch. Bill Jenkins, its founder, emigrated from Wales to Nevada in the 1870s. From mining he drifted into the sheep business. His flocks prospered and upon his death in 1899 he left to his young widow and four daughters under eight years of age, a ranch and 20,000 head of sheep.

Mrs. Jenkins was an unusually as-

tute businesswoman. By 1910 she increased her holdings to 225,000 acres of range and 60,000 head of sheep—more than were owned, it was said, by any other woman on earth.

The ranch is still owned by the family. One of the Jenkins daughters, Louise M. Marvel of Battle Mountain, is president of the company and actively engaged in its management with her husband, E. R. Marvel, and their sons, Dick, Tom and John.

Seven miles beyond Rock Creek,

Rim of open pit development at Silver Cloud Mine. Material here is nearly all opalite, most of it streaked with cinnabar.



my road again forked. The main trail continued east, and the trail I took angled sharply to the left. This northerly trending branch led beyond the foothills to a bench overlooking the dump and glory-hole of the Silver Cloud quicksilver mine.

The milk-white pit is 100 yards across and 50 feet deep. Other workings and the ruins of an earthen-roofed concrete building lie near the main pit, and in the ravine below sprawls the huge white rounded dump.

As I mentally compared the dump to a giant snowdrift, it suddenly occurred to me that real weather was brewing. The sun, which had shone so exuberantly only moments before, had been swallowed by an ominous slate-colored cloudbank rapidly moving in from the west. Stepping out of the car I met the full force of the viciously cold wind.

On the pit floor were thousands of tons of gleaming white opalite liberally streaked with the deep rose-red of cinnabar. Some of this material is uncommonly rich, and several of the specimens I collected assayed five percent mercury—\$300 a ton quicksilver ore. Most of the material, of course, is much lower grade, probably running one to two percent.

Not only the solid floor of the pit,

but its entire sides showed traces of cinnabar, some of it occurring in a yellowish siliceous sponge, but much of it in the opalite. Where broken faces have long been exposed to the weather, the red cinnabar streaks have dulled into deep gray, but chipping invariably reveals the handsome red patterns beneath the surface. This is excellent quality material for cabinet specimens, polished book ends, desk sets and spheres.

The Silver Cloud claims were first staked in the 1920s and '30s by Jack Maddaford and Robert B. Hildebrand. In 1940, according to Thomas A. Smith of East Ely, Nevada, funds for assessment work were advanced by Ely Securities Company which accepted, in exchange, an interest in the claims. The following year this company bought out Maddaford, and on Jan. 1, 1942, transferred their interest to the New Verde Mines Company, whereupon considerable development was undertaken, both underground and by open pit.

A 64-foot rotary kiln was installed, and two years later it was joined by a 75-foot kiln. In 1942 the mine's monthly quicksilver production ran between 35 and 40 flasks, and in 1943, with two kilns operating, output increased to 60 flasks monthly.

That same year New Verde halted its operations at Silver Cloud and leased the claims to B. R. Frisbie and R. C. Comozzie.

When the new owners gave up the lease the machinery was sold. Recently, the Big Butte Mining Company acquired the property.

Much of the trouble that attended operations at the Silver Cloud, according to Smith, was caused by the opalite. Because of it the ore is refractory—difficult to crush and extremely hard to roast.

I was still prowling about the mine, probing into ledges and replacing good specimens with better, when my eye fastened upon tiny bits of whiteness spiraling down into the white world of the pit. They were snowflakes!

In my excitement over the red-streaked opalite I had forgotten about the wind, but as I neared the rim of the pit it returned, forcibly, to my consciousness. Howling unimpeded across the high desert, it drove its icy needles into my cheeks, whipped the breath from my lungs, and flung its blinding curtain of snow against my eyes.

I was grateful to find the closed interior of my car still comfortably warm from the sunshine absorbed that morning. After regaining my breath, I snuggled down in the back seat with a handful of cookies and an apple, and from that cozy position peered out at the storm—by then assuming all the aspects of a true blizzard. Whistling and huffing and puffing, the wind beat viciously against the car until it rocked and shivered like a ship in a gale.

Suddenly, the snow was replaced by sleet and hail that peppered the roof like pellets of birdshot; and minutes later the storm ended and a wonderful hushed white world spread all around!

Mid-afternoon found the June sun again shining in all its glad glory. The Nevada sky, once more was fiercely blue, and only a few traces of white remained as evidence of the blizzard that had so recently poured its fury upon the land.

As I started forth in search of dry sagebrush for my supper fire, a little brown bird was singing for all he was worth and bouncing up and down in the air as though he was terribly happy about something. I think perhaps he was glad that the face of the desert no longer was dark beneath the veiling of heavy clouds—summer had returned to the high country.

If this is the reason for his joy, then the little brown bird and I had much in common.

I was glad, too.

Hard Rock Shorty of Death Valley



"Nope, there ain't much water in them mountains," Hard Rock Shorty was saying to the stranger who had arrived at Inferno store in a shiny new station wagon.

"An' what water there is ain't much good fer drinkin'. Some springs has got arsenic in 'em. Some is too salty even fer boilin' potatoes. But the wurst one of all is that alum spring. It jest puckers everything up that gits near it. Drop a cannon ball in the water an' it'd soon shrivel down to the size of a BB shot.

"I remember the time me an' Pisgah Bill was campin' there in the 'twenties. I wuz sittin' there leanin' against a boulder restin' an' suddenly I heered' a yelpin' and yippin' and down the canyon comes a coyote chasin' a jack-

rabbit lickity-split right towards that water hole.

"When them two animals reached the spring the rabbit jumped right over it, but the coyote missed its footin' and tumbled in the middle. They was a lot o' splashin' fer a few minutes, an' that animal finally paddled out, but it didn't look nachural. Began shrinkin' up, an' before it'd gone 20 steps it had puckered down to the size of a packrat. When that rabbit looked back an' saw what'd happened it turned around quick and started chasin' that pint-size coyote. The coyote saw trouble a comin' and headed down the canyon like a scared banshee with the big rabbit after 'im.

"Yep, that's powerful stuff, that water in Alum spring."

He Works All Day on Hotcakes 'n Chia

When the white man first came to the desert, he learned of a miracle cereal a teaspoon of which could sustain an Indian on a 24-hour march. It came from the common desert sage, *Salvia columbariae*, and the Indians called it chia. Its use is declining today, but one of the men who still derives energy and unusual stamina from it is 71-year-old hard rock miner Adolph Bulla. He mixes his with hot cakes.

By EUGENE L. CONROTTO

THE THING that amazed me about hard rock miner and prospector Adolph Bulla of Red Mountain, California, was not so much that he looked 20 years younger than his 71 years; but that he acted 20 years younger. Six days a week he turns out for a full day's shift at his tungsten prospect—drilling, blasting, mucking and hauling—hard physical labor for a man of any age.

Adolph has spent the last 53 years as a mining stiff, the majority of it on the western Mojave Desert. Of medium stature with hair that is white now, he has a frank and pleasant face remarkably devoid of wrinkles and showing a healthy tan. He credits his desert environment for his good health and happiness—especially the *Salvia columbariae*—chia—which grows up and down the sandy hills in Adolph's country, when the rains are favorable.

"I've always made my living on the desert," Adolph was telling me one day last fall as we sat on two empty boxes next to the wood stove in the middle of his small one-room cabin. It is situated a few hundred yards west

of the highway in this once-lively mining community just over the hill from the more famous bonanza town of Randsburg. "Besides metal and sunshine, the desert has given me some very nourishing things to eat—like chia seeds," Adolph went on.

He crossed over from the sleeping side of the room where two sagging cots stood against the wall, to the eating side. His small sink was framed with a variety of utensils hanging from nails, and the cupboards were laden with jars, cans and packages. From the top of a canvas-sided desert cooler which was indoors for the winter, he picked up a small jar half full of coarsely ground gray seeds, and handed it to me. It resembled parakeet food.

Each morning, Adolph explained, he mixes a teaspoon of this meal into his hot cake batter, sometimes a little more when there is an especially hard day's work ahead. Thus fortified, he can labor all day without eating again. It is handy grub to take along on a prospecting trip for it eliminates the weight of more bulky foods, and at the same time gives more energy, Adolph added.

Chia has been used as a food for centuries, although Adolph was the first white man I had met who still regularly harvests and eats it.

Among some of the earliest Mexican Indians, chia was cultivated as an important cereal and continued to be a staple article of diet with the Southwestern Indians wherever it grew wild, which takes in a lot of territory, for *Columbariae* and its nearly related species are rather common annuals growing throughout the Southwest from sea level to 7000 feet, but usually below 4000 feet.

It still is used by natives of Mexico who usually prepare the seeds by roasting, grinding and then mixing with water. Thus concocted, the mixture develops into a mucilaginous mass, larger than its ordinary bulk and much like the instant hot breakfast cereals of today. Chia has a very pronounced linseed flavor.

The first white men to come to the Southwest quickly learned of this miracle food a teaspoon of which supposedly could sustain an Indian on a 24



Adolph Bulla and the chia which he says allows him to put in a full shift of hard work every day despite his 71 years of age.

hour walk, and they too began harvesting and using wild chia. As late as 1900 a pound of this meal sold for \$6 to \$8 in the Southwest.

Adolph explained that if the winter rains come in the right amounts and at the right times, the blue flowers of this desert sage (not to be confused with sagebrush—*Artemisia*—which does not grow on the lower deserts) are conspicuous on the open hillsides and sandy flats in March and April. The blossoms, growing in tight whorls on the long stems of the plants, are strikingly set off by purple leafy bracts below the flower heads. After the flowers pass, the stems and heads remain standing and it is time to harvest the little gray seeds in these dried heads. In good years it takes Adolph only one day to gather a two-pound year's supply of chia.

Adolph threshes the seed on a piece of canvas and blows the chaff away by mouth. "I don't have a machine," he explained. "I just do it this crude way." My host, as polite and thoughtful as only a genuinely humble person can be, swept a hand over his tiny room—not by way of apologizing, but as explanation. "I don't have any modern things," he said in a low voice, "no ice box or furniture or things like that. We live a simple life here."

"It's a shame to see man lose chia. You know, it's really a wonderful food," he added.

In the dried flower heads of this desert sage plant are the gray seeds of chia. Photograph by Phil Jones.



Skidoo--Ghost Camp in the Lonely Panamints

By EVALYN SLACK GIST
Photographs by M. B. Gist
Map by Norton Allen

IN 1905, when the search for precious metals was the consuming interest of desert prospectors, and the slang expression "Twenty-three Skidoo" was a national fad, Harry Ramsey and One-Eye Thompson were camped in Emigrant Pass near the rim of Death Valley.

During the night their pack burro

strayed, and the following morning—which happened to be the 23rd day of that month—the two men set off to find the animal. Its trail led to James Arnold's mine camp, and Ramsey and Thompson were so impressed with the area's potential that they staked claims adjoining Arnold's. Noting the date of their good fortune and calling on the desert wanderers' bottomless reser-

voir of humor, they named the place Skidoo.

There are other versions as to how Skidoo was named. Some say 23 men established the camp, others that the original site consisted of 23 mine claims. Still another version is that 23 was the number of miles from Skidoo to Birch Spring which later became the camp's water source.

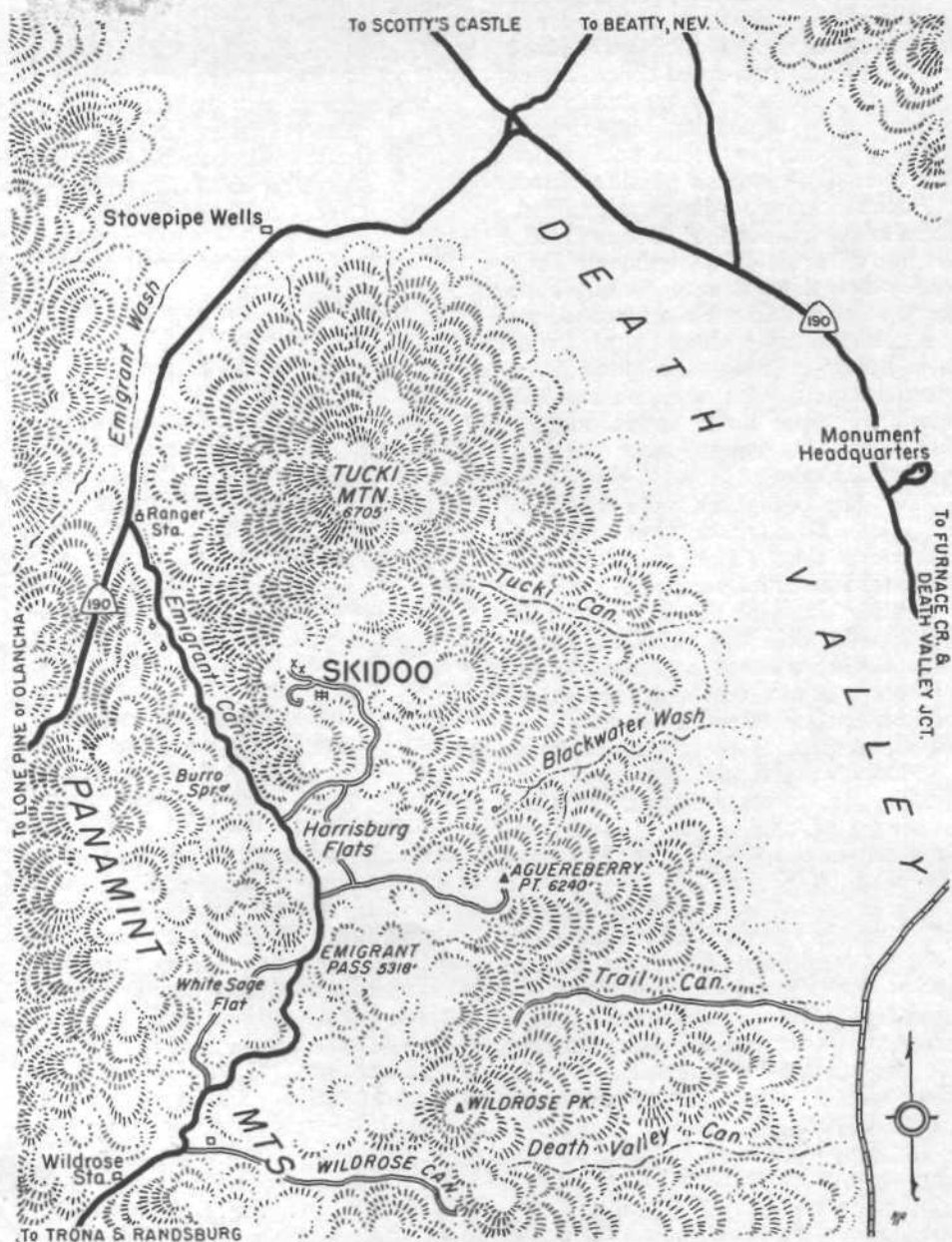
My husband and I first explored Skidoo in January, 1947. We were accompanied by Les Comley, a Rivera businessman who had carried the mail from Trona to Skidoo when a lad. Many of the old buildings still were standing and the ground around them was littered with cup-size assay crucibles and sun-colored bottles.

