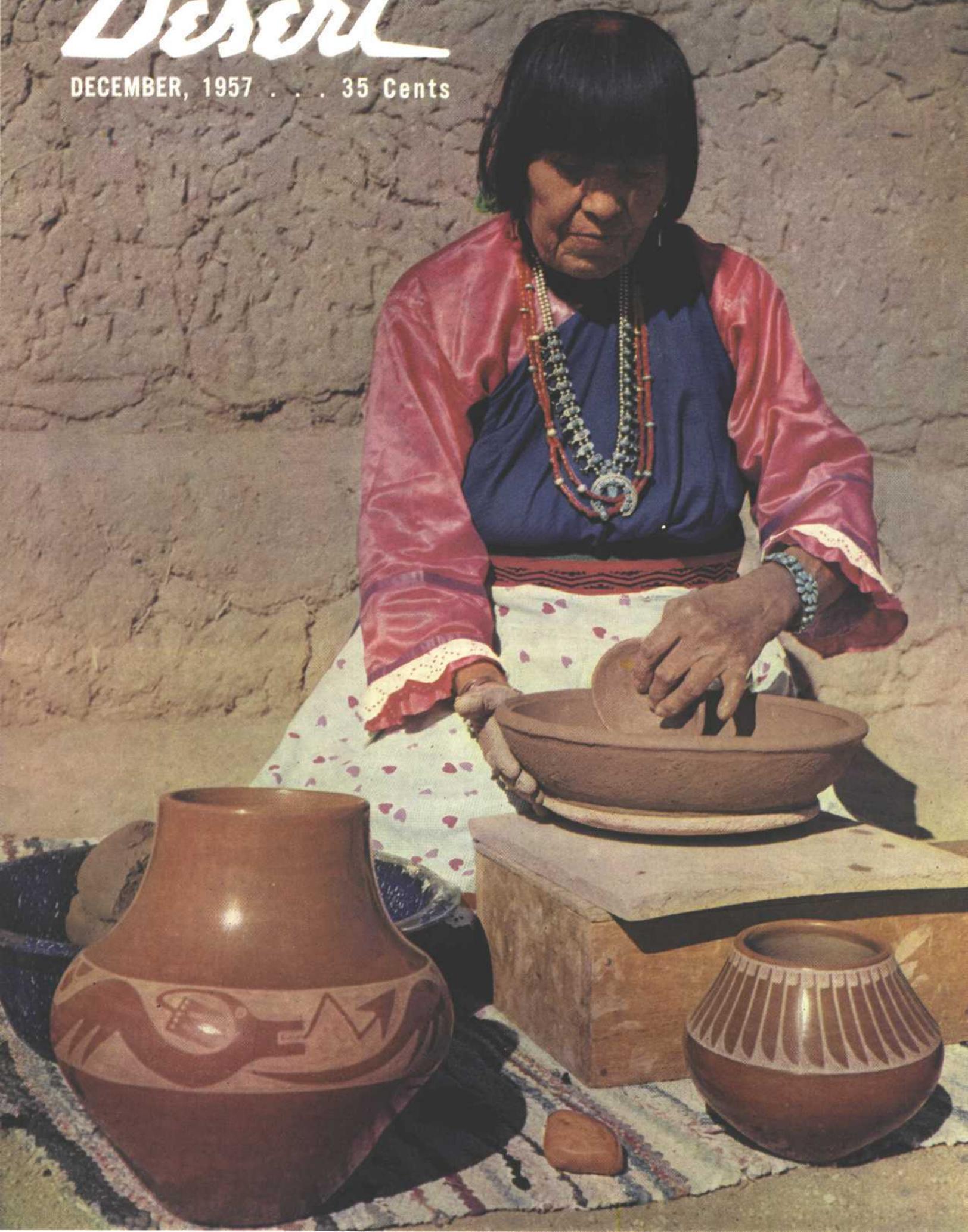


Desert

DECEMBER, 1957 . . . 35 Cents



When Gray-Beard Monarchs Bloom

By GRACE R. BALLARD
Santa Barbara, California

Starkly against a sullen sky
A bearded monarch lifts gaunt arms
In grotesque attitude—where sand
And wind have, without mercy, scorned
And tortured them; as though there were
No need for beauty in this barren land.

