

Desert

APRIL, 1959

35 Cents



APRIL ON THE DESERT



Most all agree: April is the best month to camp out in the great desert-land. The days are warm, the nights refreshing. While this season's wild-flowers will be scant, there are always some blossoms to welcome you to the outdoors.

April is a great travel month. You won't want to miss the 32nd presentation of the Ramona Pageant at Hemet, California . . . the big doings at Mesa (First Annual National Sports Jamboree) and Tucson (Festival) . . . the Truth or Consequences Fiesta, combined this year with a Jeep Derby . . .

ARIZONA

- April 1—Annual Flower Show, Sunny-slope, Phoenix.
- April 2-11 — 3rd Annual Shakespeare Festival, Phoenix.
- April 2-12 — First Annual National Sports Jamboree; Miniature Parade on 2; Rawhide Round Up on 2, 3, 4; Music and Arts Festival, 5-12. Mesa.
- April 2-12—Tucson Festival. San Xavier Fiesta on 3; Square Dance Fandango on 10; Children's Parade on 11; Fiesta de la Placita on 11-12.

April 3-5—Arizona Horse Lovers Club Annual Horse Show. Phoenix.

April 3-5 — Dons Club Travelcade to Canyon de Chelly, from Phoenix.

April 5—Desert Water Show, Phoenix.

April 6-26—Festival Art Show, Tucson.

April 9-11—Central Arizona Regional Science Fair, Tempe.

April 11-12—University of Arizona collegiate rodeo, Tucson.

April 12—Desert Sun Ranchers Rodeo, Wickenburg.

April 12—Palomino Horse Show, Phoenix.

April 13-18 — Desert Caballeros Ride, Wickenburg.

April 18-19—Rodeo, Tombstone.

April 25-May 17—25th Annual Junior Indian Art Show, Museum of Northern Arizona, Flagstaff.

April 26—Arizona State Spring Rodeo, Flagstaff.

April 26—Art and Rose Festival, Tombstone.

April 28-May 1 — Las Damas Trek, Wickenburg.

CALIFORNIA

April 1-5—23rd Annual Desert Circus, Palm Springs.

April 4 — Desert Wonderland Flower Show, Needles.

April 4-5—Sierra Club rock climb in Hidden Valley, Joshua Tree National Monument.

April 4-5—Sierra Club Desert Peaks Section climb of the Granite Mountains near Kelso.

April 5—Women's Riding Club Stampede and Rodeo, Blythe.

April 11-12—Wildflower Show, Carnival, Bazaar, Hi Vista (30 miles north-east of Lancaster).

April 11-12—Lilac Show, Palmdale.

April 11-12—Sierra Club outing to the Kelbaker volcanic area.

April 11-15—24th Annual Women's Invitational Golf Championship, O'Donnell, Palm Springs.

April 18-19—Wildflower Show, Morongo Valley.

April 18-19, 25-26, May 2-3—32nd presentation of the Ramona Pageant, Hemet.

April 23-26—Cotton Carnival, Calexico-Mexicali.

April 23-May 3—National Orange Show, San Bernardino.

April 25-26—Desert Wildflower Show, China Lake.

April 25-26—Sierra Club outing to Deep Canyon near Palm Desert.

NEVADA

April 11-12—Lions Club Rodeo, Battle Mountain.

April 12-19—World Congress of Flight, Las Vegas.

April 18-19—Sierra Club Desert Peaks Section climb of Potosi Peak near Las Vegas.

April 23-26—Industrial Days, Henderson.

April 23-26—Tournament of Champions (Golf), Las Vegas.

NEW MEXICO

March 29-April 1—Spring Corn Dances at San Felipe, Cochiti and Santo Domingo pueblos.

April 11—State Science Fair, Socorro.

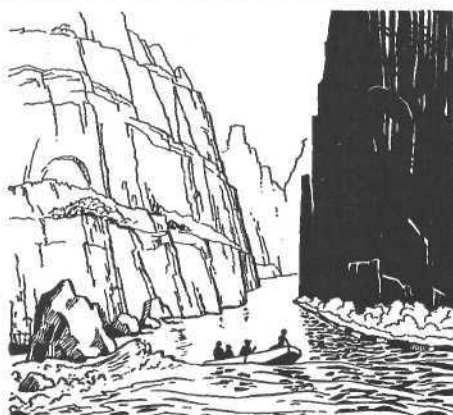
April 11-12—13th Annual Rabbit Show, Roswell.

April 24-26—Fiesta and Jeep Derby, Truth or Consequences.

UTAH

April 13-17—Intercollegiate Rodeo and Western Week, Ephraim.

April 16-18 — Spring Festival Days, Price.



1959

SCENIC FAST WATER
FLOAT TRIPS ON THE
SAN JUAN RIVER, GRAND
CANYON, RIVER OF NO
RETURN, HELL'S CANYON

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Mexican Hat, Utah

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Publisher's Notes

I don't know whether the State Department in Washington, D.C., is interested in this note, but our readers may be: during the past month four of our five subscriptions going to Russia were renewed. All were delinquent by more than a month, indicating that the Russians are not yet using their Sputniks to try to reach our Circulation Department. The subscriptions go to various bibliotekas in Moscow, Leningrad, and Stalingrad.

* * *

Closer to home and more significant than the Soviet subscription renewals is the retirement of Randall Henderson from active participation in the operation of this magazine. Randall has been—for two decades since its founding—the heart and fiber of *Desert*. I can only hope that Randall's change of station will be a pleasant one for him, but it leaves your new publisher in a position of heavy responsibility. The shoes that Randall Henderson steps out of are large, Size 16, at least!

* * *

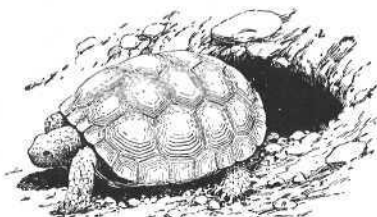
Eugene Conrotto, who will take over as Editor of *Desert*, grew up in central California and graduated from Stanford University, but today he is a dedicated desert man. After a newspapering stint in Palmdale, California, on the edge of the Mojave Desert, Gene moved to the *Desert Magazine*, where he has spent the last four years as Associate Editor.

* * *

Elsewhere in these pages we announce a new program for our Poetry Department. Hereafter we shall limit ourselves to one poem a month. We will pay a small honorarium for the selected verse and we will give it a place of respect. In this way we hope to make the "Poem of the Month" a selection worthy of every reader's attention.

I hope that all serious poets who are inspired by the desert will submit their works to us, but please enclose stamped return envelopes. Only one each month, of the many poems sent us, will stay with us.

CHARLES E. SHELTON
Publisher



ABOUT THE COVER . . .

. . . The Castle in Monument Valley, Arizona. Navajo Indians, with their love of color, become a part of the vivid landscape of their reservation. In background, several red sandstone buttes make up a famous group with crenelated towers. Josef Muench (see Close-Ups) made this photograph.



Volume 22

APRIL, 1959

Number 4

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Meditation

By CLARA EMILIE MILLER

SEEKING REST and peace of mind, I took a vacation trip last year. October found me at Desert Hot Springs on California's Colorado Desert. For company I only had my hostess, an understanding friend.

From choice, I slept on a cot out of doors. I liked to watch the sky above me before I dropped off to sleep—the heavens “so thick with jewels set.” I felt as if I could reach up and almost touch the stars in that clear air.

In the stillness, I seemed to feel God's presence all about me. I understood why the Master had sought communion with Him in meditation and prayer in another desert far away.

In this stark land, free from the burdens of city life, I had time to wonder. How many of God's secrets in that dark mysterious abyss among the stars were revealed to the National Geophysical Researchers during the past months? Will the scientists find life on other planets? Did God, the mighty source of all creation, with His infinity of designs, fashion another planet exactly like ours and people it with human beings?

Among those billions of stars there could be other worlds and other beings. But, how far from my cot has science risen? We have no conception of what life beyond our planet is like.

I found myself agreeing with certain scientists who believe that our world is unique. Everything about our earth is exceptional. The way it is tilted on its axis to cause the

seasons. Its rotation on its axis that gives us daylight and darkness. The way it is divided into land and sea. Its climate, always at endurable levels. The layer of air between earth and sun that protects us from the too intense heat of that fiery body. The vegetable organisms that produce oxygen and other ingredients necessary for man's existence.

Could it be that other planets were as meticulously planned for the needs and the good of man? Was man, as we know him, especially created for life on our earth?

How was life brought into the world? That is a question no scientist has ever been able to answer. “When we speak of life itself,” said the eminent scientist, D'Arcy W. Thompson, “we know that we speak of a great mystery. We seem to have stepped unbidden upon holy ground.”

As for me, I believe life came into being on earth “through a special creative act on the part of a divine being”—God.

With all the discoveries science is making about the universe, my faith grows stronger. These investigations during the International Geophysical Year are bringing 61 nations together to benefit mankind in a material way. There are hopeful signs that man's spiritual needs of peace on earth can be achieved.

I had found what I sought in the desert—rest and peace, but more important than all: renewed faith in the Master Planner, Creator of Heaven and Earth.—END

Clara Emilie Miller was born in Houston, Texas, in 1877. Her father was a music and language instructor; her mother died when she was four. Mrs. Miller graduated from the first Houston high school in 1897 and was appointed a teacher shortly thereafter.

Marriage in 1903 meant a new life in Pittsburgh, Pa., where three sons were born to her. After the death of their youngest son and the marriage of the two others, the Millers moved to California where they spent four happy years

together until death claimed her husband. Five years later her eldest son passed away.

Mrs. Miller moved to Pasadena where she attended an evening adult class in creative writing at the city college. Since then she has sold articles to several magazines. In 1957 she returned to Texas to make her home.

“I thought my writing career was ended when I had a stroke followed by a broken hip last summer,” she wrote after receiving word that *Desert* planned to publish her meditation story. “But, God has been good to me.”

The Palm ...

... Prince of Desert Plants

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

LATE ONE WINTER afternoon I made camp in a lonely desert canyon in which there grew a wild grove of palms—five dozen sturdy veterans with giant tan-brown skirts of turned-down leaves hanging to the ground. The grove was beautiful and primitive. Fire vandals and lightning of summer storms had never struck these crowns of leaves.

Between the giant palm pillars were open spaces deeply covered with fallen leaves and flower stems which crackled underfoot. In one of these openings I placed my provision bag and canteen, and spread my blankets. A tiny current of alkaline water slowly trickled along the rocky stream bed below me. Besides a few bluebirds and an occasional slight movement of palm leaves, the water made the only sounds I heard.

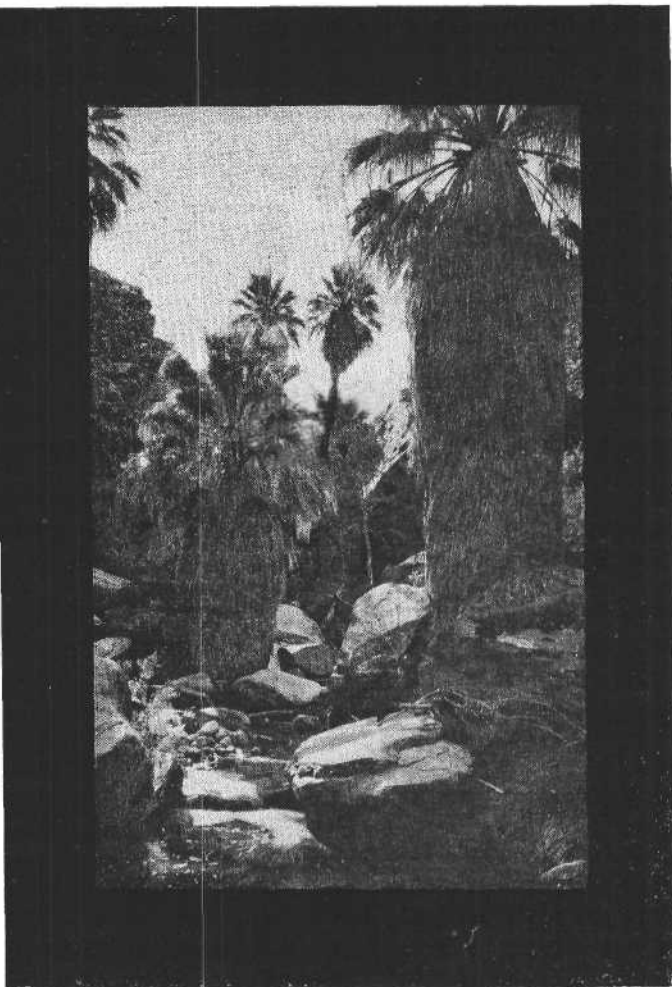
I was tired because of the day's long walk, and after a bite of apple and a bit of cheese, I turned in for the night.

"Was ever a place more appealing, more filled with peace and calm?" I asked myself.

About two that morning I was rudely awakened from a sound sleep by a great rustling and clattering of palm leaves, a noise that steadily grew in intensity until it was a harsh roar punctuated by the eerie sound of swishing, rattling dry leaves as the violent north wind raced through the canyon.

Sleep was impossible, there was never a time of quiet until daybreak. This was my only experience in such a place when the wind gods were so earnestly at work. To this day I never see a group of desert palms that I do not relive in memory those sublime moments. How much more impressive are these trees when growing in natural thick-set groups than singly or set in rows along city streets.

The palms whose entrancing wind music I so much enjoyed are known as California fan palm (*Washingtonia filifera*), a name established in 1879 by Hermann Wendland, the great German horticulturalist. Except for the coconut and date, palms of the genus *Washingtonia* are among the most widely planted of the many hundreds of kinds known. They are natives of California, far western Arizona and northwest Mexico. It is interesting to note that before the noble fan palm was introduced into cultiva-



tion in Mexico and the United States, it already had become well established in European gardens. According to Samuel B. Parish, early botanist of San Bernardino, the first seeds probably were collected near Palm Springs and sent to Europe by George W. Dunn.

In 1750—250 years after the discovery of the New World—the famous Swedish botanist, Linnaeus, published his notable *Species Plantarum* (a listing of all known plants) which contained but eight palms. Today 1200 species are on our botanical lists.

First white men to see the native western fan palms undoubtedly were the 16th century Spanish explorers. As far as I have been able to learn, few of them made mention of palms in their journals, perhaps because their principal interest was not in natural history, but in riches, adventure, military conquest and the spread of their religious faith.

The discovery of the fan palm was made by Lieutenant William H. Emory's party of the United States-Mexican Boundary Survey in 1846 on the final days of their long and arduous journey from the Missouri River to San Diego. They were moving up the sandy wash of Carrizo Creek when they saw the leafy crowns and pillars of palms projected against the cliffs of the gorge.

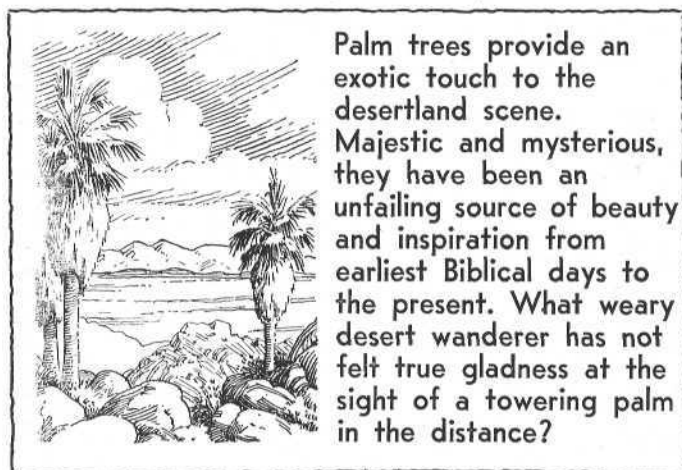
In the years since, this palm has been found in numerous canyons and gulches of the Colorado Desert mountains and foothills from Snow Creek in the San Jacinto Mountains to the Sierra Juarez and San Pedro Martir of northern Baja California. Many of these stands in the Baja

ON DESERT TRAILS WITH A NATURALIST

ranges are known only to the more adventurous desert wanderers.

A few small groups of California fan palms occur on the Mojave Desert in Joshua Tree National Monument and the Turtle Mountains near the Colorado River. The Turtle Mountain grove is a small but impressive one because of its setting at the base of a gigantic red-black volcanic plug. In 1952 I gathered seeds from these farthest northeast native *Washingtonias*, and now have fine young specimens growing in my garden at Riverside. I planted these palms of noble ancestry in a close-set group, as in Nature. I cherish them as much as I do any of the many desert plants I have grown from seed gathered by my own hand in remote and historically interesting places. And how satisfying it was to start these plants from seeds!

The only enemies of this splendid palm are a virus (perhaps introduced from abroad), a large bostrychoid beetle whose larvae bore large galleries in the trunks of old



Palm trees provide an exotic touch to the desertland scene. Majestic and mysterious, they have been an unfailing source of beauty and inspiration from earliest Biblical days to the present. What weary desert wanderer has not felt true gladness at the sight of a towering palm in the distance?

or weak trees (*Desert*, May '56), and man, who sets fire to the shags of highly inflammable dry leaves which envelope the stems. The miners and cattlemen of Mexico seem particularly given to palm burning. I don't know of one canyon where palms grow below the border in which the trees have not been set aflame. The great wonder to me is that so many of these palms have continued to flourish.

The Indians who visited these palm groves before the Mexican occupation of their lands were given to the same practice, but with better reason. It was their belief that burning the thatch of dry leaves promoted more abundant fruiting. To them the small sweet black berries were a valuable source of food. They not only ate the thin pulp, but ground the cinnamon-brown seeds into a meal, rich in oil, protein and starch.

The old palm logs so often seen lying in numbers in the sand washes leading out of palm canyons, especially in Baja California, are the remains of burned trees which died as a result of this firing. When the blackened trunks fall, flood waters carry them far out on the desert plains. It may take a full century for the elements to reduce them to dust, so resistant is the wood.

Among the desert palm's friends are a number of birds. Bluebirds and Cedar waxwings are very fond of the pulp of the fruit. They visit the palm groves on their autumnal migratory flight. Bullock's orioles and Arizona hooded orioles attach their bag-shaped palm leaf fiber nests to the underside of the tree's much-dissected leaves, generally placing the nests fairly well back toward the base. Since a new nest is built each year and the old ones are very resistant to weathering, one may find up to five or six nests on a single palm. The brilliantly plumed sweet-singing

Scott's oriole utilizes palm fibers in nest building, but hangs the nest among the stiff bayonet-like leaves of nearby yuccas.

One might conclude that many small animals use the shaggy shelter of dried palm leaves for a home, but only a few do. Several times I have found white-footed mouse nests tucked under the leaves, and in a few instances I have seen where pack rats were making their homes there. The little brown-shouldered and the scaly lizards hunt insects on the surface of the dead leaf shroud, and may seek shelter there.

The time of flowering of fan palms is late May and June. The flowers are unisexual, that is, both male and female parts are in each small white blossom. After a palm has reached maturity, perhaps after 25 years, flowers are produced annually. The long bunches of flowers are borne in panicles up to 10 feet long, the stalks of which spring from the ornamental crown of large green leaves. At this time there is a small beetle which emerges from pupation to feed on the pollen of the flowers. It is doubtful if the insect does any harm; in fact, it may aid in the work of cross-fertilization.

By midsummer large quantities of the small black ellipsoid berries hang in conspicuous and graceful clusters, then drop to the ground in the autumn. I think it is the ever-resourceful wide-wandering coyote that is mainly responsible for distribution in the wilds of the native palm. They eat the fruits, and the seeds pass through their digestive tracks. I sometimes see coyote droppings filled with palm seeds, often several miles from the palm groves where the animals fed.

In 1883 Dr. Edward Palmer, ardent collector of both birds and plants, made a trip into southcentral San Diego County. In his day the International Border was ill-defined, and he inadvertently crossed into Mexico, traveling south from Campo to the edge of what in those days was called "Big Canyon in the Cantillas Mountains." The Mexicans named the place of giant rock walls *Acantilados Prominentes*, and the cattle trail which led into the gorge, *Vereda de Tajo* ("pastoral trail into the gorge"). The present name for the canyon is Tajo, pronounced *tah-ho* ("steep cut" or "ravine").

Gaping with awe and wonderment into the gorge before him, Dr. Palmer beheld great numbers of palms along the narrow rocky canyon floor. In the canyon's impressive depths he discovered two kinds of fan palms, green-leaved *Washingtonias*, and an unknown blue-leaved species later described as one of the Blue or Hesper Palms (*Erythaea armata* — "armata" for the armature of heavy hooked spines all along the leaf-stems).

Blue palms first were found on Guadalupe Island off the Mexican west coast. They were appropriately given the generic name *Erythaea* by Sereno Watson of the Gray Herbarium of Harvard University. *Erythaea* was one of the "Daughters of the Evening or West" in Greek mythology, and as one of the Hesperides dwelt on an island at the western edge of the world.

The blue palm found by Dr. Palmer is a slow-growing species and, in contrast to the *Washingtonias*, bears flowers and fruit when very small. It may reach a height of 30 or 40 feet. When in flower it is a handsome plant, for its many gracefully drooping panicles of tiny purplish or cream-colored flowers often are 10 to 12 feet long, widely arching from tree top to ground. The fruit, the size of small round plums, is said to be edible. The layer of meat is thin and the seed very large in proportion to the size of the fruit. This blue palm is very ornamental and has found favor in

many gardens. It is especially suitable for desert plantings along parkways.

In the wild the blue palm generally grows singly or in small groups among *Washingtonias* which far outnumber it. Blue palms withstand dryness unusually well, their roots often clinging to rocks at the edge of canyon walls where there is the barest water supply.

From arid Baja California and Sonora comes another palm which has been widely planted, especially in California and Arizona. It is the slender fan palm, so named because of its slim tall trunk. The *Washingtonia gracilis* (*gracilis* means slender) is a very fast growing tree, but because its shag of dry persistent leaves it rather untidy looking and has a tendency to fall during windstorms, it is not an ideal street tree. This palm often is erroneously referred to as *Washingtonia robusta*.

In the desert plains and foothills of Sonora and at the tip of the Baja California peninsula grows another slender-trunked fan palm, *Washingtonia sonorae*. It differs from the slender fan palm in its leaf characters. In Sonora it may associate with pines in gulches and on damp slopes near springs of the lower mountains. This mingling always

seems strange, for we think of pines as mountain dwellers and palms as inhabitants of low desert situations.

There is no way to determine the age of palms, since their wood shows no annual rings. Instead, there are tough fibers scattered through spongy material in the stout trunk. The noted tree student, George W. Sudworth, tells of two specimens of *Washingtonia filifera* var. *robusta*, the desert fan palm, which were planted by Jesuit Fathers on San Pedro Street in Los Angeles more than 200 years ago. These trees are still flourishing and have reached heights of 90 to 100 feet, with trunk diameters of three and a half feet. This trunk thickness of the variety *robusta* is characteristic of older trees. The size diminishes only gradually at the top near the crown of leaves.