It was not until last year that we revisited this interesting ghost town. From Stove Pipe Wells Hotel we drove west nine miles on State Route 190 to the Emigrant Canyon turnoff, and soon we left that road and started up the nine steep rough winding miles to Skidoo. This road, though safe for a careful driver, has some stretches where meeting an oncoming car would present problems. But cars are few on this off-trail road, for only folks who revel in the historical and the obscure hunt out Skidoo.

The decade between our visits had seen many of Skidoo's structures torn down or burned to the ground. Souvenir hunters had carried away the crucibles and bottles. The wind at this 5500-foot altitude whistled through broken windows. Doors on the remaining buildings sagged open. Mining shafts had fallen in. Only four graves, marked by broken fences, were discernible in the little cemetery where James Arnold lies buried.

We stood at the entrances to crumbling tunnels, supported by timbers so rotted that only the very foolish would venture in. We walked among the ruins of a diggings that produced in excess of \$3,000,000 in gold between 1905 and 1918.

Not one of the city's 1000 inhabitants remained, but on this lonely mountain it took but little imagination to feel their ghostly presence and hear the ring of iron shod boots on the stony trails.





Old office building of the Skidoo Townsite and Mining Company.

In 1908, three years after Ramsey and Thompson named the camp, the

THE *Desert* MAGAZINE CLOSE-UPS

Evalyn Gist, author of this month's "Skidoo—Ghost Camp in the Lonely Panamints," is a long-time friend and former neighbor of *Desert Magazine*. She and her husband are authors of the popular *Coachella Area Motor Tours*. For the past two and a half years they have made their home in Yucaipa, California. They spend the summer months traveling with their house trailer—Hustle Hut III—gathering material and photographs for articles.

* * *

In 1938 Dorothy L. Pillsbury, author of "Navajo Shrine in Santa Fe" in this month's *Desert*, left Southern California for a new life in "a little adobe house on a wedge of New Mexican soil" in Santa Fe. Here she launched a writing career which has led to the appearance of many articles in national magazines and two books, *No High Adobe* and *Adobe Doorways*.

Her chief interest is "Northern New Mexico—its scenery, color and history and its three cultures—Anglo, Spanish and Indian and their impact on one another—and writing about it."

Skidoo Townsite and Mining Company was in full operation. This concern had issued one million shares of capital stock with a par value of \$1 each. Robert Montgomery was developer and president of the company, and Matt Hoveck was vice president. In their speculative advertisements these promoters told of five ledges with surface outcroppings on the property, each of which, they felt, justified development.

Prospectors flocked in from all parts of Southern California. The Cheesebrough Lines, with the Skidoo Mercantile Company as local agents, ran a stage from Los Angeles to Skidoo by way of Johannesburg. A one-way ticket to the new boom town cost \$22, express rates were four cents a pound. Kimball Brothers operated a passenger and express route linking Skidoo and Rhyolite. Clark and Revaldi ran another to Ballarat on the western flank of the Panamints.

James Arnold, the first claim holder in Skidoo, was a managing partner in the Skidoo Trading Company Store, under whose roof was located the prospering Bank of Southern California.

By the end of 1908 the Tucki Consolidated Telephone and Telegraph Company of Skidoo had strung wires across Death Valley to Rhyolite where they connected with the Western Union lines to the outside world.

And with this advance in communi-

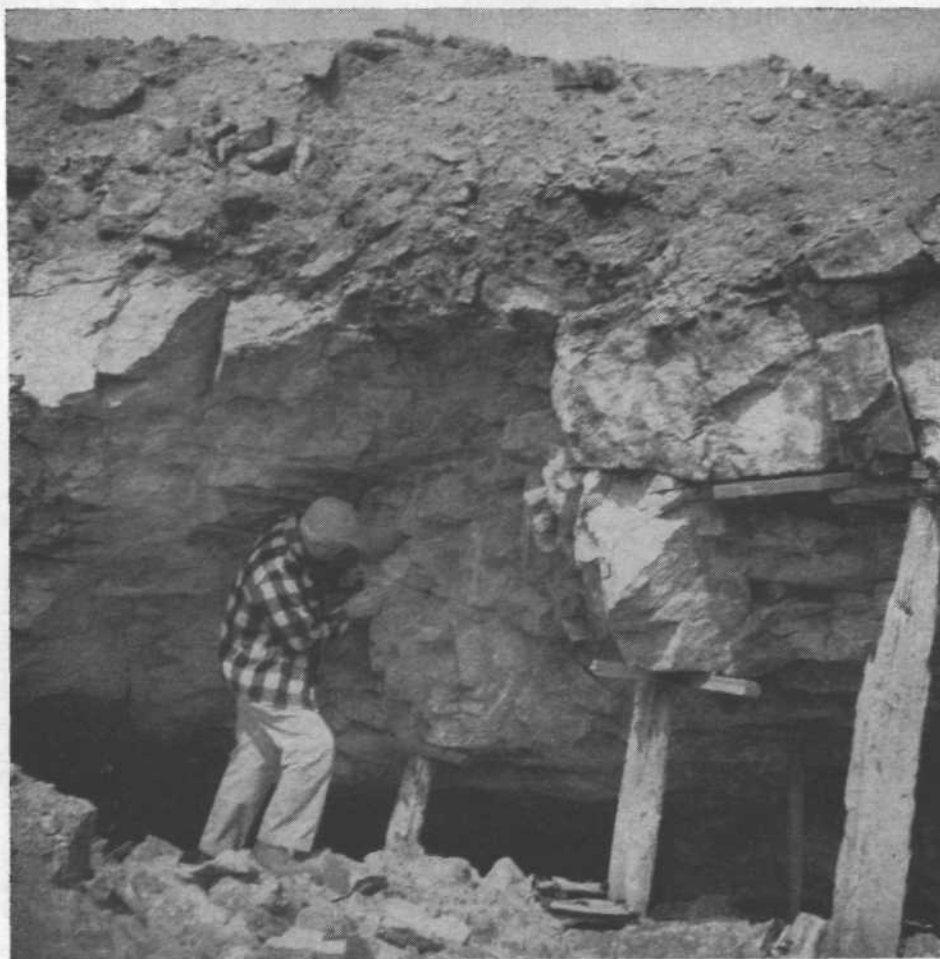
cations came the *Skidoo News*, published every Saturday at 10 cents a copy by M. R. MacLeod. The newspaper's masthead carried this statement: "Chronicle of Skidoo Events, Its Happenings, Worked Over to Make a Newspaper."

Water was piped to Skidoo from Telescope Peak over rough terrain—a tremendous undertaking. Later in the day we traced the route by driving up Wild Rose Canyon toward the Charcoal Kilns. According to Les Comley, most of the eight-inch pipeline was taken up for scrap during World War I.

There was no jail at Skidoo. Offenders were handcuffed to a telegraph pole until they could be removed to the county jail in Independence.

As in most mining camps, even those of this century, life was rugged, and the saloon was the community recreation center. Records show Skidoo had at least three: The Club, The Palace and The Gold Seal. The latter saloon, which stood across from Arnold's store, was owned by Fred Oakes and Joe "Hooch" Simpson. Hooch was the town's "Bad Man"—an ill-tempered drunkard and gun fighter.

There were the usual rooming and boarding houses, a hotel and numerous small shacks in which businessmen and miners and their families lived. Doubtlessly there was a school, although I have been unable to find



Many of the mine tunnels in the area are supported by rotted timbers.

a record of one. Every canyon and lonely gulch in the vicinity had a few cabins, but today only the fallen timbers, caved shafts and dark tunnels remain. These outlying sites only can be reached by hiking.

The murder of James Arnold by Hooch Simpson in 1908, and the lynching which followed, brought Skidoo before the general public in an unfavorable light.

The trouble started on Sunday morning, April 19, when Hooch held up bank cashier Ralph Dobbs, demanding \$20. The drunken saloon keeper was overpowered and thrown out of the store. Before long he returned and this time picked a quarrel with Arnold. Sheriff Harry Sellars handcuffed Hooch to a pole, and then dispatched a messenger to Nemo Canyon where Judge Frank Thisse was prospecting, to secure a warrant for Hooch's formal arrest.

Oakes and several of Hooch's cronies insisted that he be released. They promised to stand guard over him until Judge Thisse returned. The sheriff agreed, and Hooch was put to bed. His friends hid his gun in the saloon's oven.

But before the judge arrived, Hooch

found the gun, crossed the street and shot Arnold.

The founder of Skidoo died that evening. An inquest was held the next day and burial took place on Tuesday. In the absence of a minister, A. T. Hall, impressive with his flowing white hair, conducted the rites. It was said to be the first religious burial held in Skidoo.

Hooch was not among the mourners. Instead, he began bragging about the fight and gloating over Arnold's death. This infuriated the Skidoo residents, and 50 masked men took Hooch from the one room shed where he was being held under guard and quietly hanged him from a nearby telephone pole.

According to one version of the story, the body was cut down and hung a second time for the benefit of press photographers from Los Angeles and San Francisco who were desirous of obtaining "on the spot" coverage of the sensational event.

In recent years there have been several attempts to reopen the Skidoo mines, but nothing came of them. Unlike most other Death Valley mining camps, the early exploitation of Skidoo was a paying venture and perhaps

HISTORIC PANORAMAS XIV

LEE'S FERRY

By JOSEF and JOYCE MUENCH

See Photographs Opposite Page

One of the most famous of all Western river fords is Lee's Ferry (upper photograph, opposite page) just below the Glen Canyon sector of the Colorado River. Long used by the Indians, this northern Arizona crossing at the mouth of the Paria River became a vital link in Arizona - Utah travel in the late 1860s.

Mormon John D. Lee established his ferry service here in 1872, using as his first boat the *Emma Dean* which had been abandoned by the John Wesley Powell river expedition. After Lee's execution in 1877 for his part in the Mountain Meadow's Massacre, one of his widows operated the ferry for several years.

Ferry service was provided here until 1929 when the Navajo Bridge, seven miles downstream, was opened. This bridge still is the only vehicular crossing along 800 miles of the turbulent Colorado's length.

The Ferryman's house (lower photograph, opposite page), an old fort and several early buildings survive at Lee's Ferry. This point is Mile One on the Colorado—upstream and downstream—marking the dividing point between the Upper and Lower Basins. A government water gauging station replaces the early activities of the ferry.

Lee's Ferry is an important terminus for river trips on the Green, Colorado and San Juan rivers, and marks the starting point for voyages through the rapids of the Marble and Grand canyons downstream.

someday mining men again will return to this isolated locale.