But see, upon each bristling branch
The pale-green blooms of Joshua cling;
Their fragile waxen bells held close
By spiny growth, surrendering
Their frail delight to early spring;
Swayed gently by the desert wind.

Lending their grace to this lonely spot
Seemingly, even God forgot.

WHAT DOES A MODERN SHEPHERD THINK?

By MABELLE B. MCGUIRE
Ventura, California

When desert sounds are stilled upon the air,
And light is drenched in early morning fog,
I hear the bleat of lambs and ewes up there
Upon the hill, a fitting epilogue
To night's lone cries. The sheep our lands
invade.

They come by hundreds every year to graze,
Then pass on when they eat the tender blade,
And shepherd, sheep and dogs all go their
ways.

But while they're here, we bring out glass
to see

More clearly that vast army on the hill.
We conjure shepherds of old Galilee,
And David with his flocks and poet's skill.
What does this modern shepherd think today,
When he beholds our town? What does he
say?

THE DESERT SANG

By EVAN DUNNAVANT
Riverton, Wyoming

The desert sang soft song last night,
Sweet-silken serenade she sent,
And when the dulcet rhyme took flight
Its winging spanned the continent.

A yielding cornfield heard it come,
Warm humming from the tepid sand,
And shyly stirred stilt-stalks to strum
A tribute to the sun's homeland.

Along a nightbound eastern coast
The mesquite's music sifted deep
And told a sodden fishing boat
The ecstasy of dry ground sleep.

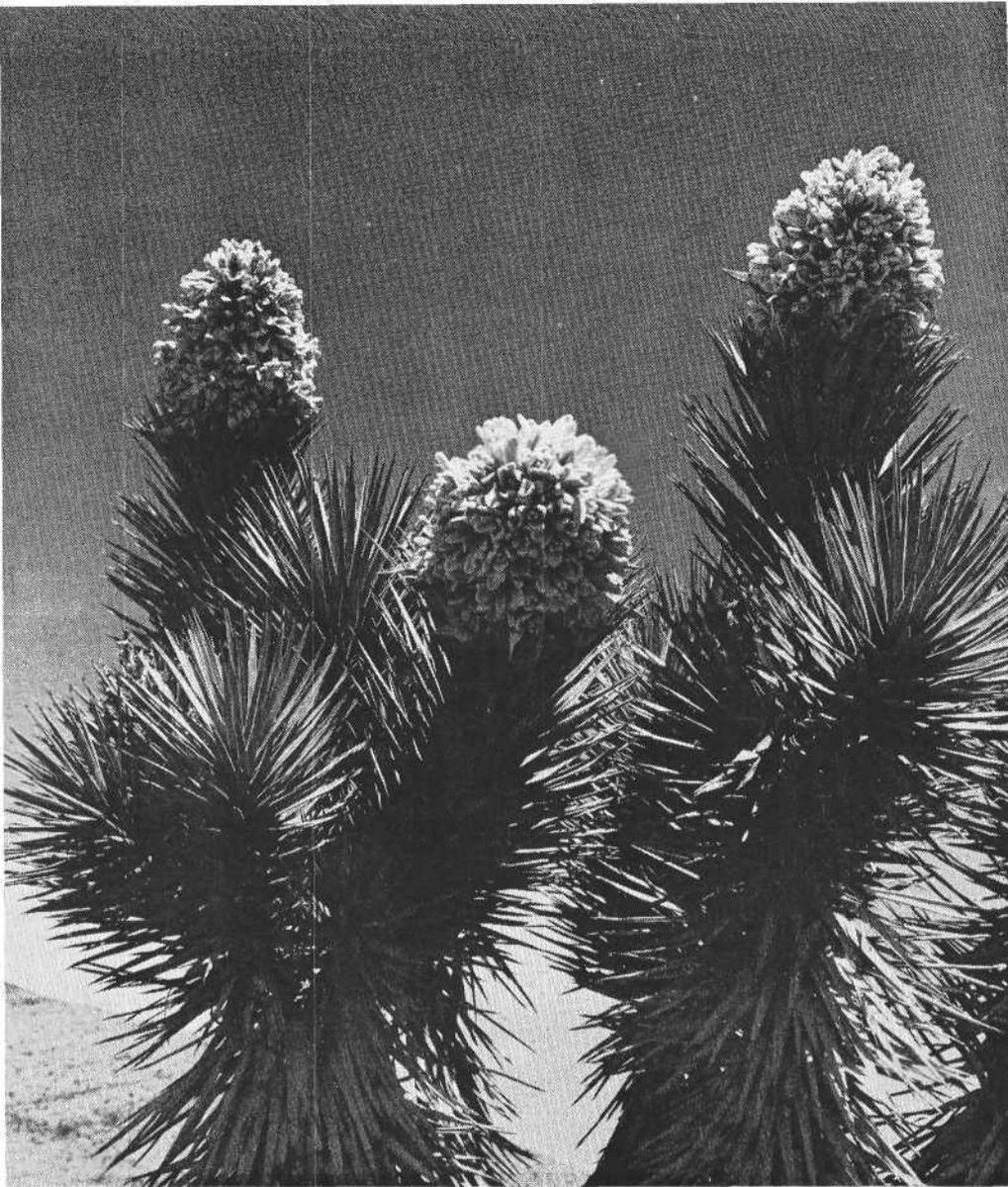
A cock-proud mountain pricked its ears
To catch the free, far-flinging bliss,
And sensed that all its towering years
Could not compose one note like this.