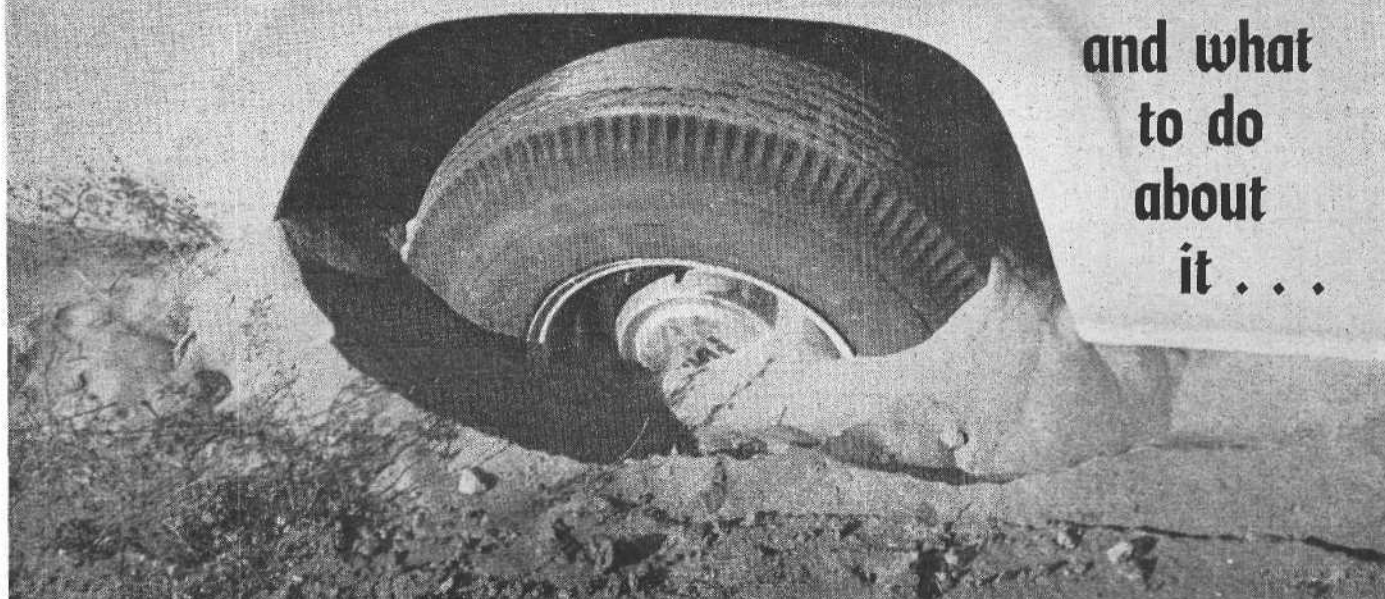
Outstanding for majestic beauty is the natural park of desert fan palms in Andreas Canyon near Palm Springs. There, under wise and jealous protection of the Cahuilla Indians, the trees are allowed to grow unmolested and with their neat and handsome petticoats of leaves reaching to the ground. It is a sight worth traveling far to see. The Desert Protective Council has had several of its most important meetings in this magnificent setting where it is easy to understand why palms have been called the Princes of the Vegetable World.—END

Palm Canyon near Palm Springs, California.



Stuck in the Sand . . .

and what
to do
about
it . . .



For those occasional desert drivers who do not have a four-wheel drive vehicle, but who like to travel the unpaved byways, here is some good advice from two veterans of the sandy roads.

By RANDALL HENDERSON

LATE ONE April afternoon I was rolling down the seven-mile dry arroyo which leads from scenic Guadalupe Canyon to the smooth floor of the ancient playa, Laguna Salada, in Baja California just south of the international border in Imperial Valley.

There was no road down the wash. It was one of those winding arroyos where the art of driving is to keep to the main course of the channel and avoid the smoke trees. They grow thickly in Guadalupe Canyon and a driver must think fast, for it is folly to slow down when driving in heavy sand.

This was in the pre-jeep days and my car was an old Model A Ford with seven and one-half-inch tires. I had driven up the canyon early in the morning, and after a day of exploring among the native palm trees and a visit to the hot spring, was on my way back to the port of entry at Mexicali.

Stranded

Rounding a sharp turn I came upon a scene that would have been funny had it not been for the tragic expression on the face of the man whose head projected above the rim of a huge pit in the middle of the arroyo ahead.

The pit had a second occupant—an

automobile. The top of the car was just about level with the great mounds of sand piled up on each side.

Evidently the man had tried to follow my tracks up the wash soon after I had passed that way in the early morning. He had become stuck. He had no shovel, no axe, no tool or gadget of any kind that might help extricate the heavy car from its sandy berth. His hands were blistered and bleeding from pulling the harsh brush. His clothes were dripping with perspiration and his water supply was nearly gone—but he was game. He had been excavating for seven hours—with a tin drinking cup.

An Easy Job

It was a simple chore for my outfit, with a shovel, a tow rope and a pair of old Model T running boards—which I still carry for traction in the sand—to pull in on the downhill side and yank him out of his dilemma.

I have met many tenderfoot drivers during my 48 years on the desert, but that experience made a more lasting impression on my mind than the others—because I wouldn't have believed that one man could move that much sand in a day with a tin cup. I had too much admiration for his grit to criticize his folly.

Fortunately, no one can send a per-

son to jail for getting stuck in the sand. If it was a penal offense I would be serving life as a habitual criminal. I not only have been mired in the sand so many times my friends have accused me of doing it on purpose, but at various times I have been bogged down in quicksand, in swampy cienagas, in snow, mountain streams, in ground squirrel colonies, and dry lakes that were dry only on the surface. Once, as a reporter, I went down into the delta of the Colorado River and nearly lost my car in an earthquake crevice which I was trying to straddle—on a perfectly hard road. As I proceeded, the crack got too wide for my running gear. And up in Monument Valley Harry Goulding and I once hung up our car in a drift of tumbleweeds.

Some of the experiences were unpleasant at the time—but I do not regret them now. Out of them I acquired a technique, and a philosophy.

Philosophy for getting stuck in the sand? Laugh if you wish, but let me tell the rest of my story.

It not only is no disgrace to have to dig your car out, but if you'll be cheerful about it, it may even be good for your health, like a game of golf or an invigorating hike. It is an adventure—not a catastrophe.

In a Rut

It is characteristic of humans to want life to go along smoothly—with nothing to disrupt our normal way of doing and thinking. We are seeking constantly to create a rut for ourselves—a nice comfortable sort of a rut that

will pay maximum reward for a minimum of effort.

To the extent that we succeed in achieving this goal we bring about our own decay. I am not quoting my own wisdom, but am passing along the conclusions of Dr. Alexis Carroll, as told in his book, *Man the Unknown*.

And so, getting stuck in the sand may be somewhat disconcerting to one's peace of mind—but it may react as an excellent tonic for your mental and physical health, if you will accept the situation gracefully. Now I am not suggesting that you rush out to the nearest dune and deliberately bury the wheels in the sand. But if you drive these desert byroads long enough, sooner or later you will arrive in that kind of situation. And if you are one of those cautious drivers who approach the soft places with careful deliberation you are much more likely to get into trouble than if you hit them with a steady hand and a bold heart. For I am quite sure that old adage "he who hesitates is lost" was inspired by the experience of a hesitant driver on a sandy road. The moral of all this is the important rule—keep your momentum when driving in sand.

Scout Ahead

But don't be foolish. If in doubt, park your car on a hard spot and scout ahead on foot to see what the road is like—and if you decide you can make it, then tackle it with confidence. And don't put yourself in the position of having to stop in the middle of a sand patch to shift gears.

I've learned these lessons the hard way. For instance: that time many years ago when the sand was deeper than I thought, and I failed to shift gears soon enough. Being quite ignorant of the ways of sand driving I tried to get out by pushing harder on the accelerator. That merely dug me in deeper.

So here I am, out on a lonely desert trail with two passengers in my car, down to the hubs in sand, and the nearest tow car 12 miles away. What am I going to do about it?

Well, my first problem is one of morale. It is too late to correct my error. But I can still prove to my companions that while I may be a very dumb driver I am a cheerful sort of a dumbbell. So I switch off the ignition, swallow my embarrassment and turn to the companion in the seat beside me—and grin. I pulled a boner, and the quickest way to make peace with myself and my party is a full confession

of guilt. That will be good for my soul—and it will put the others in a better frame of mind for the shoveling and pushing which I may call upon them to do.

They are innocent parties to this dilemma—and if they want to make a few sarcastic remarks about the bozo at the wheel, that is their privilege. And it is part of the price of my stupidity to accept all comment and suggestions as becomes a graceful loser.

But the car is still mired down in the sand while all this psychological by-play is going on.

Engineering Survey

So I climb out and inspect the compartment where the shovel and axe and other tools are kept. Then I make a couple of tours of inspection around the car, observing the landscape to determine the available supplies of greasewood, rocks and other properties which may be needed. Having completed my engineering survey of the situation, I walk over and sit down on a rock or a sandbank, whatever is available. This is important, because undue haste, ill-temper or that panicky feeling of fear are about the poorest tools in the world for getting a mired automobile out of trouble.

Of course if the shovel is missing, then I really am in the doghouse. And deserve to be. Among desert folks, getting stuck in the sand is a pardonable offense. But getting stuck without a shovel—well, that is about the lowest form of stupidity.

Necessary Equipment

Now I don't want all this patter to be misleading. I merely am telling you how I would go about solving my problem if I were one of those supermen who are never perturbed by anything—which I am not. I have been caught without a shovel—but not for many years, for I never go anywhere now without those Model-T running boards in the back of my car. They are just as necessary a part of my equipment as the steering wheel, and

For Those Who Drive the Sandy Roads

Vince Roth, an experienced desert driver of Yuma, has compiled the following suggestions for motorists who plan to travel the unpaved roads of the desert country.

PRIOR TO THE TRIP

Tell someone where you are going, your route, and when you will return. Fill your gas tank with high octane gasoline. Load up with the following: water, 1 gallon per person per day plus five gallons for radiator; map and compass; note paper and pencil; matches; gloves; extra food and blankets; axe; shovel; jack (bumper jack preferred); tow chain or rope; and tire pump and gauge.

DRIVING IN SAND

Keep your tires deflated to 15 pounds or less. Keep front wheels straight. Keep your momentum. Speed will often get you through stretches of soft sand. Use low or second gear in the sandy areas.

DIGGING OUT OF SAND

Deflate tires to eight-12 pounds or until they bulge at the sides. Remove sand from in front of tires. Direct front wheels straight ahead. Place brush in the more sandy areas of the road. Place some weight over the rear wheels or have someone stand on the rear bumper. Rock the car forward and back until the car is moving about two-three feet at a time, and drive off, applying power slowly enough to keep the rear wheels from spinning.

PRECAUTIONS

Do not stop on up-grades or in depressions where sand is soft. Do not drive on salt flats. They often consist of a thin, hard surface layer over soft mud. Do not drive over woody plants, especially creosote, whose dry wood can puncture a tire. Watch out for high centers or rocks which your car cannot clear. Do not fail to keep a record of turnoffs and mileages.

COURTESY

Refill holes left after you have dug you car out of sand. Drive slowly past parked cars, no one likes a cloud of dust. Stay on the roads or trails where possible, preventing unsightly tracks, broken brush and cacti. Assist anyone who has broken down—you may need help sometime also.

Sand is not the only driving hazard in the desert. Photo, right, shows author, left, and his traveling companion stopped by "dry" lake mud.



they are good substitutes for two shovels.

And now, having completed my meditation, I go to work. First I let some air out of the tires. It is easier to pump them up again later than to do a lot of unnecessary shoveling. With one of those motor pumps which plug into a sparkplug socket on the engine, pumping up a tire is no longer a serious chore.

How to Proceed

My engineering survey has told me whether I should try to go ahead, or back out of my predicament. Also whether to jack up the car and put brush under the wheels, or try to make it without the jack.

Once — before I knew better — I tried tying rope on the wheels, like skid chains. I was up in Barrett Canyon in the Fish Creek Mountains of Southern California looking for a coral reef I had read about. When the car mired down I cut my tow rope in two and carefully wrapped the rear wheels with it. When I started the motor those roped wheels immediately started excavating a new short-cut route to Hong Kong. That night, on the 14-mile hike out to Plaster City to get a tow car, I had plenty of time to think about the folly of trying to get out of

soft sand with skid-chains or any of their substitutes.

In my present predicament I have decided to make one try to pull out without resorting to the jack, so we shovel away the sand in front of the wheels, both rear and front, and gather what brush we can for traction, and start up the motor. I try to ease out — heavy on the gas, and easy on the clutch. If the wheels merely start spinning again, then it is time to resort to the jack. The bumper type of jack simplifies this problem. After you've had the experience of trying to find local materials for a floor under the jack a time or two you will do what I learned—carry a little block of 2x8 wood for that emergency.

Rocks, Brush

Heft the rear end well up in the air, and rocks, if they are available, are the best base to put under the wheels. And before starting build a brush runway, the longer the better.

I've been stuck in the sand a thousand times — without exaggeration — and each time it is a somewhat different problem. I have mentioned the running boards—but they are hard to find nowadays. Some motorists carry strips of canvas. But they are not too satisfactory. Generally the wheels will

kick them out of place as soon as the motor is started. Eight or 10-foot strips of wide heavy belting are better. Strips of heavy-mesh wire or chain-link fencing serve very well. During the years when he was living on his ranch near the old Vallecito stage station, Everett Campbell always kept two 10-gallon milk cans of water where he could load them in his pickup and go out and help a stranded motorist. Wet sand gives much better wheel traction than dry sand. But it is not often one meets a good Samaritan like Everett Campbell.

Of course the four-wheel drive cars available today make much of this sand technique unnecessary. But even a jeep can get stuck, as I learned on the Sahara Desert during the last war. We were driving cross-country to a waterhole the Arabs had told me about. The sand was so heavy and the grade so steep we finally had to abandon the jeep and finish the journey on camels. Later we salvaged the jeep with a 4-wheel drive weapons carrier.

Safety First

One doesn't have to be a master-mechanic to drive the desert trails. Today there are few places even in the most remote parts of the desert where one is not within walking distance of help. But on long trips it is well to travel in two-car parties, and of course it goes without saying that it is important to have plenty of water, food and bedrolls. Thus fortified, the motorist has nothing to fear during the months from October to April. Summer travel on the byroads is another matter. Inexperienced or poorly equipped motorists should keep to the main traveled routes in the warm season.

As I have suggested, they cannot put you in jail for getting stuck in the sand. And if you have to spend a few hours digging out, or waiting for help, the rest of the world probably will struggle along just as well in your absence. After all, it is just such experiences that make life interesting. The exercise will be good for you, and if you take advantage of the opportunity to prove to other members of the party that you can take it and laugh, you'll be the gainer by the experience.

But I cannot recommend a tin cup as an excavating tool. It'll be more fun if you have a shovel in the car.

And
if
all
else
fails . . .



Hard Rock Shorty of Death Valley



"Ain't been no chicken-raisers in Death Valley fer nigh onto 20 years," Hard Rock Shorty was telling the feed and fertilizer salesman who had stopped at the Inferno store.

"Pisgah Bill tried raisin' 'em once, but they wuz too many coyotes around here, an' what the coyotes didn't git the wind blew away.

"But even before that last big windstorm come along an' the chickens all went with it, Bill wuz plumb discouraged. Had to haul all the chicken feed in from Barstow, an' by the time them chickens wuz big enough to eat they wuz worth their weight in gold.

"What really got Bill's goat wuz when some smart dude came along an' told Pisgah how he could save some money on feed-

in' his chickens. 'You don't have to give 'em that fancy bran from the feed store,' the dude explained. 'Just feed 'em sawdust. The chickens won't know the difference.'

"Bill thought it over a couple of days. 'Don't make sense,' he says. But he wuz hard up fer money and he had a couple o' sacks a sawdust he had brought over from the sawmill at Inyo to sprinkle on the floor o' the shack to keep the dust down. 'I'll feed 'em half an' half,' he finally decided.

"Fer awhile the chickens seemed to git along all right, an' then one ol' hen started settin'. She hatched out a family all right, but seven of 'em had wooden legs an' the other four wuz woodpeckers."

SQUAW SPRING on the trail to Utah's Needles

By WALTER FORD

NOT ALL of the prominent old-time watering places were on established routes of travel. Some were located far off the beaten path, yet their isolation made them no less important to those who had to depend on them as unfailing sources of water. One such waterhole is Squaw Spring, 12 miles east of the confluence of the Green and Colorado rivers in Southeastern Utah.

The name Squaw Spring was derived through the desert Indians' custom of leaving their women at a watering place while they were on hunting or marauding expeditions. Scattered remnants of pottery and arrowpoints on the mesa above the springs, and the numerous fire-blackened caves and petroglyphs in the adjacent cliffs indicate that a sizable Indian population once inhabited this area. After the Indians disappeared from the scene, the spring became a favorite camping place for trappers and hunters who earned their livelihood from the pelts of mountain lions, coyotes and wolves which abounded in the region.

One of these men was Roy Musselman, an experienced trapper who was brought in from Oregon to rid the country of the notorious outlaw wolf, Big-Foot, whose depredations cost the cattlemen of the San Juan country many thousands of dollars.

The story of Big-Foot and his capture has become one of the classics of San Juan campfire lore. For eight years the wolf matched wits with cowboys and professional hunters, killing the fattest beef of a herd almost nightly. His range included that vast section which lies between the San Juan and Colorado rivers in Utah and the Dolores River in Western Colorado.

Musselman arrived in Big-Foot's territory in 1916, but in spite of his long trapping experience it was not until 1920 that he was able to bring an end to the wily beast's activities. For this job he needed a special trap. Big-Foot measured eight feet from nose to tip of tail.

When the Scrup Cattle Company moved into the area, Squaw Spring acquired renewed importance because of its unfailing water supply and close proximity to the outfit's main headquarters on Indian Creek. More recently, Squaw Spring has become an overnight camping place for packtrip groups bound for the rugged land known as the Needles, where the forces of erosion have created a bewildering forest of stone spires and minarets of every conceivable hue.

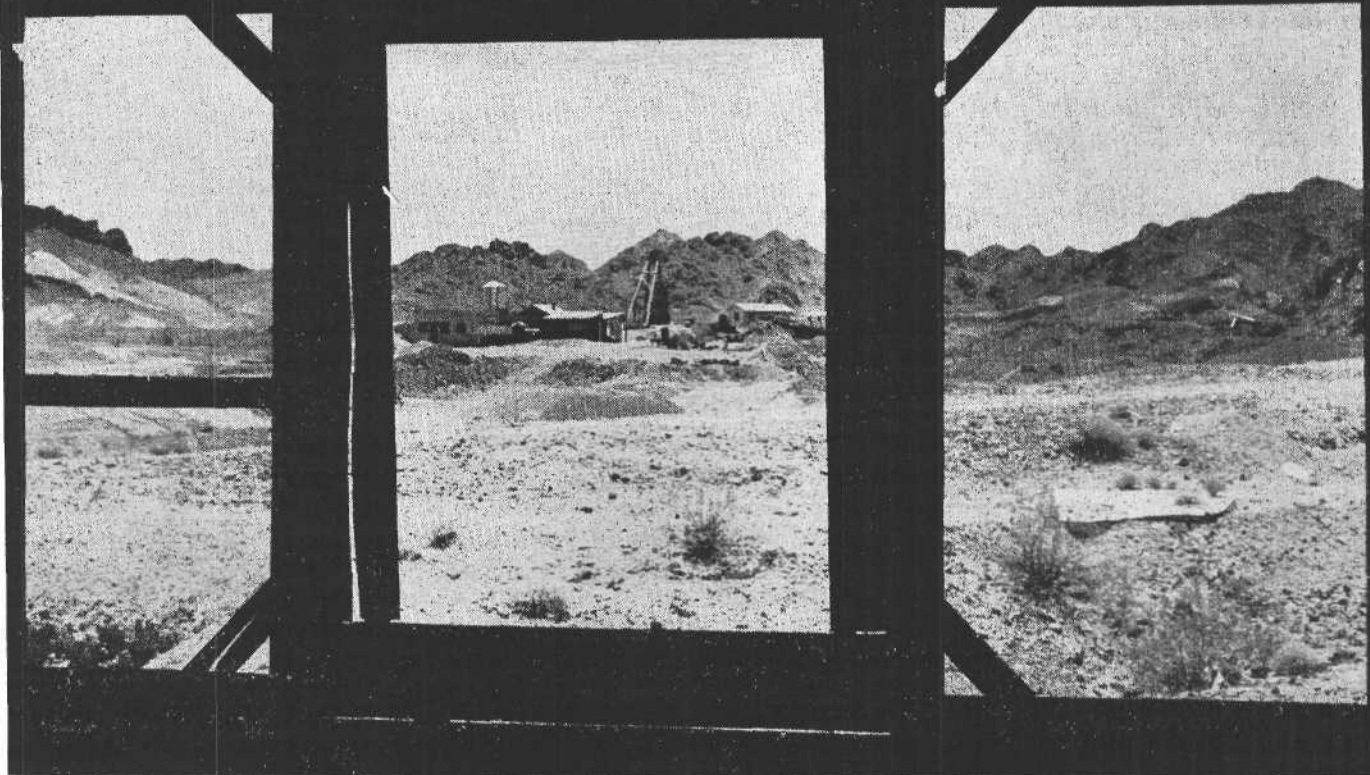
I camped at Squaw Spring with a group from the 4-M Ranch of Moab. We were enroute to the Needles section, having traveled from Moab to the Scrup headquarters on Indian Creek by truck, and from there to Squaw Spring on horseback. The long dusty ride under the blazing August sun quickly emptied our canteens, so it was with undisguised relief that we sighted the little stream of clear cold water bubbling from the rocks at the bottom of a ravine. I noticed a number of jeep tracks around the camping place near the spring and learned from our guide that the Scrup foremen now use jeeps instead of horses to travel between the various ranch outposts. Such is progress.

The Squaw Spring trip is one that should not be undertaken without a guide. While cars can proceed as far as the Scrup Ranch, jeep travel beyond the ranch can be a hazardous undertaking for one not familiar with this country.—END

A group enroute to the Needles section refill canteens at Squaw Spring.



Lost Silver in the Trigos



By HAROLD O. WEIGHT

Map by Norton Allen

ONE MINE should be enough for any man to lose in a lifetime. John Nummel lost two. Old John spent half a century foot-prospecting the rugged and beautiful desert mountains bordering the Colorado River in southwestern Arizona — he had time and space enough to find—and lose—any number of ledges in a land that has produced fabulous gold and silver bonanzas.

Nummel's first tantalizing glimpse of "the big one" came around 1900, when he discovered a ledge of yellow quartz and gold near a foot-trail between the Red Cloud and La Fortuna mines (*Desert*, March '56). His second big strike came 30 years later, when he found and mislaid rich silver croppings somewhere between that same Red Cloud and the Colorado River.

At that time (late '20s or early '30s) Old John was living in a cabin on the river a few miles northwest of Norton's Landing. Ed Rochester says John's place—known both as Conger

John Nummel was a great walker—he had to be in the rugged wilderness of the Lower Colorado River in which he lived. It was while walking out from the Red Cloud Mine (seen above in center background through doorway and windows of abandoned shack) that John struck silver.

Point and Nummel's Landing—was 75 miles from Yuma "at the end of the world's worst road."

John's only mechanical transportation over that rough trail was by ancient worm-drive Model T truck. Since the vehicle almost always broke down, John's infrequent expeditions to Yuma were adventures which could take a full week either way. On lucky days, the truck would develop its trouble somewhere opposite old Picacho, about 10 miles down the Colorado. Then John could hike to the river and yell across, and Dick Young, Ed Rochester, Earl Kerr or Clyde Stewart would sail across and help him get going again.

John's cabin was a most satisfactory home, from an old prospector's point of view. A little garden, chickens and

game provided most of his food. He had a wind-charger to operate his radio. Only tobacco, clothing and miscellaneous supplies required cash, and this John earned by acting as caretaker of the shut-down Red Cloud Mine.

Nummel's life in Arizona is entwined with the old Red Cloud. He was there when the big strike was made in 1880. A good miner, though too restless to stay long on any job, he intermittently worked at the Red Cloud during its years of operation, and became caretaker and watchman when it fell upon unprofitable days. His own lost bonanzas were found on occasions when he was hiking out from the famous old silver camp.

The Red Cloud operated a good

part of the '80s, and its career ended with the demonetization of silver, though brief revivals have been attempted since. There seems to be no detailed records of its production. The Red Cloud, the nearby Black Rock and a few minor claims in the district are credited with nearly \$600,000 in lead-silver output between 1880 and 1889. Old-timers say the large part came from the Red Cloud, and true production was much higher. With no real development done in years, the Red Cloud today is perhaps best known to rockhounds, who treasure the beautiful wulfenite crystals which are found there.