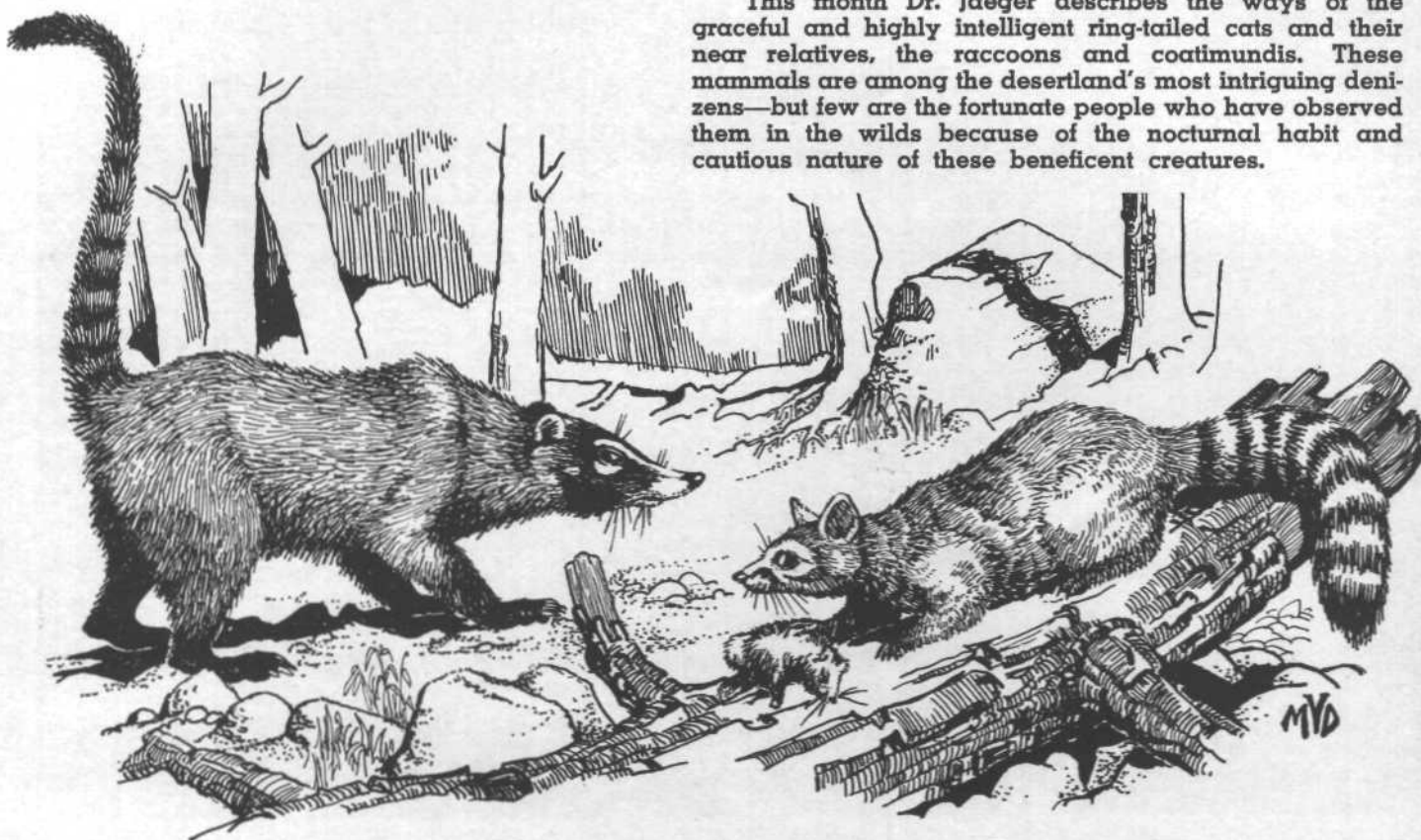
We walked among the battered buildings and hiked the narrow gulches undisturbed. Where only yesterday 1000 people lived, we had not seen a single person since leaving the highway. Despite the increasing popularity of Death Valley as a winter playground, Skidoo seems destined to crumble to ruin, forever undisturbed.



APRIL, 1958

ON DESERT TRAILS WITH A NATURALIST -- XLVIII

This month Dr. Jaeger describes the ways of the graceful and highly intelligent ring-tailed cats and their near relatives, the raccoons and coatimundis. These mammals are among the desertland's most intriguing denizens—but few are the fortunate people who have observed them in the wilds because of the nocturnal habit and cautious nature of these beneficent creatures.



Coatimundi, left, walks on the soles of his feet, and looks like a cross between a baboon, bear, raccoon and pig. At right is a ring-tailed cat. Drawing by Morris Van Dame.

Ring-Tailed Night Hunters

By EDMUND C. JAEGER, D.Sc.
Curator of Plants
Riverside Municipal Museum

I met Caco on an April afternoon many years ago. From my cozy camp among the junipers in Tavern Gulch, I had hiked up the long sandy brush-bordered wash to see if my old gold miner friend, Joe Glavo, had returned from his winter stay in Lone Pine.

Approaching the log and rock shanty which Joe called "The Swallow's Nest," I knew immediately that he was back, for freshly split pinyon wood was stacked near the door, a shirt hung on the sagging clothesline, and a new soap dish, made from a flat sardine can, had been nailed to the cabin wall above the crude bench upon which he kept his water pail and wash pan.

I knocked. No one answered, but

from within the cabin came a mysterious sound of something moving. Then all was silent. I called out. Again no reply, then the strange shuffling noise.

I opened the unpadlocked rough-board door to investigate, and in the half-light I saw among the cans and boxes stacked on an end shelf a lithe animal of cat-like form and size intently watching my every move.

It was a pointed-nosed, big-eyed and big-eared black and gray-brown creature with a beautiful long fluffy banded tail. His fox-like face evidenced animation, dignity and gentleness.

Here before me was my first sight of a cacomistle or ring-tailed cat. I was in the presence of a new form of animal beauty; his big black mild intelligent expressive eyes impressing me most of all. "What gives character to an animal more than his eyes?" I asked aloud. Instead of fleeing, this timid bright-faced creature merely retreated

behind a box, and bringing his head up, continued to peer at me.

Gently I withdrew and closed the door. Joe would return in a short time, I felt, so I gathered a few dry sticks, built a fire and sat near the cheery flames to write up my notes for the day.

In half an hour Joe arrived. As soon as we had exchanged warm greetings—and before he had a chance to invite me into the cabin for "beans and a visit"—I inquired about the animal I had seen.

"Oh, that's little Caco," said Joe, "my good little Caco, best pet and mouser on this whole mountain. He's getting tamer every day—even lets me pick him up whenever I like.

"Caco is something to wonder about. I don't know why he stays around anymore, except maybe to share some of my grub and let me play with him. When he first moved in the place was

swarming with mischievous deer mice. They kept me awake half the night with their scampering and gnawing. Two nights after Caco arrived there wasn't a mouse left. He caught them all."

Back in the cabin we saw no trace of Caco. "He's probably under the house or maybe prowling around outside a bit," Joe explained. "Just you wait a little and he'll be coming in through that hole behind the stove for his canned fish and honey supper. He gets it every night. I'm his friend and he sure knows it. Just wait around a little and you'll see the handsome rascal sure as fate—and I don't think he'll mind a stranger one bit as long as I'm in the room, too."

Joe went on to tell me that two years previously a family of ring-tailed cats lived with him. Caco, Joe thought, had been one of the three kittens in that family which he had tamed with regular feedings of canned tuna and sugar.

"I used to give those kits a little wooden ball to play with, and what a lot of fun they did have!" Joe recalled. "It didn't matter if they were indoors or out, they were everlastingly battering it about or cuffing one another. But I was surprised to see how soon they began acting like adult cats—just didn't play with their tails any more, or frisk about as much."

"Except for Caco, I haven't seen one of them since. Just don't know what happened to them unless a trapper caught them."

As predicted, Caco showed up for his supper. He came in cautiously, but soon began eating. A dainty feeder he was, and dexterous with his jaws as well as with his long-clawed paws. Supper over, old Joe picked Caco up, put him on his shoulder, and gently stroked him. It was a beautiful picture of confidence, contentment and close relationship between a kindly man and his wild animal friend that I will never forget.

Here was a creature of unusual gracefulness and beauty. That evening Caco, with his marvelous liquid eyes, was the real glory of that little desert mountain cabin.

The ring-tailed cat or cacomixtle (ka-ko-MISH-tlay) as the Mexicans call it (the English pronunciation of cacomistle or cacomixle is KAK-o-mis'l), was long brigaded with the raccoons and the coatimundi in the mammalian family *Procyonidae*. These very agile and intelligent animals all have banded tails. The ring-tails (there are two species) now are considered sufficiently unique to warrant a separate family classification, the



Ring-tailed cat. Photo by Avery Field.

Bassariscidae. They belong to the genus *Bassariscus*, a name derived from the Thracian word *bassaris*, meaning a fox, and the Greek diminutive ending *iskos*. It is a name doubtlessly coined with reference to the animal's handsome fox-like face.

Cacomixtle is an Aztec word which, like many others, was carried by the Spaniards far over Mexico and eventually to the United States. Cacomixtle appears in the Aztec and Toltec codices—books of pictographs and phonetic signs painted on paper of maguey fiber or deer skin parchment—and it is believed that these pre-Columbian civilizations were particularly intrigued by this animal. They may not have

venerated the cacomixtle in the same way the Egyptians worshiped the domestic cat, but evidently they thought highly of it.

The ring-tail differs from its nearly-related raccoon cousin in its more slender elegant form, sharper nose and longer tail (as long as the head and trunk), longer toes and smaller teeth.

This attractive animal is found in rocky terrain of arid brush and tree areas of far western United States from southern Oregon southward to the tip of Baja California; and eastward and southeastward through the mesquite and cactus thickets of Texas and Mexico proper. Guatemala is the southern limit of distribution.

On the Mexican Plateau, where it is most common, it is often locally numerous in the arid brush and wooded districts, and in the smaller towns where it makes its den among the stones of the many walls separating the fields. It is generally believed that it will not live where water is not easily accessible. Since ring-tails are almost wholly animals of the night, few people have seen them in the wilds.

They are omnivorous beasts feeding upon juniper and mistletoe berries, cactus fruits, grapes, rodents, small birds, lizards, snakes and grasshoppers.

One observer saw them eating dates in the date gardens of Baja California.

was a lively participant in play with a pointer dog. Tame cacomixtles seldom are other than the finest of animal companions—gentle, desirous of being petted, and seldom given to biting.

Of this animal in captivity, Victor H. Calahane wrote: "When seriously disturbed or when approached by strangers, anger or fear [is] expressed by a succession of growling clucks, or a series of low hoarse barks on a background of deep growls. Wild, trapped ring-tails, when first approached, [may] utter a succession of piercing screams."

Usually the number of young is three or four, born in late April, May or early June. The stubby-nosed short-

queer combination of baboon, bear, raccoon and pig.

Although not an attractive animal, it makes, when taken young, a very fine pet full of clownish habits. Like baboons or javelinas, coatis travel in small often noisy groups of five to 10 or even up to 20 animals, made up of sociable females and their young. Especially intriguing to watch is the manner in which they hunt for food in the open arid brushland, using their long flexible piglike snouts and strong webbed and clawed front paws to root up small rodents, insects, larvae, snakes, centipedes and scorpions. Dry berries of juniper and manzanita, and occasionally small birds, also are eaten.

In many parts of its range the coati is almost wholly arboreal, but in parts of southern Arizona, southeastern New Mexico and northern Mexico it inhabits true desert areas, and at night and sometimes during the day climbs through the palo verde and mesquite thickets. In climbing it uses the tail both for balance and support. One animal which Lloyd Ingles had as a pet used to climb as high as a hundred feet into pine trees.

Because of its upturned nose the Germans call coatimundis *russelbaren* (snouted bears). The New Latin generic name *Nasua* applied to this animal refers to the snout—*nasus* is Latin for nose. The specific name *narica* is from the same Latin noun with the intensive suffix *ica* added to emphasize the length of the nose.

Coatimundis (there are two species) are found from mid-Arizona and southern Texas southward into tropic forests of South America.

The intelligent and nimble-bodied stream-frequenting raccoon often comes down into the margins of deserts where streams of the bordering mountains emerge onto the desert flats. It also is common on the mud flats of such streams as the Colorado River and Rio Grande which traverse the desert lowlands as they run their course to the sea.

Habitat of the Colorado Desert raccoon (*Procyon lotor pallidus*), characterized by its light coloration, is from southern Utah and southern Nevada to northern Baja California and eastward along the Gila River into mid-Arizona. I have seen its telltale tracks in muds along the lower streams of Baja California's Sierra San Pedro Martir where it evidently subsists largely on the small granite-colored tree frog (*Hyla arenicolor*) which inhabits the streams, and on insects such as grasshoppers of the marginal rocky banks. Seeds of mesquite and screwbean trees, and cactus fruits probably are eaten, too.



Colorado Desert raccoon. Drawing by Morris Van Dame.

Studies made on the Edward's Plateau in Texas indicate that in autumn insects make up the largest item of the ring-tail's food, with plant material second. Mammals were the principal food in winter. In summer, insects were first, plants second, spiders third. The conclusion drawn was that the "beneficial food habits of the animal more than make up for any damages done."

Cacomixtles are very active creatures. Their gait, when moving rapidly, has been described as a "loping, humping along, tail straight out behind, drooping toward the end." They are good climbers and will go high into trees and brush in search of food, or to escape enemies. When kept indoors as pets, they enjoy climbing the door and window screens. Dr. Walter P. Taylor tells of a pet ring-tail which

tailed toothless sucklings are blind and their ear canals are closed for the first month of life. The only noise they utter is a metallic squeak, but later this develops into an explosive coughing fox-like bark, or at times a muffled whimpering sound. Weaning takes place near the end of the third month. By this time the animals have a distinct sweetish musky odor due to the secretion of a clear amber fluid from anal glands. The fluid appears when the animal is frightened, or shows strong resentment or anger while being handled.

The coatimundi or cholugo, also a near-relative of the raccoon, walks on the soles of all four feet and usually carries erect its long banded tail. This brownish-gray long-snouted animal at first sight appears to be one of Nature's greatest animal anachronisms — a

Light Precipitation Over Desert Lowers River Runoff Forecasts

Below normal rainfall was recorded over most of the Southwest in January, resulting in a reduced estimation by the Weather Bureau of river runoff volume for the current water-year (October, 1957, to September, 1958).

COLORADO BASIN

Precipitation over the basin above Cisco, Utah, was very light during January, averaging about 50 percent of normal. Forecasts of water-year runoff range from 85 percent of the 1938-52 average for the extreme headwaters of the Colorado, to near average for the Roaring Fork; near 110 percent of average for the Taylor, Gunnison and Dolores rivers; and near 118 percent for the Uncompahgre. Runoff of the Colorado as recorded at Cisco has been considerably above the 15-year average for the first four months of the water-year, but the streamflow for the entire water-year is expected to drop to 94 percent of the 1938-52 average.

Only over the extreme headwaters of the Yampa River in Colorado did monthly amounts approach normal in the Green River Basin. Near average runoff is in prospect for the Green in Wyoming; streamflow for the Yampa is forecast to be slightly above average; while the most promising outlook is for the White River where 118 percent of average runoff is expected. Flow of the Green at Green River, Utah, will be 93 percent of average, the Bureau estimated.

Streamflow outlook for the San Juan is for near average for the tributaries and about 12 percent less than average for the main stream.