Beneath the amber lamp of moon
The desert ceased her song and slept.
Within whose form the tune was kept.
Shaft shadows tossed the silver dune

AT THE CANYON'S BRIM

By ALICE TENNESON HAWKINS
San Pedro, California

Deep, deep below, the desert river winds.
The moon slips down between the cliffs and
finds
A place to view her own reflection.
The stream so far below, no sound is heard
Except our pounding hearts, your whispered
word,
And one wild fox that barks a question.



TUMBLE WEED CHRISTMAS

By GEORGIA JORDAN
San Diego, California

Now little Bill, just past three,
Was wishing for a Christmas Tree.
But Dad's homestead, on desert land,
Was out among the dunes of sand.
The firs and pines were far away,
And tomorrow was Christmas Day.

Billy sadly gazed about,
Then gave a jump and happy shout!
A tumble weed, so big and round,
Pushed by the wind along the ground,
Had come to rest by their front gate,
As though they had an evening date.

"Oh Mother, Mother!" Billy cried,
"A Christmas Tree is right outside."
Dad sprayed it white, with quick-dry paint,
And topped it with a tin-foil Saint.
Now little Bill, just past three,
Was happy with his Christmas Tree.

COOL SHADOWS

By ELIZABETH L. SARGENT
Ontario, California

As far as eye can see the desert sand
Lies hot beneath the broiling copper sun.
No breath of air stirs the brown chaparral
Nor hints the humid day is nearly done.
Then suddenly the blazing sun goes down
And twilight spreads cool shadows near and
far
A picture for an artist's hand to paint
Red sun sinking beneath the evening star.

TOGETHER

By ELEANOR JORDAN HOUSTON
Put-in-Bay, Ohio

The smell of pine is in the air—
The tang of autumn weather
Scented gusts blow through your hair
From off the sage and heather.

The mountains rise in purple haze;
Bright aspens dance and quiver,
And cottonwoods bend all ablaze
Along the golden river.

Our spirits and our hearts are tuned
To song of spur and leather.
Our voices blend in joy and love
As we ride on together.

We Can!

By TANYA SOUTH
San Diego, California

Who says we can't? We can and will!
The innate Light procures it!
The faith and purpose we instill
Each struggling effort lures it.
There are no heights we would attain,
No brilliant gleam afar,
But if we strive with every grain,
We'll overcome each bar,
And rise toward it. Though when we
win
Still rests upon our strength within.