He Didn't Worry

John Nummel's river cabin was 10 miles from the Red Cloud by one of the worst sections of that "worst" road, or six miles air-line. But neither the distance nor the apparent necessity of being two places at the same time bothered John.

"In the summer there wasn't much for John to do at the Red Cloud," Ed Rochester explains "so he commuted between the mine and his cabin on the river. He almost always walked. John was a great walker. He walked all over that country. Each time he went down to his cabin, he took a different route, and always prospected along the way."

From this habit came the mystery of John Nummel's lost silver. On one such walk home from the Red Cloud he struck a ledge that promised values. He knocked chunks off and carried them to the cabin. There he dumped the ore with other pieces that had been packed home from time to time which he planned to investigate—eventually. And there it lay until Walter Riley, a long-time friend, came upon it.

It Looks Good

Riley was a prominent figure in Yuma and a well-known mining man. He thought the rock looked good, and with Old John's blessing, took it to Yuma for assay.

The report more than proved him right. The ore was very high grade silver.

When next Riley saw Nummel, he demanded: "Where did you get that rock? If there's enough of it, you've got a bonanza!"

Looking at a piece of the ore, John Nummel said he remembered the day, the place and the ledge from which he had gotten the samples.

But, he was wrong. The ledge they investigated contained worthless rock. Old John desperately tried to remember the route and the place. Several possibilities came to mind. Each one he walked out. None led to the ledge

of the rich silver assay. Finally, since there was no other way, he commenced to re-prospect all the land he had covered between the Red Cloud and the cabin. Every wash, every trail, every route he remembered taking, every one he might have taken. He did not find the ledge.

Wide Travels

Unfortunately, the country between the mine and his cabin was not the only area Nummel prowled during the period when he had sampled the ledge. He had been almost everywhere through the Trigos. He had hiked down to Castle Dome Landing, and to the river opposite Picacho. He had trudged the wild miles of mountain and mesa between the Red Cloud and Cibola Valley, far up the river, where he had a 40-acre homestead.

Ed Rochester, who ran Taylor's Ferry at Cibola from 1931 to 1933, recalls many visits from Nummel during that period. "He'd always spend a few days fishing. He loved fish, but was the world's worst fisherman. He'd

sit there at the ferry, catching nothing and just starving for fish until I'd catch a bunch and cook them and fill him up. Then he'd hike back to the Red Cloud."

Remembering his many wanderings, John Nummel became even more confused as to where he had made that unrecognized strike. He had explored country so empty and broken that no unmarked route through it could ever be retraced exactly.

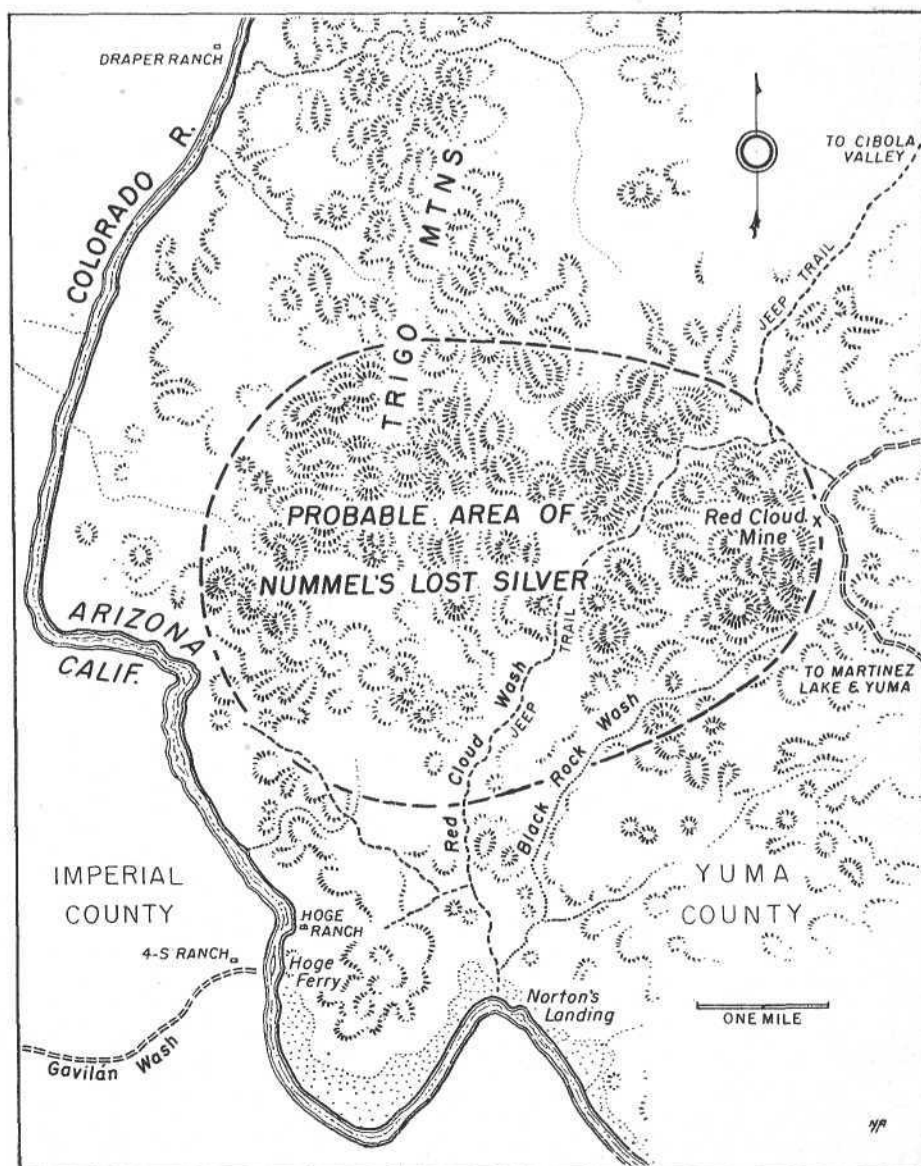
He never saw his silver ledge again.

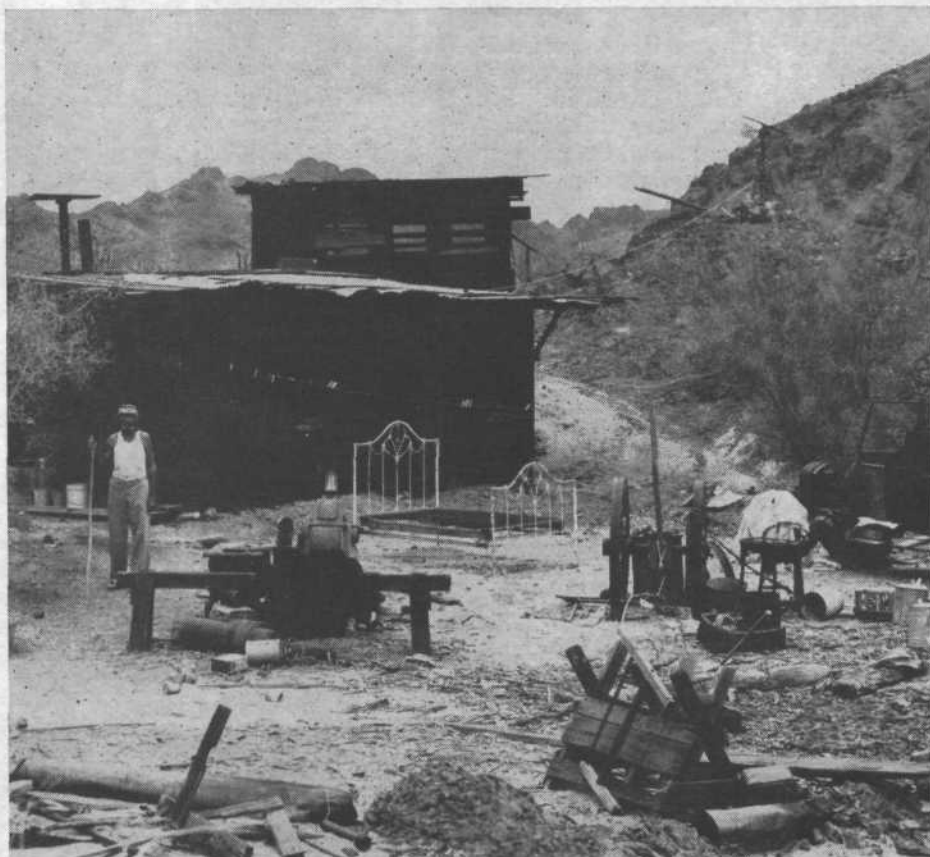
John Nummel found other things besides gold and silver in his roving, perhaps the most remarkable being his "petrified turtles."

John's Turtles

"He said they were big—just like desert turtles," Clyde Stewart recalls. "They were thick through, and had legs—but John couldn't see any heads. They were solid rock, but he didn't find them in rock—they were lying loose alongside the wash."

What were they? Stewart has his





John Nummel at his cabin.

idea: "John said he found them in granite hills, but there must be andesite or rhyolite somewhere in that canyon, and these large geodes in the shape of turtles washed out from it. Old John talked about it so much he started believing he had some petrified turtles."

Ed Rochester believes John found them in red sandstone. Ed has heard, from sources he believes reliable, that one was sent to a scientific institution where it was identified as a fossil turtle.

Where did John find them? It seems a legend of a Lost Turtle Mine is in the making. John did not mislay his stone turtles — his friends agree he knew exactly where they were—but, he was secretive about them. Once on a trip with Ed Rochester, John promised he would show him "the mountains with the turtles." But he was very old then, and the side excursion was never made.

Three Big Mines

Whatever the truth of the turtles, there seems no doubt Nummel did strike rich silver ore. In the Silver District, where three big silver mines—the Clip, the Red Cloud and the Black Rock — were developed, such a find would be entirely logical. More important—the old-timers who knew Nummel accept his story, though they differ as to where his ledge most likely is located.

Jose Alvarado had this to add: "A Dutchman who worked at the King of

Arizona while I operated the mill there had a mine between the Red Cloud and Mohave Tanks, going toward Ehrenberg. Native silver. That could have been John's ledge.

Plenty of Silver

"And the Indians used to bring pure silver in to Castle Dome Landing. Used it for arrowpoints. While I was at the King an old Yaqui, a *gambusino* called Placer Mike, told us: 'If you fellows want silver I will tell you a place in this country where you can load up all you want.'

"Placer Mike was interested only in gold, and I was not interested in silver either. It was not worth anything. He said he found it at the foot of a sharp peak. Big vein, black on the outside—but it was almost pure silver when he broke it."

So run the legends in John Nummel's land.

Old John lived at his cabin and hunted his ledge through the 1930s. After he got his pension he moved to Laguna Dam and built a shack where old prospector friends had congregated. From there he went to the Pioneers' Home at Prescott. He died in 1948.

Anyone hankering to hunt John Nummel's silver today should contemplate the long and fruitless search he made. They also had best face the fact that few of us are John Nummels

physically. The country he traversed with such apparent nonchalance and impunity is a deadly desert at certain times under certain conditions. The Red Cloud had another caretaker, Walter Nelson, whom I met on a visit in 1955. Less than a month later he was found dead beside his car which had stalled in deep sand five miles down Red Cloud Wash.

It was at the mouth of this same wash, trying to reach the river at Norton's Landing, that I became satisfied a four-wheel-drive station wagon can become as thoroughly stuck in sand as a conventional vehicle.

Stuck!

Dunes had partially closed the mouth of the wash, but a faint trail indicated that a road had once climbed their slope to the firm mesa. I made it half-way up — much too far, it turned out. The car rested on its transmission, and by digging out and placing brush under all four wheels, I only could back a few inches at a time. Then the process had to be repeated. I had the exasperating feeling that four wheels turning under power threw out twice as much sand and brush as two would have done.

It was mid-May, and the bright sun, the reflective sand and the humid air quickened my fatigue. Rests became more frequent. Each time I squatted, panting, in the flimsy shade of the car, my respect grew for Old John Nummel, who had wrestled an old broken-down truck through this country for years, who had built road in the summer heat, who had packed supplies for miles, regardless of season. He may not have grown rich here, but John Nummel mastered the land.

As I went back to digging out wheels, I gained deep appreciation of his fondness for one particular means of locomotion. Old John knew his country! I resolved that next time—whether it led to a silver ledge or not—I'd walk, too.—END



Desert Carpet

By KATHARINE BUOY KEENEY
Portland, Oregon

Across the cacti covered waste
Of arid sombre gray
A spirit speeds and leaves a glow
Where Spring's light footsteps stray.

Among the spiny cacti plants
A miracle is born;
As myriad of blossoms burst
Midst prickly cactus thorn.

Rewoven on Spring's magic loom
A desert carpet lies abloom.

WONDER

By ANNE VANDER KAM
Monrovia, California

I planted brown seeds in the earth,
And covered them with soil.
Some miracle would give them birth,
A spirit there would toil.

Unseen by any human eye,
Through wondrous alchemy.
Soon, green shoots peeping through the
mold,
The sunny sky would see.

And now the buds are bursting wide,
To fill the eye with bliss.
They are indeed, a lovely sight,
But the strangest thing, is this—

The seeds I planted tenderly,
Were dry, and brown, and dull.
The flowers that bloom on each frail stem,
Of rainbow hues are full.

A man may vainly search and roam
Through all his earthly days,
And though he sees earth's wonders fine,
This truth, will still amaze!

I SAW THE VULTURES FLYING

By HELENA A. SMITH
Garden Grove, California

Six pairs of wings were gliding in the sky;
Their owners seemed to know where crea-
tures lie.

Six pairs of wings spread dark against the
blue;
O guide my steps to dying creatures too,

That I, in mercy, bind up their many ills,
Before six pairs of wings their pleading stills.

A YEAR THAT WAS

By PAUL WILHELM
Thousand Palms, California

A year that was . . . but where
Or when or how I cannot say.
I only know an April dawn,
Two grace notes of a feathered song,
Lost in the haze of summer noon,
Carolled again in autumn dusk . . .

A year that was . . . a wild bird's song
When each mesquite lifts catkins white
And lilies bloom—some silent night
The wilting wind shrieks through the Pass,
But ere we climb the windswept hill
Gold autumn steals back, and dawn
Is lovely still. The bird is back.

The early spring is hardly done,
Already autumn gold has come.
In what sad hour was summer lost?



OIL ON INDIAN RESERVATION

By SAGEBRUSH STEVE
Los Angeles, California

At Council meeting of Hopi Tribe,
Question came up, they must decide

To grant Oil Company drilling lease,
Or, as they were, to dwell in peace?

Young buck Hopis, they full of hope,
Till old chiefs tell young braves "No Soap"

"If white man drill our land for oil
Good sheep pasture they gonna spoil,

We want no white man come around,
Hopi now ain't got much ground."

But young braves say "We want the dough,
This chance to get good job, you know."

Old chiefs say "You buy hot rod,
Soon get killed, be under sod."

But young bucks decide go to City,
Which old chiefs think is great pity

Young braves go earn white man's pay
Leave old chiefs dream life away.

And thus there starts another day.

DESERT SILENCE

By ELLEN REBECCA FENN
Washington, Iowa

Over the greening sagebrush
Under the low mesquite
Beyond the cactus shadow:
Breathes a still retreat.

Murmuring to restless tumbleweed
Whispering to seeded pod
Pulsing in every creature:
The Omnipotence of God.

SPRINGTIME ON THE DESERT

By FRANCES PARKER GRAAF
Alhambra, California

In sight of towering mountains capped with
snow,

I stood today where desert lilies grow.
And the ocotillo held her blossoms high,
Like flaming torches reaching toward the
sky.

Where fields of poppies and verbena spread
Their sweet, wild beauty far, while overhead
A cloudless sky and air so pure and clear,
I reached out for God's hand—He seemed
so near!

NO SUBSTITUTE

By HELENA RIDGWAY STONE
South Pasadena, California

The desert is too far away,
So I have brought it near to me:
With twisted thorny catsclaw branch
And a midget Joshua tree,
It looks quite real. Gleaming sand
Carpets the space I've set aside
For cactus, rocks, colored glass,
(Where lizards and horned toads now
abide).

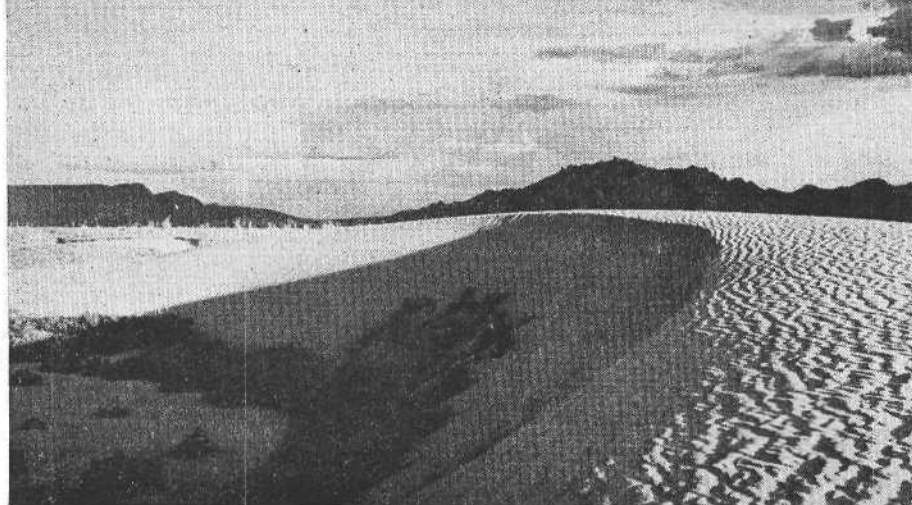
Still, something is missing in this pretense,
No matter how I scheme or try:
I cannot feign a desert night,
Nor topaz stars in a desert sky.

POETRY CONTEST

You are invited to enter your desert-subject poetry in Desert Magazine's monthly contest, to be inaugurated in the May issue. Only the winning entry will be published each month—all others will be returned immediately after judging takes place (provided stamped self-addressed envelope is included). Poems must be of a desert subject, not more than 24 lines in length, and previously unpublished. Winning entries will receive \$5. Mail to: Poetry Contest, Desert Magazine, Palm Desert, California.

The Department of Interior has adopted
a new policy that may result in

MORE RECREATION ON THE PUBLIC DOMAIN



By HARRY C. JAMES

AS THE RESULT of a policy approved recently by Secretary Fred Seaton of the Department of Interior, the way has been opened for every community to acquire from the public domain a plot of ground—not to exceed 640 acres in any one year—for park, recreational or other public use.

This new policy is of special interest to the people of the desert for the reason that in all the Southwestern states there are large areas of unappropriated public land which, while not suitable for agriculture or other commercial purposes, are readily adaptable for park, playground, picnic, outdoor amphitheater and wildlife sanctuary use.

The opportunity, and the invitation to local political subdivisions and non-profit organization to acquire public lands for recreational purposes was

spelled out in a policy statement prepared by Edward Woosley, director of the Bureau of Land Management, approved by Secretary Seaton, and immediately made known to all federal district land offices.

My first acquaintance with this program of public land distribution, and of the desire of land office officials that local communities make use of it, recently came when the Desert Protective Council asked me to go to the district office of the Bureau of Land Management in Los Angeles to gain information as to the status of certain public lands in California which might be acquired for recreational purposes.

I made an appointment with Nolen F. Keil, acting assistant to the State Supervisor of Public Lands in California. Keil is a cooperative fellow, and he assured me his office and the entire Bureau is eager to assist the public and

qualified private agencies in the acquisition of public lands for public use. He called my attention to "Title 43—Public Lands" which provides that not only states, but counties, cities and other political subdivisions as well as private non-profit organizations may receive patent to not more than 640 acres in any one calendar year.

Two Reservations

There are two qualifications in the distribution of these lands. The federal government reserves the mineral rights, and the applicants must pay for the land. However, the lands are available at a substantial discount off the appraised value, and since Uncle Sam has not yet become a party to the current inflation in land prices, the cost is but a fraction of the sums being asked by private owners and real estate subdividers. Lands already reserved in national parks, national forests and wildlife refuges are not available.

Keil's interest gave me the feeling that all of us who love the desert should begin making plans to acquire through the political subdivisions — counties, incorporated cities, school districts and the various types of improvement districts—of which we are a part, tracts of the public domain for recreational and cultural purposes before it is too late.

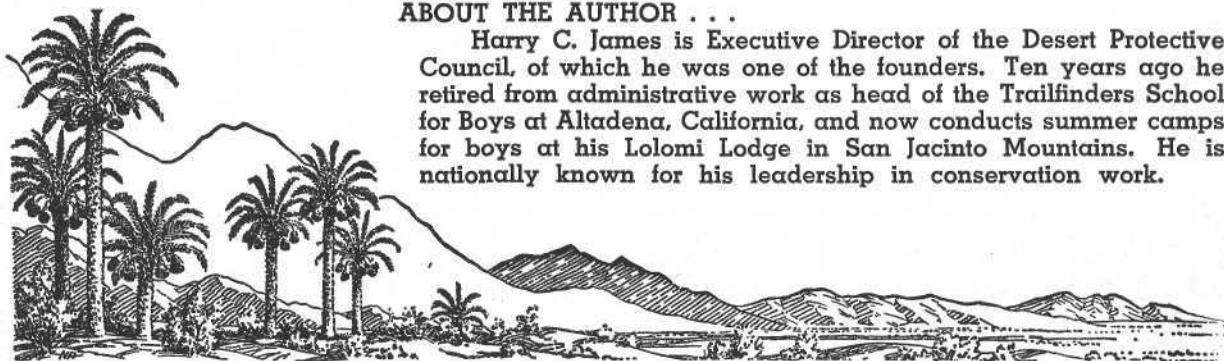
People are moving into the desert from both east and west in increasing numbers, and as towns and cities grow larger, the need for areas beyond the city limits for outdoor recreation is becoming more critical.

Set Land Aside

It would be good indeed if every desert community and every desert school system could secure public lands in their common areas to be set aside as desert parks or sanctuaries wherein the natural landscape and its wildlife could be preserved. With coordinated effort by municipal governments, local school districts, and non-profit groups concerned with the outdoors, such community sanctuaries could be fairly extensive, and they

ABOUT THE AUTHOR . . .

Harry C. James is Executive Director of the Desert Protective Council, of which he was one of the founders. Ten years ago he retired from administrative work as head of the Trailfinders School for Boys at Altadena, California, and now conducts summer camps for boys at his Lolomi Lodge in San Jacinto Mountains. He is nationally known for his leadership in conservation work.



could prove of invaluable worth to the programs in conservation and outdoor education now so generally a part of the public school curriculum.

If local junior and senior high school and junior colleges would assume the responsibility for the care and protection of these community wild areas the result would be constructive activity in the biological and geological sciences and, even more, practical training in good citizenship.

Development in such areas, should be limited, of course, to an absolute minimum consistent with proper sanitation. If water could be developed for the use of wildlife, blinds for the observation of desert animals could be built in keeping with the desert scene. The widespread public interest in the blind at the Arizona-Sonora Museum near Tucson indicates how eager people are to see and to photograph animals in their natural surroundings.

Map Files

Keil and I discussed at some length areas which we of the Desert Protective Council are interested in setting aside as state or county parks. Then he introduced me to Harry Miwa who took me down to the map rooms. Miwa seemed to know every section on every map in the extensive files. Soon we were poring over the proper maps to learn the present status of water holes, palm oases, interesting prehistoric sites, and other details in which our organization is interested. I continued to be impressed by the sincere desire of Bureau personnel to be helpful and cooperative in any project which will bring about intelligent and constructive use of public desert lands.