LOWER COLORADO BASIN

Watershed conditions deteriorated considerably during January in the Little Colorado Basin because of meager rainfall. Forecast for the November to June streamflow of the upper Little Colorado River at Woodruff, Arizona, is for 39 percent of average. Generally less than half of the November to June runoff can be expected in the Gila River Basin. Other forecasts are: Verde, 83 percent; Tonto Creek, 75 percent; Salt River, 39 percent.

RIO GRANDE BASIN

Precipitation varied considerably over the entire Rio Grande Basin. Some stations reported amounts for January as low as four percent of normal, while others received much above

normal precipitation. The water-year forecasts are: Rio Grande in Colorado, near average; inflow to Terrace Reservoir and Conejos River, 88 percent; eastern tributaries of the upper Rio Grande Valley in New Mexico, above average; inflow to El Vado Reservoir, 80 percent; Rio Chama near Chamita, New Mexico, 112 percent; and Rio Grande at Otowi Bridge, New Mexico, 89 percent. Near to above average streamflow is in prospect for the Pecos River Basin.

GREAT BASIN

January storms over the Salt Lake Basin were rather weak in character, with most stations reporting about two-thirds of normal precipitation. Streamflow of the major streams of the basin for the first four months of the water-year were near the 1938-52 average, and with near normal precipitation through June, streamflows near the

1938-52 average are in prospect for the upper reaches of the Weber, Ogden and Logan rivers. From 10 percent to 15 percent below average runoff is forecast for the lower reaches of the Weber and inflow to East Canyon Reservoir. For the Bear River, near 85 percent of average is anticipated; Provo River, average runoff; American Fork and Spanish Fork, 90 percent.

Water supply for this season on the upper Sevier and upper Beaver basins is forecast to be from 105 to 120 percent of average. Expected streamflow of the Humboldt near Palisade, Nevada, is 69 percent of the 1938-52 average.

Water-year runoff for the Carson is forecast to be near 70 percent of the 15-year average. About 85 percent of average runoff is indicated for the West Walker, and near 70 percent of average for the inflow to Bridgeport Reservoir. Near 87 percent of average streamflow is forecast for the Owens River near Bishop, California.

The water-supply outlook for the Mojave River in California is for slightly more than half of the 1938-52 average.

Profit From Your Photos . . .

In April, the desert is the photographer's most fascinating stage. The earth in bloom, sun-filled days and interesting characters—from horned toads to humans—combine to make the list of camera subjects endless. Add enjoyment and profit to your hobby by sharing the best of your photographs with folks who share your interest in the outdoors. Regularly enter Desert Magazine's Picture-of-the-Month Contest. It's open to both amateurs and professionals, and two cash prizes are given each month for winning entries.

Entries for the April contest must be sent to the Desert Magazine office, Palm Desert, California, and postmarked not later than April 18. Winning prints will appear in the June 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 must be black and white, 5x7 or larger, 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—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

LETTERS

Cyanide Guns Threaten Outdoors
San Jacinto, California

Desert:

In the July, 1956, *Desert* I find a warning to rockhounds to guard against being harmed by the dastardly cyanide guns which are being used for predator control.

What a shameful situation it is when we no longer can go out into the desert and other public lands for recreation without assurance that we will not come in contact with the cyanide gun or some other form of dangerous poison.

I have a newspaper clipping dated April 2, 1957, telling of a two-year-old

girl who was injured by a cyanide gun in Central California. Her parents had stopped beside the road for a picnic snack when the accident occurred. I wonder what "expert" placed this dangerous device so near the road? The child was fortunate she was not killed.

LESTER REED

Men of the London Extension . . .

Denver, Colorado

Desert:

The February *Desert* story on the London Extension Company's Gold-acres Mine in Nevada caused many memories of the early years of the century to rush through my mind.

Several times during this period I was grubstaked in Denver to go to Nevada and "possibly" become a gold mining millionaire. In the memories of those times I recall the discovery

and development of the London Extension Mine in Park County, Colorado, about nine miles east of Leadville.

I was prospecting and mining in the Alma Mining District at this time and the five men who owned the Extension Mine were my friends. In business, mining, engineering and professional pursuits they were of the old school, imbued with reality, determination, integrity and valor. The word "defeat" was not in their vocabulary. They traced the great London Vein and Fault, decided where it might be exposed, and then dug a tunnel to the ore. The five owners worked for months, never wavering until their dream was realized.

And now I learn with deep satisfaction that their heirs own the Gold-acres Mine, which appears to be far more profitable than even the Extension.

JESSE TAYLOR

Lost Breyfogle Mine . . .

Carlsbad, New Mexico

Desert:

In the January *Desert* book review of *Lost Mines and Hidden Treasure* you mention the Breyfogle "silver." To the best of my knowledge, the Breyfogle was a gold mine. I wore out several pairs of shoes looking for this lost bonanza.

J. E. HORTON

Dear Mr. Horton: There are many versions of the story about Breyfogle's lost ledge. Some writers say it was gold, but others insist it was silver ore with some gold content. Leland Lovelace, author of "Lost Mines and Hidden Treasure," describes the ore as "white, heavy silver in beautiful pink quartz."—R.H.

Colorado-Mojave Boundary Line . . .

Yucca Valley, California

Desert:

Since release of my new book, *My Life on the Mojave*, several people have told me that the Yucca Valley area of which I wrote is on the Colorado—not Mojave—Desert. Is my book mistitled?

JUNE LeMERT PAXTON

Dear June: Your title is correct. It is generally accepted that the Little San Bernardino Range is the dividing line between the Colorado and Mojave deserts—Desert Magazine has always so defined it, and most authorities agree.—R.H.

Memories of Old Nevada . . .

Seekonk, Massachusetts

Desert:

Your magazine has brought back many memories of the three years I

TRUE OR FALSE:

This quiz is for those who aspire to live in a big world—whose interests encompass geography, history, mineralogy, wildlife and the lore of the desert country. There's a liberal education in the monthly tests published by *Desert Magazine*. A fair score is 12 to 15, a good score is 15 to 17, and 18 or over is superior. The answers are on page 40.

- 1—Ironwood will not float on water. It sinks to the bottom. True..... False.....
- 2—Wild turkeys are still to be seen in some parts of the Southwest. True..... False.....
- 3—The Apache rebel Geronimo was killed in battle. True..... False.....
- 4—Pyramid Lake is in Utah. True..... False.....
- 5—Ultra-violet rays from the sun are believed to have caused the petrification of the fossilized wood found so widely in the Southwest. True..... False.....
- 6—Cactus furniture and novelties made by many craftsmen in the Southwest generally are made from the dead stalks of Cholla cactus. True..... False.....
- 7—Bill Williams was a famous steamboat captain on the Colorado River. True..... False.....
- 8—Capt. Palma was the name of a famous Yuma Indian chief. True..... False.....
- 9—Free gold is sometimes found in quartz. True..... False.....
- 10—The South Rim of Grand Canyon is higher than the North Rim. True..... False.....
- 11—The Great White Throne is in Zion National Park. True..... False.....
- 12—The capital of Nevada is Reno. True..... False.....
- 13—Highway 66 crosses the Colorado River at Topoc. True..... False.....
- 14—Sunset Crater in northern Arizona was an active volcano within the memory of living persons. True..... False.....
- 15—Date palms are not a native of North America. True..... False.....
- 16—First known white men to see the Carlsbad Caverns in New Mexico were Spanish padres. True..... False.....
- 17—Certain species of desert birds build their nests in cactus. True..... False.....
- 18—Wickenburg, Arizona, is on Highway 80. True..... False.....
- 19—Most conspicuous peak visible from Flagstaff, Arizona, is Navajo Mountain. True..... False.....
- 20—The Green River of Utah is a tributary of the Colorado River. True..... False.....

spent in Nevada from 1905 through 1907.

My headquarters was Goldfield, a boom town that grew from a few hundred people to 13,000 in a few years. I held down many different jobs — prospector, assayer, postoffice clerk, grocery wagon driver, bill collector and surveyor's helper.

These varied occupations allowed me to visit many places and meet many people—Tex Rickard, gambler, sportsman and fight promoter; Diamondfield Jack Davis, mine owner who was tried and acquitted of killing sheepherders; Death Valley Scotty who had a dirty rag wrapped around one arm where a skunk had bitten him;

Dr. Mary Williams, more interested in prospecting than medicine and always looking for that big strike; Mohawk stock rising from 40 cents to \$20 a share in a few month's time; a big floating population from all over the world, and every corner a saloon and every saloon a gambling joint open 24 hours a day;

The struggle between the A.F. of L. and I.W.W. over control of Goldfield's labor, and President Teddy Roosevelt sending Federal troops in to prevent bloodshed; the day water arrived through the new 30 mile pipe line and it was too alkaline to drink;

The 20 Mule Team passing through Goldfield on its way east to advertise borax; the day Editor Sprague of the *Goldfield News* dropped his two

crutches and beat all local 100 yard dash records when a pistol accidentally dropped behind him went off;

Surveying mining claims at Klondike Wells for Jim Butler, the discoverer of Tonopah which he described as "pure luck"; men paying \$3 a night to sleep on a hotel floor; two bits for two donuts and a cup of coffee; two bits to wash a pair of stockings; 75 cents for a T-Bone steak; Diamondfield Jack Davis and his hunchback bodyguard . . .

These were interesting times.

JOHN H. HYLAND

• • •

A Friend in the Desert . . .

Laguna Beach, California

Desert:

One warm May day in 1938, my friend and I decided to take a picnic lunch to Corn Springs. It would be a gay adventure, we decided, but hardly worth stopping to tell my husband where we were going. As we drove past the garage in Desert Center where he was working, we waved and called out that we would be home in time to get his dinner.

Two miles from Corn Springs we bogged down in the soft sand. After a futile attempt to move the car by placing mesquite branches under the rear wheels for traction, we gave up and started up the wash to Corn Springs for help.

The road was slightly up-grade all

the way to the oasis. My friend had on a silly little hat which kept bobbing up and down as she walked. She reminded me of a tin soldier marching in the sand—two steps forward, slide back one.

After what seemed hours, we reached the spring and luckily there was a man who agreed to aid us—only he had no car, which meant we had to walk back. He picked up his shovel and back we hiked to the stalled automobile. Fortunately we were walking down-grade now.

When we reached the car my friend and I fell exhausted under the shade of a mesquite tree while the man went to work freeing the car by jacking up the rear wheels and placing more branches under them. After he drove the car onto solid ground we felt such a deep sense of gratitude for his assistance that no fee he may have charged for his hot task would have seemed unreasonable.

When we asked what we owed him, he looked at the picnic basket in the car and with a twinkle in his eye said, "Just give me a piece of homemade cake."

We learned two things about the desert that day: never make a trip into it without telling someone at home where you are going; and, helping people in distress is second nature with true desert folks.

VELMA DUTTON

Here and There on the Desert . . .

ARIZONA

Indians Win Court Decision . . .

PHOENIX—State courts are without jurisdiction over Indians who violate the Arizona traffic laws upon state highways running through Indian reservations, the Arizona Supreme Court ruled. The decision closely parallels one handed down by the New Mexico Supreme Court earlier. Thus the Arizona high tribunal further clarified the relationships state law agencies have with Indians—who now have full voting rights, but still are considered wards of the Federal Government. The Arizona high court earlier ruled that state courts were without authority in attaching property of an Indian on reservations to settle a claim. The traffic law decision makes it clear, however, that the authority of the Arizona State Highway patrolmen not only to investigate accidents but also to arrest violators has not been questioned. Highway patrolmen can still pursue and arrest Indians on the high-

ways within the reservations, but the charges will have to be filed with the Indian Tribal Courts.—*Phoenix Gazette*

• • •

Cibola Bridge Change Denied . . .

CIBOLA—The Army will not allow owners of the illegally-built bridge across the Colorado River at Cibola the right to modify the structure in order to comply with government regulations. A request to construct a movable 20-foot section in the bridge that could be lifted 12 feet hydraulically so that boats could pass underneath was denied. The bridge is only six feet above the river surface. It was built last May at a cost of \$60,000 without state or federal permission.—*Yuma Sun*

• • •

Park Status Asked . . .

HOLBROOK—The Department of Interior recommended enactment of a bill introduced in the House of Representatives by Rep. Steward L. Udall, which provides for raising the status of

Petrified Forest National Monument to that of a National Park. According to the legislation, the monument would become a park as soon as some 8150 acres of land now in private ownership within the monument boundary are acquired by the Interior Department. Negotiations to transfer this land to the government are now underway.—*Holbrook Tribune*

• • •

Indian Self-Rule Plans Told . . .

PHOENIX — Southwestern Indian tribal leaders and officials of the U.S. Bureau of Indian Affairs gathered recently to discuss a possible timetable for Federal trusteeship over Indian lands to end, giving Indians full responsibility for managing their reservations. Officials of the Indian Service advised the Indians to start planning now for the day when Federal trusteeship ends. Although it may be a long time before the Indians are on their own, certain problems can be worked out now, conference speakers pointed out. Immediate need for complete audits of reservation lands, determination of sub-surface titles, surveys, boundaries and interior lines were cited.—*Phoenix Gazette*

Solons Back Parker Indians . . .

PARKER—Arizona's congressional delegation has given its unanimous support to the appeal of the Colorado River Tribe for independence and self government. The action followed the Tribe's offer to negotiate a long-range plan with the Department of Interior leading to the right of self-determination. Tribal leaders and the Department of Interior agreed on: creation of an advisory group of Arizona citizens to help the Tribe with financial problems; the Tribe is to work out its independence plan; and when approved by the Department of Interior, this plan will go to the Arizona representatives and senators who will attempt to change it into law.—*Yuma Sun*

CALIFORNIA

Roadside Rests Dedicated . . .