DESERT CALENDAR

- Nov. 30-Dec. 1 — Junior Parade, Florence, Arizona.
- Dec. 4-6—Southern California Open Golf Tournament, Indian Wells Golf Club, Palm Desert, California.
- Dec. 6-7, 13-14—Gaslight Gaieties, Palm Springs, California.
- Dec. 6-8—Dons Club Bus Tour to Guaymas, from Phoenix.
- Dec. 7—Dog Show, Fair Grounds, Yuma, Arizona.
- Dec. 7—Christmas Parade, Lancaster, California.
- Dec. 7-8—Commercial Rabbit Show, Phoenix.
- Dec. 7-8—Christmas Flower Show, Valley Garden Center, Phoenix.
- Dec. 7-8—Cat Show, Tucson.
- Dec. 7 and 14—Rag Doll Parade on 7th, Dog Show and Parade on 14th, Bisbee, Arizona.
- Dec. 8 — Imperial Valley Kennel Club's All-Breed Dog Show, Holtville, California.
- Dec. 10-12—Pilgrimage by Tortugas Indians, Las Cruces, New Mexico.
- Dec. 11 — Achones Procession After Vespers, Taos, New Mexico.
- Dec. 12—Matachines Dance, Jemez Pueblo, New Mexico.
- Dec. 12—Feast Day of Our Lady of Guadalupe, Santa Fe and Taos, New Mexico.
- Dec. 12 and 15 — Miracle of the Roses Pageant, Scottsdale, Arizona.
- Dec. 14—Formal Opening of Arizona Snow Bowl (dependent upon snow conditions), Flagstaff.
- Dec. 14-Jan. 3—John Hilton Exhibit, Desert Magazine Art Gallery, Palm Desert, California. (See page 7)
- Dec. 15—"The Messiah," University Auditorium, Tucson.
- Dec. 15—Dons Club Travelcade to Ft. McDowell, from Phoenix.
- Dec. 19—Christmas Party for Winter Visitors, Mesa, Arizona.
- Dec. 20—Christmas Parade, Barstow, California.
- Dec. 22—Oratorio Society's Annual Presentation of "The Messiah," Salt Lake City.
- Dec. 22 and 29—Desert Sun Ranchers Rodeo, Wickenburg, Arizona.
- Dec. 24—Ceremonial Dance, San Ildefonso Pueblo; Procession of the Virgin, Taos Pueblo; Ceremonial Dances after Midnight Mass in mission churches at San Felipe, Laguna and Isleta Pueblos, N. M.
- Dec. 24—Christmas Eve in Spanish Villages of New Mexico celebrated with little bonfires for *El Santo Nino*, lighted before houses, in streets and before Nativity Scenes.
- Dec. 25—Ceremonial Dances at Taos, Jemez, Santo Domingo, Tesuque, Santa Clara and other New Mexico Pueblos on Christmas and three days following.
- Dec. 26 — Turtle Dance, San Juan Pueblo, New Mexico.
- Dec. 26-Jan. 1 — 23rd Annual Sun Carnival, El Paso, Texas.
- Dec. 31—Deer Dance, Sandia Pueblo, New Mexico.
- Late November or Early December — Shalako Dances, Zuni Pueblo, New Mexico.
- Month of December—Art show on Arizona Themes, Phoenix Art Center.