Then we discussed some of the problems that have arisen in the past few years in connection with jackrabbit homesteading. Temporarily, the Bureau is holding up all subdivision of areas under the Small Tracts Act in both Riverside and San Bernardino counties. This is being done so that the officials of these two counties can prepare plans for sanitation, flood-control, policing and roads in areas now under subdivision. The pressure to open up additional and very extensive desert areas is constantly mounting. Furthermore, at the Los Angeles office from 250 to 300 applications a month are being received for "agricultural" lands—under the Desert Lands Act of 1877!

About 5000 applications for such lands are now on file in the Los Angeles office, involving about 1,500,000 acres in San Bernardino County. As few applicants could properly locate their lands they usually call in the services of locators. These locators

charge their clients from \$2 to \$10 per acre. As most of the applications are for 320 acres, the business of a locator can be a remunerative one.

Only about five percent of the applications are approved, for most of the lands are totally unsuited for agriculture. Of the applications that have been allowed to date about 60 percent have reverted to desert. Thus, the per-

Title 43

Public Lands—Interior

Chapter 1—Bureau of Land Management, Department of Interior Circular 1880.

Part 254—Sale, grant or lease of public lands for recreational and public purposes.

Part 254.2—Who May Apply. The following are qualified to make applications under the act: States; Federal and State instrumentalities and political subdivisions, including counties and municipalities, and non-profit associations and non-profit corporations.

Part 254.4—Purpose for which lands may be acquired. Qualified applicants are permitted by the act to acquire available lands for use for any public purpose for which they are authorized by their creating authority to hold lands. Non-profit associations and non-profit corporations are permitted, in addition, to acquire lands for use for any recreational purpose consistent with their creating authority.

Part 254.5 (c)—No applicant can receive, under the act, patent to more than 640 acres in any one calendar year.

sons who secured these lands have not only lost tidy sums to locators, but they also have lost considerable amounts of money in improvements.

These land locators are not licensed or controlled by the government. Doubtless many of them are persons of integrity who perform useful services for their clients, but Wooley himself is the source of the remark that "land locators and filing services have engaged in land promotional schemes that, while staying within the letter of the law, border on unethical and fraudulent practices."

H. R. Hochmuth, Lands Officer of the Bureau in Washington, was in California recently and at that time he commented: "We see some awfully

sad stories in the mail. All we can tell them is that their contract is with the individual and not the government, and all we can do is return any moneys that have been paid on the purchase price."

Questionable promotional procedures, and the fact that many areas truly suited to development still remain undeveloped add up to abuses that have multiplied since the Small Tracts Act was passed in 1938.

Many of the conditions and situations that have developed in Riverside and San Bernardino counties could be properly met if these counties could afford adequate police protection for the areas involved as well as more adequate inspection to see that codes pertaining to construction and sanitation are enforced.

The Bureau of Land Management also stands ready to accede to requests that lands be set aside in small tract subdivisions for school and park purposes. This has been done in the tract in Johnson Valley in San Bernardino County.

Land Reverts Back

I also learned that public lands now under control of the armed services revert to the Bureau of Land Management if and when the armed services relinquish them, unless, of course, the lands were previously controlled by some other department of the government. Lands that have been contaminated remain closed when the cost of de-contaminating them proves greater than the appraised value of the land. It would seem that such lands could be de-contaminated if their recreational potential warrants it and if Congress were willing to appropriate money for the purpose.

Considering the areas which have been contaminated by the armed services and which are now posted as closed to public entry, I cannot help wondering whether the time is not now ripe for Congress to undertake an investigation to ascertain if such a de-contamination program should be undertaken in the public interest.

These and many other reflections are the result of my visit to the Los Angeles office of the Bureau of Land Management. Thanks to the graciousness and patience of Keil and Miwa, I came away with the feeling that in the ever continuing struggle between those Americans who would seize and exploit every acre and resource in our land for their own gain, and those who would retain at least a portion of the public domain for the recreation and cultural pursuits of all the people, the Bureau of Land Management is on the side of the latter.—END

A King Snake and Two Rattlers

By ROY M. YOUNGMAN

IT WAS an ideal day for snakes to be out. Clouds were gathering across the western sky, and the threat of a thunderstorm was carried by the warm May air. My camp in a wild jungle east of Midway Well on the California bank of the Colorado River was the last of several I had made during a two-week archeological research stint in this section of the desert.

During this time I had not seen one snake—and then, in the space of 15 minutes, I saw three. What was even more remarkable is that one of this trio ate the other two!

I had been standing by my car talking to a visitor. When he drove off, I took one step toward my tent and heard the warning rattle of a snake. Near my feet was a thick two-foot-long Western Diamondback rattler.

I backed off, and so did the dangerous reptile. As it headed under the canvas floor of my tent, I grabbed a club in the nearby thickets and killed the rattler. Then I carried it to a clearing close by, and left it for the carrion eaters.

After that experience, I decided to investigate the camp area to make sure other poisonous snakes were not about. I was particularly wary of the area around the luxuriant salt cedar bushes growing near my tent, for I remembered a friend's warning that rattlers liked the deep shade provided by these plants.

Under the first bush I pushed aside with my long-handled axe was a second Diamondback. It was 18 inches long and much slimmer-bodied than the one that had crawled under my tent. I finished it off with a blow from the blunt end of the axe.

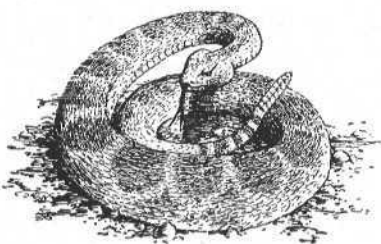
As I turned to carry the dead reptile to the clearing, I was amazed to see a third reptile sliding across the ground directly toward me. The newcomer was a harmless (to man) three-foot-long black-and-white-banded King Snake (*Lampropeltis getulus californiae*). Its glossy black bands had just a tinge of blue as they went under the body.

This was an extraordinary new development, and the only explanation I can offer is that the hungry King Snake had caught the scent of the rattlers. Anyone who has visited a

reptile house in a zoo is familiar with the strong peculiar odor characteristic of these creatures. The King Snake has an acute sense of smell which makes it an especially skillful tracker of the snakes and small animals upon which it feeds. It has cultivated these traits for ages, for the King Snake is a ravenous cannibal. It is one of the rattlesnake's chief natural enemies.

The sleek King Snake showed no fear of me as I stood holding the axe handle over which the dead rattlesnake was draped. I dropped the rattler in front of it, and the banded snake looked up at me much as a tame puppy might have done, seemingly to say: "Do you really mean I can have this choice young rattler?"

In order not to disturb the King



The rattlesnake is many things to many creatures, but to the King Snake, rattlers—especially the young ones — are food. Here is educator Roy M. Youngman's firsthand account of a King Snake devouring two rattlesnakes in one afternoon.

Snake, and being anxious to observe its reaction to this situation, I slowly and quietly walked over to my car and sat on the fender.

The King Snake immediately began an instinctive circling process around the rattler. He maintained, I thought, what would have been a safe distance had the rattler been alive. After moving around the Diamondback several times, the King Snake turned away. But, this was a guise. Just as I was beginning to think it had lost interest in the dead rattler—the same impression it would have wanted to create in a live rattler to throw it off guard—the King Snake made a lightning-fast stab at its prey. In a flash, it threw itself over backward and clamped its jaws across the rattler's neck.

With quick fluid muscular rhythm, coils of its striped body were thrown

around the rattler. In seconds it had formed a tight knot-like cylinder about the size and form of a quart measure—the rattler's head buried securely in the upper center of this knotted mass, and the tails of both reptiles protruded from the bottom.

Only then did the King Snake slacken its pace. Slowly now, it moved the upper part of its body to free its jaws from the rattler, and then took a new hold with its teeth. This was repeated several times, but before each bite the King Snake carefully examined its new target.

This tense action had gone on for a half hour in the sun, when the King Snake uncoiled, grasped the small snake in the middle, and pulled it into the shade of my car. I got down on my stomach to continue the observation.

The King Snake threw two coils around the rattlesnake, and bit into its head. It must have struck a fang or some bad-tasting substance, for its reaction was not unlike a human's who has bitten into a rotten apple. Next, the King Snake demonstrated a bit of reasoning power. Instead of taking a new hold of the rattler's head, it grasped the prey in the middle, doubled it up, and easily swallowed it.

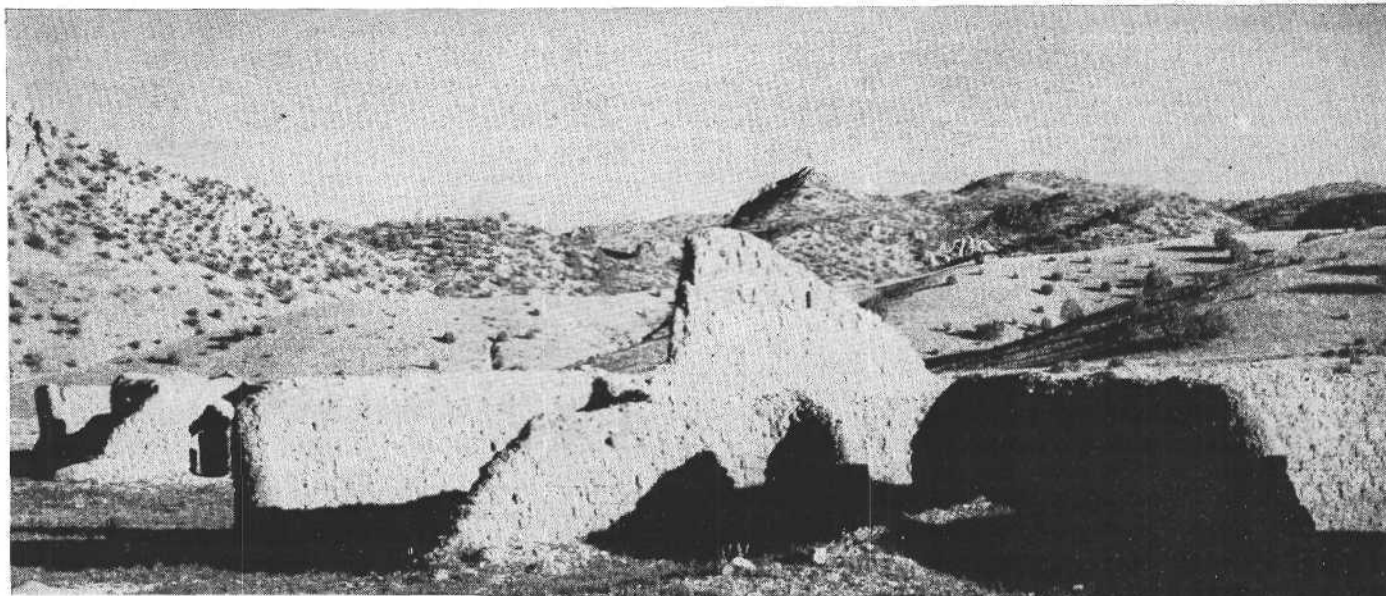
The size of the King Snake had hardly increased at all, despite the ample meal. It immediately began looking for a place to retire where it could digest its meal in peace. It started off in the direction of the clearing where I had deposited the larger rattlesnake. I walked ahead, and when the King Snake came nearer, I threw the rattler in front of it. But, the King Snake was wary of me by now, and all of its attention was directed my way. A second toss of the rattler caught its eye.

This glutton apparently could not resist further satisfaction of its appetite. The Diamondback, lying on its side, was obviously dead, so the King Snake cut the procedure short. It seized the rattler by the neck, backed up until its prey was drawn into a straight line, and then began swallowing it head first.

The King Snake's jaws worked the rattler down into its body inch by inch. The swallowing process proceeded more and more slowly, and after two hours three inches of the Diamondback's tail and rattles stuck out of the King Snake's gaping mouth.

Returning to the clearing at sundown, I found that the King Snake had disappeared after regurgitating the larger snake. A meal of two rattlesnakes, the King Snake found, was one too many.—END

The Apache policemen hid in the adobe buildings, and when
Geronimo entered the parade ground he fell into their trap . . .



By JAMES W. ABARR

HISTORY NEARLY has forgotten out-of-the-way Fort Ojo Caliente, a small frontier Army post and Indian agency in the mountains of southwest New Mexico. My wife, Carol, and I recently visited this place where, in the spring of 1877, the wily Geronimo was outwitted by a bold, young and resourceful Indian Agent, John Glum. Here at Ojo Caliente, for the first and only time in his career, the Chiricahua raider was captured and clamped in chains.

Virtual obscurity has been Ojo Caliente's fate, and today the old fort lies forgotten in its remote mountain valley setting. Few people visit its decaying walls, relics of a turbulent and romantic era.

As we drove west on State Road 52 into legendary Apache country, we only had a vague idea of the fort's location, for it is not shown on standard highway maps. The back-country road climbs rapidly out of the Rio Grande River Valley into semi-desert country. North of us towered the San Mateo Mountains, and due west rose the rugged escarpment of the Black Range.

Apache Land

Sun-splashed sage gave way to rolling hills. The green of pinyon and scrub pine contrasted sharply with the red earth. It was easy to understand why the Apache had fought with all his cunning to keep this land.

A small canyon carries the road across the southern tip of the San Mateos into a broad grassy valley striped with swift mountain creeks,

and dotted with clumps of pine and cedar. We passed ranch houses and grazing herds. This is cattle country.

Eighteen miles beyond the small settlement of Winston we stopped the car and searched the terrain. Our calculations told us that Ojo Caliente's ruins lay somewhere nearby.

Crumbling Ruins

I trained my field glasses along the dry rocky bed of the Alamosa River which follows the foothills of the San Mateos. Blending into the tan-colored mountain backdrop were the crumbling adobe ruins of the fort. We followed a dim side trail to a point along the river bed which is within easy walking distance of the old garrison, and in 10 minutes we were standing on the grass-grown parade ground, its outline traced by faint hummocks. Sagging walls of barracks and other buildings framed the area on two sides.

In the parade ground stands the splintered stump of a flag pole. What stories could it tell if it could speak? What of the men who once marched in its shadow? What of the soldiers who came to this frontier outpost to serve the cause of empire?

Ojo Caliente was built in 1859 as an advance picket outpost for Fort Craig, 50 miles to the east in the Rio Grande Valley. In the late 1860s, the fort became the agency headquarters for the Warm Springs Apache Reservation. Federal cavalry, "E" Troop, 4th Regiment, and elements of the 15th Infantry Regiment were garrisoned here from late 1877 to 1882. No records exist after that year. The garrison usually numbered 60 officers and men, but at one period of heavy Indian fighting in 1881, over 200 men were stationed here.

Dangerous Mission

Geronimo's career almost ended on this parade ground a decade before he made his final peace with the hated white eyes. John Clum, probably the best friend the Apache Nation ever had, was sent to New Mexico Territory from his post at San Carlos to return Geronimo to the Arizona reservation. The Apache renegade was camped at the hot springs, three miles above Fort Ojo Caliente.

After a forced march from Arizona with 100 hand-picked Apache police, Clum baited his trap. He rode into

PORT OJO CALIENTE

Ojo Caliente in broad daylight with 20 men at his side, aware that Geronimo's scouts were watching from the hills. Clum wanted the renegades to think he only had a small force with him. After making camp, Clum sent a demand to Geronimo that he come to the fort and surrender.

Setting the Trap

Geronimo knew no Federal cavalry was garrisoned at the fort. His scouts told him of Clum's small force. The Apache raider had over 100 warriors—Clum's demand to surrender must have amused him.

What Geronimo didn't know was that Clum's remaining 80 Apache police had ridden into the fort under cover of darkness and were posted inside the buildings. Clum and his original 20 lined up on the parade ground and waited.

Shortly after dawn, Geronimo came to silence this little man who made big demands. The Chiricahuas fanned out behind their leader and boldly walked to within a few yards of Clum. The painted warriors halted and waited for their chief's signal to wipe out the little band before them.

Clum again called for Geronimo's surrender. Twenty rifles were leveled at the chief's heart. At Clum's signal the 80 reserves swept from their hid-

ing places and encircled the parade ground. The renegade band was surrounded.

Geronimo, knowing he would be the first to die in any battle that might have arisen from this situation, quickly surrendered. Within minutes, Clum had the Apache chief and five of his sub-chiefs in chains.

Several weeks later in Arizona, Geronimo escaped from his cell. During the next nine years he left a bloody trail across the Southwest. It wasn't until 1886 that starvation and sickness forced him to surrender to General Nelson Miles at Skeleton Canyon, Arizona.

Tombstone Career

Clum went on to become the first mayor of Tombstone, Arizona, founded the famed frontier newspaper, *The Tombstone Epitaph*, and was a staunch backer of the redoubtable Marshal Wyatt Earp.

We moved along the line of crumbling roofless buildings. The fort had been built after the fashion of an adobe pueblo. Walls were thick and windows deep set. Straw and earthen bricks used in the walls are flecked with bits of pottery. Apparently the building material had come from the refuse heap of an ancient Indian pueblo just west of the fort. In the

crumbling fort ruins we found numerous pieces of black on white pottery characteristic of the Classic Pueblo III period. This would make the old Indian dwelling about 1000 years old.

One mile east of the fort is a rugged box canyon with jagged red and black walls of volcanic origin. We hiked up the river bed toward the canyon and came across a section of river bank sprinkled with empty cartridge cases—old Colt .45 casings made of copper. They had a type of primer that hasn't been used for many years, and we speculated that this could have been the fort target range.

The ranch home of Mrs. Eugene Ramsey is situated a mile south of the fort. Mrs. Ramsey has lived in this area since 1914, the year her parents came here from Oklahoma by covered wagon. She told us about Ojo Caliente's later years.

Dance Hall

While the fort deteriorated rapidly after it was abandoned in 1882, several rooms were repaired and used by families for living quarters in the early 1900s. By the 1920s these people had left, and Ojo Caliente became the valley's social center. Ranchers would gather from a wide area for weekly square dances at the fort.

"We had some wonderful dances," Mrs. Ramsey recalled. "Folks came from miles around. Some of the finest fiddlers of that day were always on hand to play for us."

During depression days of the early 1930s, residents of the valley stripped lumber from the fort buildings' roofs to repair their homes and ranch buildings.

"People didn't have money to buy materials in those bleak times," Mrs. Ramsey said. "The old fort was a good source of free lumber."

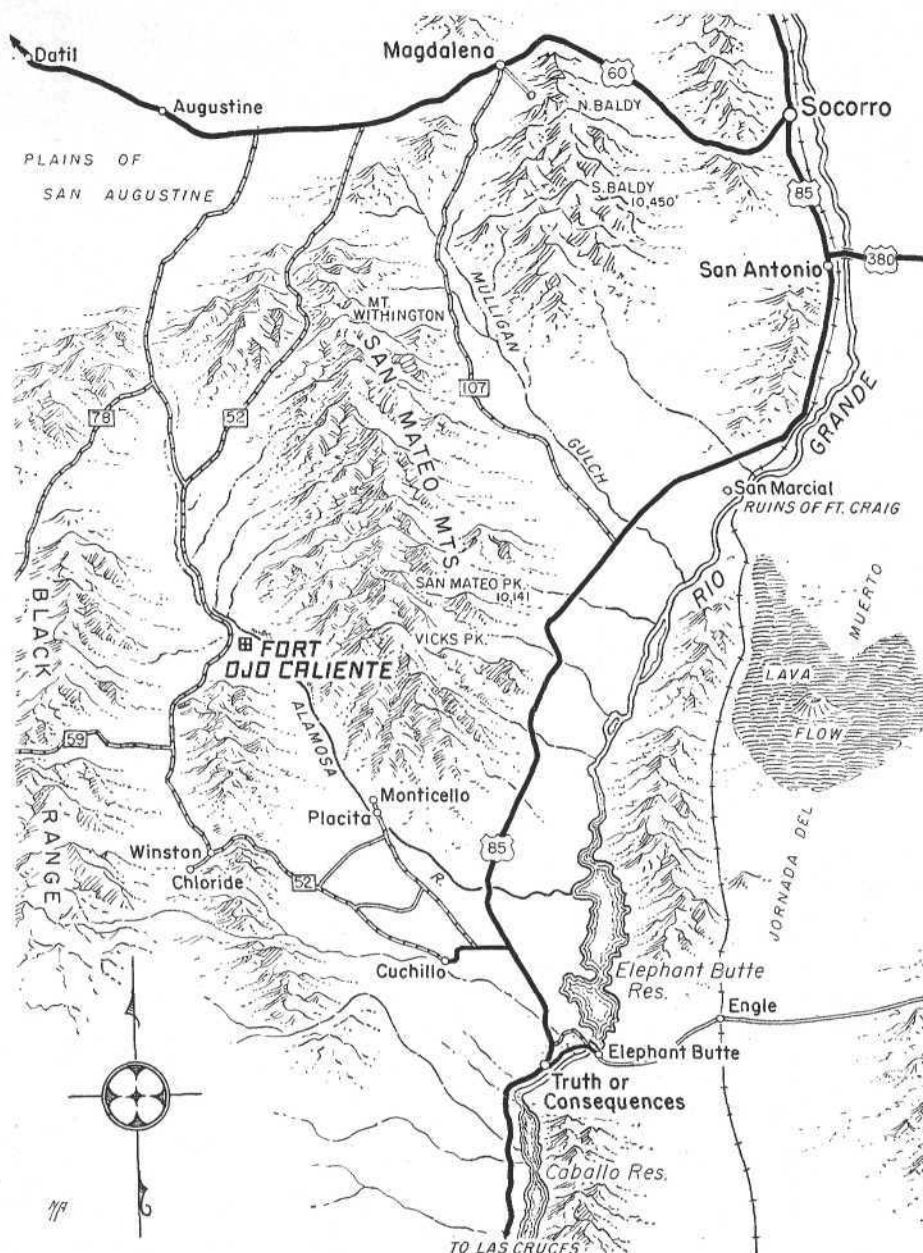
Although Ojo Caliente has been lost to the outside world, people of this quiet mountain valley have a deep attachment for the fort. Mrs. Ramsey and her neighbors hope someday it will be restored and preserved as a state or Federal monument.

Chloride's Ghost

Two miles off the main-traveled road at Winston is the abandoned mining town of Chloride. The old town's ghostly main street lies in a deep cedar-lined canyon. The weathered buildings and deserted houses—some built in Victorian style—once teemed with settlers and miners. Heavy weeds and brush have pushed through slats of sagging picket fences, and wind-driven dust drifts across old sidewalks.

When Harry Pyle, a freight wagon driver, was passing through the town, Carol Abarr is framed by an old Fort Ojo Caliente doorway.





A General's Orders; An Apache's Surrender

Two remarkable documents, one written by an Army general, the other by an Apache chief, throw penetrating light on that period in frontier history when the long struggle between Redmen and Whites was resolved conclusively in favor of the latter.

In 1862 the Texas Confederates' foray into New Mexico had paved the way for wide-scale Indian depredations. When the Union's California Column marched into the state and found the Confederates had left the field, General James Henry Carleton mounted a campaign against the Indians. Soldiers under his command had these orders:

All Indian men of that tribe (Mescalero Apache) are to be killed whenever and wherever you can find them. The women and children will not be harmed, but you will take them prisoners, and feed them at Fort Stanton until you receive other instructions about them. If the Indians send in a flag and desire to treat for peace, say to the bearer that when the people of New Mexico were attacked by the Texans, the Mescaleros broke their treaty of peace, and murdered innocent people, and ran off

their stock; that now our hands are untied, and you have been sent to punish them for their treachery and their crimes; that you have no power to make peace; that you are there to kill them wherever you can find them; that if they beg for peace, their chiefs and twenty of their principal men must come to Santa Fe to have a talk there.