LUDLOW—The California Division of Beaches and Parks officially dedicated the first three roadside rest stations in the state. The group is on the

Mojave Desert at Ludlow and points 96 and 123 miles east of Barstow, also on U. S. Highway 66. By the end of this year, the state hopes to have 20 to 30 units completed in forested areas of northern counties, and 14 more in San Bernardino County desert areas. From then on, if appropriations are made as needed, the program will proceed at an accelerated rate and the state, at the end of five years, will have 300 rests at intervals of 50 miles along 15,000 miles of state highways. Cost of constructing the first units averaged \$6410 each. . . .

Mojave Dam Location . . .

VICTORVILLE—The Zone 4 Flood Control District Advisory Board approved a site on the west fork of the Mojave River south of Victorville proposed by the U.S. Corps of Engineers. Next step is to secure Congressional authorization of funds for the project which will cost an estimated \$3,000,000. . . .

Desert Zoning Brings Protests . . .

SAN BERNARDINO—Opposition was voiced at recent hearings to a proposal by the San Bernardino County Planning Commission that vast tracts of desert land be zoned for single family residences on two-and-a-half acres to correspond with the parcel sizes the Government Bureau of Land Management intends to release to the public. Involved is 700 square miles of desert land from Johnson Valley to a point east of Twentynine Palms. The desert land owners protesting the Commission proposal contended that real estate promoters are

backing the change. The desert residents at the angry hearing made it known that they have their own plans for development, and resent the county seat trying to control them from afar.—*Desert Journal*

Mecca Hill Park Acquisition . . .

MECCA—A restrictive Federal law which could drag out for 20 years acquisition of lands for the proposed Mecca Hills State Park may be circumvented by a lease plan. William L. Kenyon, Southern California district manager of the State Division of Beaches and Parks, said plans for the park are hampered by a law which sets the amount of public domain land a state can acquire for recreational purposes at one square mile a year. The projected park contains 40 square miles, 20 of them Federally owned. The state, according to Kenyon, now hopes to avoid the 20 year acquisition process by working out a lease agreement with the government. —*Coachella Valley Sun*

Encampment Dates Announced . . .

DEATH VALLEY—The weekend of November 6 through 9 was set as the date for the 10th Annual Death Valley Encampment by directors of the Death Valley '49ers Association. Fred Binnewies, Monument superintendent, told the officers that work on the Death Valley Museum is expected to begin in October. Many artifacts are going to be needed for the museum, the directors pointed out, and persons having authentic relics which they wish to donate should contact Binnewies. Encampment officers for 1958 are Alex Krater, president; John Anson Ford, first vice president; Harold Ihrig, second vice president; Eugene Hoffman, executive secretary; Yvette Mayou, recording secretary; and Arthur W. Walker, treasurer.—*Indian Wells Valley Independent*

Joshua Monument Adds Ranch . . .

TWENTYNINE PALMS—The National Park Service bought the Charles L. Stokes property in Joshua Tree National Monument. Purchase price was \$125,000 for the 450.9 acre property, including two connected buildings and two wells. One of the wells is operating and has a 2000 gallon water tank. The property is located one mile south and slightly west of Hidden Valley campground.—*Desert Trail*

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Palm Desert, California



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NEVADA

Burro Hunter Permits Protested . . .

MINA—Application of three men to capture wild burros in Marietta Valley was tabled by the County Commissioners following a vigorous protest by 83-year-old William J. Ford of the Tonopah Junction Rock House. The hearing was to be resumed in early March. "Other states are protecting their wild burros, but we are giving them away," Ford declared. He added that no one has the right to sell the burros because they "belong to the state."—*Mineral County Independent*

Twenty-one Bighorns Slain . . .

CARSON CITY — Latest tally of Nevada's 1957 desert bighorn sheep hunt based on 47 out of 60 tags returned indicates that 21 animals were taken by hunters. Of this total, 16 were killed in the Sheep Mountain portion of the Desert Game Range, two in the Pintwater portion, and three in areas of Lincoln and Clark counties lying outside the range.—*Nevada State Journal*

Fifth Colorado Dam Proposed . . .

BRIDGE CANYON—A fifth dam on the Colorado River rivaling Hoover Dam in size is proposed in a bill introduced in Congress by Nevada Senator George W. Malone. Site of the dam would be in the main stream of the river at Bridge Canyon just above Lake Mead. Malone said the dam would have a storage capacity of only 3,700,000 acre feet of water (compared with Glen Canyon's 26,000,000), but would be high enough to produce 750,000 kilowatts of electricity, almost as much as Hoover Dam.—*Eureka Sentinel*

To Open Mormon Trail . . .

LAS VEGAS — To preserve and mark the old trails over which the flood of emigrants came to California, 100 riders plan to leave Calico on the morning of May 10 and ride 185 miles to Las Vegas in time to join the Hell-dorado Days parade on the 17th. Plans for the cross country ride are being formulated by the Equestrian Trails Corral No. 11 of Barstow. Reservations for the ride are open to all horsemen, and can be obtained by writing to the Barstow Chamber of Commerce.—*Barstow Printer-Review*

NEW MEXICO

Rio Grande Storage Plans . . .

WASHINGTON, D. C. — New Mexico Senator Dennis Chavez has introduced legislation which he hopes will help settle the question of where water storage units will be placed on the Rio Grande River. Chavez declared the Army Corps of Engineers has "shifted reservoir sites several

times" in their future planning for the main stream flood protective system. The Senator said he expects the hearings that will be held on his proposed legislation will help develop the complete programming for the project. —*El Crepusculo*

Solar Heater In Operation . . .

LAS CRUCES—The solar heating system in the home of Dr. J. A. Soules, New Mexico A&M physics professor, has successfully passed its preliminary tests. Following the completion of the solar collectors, a temperature of 60 to 62 degrees Fahrenheit can be maintained in the house even on the coldest nights. Heat is collected on the roof and transferred to water which is pumped throughout the house to provide indoor warmth.—*Las Cruces Citizen*

Grazing Fees Boosted . . .

WASHINGTON, D. C. — Basic grazing fee for use of Western Federal range lands during 1958 will be 19 cents an animal-unit-month—a 4 cent increase over the 1957 rates, the Interior Department announced. Affected are 30,000 stockmen who graze almost 12,000,000 head of livestock on the Federal range. The new fee is based on average livestock prices at markets in the 11 Western states during the preceding year.—*New Mexican*

UTAH

Plaque for Gold Spike Monument

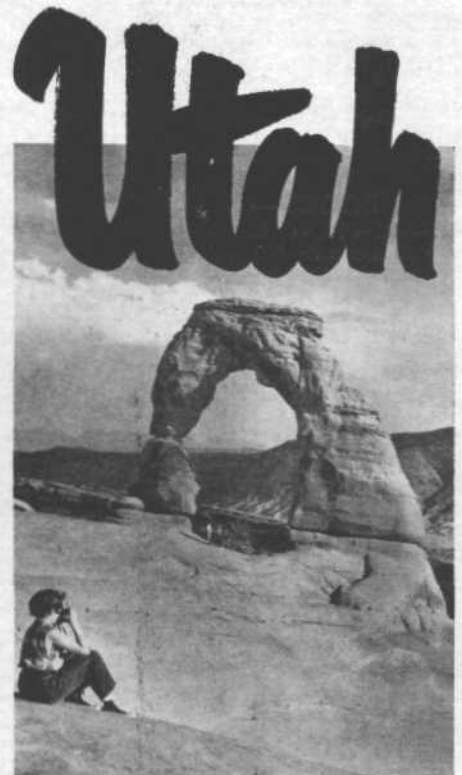
BRIGHAM CITY — On May 19, 1869, the first transcontinental railroad across the United States was completed with the driving of a golden spike where working crews from the east and west met at Promontory, Utah. Since then the site has been made a National Monument and more than 5000 persons registered at the Monument last year. Plans are now being completed for the dedication of a bronze plaque to be installed by the National Park Service at the exact point where the golden spike was driven.—*Box Elder Journal*

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PALM DESERT, CALIFORNIA

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200-Mile River Marathon . . .

MOAB — Moab and Green River civic leaders report enthusiasm is running high for the June 15 River Country Marathon. The 200-mile run is expected to focus attention on the river recreation potential of Southeastern Utah. The course will start at the community of Green River, proceed down the Green 128 miles to the junction with the Colorado, then northward up the Colorado 68 miles to Moab. The Marathon, which is planned as an annual event, will cover sections of the rivers which afford spectacular scenery, smooth waters and boating opportunities for those persons who do not have the equipment or experience to navigate the rapids in other sections of the rivers.

Salt Lake Dikes Proposed . . .

FARMINGTON — A long-range plan for four dikes which would enclose 1,814,000 acre feet of water on the east side of the Great Salt Lake in a reservoir independent of the main body of water has been reported by the Diking Advisory Committee of the Utah State Road Commission. One of the dikes, extending from Syracuse Point to Antelope Island would carry a roadway giving access to the island as a recreational park. It is suggested that in future years when the de-salting of water is perfected, the reservoir may become the source of water for irrigation and domestic purposes. Estimated cost is \$8,465,000, plus an additional three million for roads which would provide access to the Antelope Island recreational area.

Utah Planetarium Opens . . .

PROVO — A three - dimensional replica of the Utah Valley skyline may be viewed at the first Planetarium to be built in Utah, and now open to the public at Brigham Young University. The \$5500 Spitz optical projector creates an illusion of the sky with changing position of the sun, moon and planets, which may be studied while sitting in indoor comfort. Weekly lecture demonstrations are given for those wishing to attend.

Visitors See Elk Fed . . .

CACHE COUNTY — The winter feeding of the herd of four to five hundred elk at the Utah Fish and Game Department's Hardware Ranch is attracting increased thousands of visitors during the season. The trip to see the great herd becomes an exciting winter outing, particularly for youngsters, who find riding on the hay sled with bells jingling a real treat. Joe Berger, who hauls, with team and

bobsled, around 100 bales of hay daily to the feeding grounds, states that as many as 2000 persons journey to the ranch on weekends.—*Salt Lake Tribune*

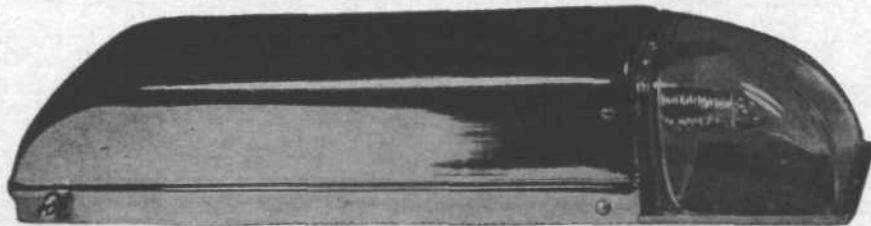
Utah Buffalo Herd Numbers 49 . . .

HANKSVILLE—The state's buffalo herd appears to be holding its own, Fish and Game Department officials reported following the annual census of the herd which showed 49 animals. This is the highest count in several years. The census was made by airplane. The herd ranges in Wayne and Garfield counties in the vicinity of Hanksville and the Henry Mountains.—*Vernal Express*

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MINES and MINING

San Francisco, California . . .

Olaf P. Jenkins, California State Mineralogist and Chief of the Division of Mines, retired from public service on March 1. Jenkins joined the Division of Mines in 1929 and was its director since 1947.

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Phoenix . . .

Arizona Governor Ernest McFarland has appealed directly to Congressional leaders for enactment of legislation providing that a four cent tariff on copper be imposed when the price drops below 30 cents per pound. In a relatively short time, the price of copper has dropped from 46 cents a pound to 25 cents, McFarland pointed out. "There was a great decrease in the income of Arizona mining companies for the year 1957—\$129,000,000. While the copper mines have not materially cut down the number of employees as yet, they have reduced the hours of employment which has reduced the take-home pay an average of \$43 a month," McFarland said.

—*Guardian-Farmer*

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Henderson, Nevada . . .

Stauffer Chemical Co. recently entered the boron compound field when it signed a joint partnership agreement with Aerojet-General Corporation of Azusa, California, under which the two firms will develop and produce boron compounds expected to be widely used for rockets, missiles and airplane propulsion. The partnership will be known as the Stauffer-Aerojet Co.

—*Pioche Record*

Grand Valley, Colorado . . .

Union Oil Company Vice President Fred L. Hartley said his company is convinced that oil can be produced from shale at a cost no greater than for petroleum production. "There is no longer any question that shale oil is competitive with domestic petroleum. Today we are concerned only about getting shale oil onto a cost basis competitive with Middle East oil," Hartley declared. Union has an experimental plant near Grand Valley, in western Colorado, close to huge beds of shale.

—*Pioche Record*

Grass Valley, California . . .

Senator William Knowland told local miners that he is preparing legislation which would allow U.S. gold miners to receive the world price for their product. "Policies of the national administration since the crime of 1933 resulted in the closing of many of the gold mines. This discrimination should not be legalized in a country which takes pride in the free enterprise system," Knowland said.

White Pine County, Nevada . . .

Kennecott Copper Corporation has purchased the copper properties of Consolidated Coppermines Corporation in White Pine County, Nevada. Involved was a cash settlement of \$8,400,000. The sale includes only Coppermines' mining properties which are in Nevada. The Coppermines subsidiary firms such as Titan Metals Manufacturing Co. and Rockbestos Products Co. were not involved in the deal. Kennecott officials said the assimilation of the newly acquired properties will require a revision of mining procedures. The Tripp Pit, a principal holding of Coppermines in White Pine County, will be inoperative for a period while new procedures and mining schedules are being planned.

—*Salt Lake Tribune*



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Green River, Utah . . .