Volume 20

DECEMBER, 1957

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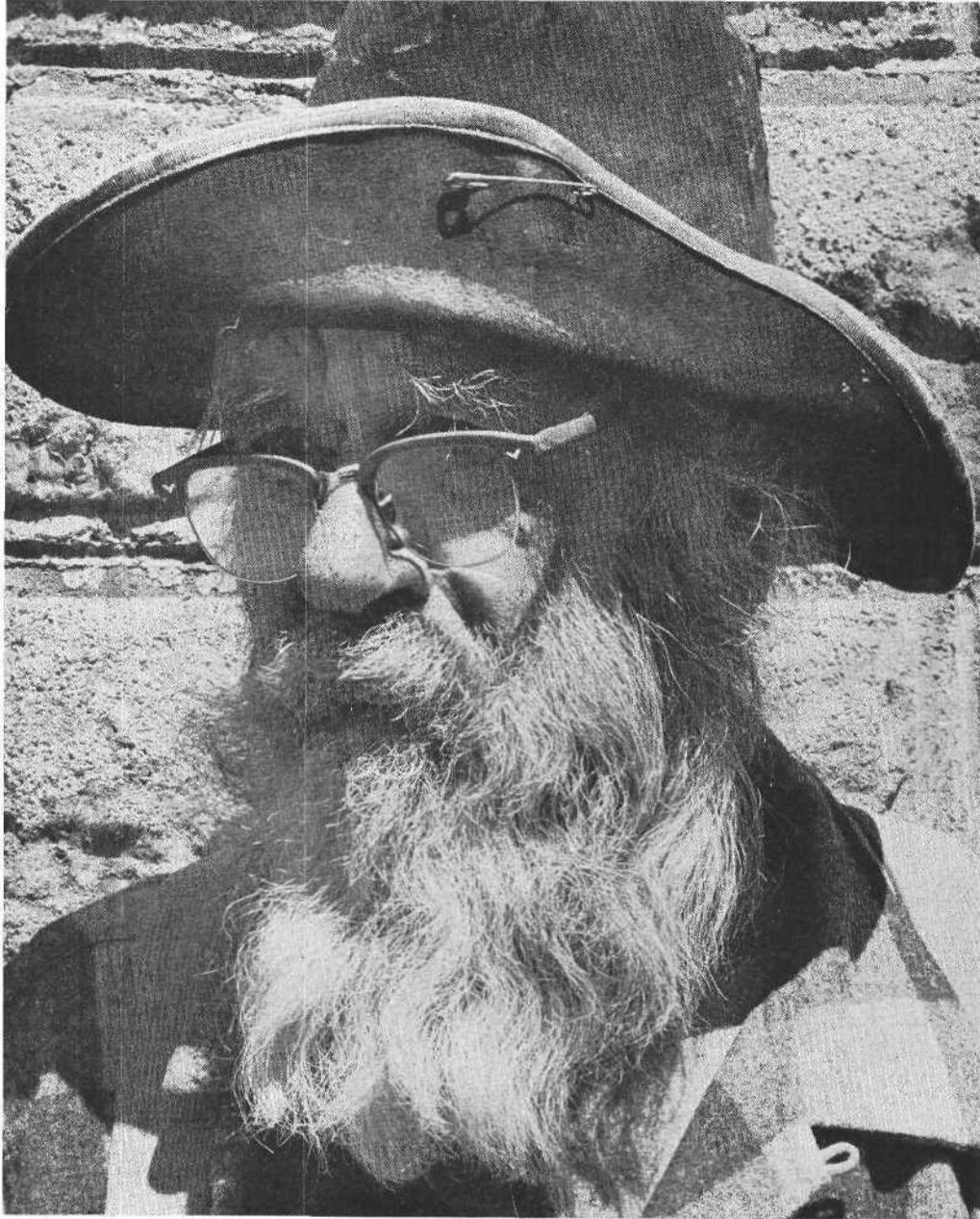