After a few bloody encounters, the frightened Indians begged for peace. One of their chiefs, Cadete, made this speech of surrender:

You are stronger than we. We have fought you so long as we had rifles and powder; but your weapons are better than ours. Give us weapons and turn us loose, and we will fight you again; but we are worn out; we have no more heart; we have no provisions, no means to live; your troops are everywhere; our springs and waterholes are either occupied or overlooked by your young men. You have driven us from our last and best stronghold, and we have no more heart. Do with us as may seem good to you, but do not forget we are men and braves.

driver, discovered an outcrop of silver ore here in 1879, it didn't take long for wealth-seeking miners to turn this wilderness canyon into a roaring boom town. For three decades Chloride flourished as new silver strikes in the district added to the wealth flowing through the little town. Victorio and his marauding Apaches made the settlement a favorite target. Chloride survived bandits, gunfighters and Indians, but perished around the turn of the century when the silver veins played out.

Gold and silver boom days in the valley are mere memories now. Ranching and lumbering are the main industries today, although a few small scale mining operations continue. A small alum mine is being worked near the fort, and gold has been taken from the foothills, but not in quantity. Much of the box canyon east of the fort has been staked for uranium claims, but no mining has been undertaken.

Indian Gold

Ojo Caliente has its share of legends—stories hard to prove or disprove. One tale concerns Geronimo when he was a prisoner at the fort. The Apache leader reportedly offered to fill a room with gold within 24 hours in exchange for his freedom. This would indicate the Indians knew of a rich mine somewhere close by.

Years later, an old man came to the valley. He claimed he had been reared by Geronimo, had known of the Apache mine, and now had returned to find it. The old man said the entrance was under a white rock that looked like a white cow standing in the brush of a hillside. He searched for several years, but never found the lost Apache treasure.

Another missing fortune is that of six mule-loads of gold buried near the fort by Mexican vaqueros. In the early 1800s, so the story goes, the Mexicans were packing the gold from Sonora to Santa Fe when they were attacked by Apaches. After a running battle, the Mexicans eluded their pursuers and buried the treasure in a canyon. They turned the mules loose and fled on foot.

Treasure Map

Only one of the vaqueros reached Socorro. Before he died of wounds, he gave a map of the treasure site to a man named Flores who searched many years for the cached gold without success.

In the 1920s, cowboys found six old Mexican pack saddles in a cave near the fort. Mrs. Ramsey believes a fortune still lies buried in that cave, a place she has visited several times.

—END

The Indian, the Camera, and You

From the wizened patriarch to the shy little girl, Indians make wonderful subjects for the photographer. Here are some suggestions that may result in better Indian pictures for you—and better understanding of your camera subjects.

By HENRY P. CHAPMAN

SINCE THAT day in 1540 when Captain-general Francisco Vasquez de Coronado first saw a Zuni near Ojo Caliente in New Mexico, Indians of the Southwest have fascinated visitors to their domain.

Today's explorers of the Southwest have an advantage over the Spanish conquistadores — they have cameras with which to make permanent records of these encounters. The urge to click a shutter as soon as an Indian appears is irresistible. However, more than an urge and a camera are required to photograph a self-respecting Indian.

You should be equipped with two additional items not found in your photographer's gadget-bag—consideration and courtesy. Without them you may not get any pictures at all, while with them you and your camera will be welcome in any pueblo or reservation.

Look at it this way: You would be incensed if a stranger strolled into your home, clicked a camera at your family, and then departed without a word. Yet, many people do exactly that at Indian homes, and think nothing of it.

Taking pictures of Indians without their consent is a violation of privacy. The Pueblo Indian, always affable and imbued with a heritage of personal restraint from centuries of communal living, will not complain. Neither will he like it.

Seldom is there objection to photographing the outside of hogans, adobe buildings, ruins, kivas, *carretas*, *hornos* and churches. With individuals, it is a different matter. Some will refuse to pose for religious or other personal reasons. They will not explain, and they expect you to respect their wishes.

Cameras are permitted at most pueblo dances which are open to the public. Notable exceptions are the Hopi Snake Dances and the Santo Domingo Dance of the Green Corn. The Zunis forbid photography of their Rain Dance and Shalako Ceremonies.

There are two general types of dances performed by Southwestern Pueblo Indians. Purpose of one is analogous to that of modern social dancing: enjoyment. Dances of the other category are associated with re-

Santa Clara chanters and drummers.





Laguna Indian Eagle Dancers.

ligious rites, and non-Indians are barred from many of them. To white visitors who are granted admission, the rituals may appear strange and quite meaningless to the uninitiated. However, the ceremony being enacted may be as ancient and sacred as the services held in cathedrals and synagogues, and should be given the same respect.

At Indian dances where photography is allowed, you may be asked for a small fee. Actually, it is a donation. Generally the gift is applied to a worthy cause within the pueblo, such as repairs and church maintenance.

Camera fees collected over the past five years at the San Ildefonso Pueblo in New Mexico are helping make possible a remarkable project — reconstruction of the famed and magnificent Church of San Ildefonso, destroyed 54 years ago. It is considered an outstanding example of pueblo architecture.

Various ceremonials, rodeos and community celebrations offer excellent opportunities for pictures of the Indians outside pueblos and reservations. Since Indians participating in these

events expect to be photographed, there are less personal restrictions.

A few of the better-known pageants include: the Mescalero Ceremonial at the Apache Reservation in New Mexico, and the Indian Pow-Wow at Flagstaff, Arizona—both held in July; New Mexico's Puye Cliff Ceremonial on the Santa Clara Indian Reservation where "animal dances" are featured, and the Inter-Tribal Ceremonial at Gallup—both regularly scheduled in August.

A parade is one of the features of the Gallup and Flagstaff events. By studying the parade routes, you can gain the advantage of stationing yourself in a favorable camera position with the sun at your back. Remember to use a shutter speed fast enough to stop the antics of the horses, marchers and dancers. Select the faster film, so you can set your shutter at 200th of a second.

Here is a tip for those who want more than just the snapshot type of Indian picture. Go to the parade assembly ground an hour before the parade starts. As the Indians congregate

and wait for the marching signal, you can get them to pose. All it takes is their permission, often available for the asking. By exercising a little courtesy, a request of mine has yet to be rejected at a public ceremonial.

Avoid taking all your pictures with

This old man is a Hopi Indian.





Laguna Tribal Shield Dancer.

the subject staring into your camera lens. My way of avoiding the posed look may work for you. After I've received an Indian's permission to photograph him, I go off to the side and wait. When another cameraman starts taking pictures of him head-on, I snap "unposed" profile pictures.

An Indian garbed in a spectacular costume, such as a masked Apache Dancer or a Zuni Olla Maiden, is photogenic from moccasins to head-dress. But do not stop there. Move in for a frame-filling portrait—not too close, or you will get distortion.

A long-focus (telephoto) lens is a

worthy piece of equipment for dramatic close-ups. For example, a 135 mm. lens can produce a closely-framed head-and-shoulders portrait from a distance of six feet. It also eliminates distortion, and softens busy backgrounds.

Variety is the spice of photographing Indian life. Get pictures of tribesmen in pairs and groups. Film them in action as they execute the intricate Hoop Dance or the graceful Eagle Dance. Record their various moods and attitudes. Be on the look-out for human interest photos—the sleeping papoose in the cradleboard; the little Indian boy crying because his strawberry sno-cone went oops; the bashful teen-age girl; the concerned mother; the proud elder; the aloof cacique.

Use of Filter

When photographing Indians with Verichrome or panchromatic film, you can improve the texture and tone of your photos by using a medium yellow filter. This also will darken the sky enough to record cloud formations in the background. Check with your photo dealer for details if you have never filmed through filters.

No doubt you will want enlargements from your best Indian negatives. The slower the film, the more grain-free your blow-ups will be. I use Panatomic-X. It is an extra fine grain film with an ASA (American Standards Association) exposure index of only 25. This gives me 8x10 and 11x14 enlargements of good sharpness and tonal graduation. If your camera has a slow lens use medium speed films such as Verichrome (ASA 80) and All Weather Pan (ASA 64). Both give highly satisfactory negatives.

When photographing Indians, you can save yourself a darkroom full of disappointment by including more in your view-finder than you actually need. That is insurance against not getting enough on the film. The surplus area of a negative can be cropped away when prints are being made—but a negative can never be stretched



Jerry Mirabel of Taos Pueblo.

to include what you failed to photograph.

I make it a practice to get the name and address of the Indians I photograph. Then, after I return home, I send them 8x10-inch blow-ups of themselves. Their letters show that they appreciate the photos as much as I appreciate the opportunity to take the pictures.

Last year I received an unusual "thank you" from an Arizona Yaqui Indian for a picture I had taken of him during their Easter Ceremony. It was a large photo he had taken at the same time—of me!—END

THE LAZY FELLOW AND THE INDUSTRIOUS ONE

A man had two sons. One liked to sleep late in the morning, the other was very industrious and always rose early. The latter went out one day very early and found a purse filled with money. He ran to his brother and said, "Look, Louis, what I have gained by rising early."

"Faith," answered he, "He that lost this purse rose earlier than you."

THREE PIMA FABLES



THE LAZY FELLOW

A lazy fellow, when asked why he stayed so long in bed, said I am busy in hearing counsels every morning. Industry advises me to get up, sloth commands me to lie still; both give me 20 reasons either way. It is my duty to hear what they have to say; and when both have concluded, it is already noon.

THE ASS AND THE WILD BOAR

An impudent ass followed a wild boar, approached him and brayed. The wild boar was at first enraged, but turning his head and seeing whence this noise came he continued quietly on his way.

"Silence and contempt are the only revenge that we ought to take of fools."

(These fables are taken from the Pima-English dictionary at the Bureau of American Ethnology, Smithsonian Institution.)

COUNTY DEFIES PARK SERVICE; BUILDS ROAD

Indio, Calif.—Ignoring the National Park Service's stand against a direct road from Coachella Valley through Joshua Tree National Monument, Riverside County has widened and improved a two-lane jeep trail up Berdoo Canyon in the Little San Bernardino Mountains to the Monument boundary. There the new road connects with an old desert trail not maintained by the Park Service.

Commercial interests in Coachella Valley and the Twentynine Palms area long have advocated a direct route between the two areas. The Park Service, fearing that such a road would destroy the wilderness aspect of much of the Monument, has steadfastly refused to go along with the county's road plans.

The *Desert Journal*, published in Joshua Tree, reports that the "Monument personnel is rather unhappy about this new road, as the Park Service is concerned with its 'wilderness program' for posterity."

NEVADA SENDS TECHNICIAN TO INDIA FOR GAME BIRDS

Carson City, Nev.—Glen Christensen, the Nevada Fish and Game Department upland game technician who recently won national recognition among professionals in the wildlife field for his successful planting of chukar partridges in the state, has been sent to India on a three-year program aimed at securing new exotic bird species for Nevada.

In the few years that the chukar has been in Nevada, it has become the state's number one upland game bird. Experts say it is flourishing under the often difficult conditions imposed by the Silver State habitat.

Almost every state in the Union has tried through the years, some since the late 1800s, to obtain foreign sporting birds to add to their existing game populations or to replace native birds which have become extinct. The obtaining of these birds has been a hit or miss proposition, with people from this country having to depend on overseas exporters on sight-unseen deals. This is the major obstacle Nevada hopes to overcome by sending Christensen to India.

Extensive research already has been done by Nevada and the U.S. Fish and Wildlife Service on what species are the most promising for the state. Among these are sand grouse, black and gray francolins and seesees partridge.

HISTORIC PANORAMAS

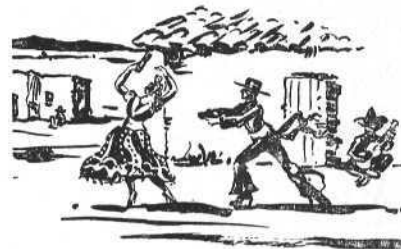
By JOSEF and JOYCE MUENCH

Old Town, Albuquerque

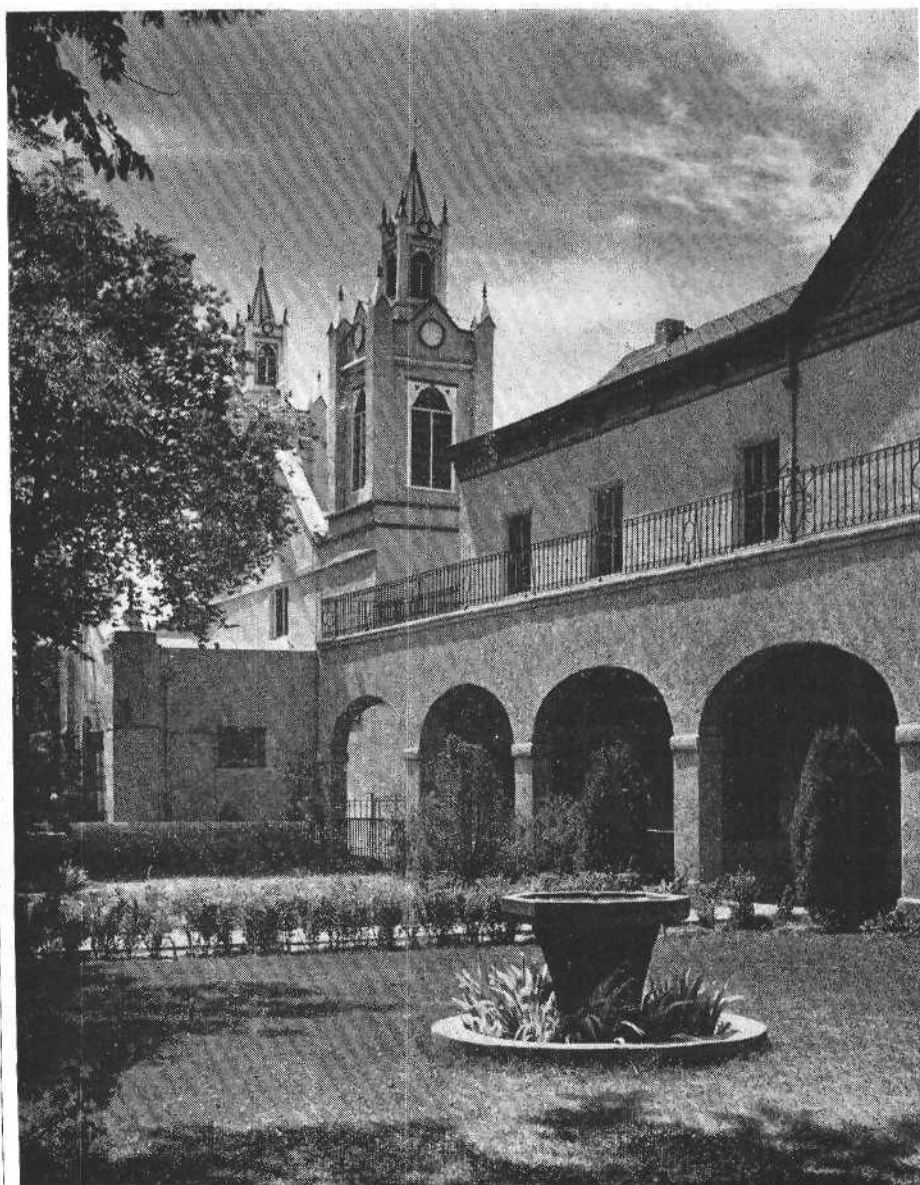
Tucked away in the rapidly growing city of Albuquerque, preserving its quaint atmosphere which nothing has been able to change completely, is Old Town, the original Spanish settlement.

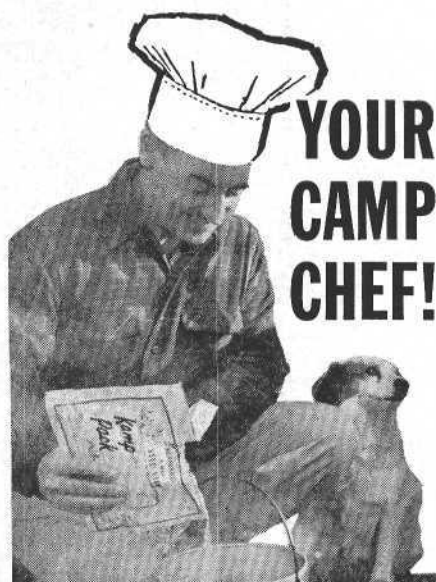
Around the square are shops and restaurants, with the old Church of San Felipe de Neri at one side. A bandstand graces the center of the shady grass plot where descendants of the early Spanish founders (1706) put on their gayest of petticoated dresses to dance, and lively songs are offered by caballeros in Spanish garb.

Tourists find unusual items including custom-made Southwestern clothes in the little shops, Spanish food in the restaurants, and the handicrafts of native artisans who once supplied all the essential needs of their adobe households with utensils made with their own hands.



San Felipe Mission in Albuquerque's Old Town. This lovely old mission, carefully preserved, belongs to the Spanish-Indian days of New Mexico.





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Reader Response

Re. Guadalupe Salas . . .

Desert:

I would like to correct an error in the "Navajo Slave Blanket" article.

The blanket in question was purchased from Senora Manuelita Otero. In your article you state that Senora Otero was the daughter of Guadalupe Salas, a Navajo slave girl captured by men from Punta de Agua.

My investigations show that Guadalupe Salas was the slave of a man by the name of Bunal Salas. She was never married, and I could not learn of any children born to this girl. Several of the old-timers still remember the Navajo slave girl.

Senora Otero was my aunt. Her father's name was Pablo Torres and her mother was Seferina Chavez y Salas. It made me very unhappy to see you publish statements which are so far from the truth.

FELIPE TORRES
Mountainair, New Mexico

Navajo Blanket Lore . . .

Desert:

I wish to call your attention to some errors and omissions in the "Navajo Slave Blanket" article in the February '59 issue of your magazine.

The statement that "... The mottled red of the blanket as well as the salmon was made of unraveled bayeta from soldier uniforms ..." is a grave misstatement. Actually this is a bit of legendary lore which has been going the rounds of the Southwest for a long time. I refer you to Amsden's *Navaho Weaving*, page 140 et. seq., for light on this matter.

The photograph of the blanket on page 22 is in the files of the Laboratory of Anthropology at Santa Fe, but bears no credit line. The photograph on page 23 (also not credited) is one from the Wittick Collection in the Laboratory of Anthropology.

GERTRUDE HILL
Chief Librarian
Museum of New Mexico
Santa Fe

No Bayeta From Uniforms . . .

Desert:

... Bayeta never came from soldier uniforms. Jesse W. Nusbaum, retired head of the National Park Service and probably the greatest authority on Indian Lore of the Southwest is quoted as saying: "The soldiers at Fort Sumner are supposed to have kept the Navajo weavers supplied with skeins of yarn from government commissaries, during the Indians' confinement at Bosque Redondo. The soldiers wanted both large and small blankets. The commissaries were supplied with United States made yarn and there is no reason to think that it was not made in various colors and could easily have been mistaken for bayeta."

Of course bayeta was wool cloth, Germantown yarn is cotton. If the rug is definitely made of wool, it is easier to believe that it was made from the wool of sheep raised in New Mexico than the materials mentioned above.

SAMUEL E. PAYSON
El Centro, Calif.

(Regarding the bayeta in the blankets, the author of our story, Joseph H. Toulouse, Jr., writes: "Mr. Payson is absolutely right . . . bayeta came in bolts rather than from uniforms. However, the identity of the salmon colored yarn as bayeta was based upon extensive laboratory examinations by experts. The blankets were woven 15 years after the Navajos were at Bosque Redondo, and the weaving took place in a small Spanish-American village—not on the Navajo Reservation. Therefore, weaving materials were not from the commissaries of the Army nor from Indian traders. The red which was generally favored by the Navajo could have been of other colors in markets among the Spanish-Americans. The yarn used for the red and salmon in the Slave Blanket was not homespun, but was commercially twisted wool yarn."—Ed.)

Mad at Hunters . . .

Desert:

Vincent Elliott's letter in the February issue supporting hunters made my blood boil. We have a place near the Colorado River bounded on the north by a levee. This property is less than a mile from downtown Yuma, and we have it well posted with "No hunting" signs.

Invariably a group of hunters drive down



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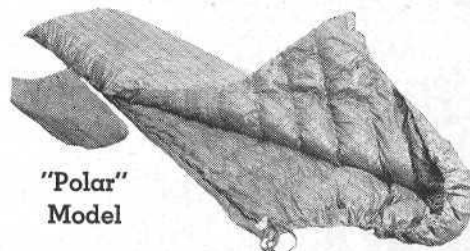
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the levee, stop long enough to shoot birds, and then drive on. They don't even get out of their cars to "hunt." Many a time I have heard bullets whiz by my cabin, and often we are showered with shot.

After dove hunting season starts, you see all types of birds lying dead on the ground where the hunters dropped them. City hunters are the most destructive. They also are litterbugs and despoilers.

MR. and MRS. H. E. LINDER
Yuma

Love of Living Things . . .

Desert:

Vincent Elliott's letter on dove hunting brought to mind my early years as a cowhand when I did a little shooting of birds. As time went on there came to me a greater love of things in Nature.

After I stopped hunting, quail and doves

started to come closer and closer to our mountain home. It dawned on me that they were showing their trust in us—and we were getting far more enjoyment watching their antics than we ever did killing them.

After many years of close contact with wildlife on our ranch, I don't regard these birds as being destructive. In fact they benefit ranchers by eating weed seeds. The damage to crops by birds and deer is highly over-rated. Most of the howls are raised by city hunters who do more damage than all the wildlife.

O. F. KNIGHT
Strathmore, Calif.

Trade Gun for Camera . . .

Desert:

If Vincent Elliott needs a "means of getting out into the country" he should try

taking a camera with him, instead of a gun. He might learn to like it.

MRS. L. W. STROHMEYER
San Gabriel, Calif.

Memories of Rhyolite . . .

Desert:

Nell Murbarger's story on Rhyolite (February) was endearing. I arrived in that southern Nevada mining town in April, 1906. My father, Richard T. Halfacre, was superintendent of the Gibraltar Mine, one of the two largest in the district.

Water, brought into Rhyolite from the Amargosa River at Beatty, sold for five cents a gallon. When water was piped to the town from Indian Springs, the price dropped to two cents a gallon. Cooking stove fuel was \$5 for 10 gallons. Coal cost \$40 a ton, as did a cord of wood. The auto stage fare from Goldfield to Rhyolite—an 80 mile trip—was \$50.

Death Valley Scotty came often to our city, riding a big white mule. Scotty always wore khaki pants, red plaid shirt, high top miners' boots and a large light-colored Stetson. He tossed silver dollars to the newsboys—and to the smallest ones, those who could not successfully scramble for the coins with the bigger boys, he threw five dollar gold pieces.

In the fall of 1907 the miners began leaving Rhyolite. My folks gave away their furniture and walked away from the house they owned on Golden Street. The Gibraltar Mine had closed. I often heard my father say that the Gibraltar was still a promising mine. Someone would have a good chance of finding more pockets of rich gold ore there, especially below the working of the lowest level. The gold pockets that were found were too small for a large company to mine at a profit.

MARGARET D. TRACEY
Delta, Colorado

The Morrow Boys . . .

Desert:

I enjoyed the story of the "Lost Morrow Turquoise Mine" in the October '58 *Desert Magazine*. I stopped by to see the Morrow boys recently, and they still are holding their own.

I first went to their home town of Oro Grande, California, 50 years ago this spring. I became acquainted with Harry and Penny Morrow on that visit.

The following summer (1910) I spent on a desert claim. I don't know how many rattlesnakes I killed that summer but I do know I killed 13 right in camp. There were no cars in those days, and sidewinder tracks were evident every morning along the dirt roads. I think the auto is one of the reasons rattlesnake populations are no longer large. In 1927 I bought a ranch in this same district and only killed two rattlesnakes on the place during the 18 years I resided there.

ERNIE JORDAN
Paradise, California

Predators Protected . . .

Desert:

The San Bernardino County Board of Supervisors recently ruled that only predatory animals known to be damaging to livestock are to be done away with. All other predators will be allowed to go unharmed so they can continue their good work of controlling the rodent population.