Union Carbide Nuclear Corporation completed testing of its Green River uranium ore upgrading plant. A similar operation at Slick Rock, Colorado, in the Uravan Mineral District also was reaching completion. Both this plant and a new uranium mill at Rifle, Colorado, are what the Atomic Energy Commission refers to as the "Rifle complex" of plants being built at a cost of over \$8,400,000 by Union Carbide Nuclear. Input capacity of the Green River "chemical-mechanical" concentrator will be between 300 and 400 tons daily. Ore grades entering the upgrader are around .3 percent U308. After processing, the concentrates will be around 15 percent U308. —*Salt Lake Tribune*

Carson City, Nevada . . .

The Nevada Mining Association charged that Japan purchased 80 percent of the state's \$2,253,000 iron ore output in 1957 with U.S.-supplied aid funds. The state's total mining output last year was \$83,411,000, compared with a production of \$126,234,615 in 1956. Employment in Nevada mines was about 2300 less in December 1957 than in December 1956. The Mining Association said many Nevada communities, formerly prosperous and content, are now ghost towns, or soon will be. This applies particularly to communities depending upon tungsten and lead-zinc mining for their survival. —*Reese River Reveille*

Desert Creek Area, Utah . . .

The 38,460-acre Desert Creek area of San Juan County may contain over 1¼ billion barrels of oil in place, a petroleum engineer for the Carter Oil Co., Standard Oil subsidiary, estimated. Only about 20 percent of the reserve of high quality crude oil could be recovered on a primary basis, he added. Secondary recovery would result in about that much again being recovered. The 60 percent remaining would be left in the ground. —*Salt Lake Tribune*

Silver City, Nevada . . .

Donovan Mining and Milling Co. reported the uncovering of a 750,000-ton gold ore body showing values of \$10 to \$17 per ton. Donovan has been developing the Silver City mine for two and a half years. —*Mason Valley News*

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Jungo, Nevada . . .

Highest grade iron ore mined in any quantity in the United States is being taken out of Jackson Mountain mines, the producers report. Ore amounting to 40,000 tons extracted from the Austin-Beko Mine and 25,000 tons from the neighboring Humboldt Metals Company Mine has averaged about 65 percent iron, compared with the famed Mesabi Range's 50 percent ore. The Jungo "premium" ore is being mixed with other ores of lower quality so that they will refine more readily. —*Humboldt Star*

Battle Mountain, Nevada . . .

Mining operations have begun on the Clipper group of quicksilver claims in the Ivanhoe Mining District, following the purchase of the property by Horace T. Jones of Salt Lake City. The new owner announced plans for the installation of a Crocker rotary plant, power plant and crusher. —*Pioche Record*

Cannonville, Utah . . .

American Mud and Chemical Corporation of New Orleans, La., has completed its bentonite plant at Cannonville. Commercial outlet for the product, a pure clay that swells in water, will be in Southern California and the Four Corners area. Bentonite has an important use in oil fields, foundaries and various water saving practices. —*Garfield County News*

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GEMS AND MINERALS

Bulletin Editors' Seminar Honors Brewers of Pasadena

Robert and Ella Brewer of Pasadena, California, received *Desert Magazine's* Bulletin Editor of the Year award at the February Bulletin Editors' Seminar. Over 75 editors and their guests representing 25 clubs attended the program. The Brewers edit the *Bulletin of the Mineralogical Society of Southern California*.

In making the award, Seminar Chairman Eugene Conrotto paid tribute to the excellence of editorial quality and furtherance of the gem and mineral hobby in the Brewers' bulletin. Conrotto spoke to the editors of the necessity of their developing professional journalistic standards. "The hobby stands at the crossroads, and whether it evolves as a federation of local clubs equipped to deal with the increasing mutual problems of outdoor collecting; or whether it sinks into an assemblage of clubs working at cross purposes, very markedly can be determined by you editors," he said.

Randall Henderson, *Desert's* editor, welcomed the bulletin workers, and outlined for them the magazine's policy of the past 21 years regarding mineral collecting. He called on the editors to use their publications to promote the work of conservation, and to fight outdoor abuse.

Seminar discussions were led by Mrs. Vivienne Dosse of Fontana, editor-in-chief of the National Bulletin Editors' Association. She emphasized the means of improving bulletins, both editorially and mechanically.

That evening, the group enjoyed a chicken barbecue prepared by the Shadow Mountain Gem and Mineral Society's chuckwagon crew under the direction of club president Herb Ovits. An informal campfire program followed, highlighted by singing led by Dan Brock of Los Angeles.

Plans are underway to make the Seminar an annual affair, Conrotto said.

NO GEM HORDE IN UNDERGROUND A-BLAST

The Atomic Energy Commission said it is unlikely any man-made gems were created by the underground atomic test blast in southern Nevada last September. The opinion was based on preliminary results obtained from drill samplings taken from the detonation area.

The underground firing raised speculation among scientists that the heat and pressure from the blast might have resulted in the creation of gems out of minerals.

AEC scientists reported there was only radioactive debris and pulverized rock near the zero point of the blast.—*Nevada Appeal*

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DATES ANNOUNCED FOR BIG SEATTLE AREA SHOW

October 4-5 dates have been set for the Seattle, Washington, Regional Gem and Mineral Show. Eight local clubs are expected to participate. This is the fourth co-operative show and has become a major attraction in the Northwest for amateur gem collectors. For commercial space or other information contact Lula Roberson, 522 North 70 St., Seattle 3.

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GUARD AGAINST SILICOSIS IN LAPIDARY WORK

Lapidary work generates a fine dust, particularly in dry sanding, and over a period of time the hobbyist who does not take proper precautions against inhaling this

dust could contact silicosis, a disease of the lungs. This malady at one time was known as "Miner's Disease."

This warning comes from Fred Kirkish of the Mother Lode Mineral Society of Modesto, California. Silicosis, similar in symptoms and effects to tuberculosis, is caused by inhaling fine silica (quartz, agate, jasper) or silicate dust (most minerals).

Dust of this sort was commonly present in mining before dry drilling was outlawed. Control has been effected in the mining industry through use of water in drilling and through adequate ventilation. Trouble even today, however, is occasionally re-

ported, particularly in milling. Industry is now being required by law to provide efficient dust collecting equipment and ventilation wherever minerals are finely ground.

In addition to the effects of silica, the amateur lapidary is exposed to minerals which contain such poisonous substances as copper and arsenic which can be harmful if inhaled over a period of time.

Anyone who does a great deal of lapidary work should give some serious thought to reducing exposure to dust from dry grinding, sanding or polishing. One of the easiest ways to do this is to wear a dust mask.

In setting up lapidary equipment, some thought should be given to designing efficient suction ducts to remove dust. Wet sanding, grinding and polishing are safe procedures.—*Ghost Sheet*

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Gem Clubs Name New Officers . . .

Unanimously elected to head the Mother Lode Mineral Society of Modesto, California, for the coming club year were: Jake Etnyre, president; Marjorie Hollingsworth, vice president; Evelyn Etnyre, secretary-treasurer; and Dick Badger, editor—*Ghost Sheet*

New officers of the Sacramento, California, Mineral Society are: Eugene Krueger, president; Charles Horner, vice president; Fred Johns, recording secretary; Paul Watson, financial secretary; Luther Ford, treasurer; Dermon d'Arcy, federation director; and Paul Schuder, Art Grebe, Raulin Silveira and George Winslow, directors. — *Matrix*

Herschel Owens, president; Helen Bever, vice president; Gladness Orr, secretary; and Mabel Anderson, treasurer; are the new officers of the Sequoia Mineral Society of the Fresno, California, area. — *Sequoia Bulletin*

The Riverside, California, Gem and Mineral Society elected the following new officers: Clarence Wonderlick, president; Lynn M. Skinner, vice president; Ralph Hasdal, secretary-treasurer; and Tom Harwell and James Martin, directors.

Clay Scott was re-elected president of the Hemet-San Jacinto, California, Rockhounds Club. Other officers unanimously re-elected were Webb Parker, vice president; and Katherine Kelly, secretary. — *Hemet News*

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ATTENTION DEALERS and novelty stores: "Baroque Jewelry" — earrings, necklaces, key chains, lariats, cufflinks and baroques by the pound; also polished thundereggs, petrified wood, snowflake obsidian—ready for resale. Write for wholesale prices now. Roy's Rock Shop, Box 133, Trinidad, California.

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DESERT ROCKS, woods, jewelry. Residence rear of shop. Rockhounds welcome. Mile west on U.S. 66. McShan's Gem Shop and Desert Museum. P.O. Box 22, Needles, California.

ROCKS—opposite West End Air Base, agate, woods, minerals, books, local information. No mail orders please. Ironwood Rock Shop, Highway 60-70 West of Blythe, California.

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ULTRA VIOLET lamps for spectacular mineral fluorescence from \$14.50. Free brochure. Radiant Ultra Violet Products, manufacturer, DM, Cambria Heights 11, New York.

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SCINTILLATORS, REGULAR \$495, \$200. Gun probe style, regular \$640, only \$225. Write for literature, or information. Also metal locators. Kenneth Mayhall, Bellmont, Mississippi.

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12 POUNDS OF beautiful Colorado mineral specimens, \$8.00 prepaid. Ask for list of others. Jack the Rockhound, P. O. Box 245, Carbondale, Colorado.

FOSSILS. 12 different for \$2. Other prices on request. Will buy, sell or trade. Museum of Fossils, Clifford H. Earl, P. O. Box 188, Sedona, Arizona.

GENMY FLUORITE octahedrons. 3 pairs \$1. Each pair a different color. Gene Curtiss, 911 Pine St., Benton, Kentucky.

GOLD QUARTZ specimens for sale. Extremely rich gold quartz from a producing Mother Lode mine. These specimens have been hand picked for their excellence as collectors' items. \$2 and up postpaid. Also fine quality gold nuggets \$2 and up. Dell Riebe, P.O. Box 46, Grass Valley, California.

MISCELLANEOUS

LOOKING FOR a silversmith? See Dick Copp in Desert Magazine lobby. Specializing in the creation and repair of jewelry.

RARE GREEN GARNETS, \$3.00; Finest 6 Ray Star Quartz resembling expensive Blue Star Sapphire, \$5.50; Rare Green Quartz Oval and octagon, \$8.00; Rare Oriental Black Pearls, \$3.50; Beautiful Moonstone Necklaces and Bracelets direct from Ceylon, \$15.00; Rare Scenic Agates, and Fern Agates, \$4.00; 100 gram lot Rough Star Rubies, \$10.00; 1 dozen drilled imported Nugget Stones, \$3.50; Amber with Flies in each, \$5.00. Very many other cut and rough stones also. Ernest Meier, Church St. Annex, Post office Box 302, New York 8, N.Y.

HAVE 11,000 oz. placer gold, 900-f., beautiful, at \$50 an oz. Beautiful rock selections, \$12.50 for 20 pounds. Gem and cutting grade, geodes 50c each. No orders filled under \$12.50. J. S. Wisdom, Goldpoint, Nevada.

DEALER'S WIDOW must sacrifice large rock stock at fraction of \$40,000 appraised value. Includes crystallized specimens, cutting material, cut stones, etc. Real property also available: shop operated this location 15 years; old house; 2½ lots fronting highway. Any reasonable offer considered to close estate. Box BW3, Desert Magazine, Palm Desert, Cal.

Engineers studying different metals as a means of insulating auto windshields and window glass against summer heat rays, have found that a film of pure gold about 1/30,000 the thickness of a human hair filters out the heat producing rays, yet lets the cooler light beams pass through. — *S.M.S. Matrix*

MORE NEW OFFICERS . . .

New officers of the Eastern Sierra Gem and Mineral Club are: Ralph Johnson, president; Claude Walborn, vice president; Mrs. Henry Nichols, secretary; Marie Rudolph, treasurer; and Clarence Dixon, Rollin Enfield, Mrs. Mildred LeBlanc, Alfred Partridge and Fred Springer Sr., directors.—*Inyo Independent*

Hugh Burnside was elected president of the Wasatch Gem Society of Salt Lake City. Serving with him will be Norman Hamilton, vice president; Marie Bird, treasurer; and Mary Anderson, secretary. Named to the board of directors were Tom O'Neal, B. D. Bennion, Robert Price, Marie Crane and Thelma Jordan.

Following new officers were named by the Palos Verde, California, Gem and Mineral Society: Larry Coker, president; Vee Converse, vice president; Mary Capozzi, treasurer; and Dorothy Hewitt, secretary.

C. R. Wallace was elected president of the Contra Costa Mineral and Gem Society of Walnut Creek, California. Also named to office were: Bart DeLorenzo, vice president; Mrs. Helen Nelson, secretary; and Mrs. C. S. Holderman, treasurer.

The Del Norte Rockhounds of Crescent City, California, have named these new officers: Mona Merrill, president; Aletha Hills, vice president, Vincent Hills, secretary-treasurer; Leslie Ziebell, show chairman and federation director; and Marian Dennison, Leora Bouffard, Bill Chandler, Armand Poirier and Fred Williams, directors.

The following were elected to office by the Gem Cutters Guild of Baltimore: Robert C. White, president; Margaret J. Wise, vice president; Etta Rasch Davidson, corresponding secretary; Florence M. Pearson, recording secretary; and William M. Crosby, treasurer.—*Gem Cutters News*

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New officers of the El Paso, Texas, Mineral and Gem Society are: John H. Pettenger, president; R. W. Vaughan, vice president; Mrs. Celia Pettinger, secretary; H. H. Berryhill, treasurer; Mrs. Hortense Newell, historian; H. L. Zollars, bulletin editor.—*The Voice*

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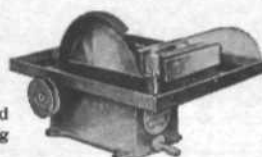


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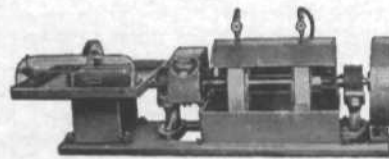
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Sunday, April 20, 10 a.m. to 6 p.m.