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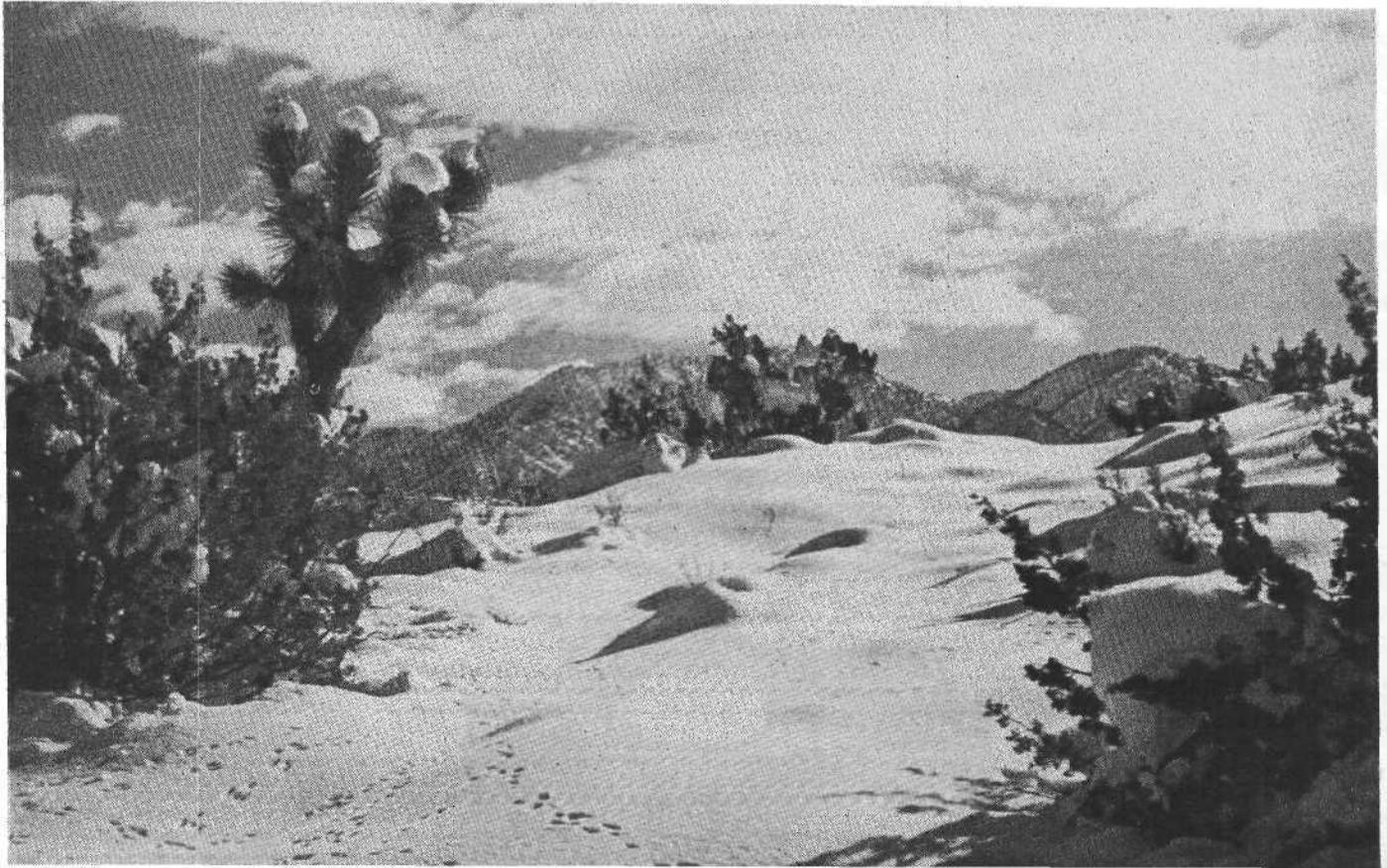
Old-Timer . . .