My personal interest in this is that I enjoy seeing wild animals in the desert. The coyotes and bobcats which come to my water hole are very welcome visitors. There still are a few people who kill just for sport. Maybe this information will deter some of them.

JAMES CASSELL
Yucca Valley, Calif.

DESERT PRIMER

CARBON-14 dating prehistoric events

Pre-literate inhabitants of the Southwest were not concerned with time as we know it. The seasons came and went, and if rain fell at the opportune times and the food-bearing plants followed, all was well. Days, months and years were not recorded, nor were major events in tribal history such as migrations, victories over enemies, defeats, and periods of struggle in adapting to new situations. Today, such occurrences are of much interest and practical value to us.

To determine these unrecorded dates, scientists must employ a variety of techniques. Most widely-known is the tree-ring method—applicable only to trees that have definite growing seasons and deposit that growth in annual rings. But, the tree-ring technique has a serious shortcoming: it only can go back in time 2000 years—a relatively short period, historically speaking.

One of the most promising geochronologic (science of dating terrestrial events) advances is the development of the Carbon-14 Age Determination method. This technique is limited to those materials that once were alive and which contain carbon—but, the dating range has been pushed back to 40,000 B.C.

Carbon-14 is radioactive and

formed indirectly by the action of cosmic rays on the earth's atmosphere. The ratio of radioactive Carbon-14 to normal Carbon-12 in the living object closely approximates the ratio in the atmosphere. When the object dies, the radioactive C-14 atoms spontaneously disintegrate and no new ones are introduced. Thus, the ratio of C-14 to C-12 begins to decrease over the years in measurable quantities.

Scientists have found that C-14 has a half-life of 5568 years plus or minus 30 years—which means that one-half of a given quantity of C-14 will have disintegrated during a period of 5568 years.

By counting the number of disintegrations of C-14 per minute of a given material—for instance a piece of charcoal from a campfire—and comparing this value to the number of disintegrations of C-14 per minute produced by carbon from a present-day specimen, scientists are able to tell when that ancient fire was made.

It was in this way that the approximate date—8000 B.C.—a mammoth elephantine creature was slaughtered and eaten by Southwestern men near Naco, Arizona, was determined. Scientists dated the charcoal of a fire, found near the fossil remains of the elephant, over which the ancient hunters had cooked portions of their kill.





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SOUTHWEST NEWS BRIEFS

More Desert Parks . . .

Palm Desert, Calif.—A petition to the Riverside County Board of Supervisors asking that 10 sites in the desert sector of the county be acquired for park, recreation and wildlife preservation has been prepared by the Desert Protective Council of which Dr. Horace Parker is president and Harry C. James executive-director. The sites proposed by the Council include Falls Creek in the San Jacinto Mountains; Cat Palm Canyon, Hidden Palms, Dos Palmas and Bear Creek Oasis in the Santa Rosa Mountains; Pushawalla Palm Canyon in the Indio Hills, Corn Springs and Chuckawalla Spring in the Chuckawalla Mountains, Dos Palmas on the Bradshaw Stage route and Wiley's Well. "While it is not practicable to develop all these park areas at once," the petition states, "the land should be acquired by the county without delay so they will be available as population pressure increases."

Navy to Return 1900 Acres . . .

Hawthorne, Nev.—The Navy has taken steps to return to the public domain 1900 acres of land in and around Hawthorne. Officials of that city requested the land release. They told the Navy the land was urgently needed for city expansion.

Death Valley Road Approved . . .

Death Valley, Calif.—The north-end loop highway that will connect the Scotty's Castle area in Death Valley with Big Pine came a step nearer to reality when the Inyo County Board of Supervisors voted to extend the county road from the sulphur mines area on the east side of Eureka Valley to the Sands Springs area at the north end of the DV Monument. The new construction will be six miles in length. The Supervisors pointed out that one of the world's largest dunes is located in Eureka Valley, and that site could become a haven for desert photographers.

Boating Center Planned . . .

Little Valley, Utah—The Utah Park and Recreation Commission announced preliminary plans for the development of a state park and recreation area on the shores of the Great Salt Lake in the vicinity of the community of Little Valley. The town is construction headquarters for Southern Pacific Railroad's causeway project across the Lake. Little Valley will be abandoned in mid-July when the fill project is completed, the *Box Elder Journal* said. A park official reported that the harbor and three-mile long channel dredged at Little Lake by the S.P. offers excellent boating opportunities. The causeway project is expected to cost \$49,000,00. It will replace the historic wooden trestle crossing.

Famed Mud Pots Reappear . . .

Niland, Calif.—The Salton Sea's mud pots, covered two years ago by rising water, have reappeared. The miniature geysers are located about two miles south of their original location. Riverside County officials said an access road will be built to the mud pots, and plank walks placed around them for visitor convenience. The land crust in the mud pot vicinity is thin and presents a potentially serious danger to visitors. The underground water and steam which bubbles to the surface here reaches the boiling point.

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Coyote Decline Noted . . .

Vernal, Utah — Bounty hunters in Uintah County are bringing in 12 times more bobcats than they are coyotes, it was reported. Thirteen years ago, when the bounty committee of the local woolgrowers association was organized, the ratio was almost 20 coyotes to one bobcat.

Jones Re-election Protested . . .

Window Rock, Ariz. — Paul Jones was the only candidate nominated for the chairmanship of the Navajo Tribal Council in four provincial conventions—but hundreds of Navajos have signed petitions protesting his apparent re-election. The Indian Bureau said the petitions charge irregularities in his nomination which "prevented a fair and impartial election." Jones is completing his second four-year term.

Damsite Town Rises . . .

Dutch John, Utah — Nearly completed is the construction community of Dutch John—and now engineers are focusing their attention on work on the Flaming Gorge Dam itself. Scheduled for completion this month is the 1100-foot diversion tunnel which will carry the waters of the Green River around the damsite.

State Leases Goblin Valley . . .

Goblin Valley, Utah—Federal authorities approved a lease granting the Utah Park and Recreation Commission 640 acres in Goblin Valley. The Valley is 20 miles north of Hanksville and is regarded as one of the most spectacular examples of the forces of erosion in the Southwest. The state is seeking a total acquisition of 15,360 acres in the Goblin area.

TRUE OR FALSE:

Here is another lesson for *Desert Magazine's* class in desertology. The questions include history, geography, mineralogy, botany, Indians and the general lore of the desert country. All the answers have appeared in past issues of *Desert Magazine*. A score of 12 to 14 is fair, 15 to 17 is good, 18 is excellent. If you get over 18 right you may go to the head of the class. The answers are on page 33.

- 1—Desert tortoises are hatched from eggs. True..... False.....
- 2—If you wanted to visit the Dinosaur National Monument you would go to the state of Nevada. True..... False.....
- 3—Ironwood is too hard to burn. True..... False.....
- 4—Camelback Mountain may be seen from Phoenix. True..... False.....
- 5—Desert holly sheds its leaves when winter comes. True..... False.....
- 6—The book, *The Winning of Barbara Worth*, telling the story of the reclamation of Imperial Valley, California, was written by Zane Grey. True..... False.....
- 7—Indian tribesmen in the Rio Grande Valley of New Mexico were growing corn before Coronado came to that area. True..... False.....
- 8—The padres known in history as the "Black Robes" were Jesuits. True..... False.....
- 9—Cactus wrens often build their nests in Beavertail cactus. True..... False.....
- 10—Joshua Tree National Monument is located in southern Arizona. True..... False.....
- 11—The roots of certain species of yuccas are used by the Indians for soap. True..... False.....
- 12—Stage coaches on Butterfield's Overland Mail Line crossed the Colorado River at Ehrenberg. True..... False.....
- 13—Nogales, Arizona, is located in territory purchased by the United States in the Gadsden Purchase. True..... False.....
- 14—Pumice stone is of volcanic origin. True..... False.....
- 15—Telescope Peak overlooking Death Valley is in the Panamint Range. True..... False.....
- 16—Window Rock, Arizona, is the tribal headquarters for the Apache Indians. True..... False.....
- 17—Wickenburg, Arizona, is located on the bank of the Hassayampa River. True..... False.....
- 18—A good automobile road provides easy access to Rainbow Bridge National Monument in southern Utah. True..... False.....
- 19—The Lost Dutchman mine in the Superstition Mountains of Arizona has been relocated. True..... False.....
- 20—The Padre who accompanied Juan Bautista de Anza on his historic trek from Tubac to Monterey with California's first colony of white settlers was Father Font. True..... False.....

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CALIFORNIA DESERT rocks. Gem quality. Polished. Large assortment. One dollar postpaid. Pollard, 12719 Laurel Street, Lakeside, Calif.

AUSTRALIAN TUMBLED gemstones. 8 different polished baroques, identified, suitable for necklace or chain bracelet. Send \$1 plus 10c postage. Bensusan, 8615 Columbus Ave., Sepulveda, California.

WORLD GEM collection. Blue agate, lace agate, obsidian, rhodonite, malachite, Montana agate, tigerseye, chrysocolla, petrified wood, Apache tear drop, rose quartz, jade, aventurine, marcasite, amethyst and jasper. These are highly polished nugget shaped pieces approximately 3/4 in. long. Valuable as a collector's item or ready for setting. 16 pieces mounted on museum piece card \$4 postpaid. Money back guarantee. Reserve yours early. It's a hand-made item. World Gems, 522 Dillon Place, San Bernardino, Calif.

• GEMS, MINERALS-FOSSILS

NEVADA ORES—high grade lead galena, cinnabar, dumortierite, many more. Color slides, old relics, ox shoes. Write for big new list today to: E. W. Darrah, Box 606, Winnemucca, Nev.

12 POUNDS of beautiful Colorado mineral specimens, \$8 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.

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

COMPLETE STOCK of crystallized and massive minerals. Please send for free list to: Continental Minerals, P.O. Box 1206, Anaconda, Montana.

• GEMS, ROUGH MATERIAL

OPALS AND sapphires direct from Australia. This month's best buy: 1 ounce fine Andamooka opal, 1 ounce fine Coober Pedy opal, 1 ounce fiery opal chips. All three ounces gem opal \$18, free airmailed. Send personal check, international money order, bank draft. Free 16 page list of all Australian gemstones. Australian Gem Trading Co., 49 Elizabeth Street, Melbourne, Australia.

IMPORTED GEM materials: Buy from your resident, dependable and well established dealer selected tumbling, cabochon, and choice faceting gemstones in the rough, our specialty being Australian fire opals. Also widest selection of cut stones such as jade, rubies, emeralds, sapphires, opals, also synthetics, etc. Price lists available. Wholesale and retail. Francis Hoover, 11526 Burbank Blvd., North Hollywood, California.

WE NOW have turquoise and rocks in Battle Mountain, Nevada, on U.S. Highway 40. Todd's Rock Shop.

CAVE CREEK jasper \$1.50 pound or 4 pounds for \$5 postpaid. Sadler, 719 E. Moreland, Phoenix, Arizona.

DINOSAUR BONE. Gem quality colorful agatized, jasperized, opalized bone 50c pound. Also beautiful red lace agate \$1 pound. Postage extra. Gene Stephen, Route 2, Grand Junction, Colorado.

WE ARE mining every day. Mojave Desert agate, jasper and palm wood shipped mixed 100 pounds \$10.50 F.O.B. Barstow. Morton Minerals & Mining, 21423 Highway 66, R.F.D. 1, Barstow, California.

TURQUOISE FOR sale. Turquoise in the rough priced at from \$5 to \$50 a pound. Royal Blue Mines Co., Tonopah, Nevada.

CHOICE WESTERN gem rocks: rough, 75c pound, verd antique, pink-black dolomitic marble, howlite, mariposite, red palm root. Minimum order 5 pounds. Slabs, same rocks, 35c square inch, except palm root, 50c. Minimum order 8 square inches. Prices cover postage, tax. Bensusan, 8615 Columbus Ave., Sepulveda, Calif.

SPECIAL 30 sq. in. top quality cab material—includes plume, jaspers, woods, etc. \$3. Write for price list other materials. The Tailgater, Box 548, Palm Springs, Calif.

TURQUOISE — EXCEPTIONALLY clean American water worn nuggets in pure undyed natural colors and higrade solids. \$5 brings your choice postpaid 150 grams "good" or 125-g. "better" or 100-g. "best." Desertgems, Macatawa, Michigan.

UTAH ROCKS. Petrified wood, dinosaur bone, beaver agate, snowflake obsidian, 50c pound. Slabs, 25c square inch. Selenite, white onyx, 15c pound. Postage extra. Hubert's Rock Shop, Hurricane, Utah.

BRECCIATED JASPER, red-blue agate, \$1.50 pound, 5 pounds \$5 postpaid. "Pyle," 105 South Granite, Prescott, Arizona.

• GEMS, DEALERS

"SELL ROCKS?" Yes! Sands, clays, soils, rocks, ores, fossils, many outdoor items sell for cash, trade for things wanted. Let Mother Nature finance outings, hobby, business. Details 4c stamp. "Suppliers' Bulletin" 25c. D. McCampbell, Box 503, Calexico, California.

CHOICE MINERAL specimens, rough and cut gem material, lapidary and jewelry equipment and supplies, mountings, fluorescent lamps, books. Valley Art Shoppe, 21108 Devonshire Street, Chatsworth, California.

NOW OPEN — Jacumba Rock and Shell Shop, P.O. Box 34, Jacumba, California. Owners: Les and Ruth Starbuck.

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.

SHAMROCK ROCK Shop, 1115 La Cadena Drive, Riverside, California. Phone Overland 6-3956. Specimens, minerals, slabs, findings, etc.

VISIT GOLD Pan Rock Shop. Beautiful sphere material, mineral specimens, choice crystals, cutting materials, jewelry, bolo ties, baroques, spheres, bookends, paperweights, cabochons, faceted stones, fluorescents, jewelry findings, lapidary equipment and supplies, Navajo rugs, custom sawing—by the inch or shares. Saws, up to 30-inch diameters. John and Etta James, proprietors, 2020 North Carson Street on Highway 395 north end of town. Carson City, Nev.

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.

● INDIAN GOODS

COLLECTION OF 105 relics: 10 spearheads, 10 drills, 10 birdpoints, 10 flint knives, 5 scrapers, 60 arrowheads; \$50. (1/5 of this collection: \$11). 6 different strands trade beads, \$10. 3 different old Indian baskets, \$10. Iroquoise mask \$25. Also other relics, beadwork, pipes, tomahawks, warbonnets; foreign relics: weapons, carvings. Paul Summers, Canyon, Texas.

FINE RESERVATION-MADE Navajo and Zuni jewelry. Old pawn. Hundreds of fine old baskets, moderately priced, in excellent condition. Navajo rugs, Chimayo homespun, artifacts. A collector's paradise! Open daily 10 to 5:30, closed Mondays. Buffalo Trading Post, Highway 18, Apple Valley, California.

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THREE FINE prehistoric Indian war arrowheads \$1. Flint scalping knife \$1. Rare flint thunderbird \$3. All for only \$4. Catalog free. Arrowhead, Glenwood, Arkansas.

FLINT ARROWHEAD making secret! Ancient methods. Illustrated. \$1. Guaranteed. Catalog free. Chief Blackhawk, Kennewick 7, Washington.

FASCINATING INDIAN flint chipping! Easy, profitable. Complete kit of tools, materials and instructions: \$2. Instruction booklet only: 75c. Guaranteed satisfaction. Lobo, Box 144-MD, Carlsbad, New Mexico.

SELLING 100,000 Indian relics. 100 nice ancient arrowheads \$25. Grooved stone tomahawk \$3. Perfect spearhead over 8 inches long \$20. Indian skull \$25. Ancient water bottle from grave \$7. List free. Lear's, Glenwood, Ark.

● MAPS

SECTIONIZED COUNTY maps — San Bernardino \$1.50; Riverside \$1; Imperial, small \$1, large \$2; San Diego 50c; Inyo, western half \$1.25, eastern half, \$1.25; Kern \$1.25; other California counties \$1.25 each. Nevada counties \$1 each. Topographic maps of all mapped western areas. Westwide Maps Co., 114 W. Third St., Los Angeles, California.

● MINING

PAN GOLD: \$1 for 75 panning areas in 25 California counties. Geological formations, elevations, pertinent notes. Panning pans \$2.75, \$2.25. Leather nugget and dust poke \$1. Fred Mark, Box 801, Ojai, California.

WESTERN MINING News, monthly, for miners, prospectors, claim owners, \$2 per year. Sample copy 25c. Box 787, Sonora, Calif.

WILL SELL or lease or trade highly mineralized patented section 13, township 5 north, range 15 east, SBB&M, Calif., about 10 miles south Essex in the Old Woman Mts. Mining District. Carries: beryl, rare earths, molybdenite, gold, silver, platinum. Lease \$1 a year per acre plus 5% royalty apply on purchase price \$15,000. Will trade land or properties equal values. Reports on minerals are available. Write Bill Yim, Amboy, California.

ASSAYS. COMPLETE, accurate, guaranteed. Highest quality spectrographic. Only \$5 per sample. Reed Engineering, 620-R So. Inglewood Ave., Inglewood, California.

ULTRAVIOLET LAMPS, equipment, accessories for mineralogists, prospectors, hobbyists. Free literature. Radiant, Manufacturers, DM, Cambria Heights 11, New York.

● REAL ESTATE

IN PICTURESQUE Randsburg. 3 room desert home, nicely furnished. Outside facilities, electricity and water in. Superb view. On two lots. Full price \$1100. O'Brien's, 1116 Wilcox Ave., Hollywood 38, Calif. HO 5-5424.

5 ACRES desert land. Wonderful view of the desert—Lucerne Valley Highlands, Lucerne Valley, California. \$3000—Terms. Owner: Kathleen Wise, 40 Navajo Road, Flagstaff, Arizona.

HIGH BEAUTIFUL 80 acres looking down on Salton Sea. \$300 per acre. Write Ronald L. Johnson, Thermal, California.

DESERT INVESTMENT. 20 acres, fertile, level land on road. Crescent Valley, Nevada. With membership hunting lodge, dude ranch. \$1495 full price. \$50 down, \$20 month. Owner, Henion, 2086 E. Colorado, Pasadena, Calif.

BEAUTIFUL NEW 2 bedroom mountain home, with guest house and workshop. Huge double fireplace, beamed ceiling. Located on 6 1/4 acres between Lake Henshaw and Borrego Desert. Plenty water, mild climate, elevation 3800 feet. Furnished, \$19,500. Owner: J. Vanderstaay, Ranchita, Calif.

FOR SALE: Frontage for roadside business on heavily traveled U.S. 380, 33 miles east Roswell, New Mexico. \$2 per front foot, 700 feet deep. H. B. Cozzens, Box 873, Grants, New Mexico.

VACATION, WEEKEND, retirement homes in Lucerne Valley owned by Pasadena professional and business people. Water, electricity. A few re-sales below market value. \$3900 to \$12,500. Wm. Russell, Room 423, 595 E. Colorado, Pasadena. SYcamore 2-7101; Victorville 7-7493.

80 ACRES near Lockhart, level, \$125 acre, 25% down. 20 acres Highway 395, level, north of Adelanto, \$150 acre, 10% down. 2 1/2 acres west of Adelanto, level, \$1495, 10% down. 2 1/2 acres Lancaster on paved highway, shallow water, level, \$2495, 10% down. Dr. Dodge, 1804 Lincoln Blvd., Venice, Calif.

IN FAMOUS mining town of Alamos, Sonora, Mexico, old adobe house restored to sound condition—high adobe wall encloses large lot—some plumbing and electricity. Rich mineral belt here. Gulf fishing 60 miles distant. American colony. \$10,000. Leo V. Walsh, 6023 Arlington Ave., Los Angeles.

● WESTERN MERCHANDISE

ANTIQUE FIREARMS. \$12 and up. Indian relics. Bargain list 25c. Visit us. Open daily, including Sunday. Tontz Country Store, Elsinore, Cal.

"YOUR SECRET gold mine." We buy or trade for relics, curios, artifacts, bottles, guns, historical items, etc. Rock and mineral specimens singles or collections. Send \$1 for pamphlet describing and listing alphabetically these articles. Putnam, 20 Hull Avenue, Jerome, Arizona—America's Biggest Ghost Town.

GHOST TOWN items: Sun-colored glass, amethyst to royal purple; ghost railroads materials, tickets; limited odd items from camps of the '60s. Write your interest—Box 64-D, Smith, Nevada.

● MISCELLANEOUS

MAKE BEAUTIFUL expensive-looking belts from window screen. Complete instructions and sample only \$1. Royer, 322 North Parish, Burbank, California.

MICROSCOPES, NEW and used, \$6 to \$72. Telescopes, prospector supplies. Write for details. Peninsula Scientific, 2421 El Camino, Palo Alto, Calif.

TRAILER—1957 Sun Valley teardrop. Sleeps two, water tank, sink, refrigerator, butane stove. 10-foot overall, approximately 750 pounds, better than new condition. \$350. Carswell, Torrance, Calif. DA 3-2646.

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FIND FLUORESCENT minerals the easy way. New detector operates in daylight without batteries. Fits in pocket and eliminates dark box. Price \$12.50. Free brochure. Essington Products and Engineering, Box 4174, Coronado Station, Santa Fe, New Mexico.

MAILING SERVICE: Prompt forwarding. \$3 per month. Remails: \$.25. Desert Mails, P.O. Box 545, Winterhaven, California.

WANTED—ONE or more pair desert fox puppies. State price in first letter. Chauncey Groom, Forsyth, Montana.

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Few Wildflowers Expected In April

One of the most discouraging wildflower prospects in many years faces



Wilton Hoy Photo

A RARE INVITATION

Come see and photograph beautiful, gentle and colorful **GLEN CANYON** of the River Colorado.

MAY AND JUNE, 1959

EIGHT week-end river trips . . . Friday & Saturday runs of every other week, and Thursday, Friday, Saturday on alternate weeks. Launchings at HITE, Utah . . . Landings at Crossing of the Fathers, on the very trail where on Nov. 7, 1776, Padres Dominguez and Escalante and party walked.

On the 3-day boat runs you may hike to **RAINBOW BRIDGE**, 5½ miles.

2-day fare, \$60. Deposit, \$15
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Write for details on overland transportation, and/or share on charter flights. Very fair rates.

Identify the camera location of above photo and receive \$5 credit on any boating fare.

For the person who becomes our 1000th boating guest, the full fare will be refunded at landing.

Note our current ads in "Desert Magazine" of: Dec. Jan. Feb. Mar.

Write for information on our 1000 mile **Arctic River Expedition** of July and August 1959.

LARABEE and ALESON
WESTERN RIVER TOURS
Richfield, Utah

the late spring months. The rains of winter and early spring were not sufficient to give the wind-scattered seeds from last year's spectacular mass blooming a chance to germinate.

There only are a few bright glimmers of hope. Bruce Black, naturalist at Joshua Tree National Monument in Southwestern California, predicts that canyons in the western half of the Monument will show considerable bloom. Joshua trees and Mojave yucca should be in bloom in April.

From Death Valley National Monument, Superintendent Fred W. Binniewies reports good prospects for wildflower displays at altitudes around 2000 feet. Five-spot, phacelia, primrose, gravel-ghost, beavertail cactus, and California poppy should be in bloom during April, he writes.

Earl Jackson, naturalist at the Southwest Archeological Center, Globe, Arizona, sends this forecast for April wildflowers: numerous desert marigolds; many little annual lupines; and at least two species of mallows.

Summing up the 1959 wildflower season, Park Naturalist George Olin of the Saguaro National Monument writes: ". . . if we had flowers in profusion every spring, much of the thrill of the 'blooming desert' would vanish."

PARK OFFICIALS BAR TRICK MOUNTAIN CLIMBING

Washington, D. C. — Park officials throughout the nation were directed to prohibit trick or stunt mountain climbing. The order came from Conrad Wirth, director of the National Park Service. It will be in effect until the release of a new policy regarding mountain climbing now in the process of being framed.