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The Kern County Mineral Society of Bakersfield, California, named these new officers: Les Darling, president; Dr. Leonard Duck, vice president; Frances Clark, treasurer; Wilma Pruitt, editor; and Gae Chenard, director.—*Pseudomorph*

By adding a few drops of liquid soap to the water used for mixing cerium or chrome oxide, polishing is made easier and faster because the compound sticks to the polishing wheel longer.—*Template*

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SPRING SHOWS

Orange Coast Society Plans 11th Jubilee

Members of the Orange Coast Mineral and Lapidary Society of Costa Mesa, California, have scheduled their 11th annual Rockhound Jubilee for April 19-20. Theme of this year's show is "Artistry in Gems" and it will take place at the Main Exhibit Building, Orange County Fairgrounds, Costa Mesa, from 10 a.m. to 10 p.m. on the 19th; and 10 a.m. to 6 p.m. on the 20th.

Free admission, parking, trailer and camping space are being offered to show visitors. In addition to many outstanding exhibits planned for the event, the Orange Coast show will feature prizes, working exhibits, commercial displays, and the serving of food and refreshments.

Mineral clubs wishing to exhibit should contact Mrs. John Ford, P. O. Box 266, Costa Mesa.

Here are the dates of other spring gem shows:

April 12-13—Escondido, California. Palomar Gem and Mineral Club admission-free show at Central School Auditorium.

April 12-13 — Santa Monica, California. Gemological Society show at Recreation Club House.

April 12-13 — Burien, Washington. Puget Sound Gem and Mineral Club's 6th Annual Spring Show. American Legion Hall.

April 12-13 — Eugene, Oregon. Mineral Club's show at Lane County Fairgrounds.

April 19-20—San Jose, California. Lapidary Society's show at San Jose State College's Women's Gymnasium, 7th and San Carlos streets.

April 19-20—Camas, Washington. Sixth Annual Five Club Gem and Mineral Show at Crown Zellerbach Hotel.

April 26-27—Tacoma, Washington. Agate Club's Spring show.

April 26-27 — Palestine Masonic Temple, 41st Place and Figueroa, Los Angeles. 21st Annual Mineral and Lapidary Show of the Southwest Mineralogists, Inc. Noon to 10 p.m. on the 26th; 10 a.m. to 6 p.m. on the 27th. Admission is free.

April 26-27 — Caldwell, Idaho. Owyhee Gem and Mineral Society show.

April 26-27—Wichita, Kansas. Gem and Mineral Society's annual show at the Kansas National Guard Armory, 3535 W. Douglas.

April 26-27 — Azusa, California. Canyon City Lapidary Society's first gem show at Eagles Hall, 7903 No. San Gabriel Canyon Road. Admission Free.

May 1-4—Dallas, Texas. American and Texas federations joint convention and show, Dallas Fairgrounds.

May 3-4—Colton, California. Slover Gem and Mineral Society's first annual show at the Boy Scout Cabin in Colton Park. May 3: 10 a.m. to 9 p.m.; May 4: 10 a.m. to 6 p.m.

May 3-4—Stockton, California. Sixth Annual San Joaquin Valley Gem and Mineral Show at the Agricultural Building, County Fairgrounds. Theme: "Pictures and Scenes in Rocks." Show is sponsored by the Stockton Lapidary and Mineral Club, and the Mother Lode Mineral Society of Modesto.

May 3-4—San Mateo, California. Gem and Mineral Society's show at Fairgrounds.

May 17-18—Oakland, California. East Bay Mineral Society's "Festival."

May 17-18—Glendale, California. Lapidary and Gem Society's 11th Annual show, Civic Auditorium.

May 17-18 — Everett, Washington. Rock and Gem Club's show.

May 22-25—Chico, California. "Chest-O-Jewels" show at the Silver Dollar Fair, presented by Golden Empire Mineral Society, Paradise Gem and Mineral Club, Feather River Gem and Mineral Society, Yuba-Sutter Mineral Society and Shasta Gem and Mineral Society.

May 24-25—Whittier, California. Gem and Mineral Society's show at Palm Park Community Center.

TRUE OR FALSE ANSWERS

Questions are on page 28

- 1—True. 2—True.
- 3—False. Geronimo died on the government reservation at Ft. Sill, Oklahoma, February 17, 1909.
- 4—False. Pyramid Lake is in Nevada.
- 5—False. Fossilization is believed to have taken place while the wood was submerged in water.
- 6—True.
- 7—False. Bill Williams was a guide and Mountain Man.
- 8—True. 9—True.
- 10—False. The North Rim of the canyon is highest.
- 11—True.
- 12—False. Capital of Nevada is Carson City.
- 13—True.
- 14—False. Sunset volcanic crater was formed in the prehistoric past.
- 15—True.
- 16—False. Carlsbad Caverns were discovered by Jim White in 1901.
- 17—True.
- 18—False. Wickenburg is on Highway 60.
- 19—False. Navajo Mountain is near the Utah-Arizona border.
- 20—True.

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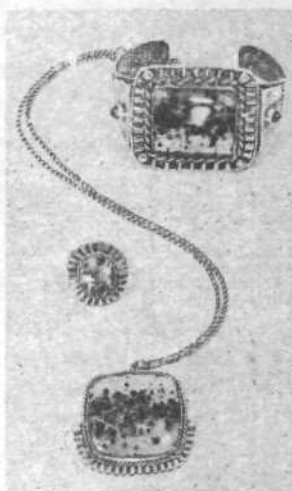
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AMATEUR GEM CUTTER

By DR. H. C. DAKE, Editor of The Mineralogist

Here is a table showing the refractive index (R.I. Note: only the lower refractive index is given for those stones which have more than one) and facet angles (C: main crown facet; P: main pavilion facet) for the principal facet-cut gems. Any stone not listed can be fitted into the chart by reference to its refractive index, using the lower one if there are two.

	R.I.	Facet Angles
Diamond	2.42	C. 35° P. 41°
Zircon	1.92	C. 43° P. 41°
Garnet—		
Demantoid	1.88	C. 43° P. 40°
Spessartite	1.81	C. 43° P. 40°
Almandine	1.79	C. 37° P. 42°
Rhodolite	1.76	C. 37° P. 42°
Pyrope	1.75	C. 37° P. 42°
Hessonite	1.74	C. 37° P. 42°
Andradite	—	C. 37° P. 42°
Uvarovite	—	C. 37° P. 42°
Benitoite	1.75	C. 37° P. 42°
Chrysoberyl	1.74	C. 37° P. 42°
Sapphire	1.76	C. 37° P. 42°
Epidote	1.73	C. 37° P. 42°
Spinel	1.72	C. 37° P. 42°
Diopside	1.68	C. 43° P. 39°
Peridot	1.66	C. 43° P. 39°
Phenacite	1.65	C. 43° P. 39°
Kunzite	1.65	C. 43° P. 39°
Tourmaline	1.62	C. 43° P. 39°
Topaz	1.61	C. 43° P. 39°
Beryl (all varieties)	1.57	C. 45° P. 41°
Quartz (" ")	1.54	C. 45° P. 41°

As the index of refraction of a gem stone decreases, less light is returned through the crown of the gem. Hence the lower the index of refraction of the material, the less brilliancy will be possible. All stones having an R.I. of less than 1.65 will show "wells" or dull spots on the crown.

* * *

Normal star garnets, showing four "legs" are fairly common to several well known localities in Idaho, Oregon and elsewhere, but good star garnets, showing six rays or "legs," are not at all common. Nor do all garnets show stars by any means. However, certain localities appear to be more productive of star garnets, while at other localities, where garnet may be plentiful, star cabochons may be wholly lacking.

Among the localities where star garnet frequently is found in Idaho and Oregon are the Wallowa Mountain region in Oregon, and the better known region of Emerald Creek (also known as Ruby Creek) in Idaho.

Victor Kayser, well known gemologist of Portland, Oregon, has cut star garnets for more than 20 years, but has found only a very few good specimens showing the very rare six-rayed star. Recently he finished a six-rayed cabochon weighing 20 carats. This fine cabochon is an oval cut, fairly translucent, good red color, and measuring $\frac{3}{4}$ inch long. As is nearly always the case with specimens of this kind, the two "abnormal" legs in the star are slightly less pronounced than the "normal" four legs.

The stars in garnet definitely follow the planes of symmetry and the crystal axis. While eight and 12-rayed stars are theoretically possible, the writer has never seen an example of this kind. Since garnet belongs to the isometric crystal system, orienting or locating the star is a simple matter. A rounded surface may be ground and slightly polished on any area of the rough crystal or crystal fragment. If a star is present it will be readily revealed by a close examination.

Some cutters first fashion a rough sphere from a proven star crystal. This sphere is then partly polished, and studied to reveal the best position of the star. The garnet is then sawed into two halves and finished as two separate cabochons.

The Idaho locality is noted for the large crystals it has produced for many years, and from these some superb spheres have been finished. Some are a little over two and one-half inches in diameter, and when asterism is present, the star is cleverly revealed as the specimen is rolled along on a smooth flat surface.

One of the finest star garnet spheres is to be seen in the Cleveland Museum of Natural History. This magnificent specimen is over three inches in diameter, quite perfect in quality, and shows asterism to a remarkable extent. When the writer viewed this specimen some years past, the museum curator was unable to give locality, or data on where and when the sphere was cut. It appears to have been in the museum col-

lections for some years. This garnet is identical in color and general appearance to the garnet found at the noted locality in Idaho and the specimen may have originated there.

The Kayser garnet is from the Wallowa Mountain region of northeastern Oregon along the Snake River, and bordering the Idaho boundary line. Garnets are fairly common and plentiful in the granites of this mountainous region. The garnets weather out of the granites and are found loose and free of matrix. Gem hunters who have attempted to remove intact garnet crystals from the matrix will appreciate the convenience of finding them weathered out, ready to pick up.

According to a number of gem cutters who have specialized in star garnets for many years, perhaps only one star in 5000 will show six distinct "legs" on the finished cabochon surface. This is no doubt quite true, for seldom do we see an even comprehensive gem collection which includes one of these rare star gems.

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EARSCREWS—Flat pad for cementing. Nickel plate	6 pr. for 30c	12 pr. for 55c
EARCLIPS—Cup for cementing. Nickel plate	6 pr. for 55c	12 pr. for 90c
SWEATER GUARDS—2 clips with $\frac{5}{8}$ -inch discs complete with chain.		
Gold or rhodium plate	3 sets for \$1.75	6 sets for \$3.35
BRACELETS—Rhodium plate. Med. link. Complete. 8-inches	6 for \$1.35	12 for \$2.30
CHAIN—Medium link. Rhodium or gold plate		10 feet for \$1.00
BOLA SLIDES— $\frac{3}{8}$ -inch swivel disc. Nickel plate	6 for 45c	12 for 75c
BOLA TIPS—Nickel Plate		12 for 75c
LEATHERETTE CORDS—Brown, black, tan, gray, dark blue	6 for \$1.20	12 for \$2.00
RAYON CORDS—Black, tan, brown/gold combination	6 for 45c	12 for 75c
CUFF LINKS—10 mm. cup for cementing. Nickel plate	3 pr. for 60c	6 pr. for \$1.00
CUFF LINKS—15 mm. disc for cementing. Rhodium plate	3 pr. for 85c	6 pr. for \$1.50
TIE BARS—New $\frac{3}{4}$ " bar alligator grip. Gilt or nickel plate	6 for 30c	12 for 55c

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RANCHO MIRAGE, CALIFORNIA



By RANDALL HENDERSON

I AM GLAD TO NOTE that increasing pressure is being brought on the law-makers in Washington for unification of the armed forces of United States. In addition to the economy and efficiency which can be brought about by placing the Army, the Navy and the Air Force under a single command, there may be a very important by-product which will be of interest to all desert people. I refer to the millions of acres of public domain which could be turned back for the use of civilians if the three branches of service were under the necessity of coordinating their bombing and gunnery practice on the same ranges.

Already, under the pressure of demands for economy, the Navy has announced that the Mojave Marine Corps Auxiliary Air Station is to be abandoned, and the Marine operation transferred to Vincent Air Force Base at Yuma, for joint use of the Yuma range with the Air Force. This move cancels out an estimated expenditure of \$81,000,-000 previously earmarked for the Mojave Base.

As long range missiles and submarines with atomic warheads assume more importance as the weapons of the future, perhaps the need for great bombing and gunnery ranges such as have been established on the desert will diminish. Some of the top military men are predicting this will be true.

* * *

This is written in March, the month when normally we have our desert sandstorms. With all their skill, the building craftsmen have never been able to perfect a house which is proof against the fine particles of sand and silt which come flying through the air when one of our spring sandstorms is in progress.

I can say nothing in defense of sandstorms—but I would not want to live in a world where there was no wind. In fact, my scientist friends tell me this desert would be wholly uninhabitable if there were no movement of air.

I've been delving into the science books lately—the ones written for lay readers. I find them fascinating reading. For the scientists, within the last fifty years, have learned more about the structure of the universe, and the origin and evolution of life on this planet, than had been known in all previous time.

One of the important conclusions of today's science is that if there were no plant life on this planet there would not be enough oxygen in the atmosphere to support animal life, including man himself. By a process known as photosynthesis—and if you are not already familiar with this word you should add it to your vocabulary for you will be

hearing much about it in the years ahead—plants absorb energy from the sun and convert it into other products, one of which is the oxygen in the air we breath, and another is the food that keeps us alive. If there were no photosynthesis there would be food on this earth for neither man nor beast.

Having learned this lesson, I henceforth will have a much greater respect for the lowly shrubs along the roadside which we humans call weeds.

Since most of the oxygen in our atmosphere comes from plants, I recently asked a noted scientist this question: "If there were no movement of air, would the arid desert where vegetation is sparse, be virtually devoid of oxygen?" His answer was: "Yes, that is true."

So, let's be as tolerant as we can of these desert winds. True, they pick up a lot of grit sometimes, and create unpleasant tasks for the housewife, but a desert in which humans had to wear oxygen masks to survive would be infinitely worse.

* * *

I know this idea will not be popular with the real estate men and the chamber of commerce secretaries, but if the forecast of Robert C. Cook, director of the U.S. Population Reference Bureau, is correct, then the time will come when many of the communities in the Southwest will have to hang a big "No Vacancy" sign across the roadway into town. Cook points out that in Arizona, California, New Mexico, Nevada and Utah increasing population is steadily reducing the available supply of water and it may eventually be necessary to restrict the number of new residents and the expansion of industry.

Tragic? Not necessarily! We are all—regardless of where we live—facing the prospect of making radical adjustments in our thinking and living habits to accommodate ourselves to an explosive increase in population. In this situation, perhaps the civic committees which are now beating their drums to bring in more people and industries, will find a new outlet for their energies in creating more beauty and cultural health in their home towns—and it will be an infinitely more satisfying occupation, both for themselves and for their neighbors.

* * *

From my scrapbook:

"To those who come to the desert with friendliness, it gives friendship; to those who come with courage, it gives new strength of character. Those seeking relaxation find release from the world of man-made troubles. For those seeking beauty, the desert offers Nature's rarest artistry. This is the desert that men and women learn to love."

BOOKS of the SOUTHWEST

FLOOR PLANS, PHOTOGRAPHS OF SOUTHWESTERN HOMES

If you want a desert home with character, build it out of adobe—and if you want a wide range of floor plans and exterior and interior styles for that dwelling, add the *New Mexico Home Plan Book* to your library.

This publication was first brought out in 1940 and reprinted in 1946. A third printing of a revised edition last year again makes it available for those who want some good ideas on the harmonious home styles of Southwestern architecture. The book is edited by George Fitzpatrick, and art work and layouts are by Wilfred Stedman and Sahula-Dycke.

The work consists mostly of home drawings, floor plans and photographs of home features including fireplaces, stairways, portals, entranceways, etc. The house plans range from palatial desert homes with hallways widened into galleries; to a one-room adobe house which is surprisingly attractive.

Published by *New Mexico Magazine*; paper-cover; illustrated; 36 pages (8½ x 11½ inches); \$1.

BEATEN INDIANS FOUND HOPE IN NEVADA MESSIAH

By 1890 the white man had broken the American Indian just as surely as he had destroyed the buffalo and antelope. The Indians had been caught in a whirlwind. After centuries of freedom, they were ushered onto reservations. White captors cheated them, destroyed tribal, clan and family integrity by trading scraps of food for

subservience. As the pressure tightened more and more Indians turned to alcohol and degeneracy.

And finally, just before the last spark of life was about to go out forever, hope came from an obscure Mason Valley, Nevada, Paiute prophet.

The story of *Wovoka, The Indian Messiah* is well told by Paul Bailey, whose previous biographies include *Sam Brannan and the California Mormons*, *Jacob Hamblin, Buckskin Apostle* and *Walkara, Hawk of the Mountains*.

Whether divinely inspired or not, there can be no doubt that the explosion caused by Wovoka's preaching has few equals in the history of religion. The message which swept across the American Indian world was essentially this: do not fight, do not harm anyone, always do right; the Indians' oppressors will not share in the joys of the hereafter—the earth will return to an Indian paradise.

Basic ritual in the Messiah's new religion was the Ghost Dance — the physical means by which the end of this earth, the righting of wrongs, and the creation of a new world would be brought about. White men, frightened at the signs of new life in the beaten Indians, called the ritual a war dance and soon Uncle Sam's soldiers chased it underground with gunfire.

The strength of Wovoka's religion came from the fact that instead of ranting against the hated whites (whose overwhelming strength was recognized), he turned his attention to making a new and happier world for Indians alone. Chief cause of the movement's death stems from the fact that Wovoka set a definite date (1891) for the end of the world.

Published by Westernlore Press as tenth in its Great West and Indian Series; illustrated; index and selected reading list; 223 pages; \$5.50.

DOUGLAS RIGBY WRITES OF FIRST YEAR ON DESERT

Few people are half-way about the desert. Most either love it or they think people who love it are crazy. The moment of conversion—the first realization of desert understanding and appreciation—is a priceless experience. Some folks can not put this feeling into words—others can write books about it.

Luckily for those who read, Douglas Rigby of Sedona, Arizona, is of the latter school. The book he wrote

about his introduction to the Southwest, *Desert Happy*, is an absorbing experience, richly told.

Rigby and his wife, Elizabeth, both contributors to *Desert Magazine*, spent their first desert year near Tucson. As did naturalist Joseph Wood Krutch, Rigby keenly observed and accurately interpreted the interesting and often fascinating parade of life which passed before his cottage door. He speaks with Schweitzer's reverence for life about the birds and animals from which he gained so much insight into life in general. Along with these sketches he provides a refreshing approach to what normally passes for the desert's more common features—weather, aridity, space. And he tells about Arizona's most interesting inhabitants—man, past and present.

Published by J. B. Lippincott Company, Philadelphia, Pa.; Illustrated; index; 313 pages; \$5.50.

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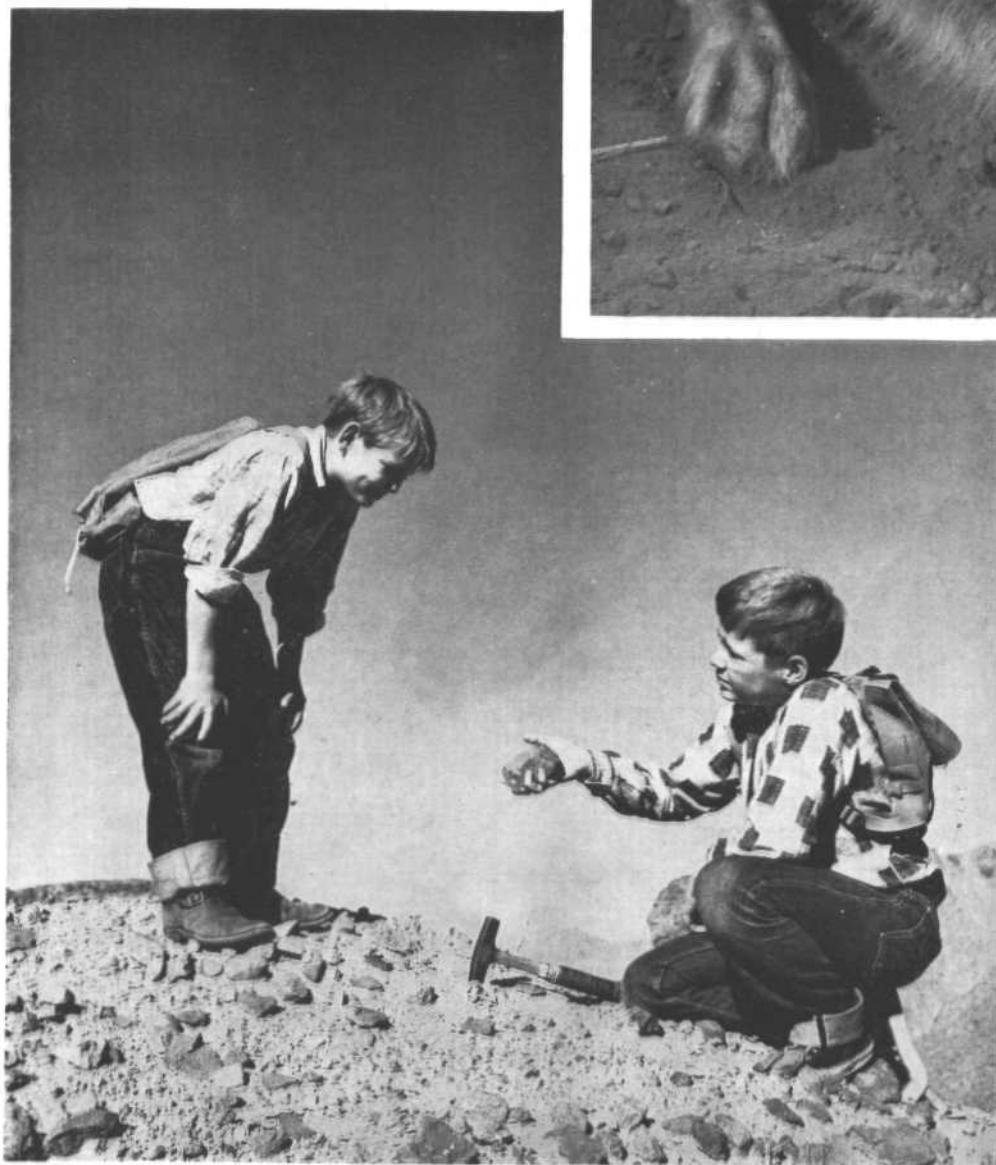
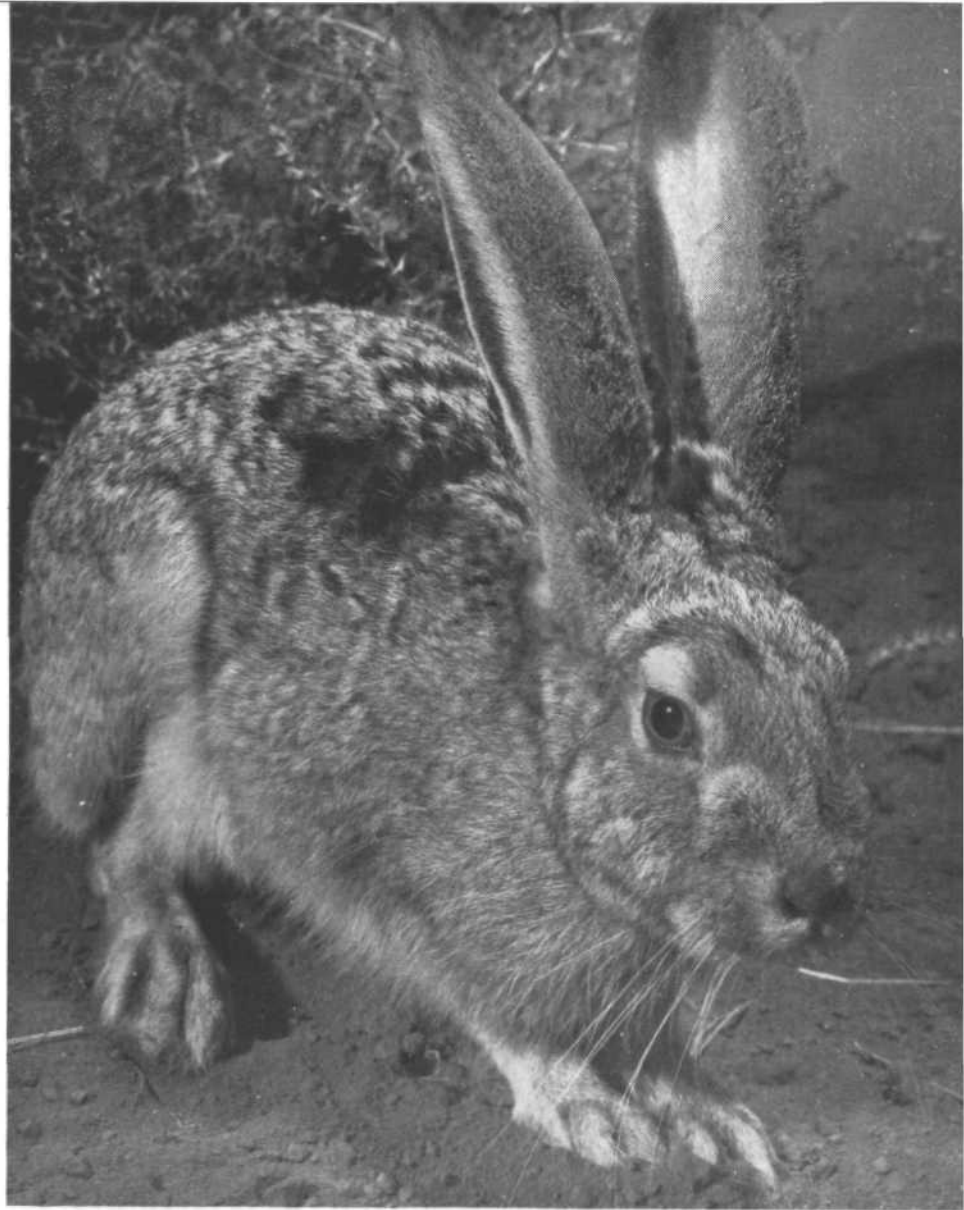
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5. *Anza-Borrego Desert Guide Book*
Horace Parker\$2.50

*Based on February sales by
Desert Magazine Bookshop

Pictures of the Month

Jack Rabbit . . .

"No animal is more familiar to the desert traveler than the black-tailed hare, popularly known as the desert jack rabbit," writes Dr. Edmund Jaeger in his "Our Desert Neighbors." First prize winner of this month's photography contest is Dr. John F. Kahle of Flagstaff, who took this close-up of a long-eared jack. Dr. Kahle used a Linhof Super Technica 4x5 camera with 150 mm. Schneider Xenar lens; Super Pan Press Type B film; exposed with 200 WS Synctron electronic flash with extension head set at f. 32.



Pebble Pups . . .

Don't forget to take the youngsters along next time you explore the desert—especially if you're going out to look for gem and mineral specimens. It may lead to a lifelong hobby of endless possibilities. This is the advice Joe L. Orr of Los Angeles placed in the caption of his second prize photo of two boys discussing the merits of a stone.