The action was prompted by last year's conquest of El Capitan in Yosemite, and other daring climbs. The Yosemite fete was accomplished by the use of pegs or spikes, driven or screwed into the face of cliffs, and ropes. These spikes deface and damage property, Wirth said, and Park Service employees are exposed to danger when they attempt to remove them.

Wirth also was critical of the publicity which accompanied the Yosemite episode. He said the climbers hoped to profit commercially from their dangerous venture.

KENT FROST JEEP TRIPS

Into the Famous Utah Needles Area
Junction of the Green and Colorado rivers; Indian and Salt creeks; Davis, Lavender, Monument, Red, Dark and White canyons; Dead Horse and Grand View points; Hovenweep and Bridges national monuments.
3-day or longer trips for 2-6 person parties —\$25 daily per person. Includes sleeping bags, transportation, guide service, meals. Write **KENT FROST**, Monticello, Utah.

FOREST SERVICE CREATES WHEELER SCENIC AREA

Elko, Nev. — The National Forest Service has taken the lead in developing the outdoor recreation potential of Wheeler Peak in eastern Nevada. A 28,000 acre section of the Snake Range was designated as the Wheeler Peak Scenic Area by the Forest Service, and plans were told for a two-way road up Lehman Creek to Stella Lake, camping and picnicking facilities near the lake, and a trail to Matthes Glacier.

A spokesman for the Great Basin National Park Association which has been spearheading a campaign to establish Nevada's first national park in the Wheeler Peak-Lehman Caves area, said his organization welcomed the additional recognition given the area by the Forest Service. The new recreation status of the area may help speed establishment of the national park, he said.

M4

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Alpine 3-6801

INDIAN MAP



Beautifully illustrated in color, 17" x 22", of the **Indians of the Southwest**. Authentic data on the language, culture group and customs of these tribes. Locations of important reservations are shown. Ideal for teachers, librarians, Boy Scouts and map collectors. A perfect gift for children. Shipped in cardboard tube ready for framing.

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DESERT MAGAZINE'S



We welcome your contributions to this column. For recipes accepted for publication, we will pay \$2. Please limit to Mexican, barbecue or camp-out dishes. Send recipes and return postage to Recipes, Desert Magazine, Palm Desert, California.

BARBECUED GROUND BEEF

- 1 lb. ground beef shoulder
- 1 cup chopped onion
- 1 cup chopped green pepper
- 1 tablespoon shortening
- 1 teaspoon salt
- 1 teaspoon chili powder
- 1 teaspoon sugar
- 1 tablespoon prepared mustard
- 1 cup tomato sauce or catsup

Brown meat in melted shortening, add all other ingredients and simmer in covered skillet for 35 minutes. Serve on toast or buns.

FRYING PAN CANDY

- 1 cup your favorite ready-to-eat cereal
- ½ cup raisins, coconut or nuts
- 6 ounces chocolate chips

Place nuts, coconut or raisins and cereal in warm frying pan. When pan is hot, remove from fire and stir in chocolate. When chocolate is melted, spoon mixture onto wax paper or tin plate. Let stand until hard.

NEW SIXTH EDITION ART OF GEM CUTTING By DR. H. C. DAKE

A standard textbook for the amateur and commercial gem cutter since 1938—now revised and brought up-to-date to include the most modern techniques used in the lapidary arts.

New edition contains: 120 illustrations including many of latest gem cutting equipment; section on tumbling; detailed description of sawing, grinding, polishing, cabochons, facet cutting, specimen finishing, gem identification, sphere cutting, etc.

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CALIFORNIA

THE *Desert* MAGAZINE CLOSE-UPS

Photographer Josef Muench of Santa Barbara, Calif., whose work appears on this month's front cover, recently won the Richfield Oil Corporation's year-long contest for the best Western wildflower photo. His winning entry, worth \$750, was a picture of a spread of poppies in Arizona.

"Touring Mexico for Minerals" was written by a woman who knows her rocks, for Mary S. Shaub is a graduate in geology from Smith College, and has published many articles in leading mineralogy journals. But, mineralogy is not the only field of natural history with which the Shaubs are interested. At their home in Northampton, Massachusetts, they operate the Shaub Ornithological Research Station where they have banded 8000 birds. The Shaubs also publish the *Evening Grosbeak Survey News*, and in their "spare time" are active members of local camera, Nature and mineral clubs.

James W. Abarr ("Fort Ojo California") is a native of Nebraska, but says "I'll never be anything but a Southwesterner." He lived in California for 10 years where he graduated from San Diego State College in 1951 with a degree in journalism. At present he is on the editorial staff of the *Albuquerque Journal*. "I have two loves," he said, "my family (wife, son and daughter) and New Mexico, whose colorful history never ceases to fascinate me."

"A King Snake and Two Rattlers" was written by Roy M. Youngman of Sunland, California. He has had wide experience as a teacher of the biological and social sciences—from grade school, high school and Army school to the university level. More recently, Dr. Youngman has been doing research work on primitive man for the Southwest Museum and the Archeological Survey Association.

TRUE OR FALSE ANSWERS

Questions are on page 29

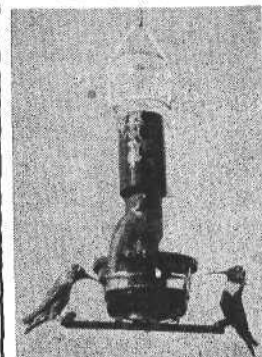
- 1—True.
- 2—False. Dinosaur National Monument is in Utah.
- 3—False. Dead ironwood makes wonderful campfire fuel.
- 4—True.
- 5—False. Desert holly is an ever-green.
- 6—False. Harold Bell Wright wrote this book.
- 7—True. 8—True.
- 9—False. Beavertail grows too close to the ground for good nesting.
- 10—False. Joshua Tree National Monument is in California.
- 11—True.
- 12—False. Butterfield's stages crossed the Colorado at Yuma.
- 13—True. 14—True. 15—True.
- 16—False. Window Rock is the tribal headquarters of the Navajos.
- 17—True.
- 18—False. There is no auto road to Rainbow Bridge.
- 19—False. The Lost Dutchman mine has never been found.
- 20—True.

Grave Robbers Warned . . .

Sacaton, Ariz. — The Gila River Reservation may become off-limits to all visitors if burial sites there continue to be disturbed by people apparently seeking pottery buried with the dead.

For Hummingbirds Only

No other bird or bee can reach the honey water in this feeder.



It cannot drip

Nothing to rust

Easy to clean

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A very heart-warming gift.

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Garfield, Utah . . .

A \$10,000,000 renovation and modification of the Garfield smelter is proposed by the Kennecott Copper Corporation. Kennecott purchased the smelter earlier this year from American Smelting and Refining Co. Sale price was \$20,000,000. Major changes are planned for the method of feeding concentrates into reverberatory furnaces.

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NEwmark 2-9096 Open Friday Evenings Compton, California

Grand Junction, Colorado . . .

With 23 uranium processing plants operating in the U.S., only three have contracts lasting until 1966, the Atomic Energy Commission reported. These plants are Kerrmac Nuclear Fuels and Phillips Petroleum, both of Grants, New Mexico, and Texas-Zinc Minerals of Mexican Hat, Utah. Another three plants have contracts lasting until 1963 with the other 17 having contracts terminating in 1962, except the Monticello Mill which is government owned. The AEC announced that it would like to stretch out purchase and payments of uranium beyond the period contracted for with long-term suppliers. The AEC is under contract for the next three years to purchase uranium at the rate of about \$740,000,000 annually.

Washington, D.C. . . .

The Bureau of Mines disclosed that it has found a way to cast molybdenum, a metal which has a melting point of 4748 degrees Fahrenheit. This technological break-through is expected to have some effect on the nation's missile program, as well as on the molybdenum industry. Only pure molybdenum was used in the Bureau of Mines experiment, the Reese River Reveille reported.

Window Rock, Arizona . . .

Navajo Tribal coffers continued to swell as more gas and oil money was paid into them for land leases. Latest bonus bids ran as high as \$5500 per acre. Only 13 months previously, the tribe rejected bids of only \$257 an acre for this same land. The latest offering consisted of 72,370 acres, and total of the high bids received was \$3,603,900.

Las Vegas, Nevada . . .

Indications are that the \$150,000,000 Utah-Nevada transmission project of El Paso Natural Gas, Colorado Interstate Gas and Pacific Northwest Pipeline will get underway in late 1960. The principals hope to start Federal Power Commission hearings soon. The pipelines will connect to an existing line in southern Wyoming, and from there travel southwest to Provo and Cedar City, Utah, Las Vegas, Nevada, and across the southeastern California desert to Los Angeles.

Kingman, Arizona . . .

The Arizona Mohave Mining Company reportedly struck a rich vein of ore near the surface at the Mexican Mine in the Cerbats northwest of Kingman, the Mohave County Miner revealed. A company official said assay reports indicate that the strike—if it is of volume—could be one of the richest ever made in the county. The assay showed values of \$10,730 per ton of ore.

Reno . . .

The Atomic Energy Commission has agreed to loan the University of Nevada 5500 pounds of natural uranium for use in nuclear experiments. Last spring the AEC granted the school \$40,000 to purchase a sub-critical assembly.

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Here are a few of the 300 or more rarer minerals and gemstones you may be overlooking while mining, prospecting or gem hunting. Uranium, vanadium, columbium, tantalum, tungsten, nickel, cobalt, selenium, germanium, bismuth, platinum, iridium, beryllium, golden beryl, emeralds, etc. Some minerals worth \$1 to \$2 a pound, others \$25 to \$100 an ounce; some beryllium gems worth a fortune! If looking for gems, get out of the agate class into the big money; an emerald the size of your thumb may be worth \$500 to \$5000 or more! Now you can learn how to find, identify, and cash in on them. New simple system. Send for free copy "Overlooked Fortunes"—it may lead to knowledge which may make you rich! A postcard will do.

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TRUTH OR CONSEQUENCES, NEW MEXICO

Touring Mexico for Minerals

By MARY S. SHAUB

Map by Norton Allen

MY HUSBAND is a retired professor of mineralogy from Smith College and I am a graduate in geology from Smith—so naturally, our recent trip into Old Mexico turned into a rockhounds' holiday. The great nation south of the Rio Grande has many highly mineralized areas, and it is possible for the tourist to visit countless mines, quarries and outcrops where good mineral specimens can be obtained.

Crossing the border at El Paso, we found Mexico Route 45 leading south through the State of Chihuahua excellent, and the structures evident in the mountains rising from the desert were of great interest. After passing through the dunes south of Samalayuca we came to the little town of Villa Ahumada, 85 miles below El Paso. Unfortunately, we started our trip in the beginning of the rainy season in mid-July when travel by ordinary car on the dirt road east to the famous Los Lamentos wulfenite locality is highly inadvisable. However, it was possible to purchase a few specimens from a mineral collector at the local *fruteria*.

The capital city of Chihuahua contains superb Spanish colonial architecture and an excellent mineral museum. About 10 miles south of the city, at Avalos, the great smelter of the American Smelting and Refining Company is located. Here we called on Arthur Collins, the manager. He assigned an English-speaking official to escort us through this great establishment. We also visited the company mine at Santo Domingo in the Santa Eulalia District. The company geologist drove us up to the old canyon where gold was first discovered in this region, and we were given samples of ore from the active shafts. The prize specimen here is the beautiful "black calcite," actually scalenohedrons of calcite covered with hematite which in turn is partly covered by another layer of calcite deposited in rhombohedrons.

In the mountains west of the capital city at Creel are found the milky but-

terfly twinned calcites, but here again the time of year was a deterrent to making a visit to this locality, and we had to be satisfied with purchases from Alberto G. Chavez who maintains a store across the street from the mineral museum.

The great caves at Naica are the next point of mineralogical interest as one travels south in the State of Chihuahua. At Concho we took a good gravel road to the right which led to the mine owned and operated by the Fresnillo Company. In the old days,

collectors climbed 400 feet down precarious ladders into the unbearably hot mine which contains great caves of selenite crystals. Today, one must be accompanied by a mine official. We walked about 300 feet into an adit, descended in a cage to the third level, then walked about 500 feet along a drift. Steel doors protect two of the famous selenite deposits, one known as the "Cave of Swords," the other a crystal-lined fissure vein. We visited this amazing vein where great crystals of translucent selenite, some up to four feet in length, project from the walls. The cave floor is littered with broken crystals, some curved, some containing bubbles, some in attractive groups—



Workmen hand-drilling rock at the Santa Maria Iris Opal Mine.



mining town between the San Lorenzo and Santa Maria ranges 2.4 miles off the main road. A number of active base-metal mines are worked here. The ore is brought by donkey to the scales in the main plaza where groups of these animals are weighed with their loads of ore, and again after unloading their burdens in the patio. These animals, with their leather-aproned drivers, are picturesque reminders of the method of transporting materials inaugurated in Mexico three centuries ago. With permission from the Asarco office near the plaza we obtained ore samples and colorful specimens of green oxidized material.

Continuing on Route 31 we reached the northern outskirts of Durango

Mexico offers a rare combination of enticements for the mineralogist, amateur or professional: some of the world's most highly mineralized areas, most beautiful scenery and most friendly people. A field trip south of the border can be a once-in-a-lifetime adventure.

where the great Cerro del Mercado ("Hill of Iron") stands. This huge hematite deposit rises several hundred feet above the surrounding plain. Permission may be secured at the mine office to walk up to the open pit workings where the miners will indicate likely places to search for the fine yellow apatite crystals. Power shovels have replaced the wheelbarrow brigades at this mine, largely eliminating the collecting of large numbers of fine crystals which occur in the cavities. However, the miners still gather a few crystals, and it is possible to purchase both matrix specimens and individual crystals from them. Here also we found specimens of martite in octahedrons and as spinel twins, a very rare occurrence for this mineral.

We made temporary headquarters at Zacatecas, a superb old colonial mining town with a beautifully restored aqueduct, and many fine churches. Old mine workings dot the hillsides, and we went underground at La Cantera Mine, four miles south of the city, to see the ore occurrence as well as the old Spanish workings. Amethyst, galena and sphalerite were collected on the dumps at the El Bote Mine, six miles north of the city. A number of other mines are located near this historic old town.

Leaving Zacatecas we drove south 80 miles to Aguascalientes where we turned east on Route 50 for San Luis Potosí. This great city, capital of the state of the same name, dates from the

the discarded material from bygone days when collectors entered the various caves and cavities in the mine. Collecting the attached minerals is prohibited, but we were allowed to pick up a few specimens from the floor.

Our next stop, 114 miles south of Concho, was the historic mining town of Parral where the great La Prieta Mine, operated by the American Smelting and Refining Company, conspicuously stands on a hill in the center of the city. Twelve miles east of Parral at Talamantes, is a manganese mine where it is permissible to search the dumps for psilomelane. Five miles south of Parral on Route 45, we searched the outcrops and hills on the left side of the highway. We were rewarded with chalcodony roses which are abundant in the weathered rhyolite. The road cuts in this area are interesting, for they clearly reveal the manner in which the roses occur under the surface.

From La Zarca, 107 miles south of Parral, we drove 58 miles east to Mapimi. Although this dirt road is rough, the magnificent mountain scenery and varied desert flora make this trip well worth-while. In the main plaza of Mapimi we obtained the names of miners with minerals for sale. A great deal of material was available for purchase: wulfenite, fluorescent adamite, hemimorphite, malachite, calcite, rosasite and smithsonite. The miners were exceedingly polite and willing, like most Mexicans, to enter into friendly bargaining for the sale of their minerals. It is possible to visit the dumps of the mines high on the mountain slope, but the miners are keen mineral collectors and one does better to purchase mineral specimens from them. These are sold at a reasonable price. Close by is the modern city of Torreón with its palm-lined streets and first class hotels and restaurants. From Torreón we followed Route 31 to Velardena. This is an old



The author on lava flow deposited in 1873 by Ceboruco Volcano.

1500s, and is one of the great mining centers of the Americas. Wealth from the mines contributed to the construction of many fine homes and superb Spanish-colonial churches with richly carved exteriors and lavish interiors. Thirteen miles from the city is the old mining town of San Pedro, and a visit here is an interesting experience. The Asarco Company once operated the mines, but when they became unprofitable the company removed all equipment and turned the property over to a cooperative run by 200 miners. These men work under the most hazardous conditions, climbing 800 feet down ladders, and bringing up ore on their backs. This ore is transferred to burros and then to trucks for shipment to the Asarco smelter in San Luis Potosi. When we arrived in ramshackled San Pedro, many of whose buildings are in ruins, the whole town turned out to greet us. After inquiries in our best Spanish, the miners offered specimens of ore containing copper, lead, zinc, gold and silver for sale.

Leaving San Luis Potosi, we followed Route 80 to Guadalajara, the second largest city in Mexico. From

here Route 15 took us northwest on a short side trip into the Sierra Madre Occidental. The road passes close to a number of extinct volcanoes. Thirty-nine miles from Guadalajara we began to see obsidian outcrops along the road cuts. Continuing 5 miles farther, we noted chunks of black obsidian in the fields along the road near a power line. Many of these rocks contained holes from which other minerals had weathered. We obtained excellent specimens of obsidian containing cavities filled with gray cristobalite.

The main road crosses the great Ceboruco Volcano lava flow of 1873 at a point about 100 miles from Guadalajara. Despite the fact that this flow occurred nearly a hundred years ago, there is surprisingly little vegetation on it today, and the contortions and structure of the lava produced during the period of eruption are evident everywhere.

Returning to Guadalajara, we spent a day in the city visiting the great market of San Juan de Dios which abounds in luscious fruits. We also went to the famous glass factory, Fabrica de Vidrio Avalos, where we were able to watch the various glass-making operations.

From Guadalajara we drove south on Route 15 which skirts beautiful Lake Chapala, the largest lake in Mexico—53 miles long and 17 miles wide. An overnight stop was made at picturesque Patzcuaro. This town and lake of the same name represent a bit of unspoiled Old Mexico where one can profitably use many rolls of film on the fascinating Tarascan Indians in their daily pursuits around and on the lake.

Continuing to Morelia we drove north on Michoacan Route 45 and Guanajuato Route 25 to Guanajuato,

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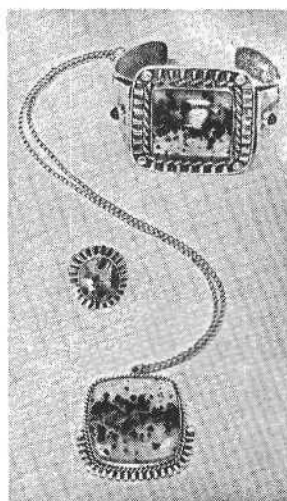
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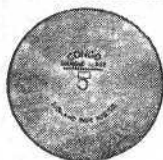
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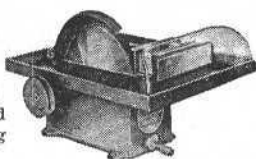


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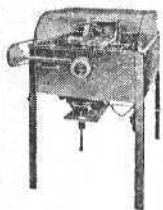
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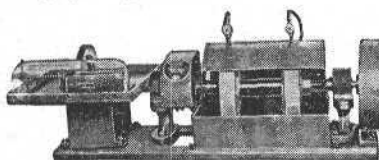
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The Oaxaca-Natividad bus.

an old and beautiful town with mining
activity still going on in the surround-
ing hills. Small boys offered to guide
us to the points of interest.

One of the most picturesque spots
here is the old Valenciana Mine. The
huge shaft and mine workings were
protected from bandits by a formid-
able wall braced by magnificent flying
buttresses. The mine proved so rich
that the owner built a superb church
close by, one of the most ornate in
Mexico. Near the church is a small
mineral shop where we purchased
amethyst and calcite crystals. These
minerals and others can be obtained
at a small store at 40 Alfonso Street
in the city.

Outside of town there are numerous
active small mines which are open to
visitors. One should not leave this
picturesque old city with its iron bal-
conies, narrow streets and unique foun-
tains, without visiting the fine mineral
museum in the University building.
Here Sr. Eduardo Villasenor Sohle,
professor of mineralogy, showed us
the minerals and explained their occur-
rences. Excellent specimens of guana-
jutite and aguilarite are displayed in
the museum.

Opal

The great opal center of Queretaro
is best reached by retracing your steps
south to Salamanca, and then driving
east on Mexico Route 45. Immedi-
ately upon reaching Queretaro, we
noticed several opal shops around the
main plaza. One of the best places to
buy specimens is the Ontiveros Opal
Shop on the 15th de Mayo Street.
Here you can purchase opal-in-mat-
rix or cut opal, and Sr. Ontiveros will
arrange for you to visit the Santa Maria
Iris Opal Mine owned and operated
by his father, Joaquin Ontiveros.

Six miners working in pairs were
hand-drilling the opal-bearing rhyolite
at the mine. The dumps are extensive,
and we found matrix specimens of red-
dish-brown fire opal (uniformly col-
ored material that does not have a play
of colors). Under a prickly pear cactus
there was quite a pile of this ma-

terial, some pieces showing small flecks
of precious opal. Large pieces of good
material are rare, and so the Onti-
veros family cuts cabochons of matrix
material. Some dealers make mosaics
of the very small pieces of precious
opal.

East of Queretaro and north of
Mexico City is a famous mining town,
Pachuca, reached via Mexico Routes
45 and 85. From Pachuca we took
Mexico Route 130 to Colonia which
is on Mexico 85 (the Pan-American
Highway) leading directly to Mexico
City.

Not True Onyx

The drive south to Oaxaca is a re-
warding one. Although the distance
from Mexico City is 340 miles, it is not
too strenuous for the highway is very
good. We made a stopover at Puebla
to visit the onyx shops and see the
workers shaping various objects. This
material is not true onyx; it is traver-
tine, a banded calcite. In these shops
are many fine art objects which can
be purchased at very reasonable prices.
At Atlitico near Puebla, there are ex-
cellent views of Popocatepetl, but the
best photographs of the volcano are
obtained at San Martin, west of Puebla.

North of Oaxaca we visited a feld-
spar mine where fine specimens of the
usual pegmatite minerals were ob-
tained. Near the village of Magdalena
there is a large onyx quarry exhibiting
interesting structures in the walls. The
dumps are extensive. Another onyx
quarry is located 122 miles south of
Oaxaca or 34 miles north of Tehu-
antepec. Of course Oaxaca is worth
a visit if only to see the great Indian
ruins of Mitla and Monte Alban, or
to spend half a day in the picturesque
market.

Taxco is one of the most famous
tourist towns in Mexico, yet it owes its
lasting fame and beauty to its mines.
This town probably is the oldest in
North America. It was an Indian vil-

lage called *Tlachco* when rich silver deposits were discovered here by Cortez. The town was not developed until 1716 after the French miner, Jose de la Borda, opened up several workings, some of which still are producing today. In the market, the Plazuela de Bernal and at Hernandez' shop at No. 13, Plazuela San Juan, it is possible to purchase fine calcite specimens and other minerals at reasonable prices. Several jewelry shops have mineral specimens for sale, but the prices are higher in these establishments.

The wealth from the mines was responsible for the construction of a fine church, Santa Prisca, built by de la Borda in gratitude for his good fortune. Completed in 1758, this building has two beautifully decorated towers, a profusely carved facade and a well-preserved tiled dome. Because of the unique character of Taxco, the Mexican government has made it a national monument to assure preservation of its present picturesque state. This wonderful little town, with its cobblestone streets, tiled roofs, balconies, fountains and flowers in profusion, is well worth an extended visit by those interested in photography or the various native arts and crafts.

We returned to the United States on the Pan-American Highway through the beautiful Sierras with their rugged scenery. With the aid of the AAA book, *Mexico by Motor*, we found excellent accommodations every night of our stay in Mexico, as well as accurate information regarding roads and points of interest. Gasoline was plentiful and car repairs made without difficulty. Everywhere we went, we found the Mexicans to be most engaging people—friendly, courteous, helpful and doing their best to give the American traveler a superb vacation at a very reasonable cost.—END

Sphene Discovered . . .

Tijuana, Baja Calif.—Rare and valuable gem sphene reportedly was discovered on a ranch "somewhere south of Tijuana" by Fred Harvey, a 74-year-old Leucadia, California, rockhound. The greenish amber gem is a crystallized titanium dioxide.

April Shows

- April 4-5—Escondido, Calif. Palomar Club, Central School Auditorium.
 April 4-5—Colton, Calif. Slover Society, Municipal park.
 April 10-19—Los Angeles. Hobby Show, Shrine Exposition Hall.
 April 11-12—Santa Monica, Calif. Gemological Society, Joslyn Hall, Wilshire and Lincoln blvds.
 April 11-12—Salinas, Calif. Monterey Bay Society, A.F.D.E.S. Hall.
 April 11-12—Eugene, Oregon. Mineral Club, Lane County Fairgrounds.
 April 18-19—Costa Mesa, Calif. Orange Coast Society, Orange County Fairgrounds.
 April 18-19—San Jose, Calif. Lapidary Society, San Jose State College.
 April 18-19—Vantage, Washington. All Rockhound Pow-Wow, Brown Ranch.
 April 24-26—Wichita, Kansas. Rocky Mountain Federation Convention-Show, South Army.
 April 25-26—Tacoma, Washington. Agate Club.
 April 25-26—Nampa, Idaho. Owyhee Society.
 April 25-26—Azusa, Calif. Canyon City Society, Armory Building.

MOST UNCOMMON GARNETS ARE ANDRADITE SPECIES

Andradite is in all probability the rarest of all garnets. Color ranges from pale tints to black, but not reds. Its specific gravity is 3.8, hardness 6½.

The better known andradite varieties are: Colophonite, brownish yellow to dark reddish brown; Topazolite, topaz yellow to green; Melanite, black crystals, found in San Benito County, California; Demantoid (diamond-like), beautiful emerald green with a high light dispersion (.057—diamond has a dispersion of .044).

Andradite commonly coats seams and forms small lustrous crystals—except the demantoid variety which is found embedded in asbestos, and is rounded.

Andradite is one of three species of the calcium garnet types. The others are Uvarovite (calcium chromium silicate of deep emerald green color); and Grossularite (calcium aluminum silicate of pale tints).

The garnet series mix with each other to some extent, and within each species the varieties grade into each other without sharp lines of demarcation so that the amateur collector can only approximately identify the variety by considering color, specific gravity and association in which found. Garnet is one of the most common of minerals.—Oregon Rockhound

SANTA CLARA HOBBYISTS WIN SEMINAR HONORS

Obie and Barbara Goss of Sunnyvale, Calif., were named editors of the year at the recent *Desert Magazine* gem and mineral bulletin editors' seminar. The affair was attended by 115 persons representing 33 clubs.

The Gosses edit the Santa Clara Valley Gem and Mineral Society's *Breccia*. The award to them was made jointly by *Desert* and the National Bulletin Editors' Association.

Agate Field Closed . . .

Palo Verde, Calif.—A *Desert Magazine* reader reports that most of the gem area of the Palo Verde Mountain Pass is closed to collecting by virtue of mining activity there. The collecting area was featured in the November '56 *Desert*. "Do Not Enter, Dynamiting" signs are posted at the gem field entrance road.

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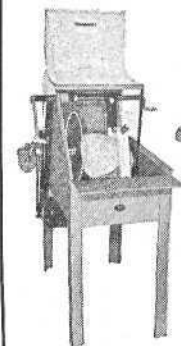


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18"	69.75	59.65	54.25
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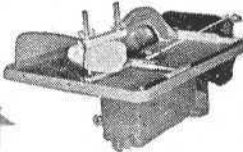
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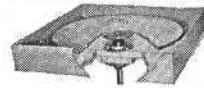


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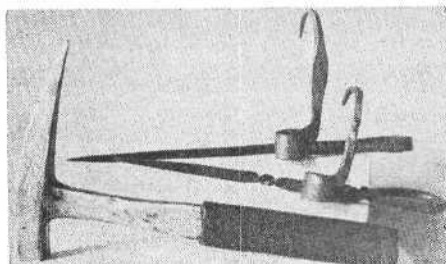
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By Dr. H. C. DAKE, Editor of The Mineralogist

Desert Star Glory

There are many hobbies related to the investigation of Nature's phenomena. One of these is astronomy, and the amateur gem cutter would do well to consider becoming an amateur star gazer as an avocational side-line.

More and more are we gazing toward the stars, as civilization enters the greatest adventure ever undertaken—the exploration of space. Star gazing and satellite watching are attracting many thousands. More and more watching will be done as larger pieces of equipment are sent aloft for scientific study.

Observing or "seeing" conditions are better in the desert regions than anywhere in the world. Here, away from the dust, smoke, fog and lights of the city, we see the stars stand out in their greatest glory.

The amateur star gazer can make many interesting observations using only the lower powered telescopes. More of these instruments currently are being sold than ever before. Unitron Company, 204-D Milk Street, Boston 9, Mass., one of the leading telescope makers, issues an excellent descriptive catalog, available free, on direct application.

One may wonder how the ancients, using only the human eye, were able to make and record some remarkably keen and accurate observations, in addition to mapping the heavens. The answer is not that their eyesight was better than modern man's; their observations were in most cases made from the desert regions.

Many types of telescopes are now available. These range in price to fit any purse or purpose. A high powered instrument is not necessary for many fascinating observations. In the near future we will be able to watch a ship with crew, circling around us as an artificial moon.

The observation of objects of this kind, only a few thousand miles distant, can be made with an ordinary six power binocular, but these have the disadvantage of having a most limited field of view. They are powerful enough, but not intended for sky work. The special observing instruments have the advantage of revealing a much wider field of view.

Many times I have gazed skyward as I lay in my sleeping bag, and wondered, "are we alone in the universe?" All recent scientific evidence points to the fact that we are not alone, even in our own galaxy. This supposition is based upon sound scientific facts, but we still lack proof. The biochemists tell us that life can originate spontaneously from the large "life" molecules.

What proof do we require? If the first argonauts of space bring back any form of life from Venus or Mars, this event will rank with the most exciting discoveries ever made by man.

Meteors also are coming under wide scientific study. Amateur observers are needed to aid science with systematic reports. Nowhere can we make these observations better than in the great desert regions of the Southwest. No instruments are needed to observe and record these spectacular flaming balls of fire.

The day is close at hand when a telescope will be just as popular as the camera is today.

Gem Cutting Art

Mineral collecting is said to be "the oldest hobby known to man;" the same can be applied to the working of semi-precious gem minerals. For thousands of years before the dawn of civilization, primitive man became skilled through necessity, in the fashioning of hard minerals into tools and weapons. Obsidian, agate, opal, jasper, quartz, and similar materials found as artifacts, carry the story of the struggle for existence waged by man of the dim past.

While this background of skill passed through many generations, it is only natural that in a moment of relaxation from the struggle with tooth and claw, early man turned to the fashioning of an ornament from an attractive specimen of a gem mineral. When this first took place is not recorded in history. Remains found in the caves of France give proof that quartz crystal was worked at least 12,000 years ago; later the tombs of Egypt indicate that turquoise was utilized as an ornament at least 6000 years ago. But in all likelihood the beginning of the art of gem stone cutting can be given a much earlier antiquity.

For centuries crude equipment was used in the art, with the secrets of the craft handed down from father to son. The works of the medieval and other early workers of gem cutting are remarkable for their skill of execution, considering the lack of modern abrasives and machinery.

The introduction of modern abrasives and grinding wheels some 40 years ago marked the beginning of the modernization of the lapidary industry. The modern grinding wheel, the products of the electric furnace, together with modern machinery, have done more to render gem stone cutting more simple than any other factor. Picture the medieval artisan laboriously reducing a hard sapphire, holding the gem in the left hand, turning the crank with the right hand to operate a lead lap wheel charged with emery.

Simplified technique available to all, modern abrasives and machinery, have aided in inducing thousands of individuals to adopt gem stone cutting as a pleasant, fascinating and valuable hobby. The intriguing mysteries, romance, and fascination of gem stones seem to lure even the most casual observer. Can it be possible the urge to fashion and work a rough fragment of a gem mineral into a thing of beauty and utility has been passed on to civilized man as a heritage from his ancestors?

Just One Crop

Many supply houses are learning that a large stock of rocks purchased at a low price a few years past cannot be replaced at the former price. In every instance it is learned that "rock prices always go up." This pertains to items like fine mineral specimens, good quality rough gems, finished stones, and all the better quality geological materials. Cull materials always are of little value.

There are good reasons for this. In the first place the demand for these items is greater than ever before in history, and along with the rapid growth and development of the hobby, prices can only go forward. Moreover, many of the highly productive localities are being exhausted or depleted at a rapid rate.

BOOKS of the SOUTHWEST

Books reviewed on this page are selected as being worthy of your consideration. They can be purchased by mail from Desert Magazine Book Shop, Palm Desert, California. Please add four percent sales tax on orders to be sent to California. Write for complete catalog of Southwestern books.

STORY OF THE LAND OF THE BLUE-GREEN WATER

Supai Village, deep in one of the remote canyon tributaries of the Colorado River in northern Arizona, is one of the few settlements in the United States where saddle horses remain the only means of transportation—unless you prefer to walk. The nearest automobile road ends at Hilltop on the rim of the canyon above and eight miles away by trail.

This is the home of the Havasupai Indians—a primitive but friendly tribal group of original Americans who want no highways into their village because good roads would rob them of one of their main sources of income, the supplying of saddle and pack animals for white visitors.

The story of Havasu Canyon and its tribesmen has never been more completely told in one volume than in Joseph Wampler's *Havasupai Canyon, Gem of the Grand Canyon*, just recently off the press.

Joe Wampler, archeologist-lecturer-guide, has been arranging guided trips into the Canyon for many years, and during the travel season maintains a delightful camp near where the blue-green waters of Havasu Creek tumble over the travertine tapestry of one of the three great waterfalls below the Indian village.

But the book Wampler has written is not in any apparent sense a commercial for his guide service. Rather it is a well written story of the history, the contemporary life of the Indians, the geology and wildlife of one of the most photogenic retreats in western America. It is illustrated with a fine collection of human interest and land-

scape photographs, part of them in color, taken during the years he has been going into the Canyon. Chapters on birds of the area, and plants and flowers, were written by Dr. Harold C. Bryant, and Weldon Heald.

Especially interesting are the chapters on the economy, the religion, and the tribal and social customs of the little band of Indians who inhabit this remote and lovely canyon.

Published by the author. 121 pp., paper cover. Bibliography. \$2.00.

GEM FIELD ATLAS FOR CALIFORNIA AND NEVADA

Western travel writer H. Cyril Johnson has compiled over two dozen detailed maps showing rock hunting areas of the Golden and Silver states — *California-Nevada Gem Hunters Atlas*. Johnson tells the type of material collected at each of these gem fields, and his maps also show back country roads, campgrounds and points of interest.

Even those who have not succumbed to the rockhound bug will find practical enjoyment in owning this gem field atlas. Mineralized areas are interesting to visit and explore, and Johnson has pinpointed hundreds of them in the two states.

Published by Scenic Guides, Susanville, Calif.; paper cover; 35 pages; \$1.

JEDEDIAH SMITH LED THE WAY WESTWARD

Jedediah Smith, Trail Blazer of the West, is the story of a man whose courage, endurance and curiosity about what lay on the other side of the mountain places him at the head of that long column of men who are Western heroes. He was the first trapper to travel overland to California; the first to cross the Sierra Nevadas; the first to cross Nevada and Utah; the first to travel up the coast of California and Oregon; the first to make use of South Pass as a gateway through the Rockies. As such, his explorations are significant.

When Jed Smith entered the West it was a Dark Continent. When he left it, all the major Western rivers, valleys, mountains and deserts were known to his fellow trappers. He foresaw the collapse of the weak Mexican Government, and an America stretching from ocean to ocean. Author of

this latest and very easy to read book on Smith is Hal G. Evarts, who now has written seven Western novels.

Cast as an innocent-faced youth amongst the brawling frontier roughians who set forth into unknown lands under the Rocky Mountain Fur Company's banner, Jed Smith quickly emerged as their leader. Beneath his soft-spoken exterior was the tenacity and strength which made him a leader of tough men, and then an American legend.

By day Jed matched wits with the rugged land and wily Indians; by night he read aloud from his Bible to keep the spirits of his comrades up. Smith was only 32 years of age when Comanches killed him as he sought water for his men. "That was like him," said a companion in final respect.

Published by G. P. Putnam's Sons, New York; Illustrated by Bernard Krigstein; 192 pages; \$3.

Read up on Baja California

Here are nine complete back copies of *Desert Magazine* which contain illustrated features on Baja:

- July '50—La Mora Canyon in Baja California
- July '51—We Camped with the Pai-Pais
- August '55—Three Days in Devil's Canyon
- October '55—Gray Ghosts of Viscaíno Desert
- November '56—Elephant Trees of Viscaíno
- December '56—The Cardon, Largest Cactus in the World
- June '57—Vacation in Baja California
- October '57—Marine Treasures at Punta Penasco
- April '59—Dirt Road Holiday

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By RANDALL HENDERSON

MY GOOD FRIEND Newton B. Drury, Chief of the California Division of Beaches and Parks, has reached the age of retirement and will be leaving his position April 30 this year.

I am sure that many Californians will share my regret at the departure of Newton from the office he has filled so capably. We folks of the California desert have special reasons for gratitude to him. Under his administration the Salton Sea State Park has been established and the Anza-Borrego Desert State Park greatly improved. On his agenda also are other desert parks in San Bernardino and Riverside counties which have been delayed only by lack of funds and a federal law which limits state acquisition of public lands for park purposes to 640 acres in any one year.

Drury's most important contribution, however, has been his stout defense against commercial encroachment on the areas already set aside for park and recreation purposes and his consistent loyalty to the interests of conservation everywhere and always.

While expressing my high regard for Newton Drury and the work he has done, I also want to add my appreciation for the fine staff of associates he has brought together in the California park service. A clean-cut bunch of fellows they are—courteous, competent and cooperative. They are the guardians of one of our most precious assets: the state lands which have been set aside for the recreational use of all Americans regardless of creed, color or occupation.

* * *

My old friend Gus Lederer was a jackass prospector who lived for many years in a little cabin at Corn Springs in the Chuckawalla Mountains. His only companions were his burros, and every morning they came to the back door of the cabin to get their daily ration of flapjacks.

Most of the old prospectors of Gus' generation have gone over the hill. Perhaps fate was kind to them, for I am afraid they would be an unhappy lot in today's world of science.

First the jeep came along to displace the faithful burro. Then the black lamp, the geiger counter and the diamond drill became the tools of the prospecting fraternity and the gold pan became a museum piece.

And now it appears that science has developed a new technique in the quest for mineral wealth. On my desk is the latest bulletin issued by the California Division of Mines. The title is *Plants as a Guide to Mineralogy*. And so the prospector of today may have to add the study of botany to his book of knowledge—and the assayer become a botanical analyst.

And that is as it should be. It would be unbearable, living in a world that never changed. And what a challenge it is for you and me—thoughtfully to weigh the

values involved in the changes that are crowding in on us—not from the standpoint of personal gain, but on a bigger set of scales that measure things in terms of the greatest benefit to mankind.

* * *

Many of us have been protesting for years against the excessive withdrawals of our public lands in the Southwest by the Army, Navy and Air Force. We have felt that by coordinating their activities, as would be necessary in time of war, millions of acres now lying idle much of the time, could be turned back for the beneficial use of all Americans.

Perhaps our crusade is beginning to bring results. A few months ago the Navy announced plans for the closing of its Marine Auxiliary field on the Mojave desert and the moving of the personnel and operations to Yuma where they will team up on the big Air Force base that occupies much of southwestern Arizona.

And now the Navy has issued orders to transfer the El Centro Naval Auxiliary Air station also to Yuma. While only a few thousand acres are involved in each of these transfers, they definitely represent progress in a direction that will meet with the approval of desert people generally.

Of course it is inevitable that there will be protests against such removals. Local merchants will feel that the loss of naval payrolls will affect them adversely—and no doubt that will be true to a minor extent, although seldom do these losses justify the panic exhibited by some of those affected when the change is made known. In the long run the local community will benefit by the restoration of its adjacent lands to a use more productive than as explosion targets.

And in the broader field of national welfare, we must not lose sight of the fact that provincial self-interest is fuel for the flames of inflation.

* * *

Maybe we white folks could learn something from the Navajo Indians. Several weeks before their tribal election was held in March they adopted a code of ethics applicable to all candidates in the race for the 74-member tribal council.

Tribal Executive Secretary Maurice McCabe said the election code is designed to prevent oil, gas and mining interests which seek leases on reservation lands from making campaign contributions. The penalty imposed on a candidate for accepting campaign funds from any person or corporation seeking concessions on Navajo lands is a fine of \$300 or 30 days in jail, and forfeiture of office if elected.

Perhaps we could learn something from the Navajo!

Randall Henderson Turns A Page...

On March 1, after more than 20 years as editor of the *Desert Magazine*, Randall Henderson terminated an active, day-to-day participation in the operation of this magazine. It was but another step in the career of a man who has always believed that life, well lived, is not a retirement into old age but rather a series of challenging changes.

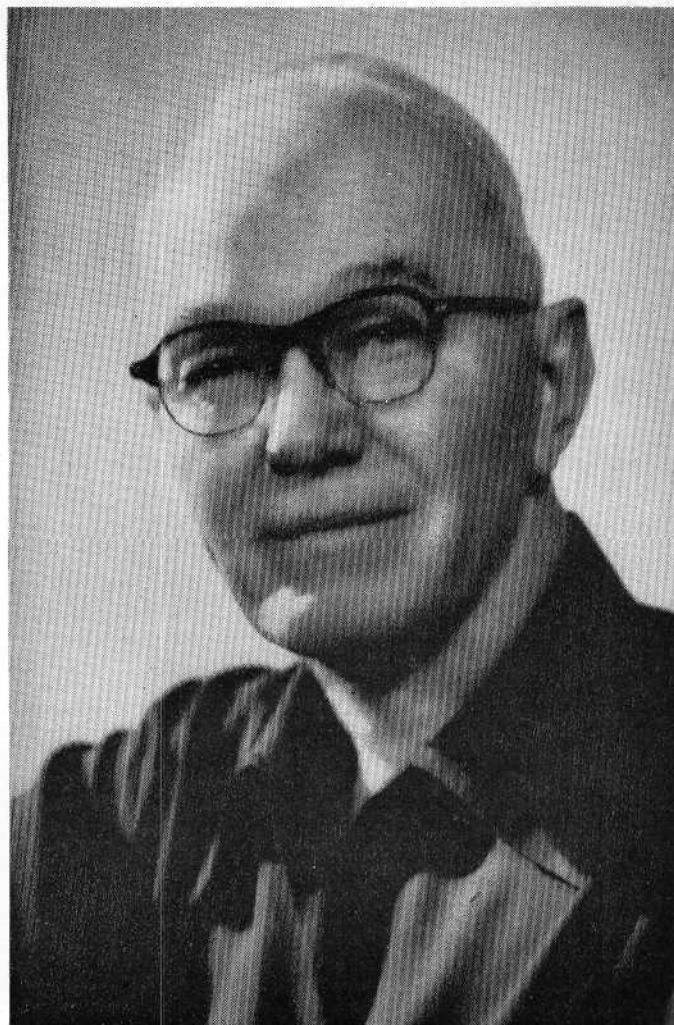
At the age of 48—in 1937—Randall left a quarter of a century of newspapering experience behind him and transferred his interests and energies to a new field, the *Desert Magazine*. With a few close associates he founded the magazine, starting off with 600 subscribers to back his dream. That was 22 years ago. Today *Desert Magazine* is recognized as the major journalistic voice for the fast-growing great Southwest, and has 500 readers for every one that Randall started with.

The deep integrity that Randall Henderson put into his first *Desert Magazine* has carried through to this day.

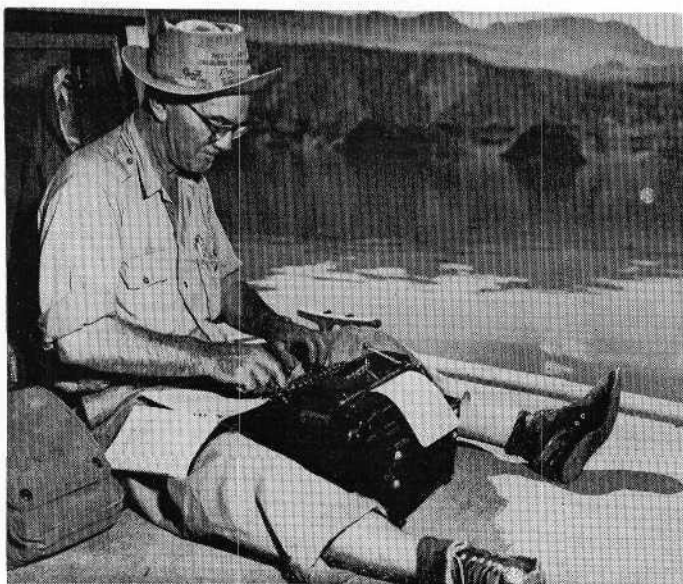
He will continue to write his editorial commentary "Just Between You and Me" each month, and will retain a financial investment in *Desert Magazine*. He will also serve as editorial advisor to the present staff. His residence is only two blocks from the magazine's Palm Desert office, so he will be available for counsel and guidance.

Stepping into Randall's editor's post will be Gene Conrotto, who has been on *Desert Magazine's* staff since 1955 and who has "learned" *Desert Magazine* under the guidance of Randall Henderson.

As I see it, Randall is not retiring, but is accepting a new challenge in a new field. He doesn't plan to ever leave



RANDALL HENDERSON



the desert, and he will continue to look to the remote canyons and seldom trod trails for his recreation. But his home work will take place in the study of his Palm Desert residence with his books and his typewriter.

Like most journalists he wants to write a book—inspired perhaps by the desert, but devoted to an amplification of some of the ideas in the broad fields of education, economics and human relations which he has touched briefly in his editorial page from time to time.

To him, life is a glorious adventure which becomes more interesting with the passing years. "There is so much to learn," he says, "and I have been looking forward to the opportunity to spend more time with the great men who have left us such a rich heritage of knowledge in their books."

He will continue to be active in the good work of the Desert Protective Council, which he helped establish five years ago. And he is presently donating hours each week with the County of Riverside, in Southern California, in planning desert and wilderness parks for the enjoyment of future generations.

This page is not meant to be a eulogy to Randall Henderson—it's the last thing he would want—but is a report to *Desert Magazine's* thousands of readers who are interested in Randall Henderson, founder of the magazine.

CHARLES E. SHELTON, *publisher*

Grab 'Em!



Photo of the Month Contest Winner . . .

Bulldogging is one of the most exciting events in a rodeo — the object being for the cowboy to wrestle the steer to the ground in a race against time. Not only does bulldogging demand courage, skill and timing; the cowboy needs a well-trained horse which will follow the fleeing steer. Action above took place at the Tucson Rodeo, and the prize-winning photograph was submitted by Bob Riddell, Jr., of the Tucson Sunshine Climate Club.

PHOTO CONTEST: you are invited to enter desert-subject photographs (black and white, 5x7 or larger) in Desert's contest. One entry will be selected each month, and a \$10 cash prize awarded to the photographer. All other entries will be returned—provided postage is enclosed. Time and place of photograph are immaterial—except that the photo must be of a Desert Southwest subject. For non-winning pictures accepted for publication, \$3 each will be paid. Address all entries to: Photo Contest, Desert Magazine, Palm Desert, California.