Pop Clanton (Desert, April '56) is a permanent fixture in the Arizona ghost city of Jerome. An old-time prospector, he is one of the few men in the West who still carries his six-shooters strapped to his waist. This month's first prize photograph was taken by L. D. Schooler of Blythe, California, with a Rolleicord camera set at f. 22, 1/100 second on verichrome pan film.

Pictures of the Month

Mojave Winter . . .

One of Nature's most beautiful—and paradoxical—scenes is snow-fall on the high desert. A nearly annual occurrence, the snow rarely lasts a week, however. Second prize this month goes to William W. Phillips of Hollywood, California, who shot this scene on the Mojave Desert of California near Pearblossom. Camera data: Argus C-3 camera; f. 8 at 1/30 second; K2 filter.





Young burro. Although not native to the Mojave Desert area, burros have made a very successful adaptation. Photograph by Cal Godshall.

Burro Sanctuary on the Mojave ...

California recently took decisive steps to protect its feral burro population—but how effective this new legislation will be remains a question, reports Russ Leadabrand. Here is the story of the new 6000-square-mile burro sanctuary in the Death Valley country, and how some of the state and federal officials most directly affected view the situation.

By RUSS LEADABRAND
Map by Norton Allen

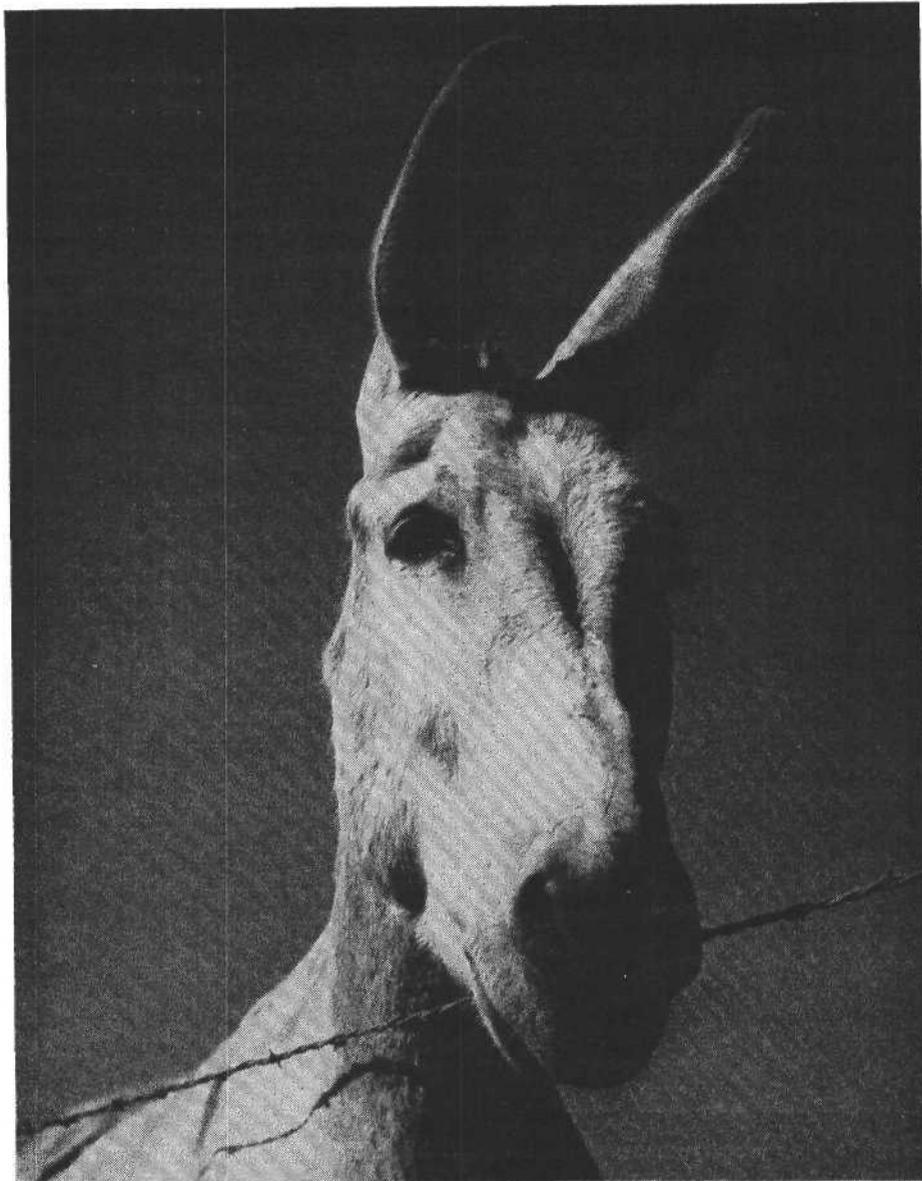
CALIFORNIA'S melancholy-eyed droop-eared wild burros were given new hope for survival in September when State Senate Bills 31 and 32 became laws. The former establishes a vast burro sanctuary in Inyo County; the latter is an exten-

sion of current protective legislation, with certain modifications.

But, road blocks still stand in the path of both laws, indicating that the state's burgeoning burro herd—at last estimate approaching 3000—still is not completely protected.

Burro proponents insist that the sanctuary exists in name only, and that the second bill leaves the door open for renewed large-scale burro slaughter.

The plight of California's burros (*Desert*, June '56) came into public focus in 1953 when numerous reports of brutalities against the half-wild animals appeared in desert area newspapers. Section 1403 of the California Fish and Game Code was enacted that year to correct this situation. Despite protests of farmers, Fish and Game Department game management experts and National Park Service naturalists that the animals were being over-protected at the expense of other



The burro, traditional partner of the lonely prospectors who first explored the desert country, has wide sentimental support from Southwestern citizens. Others advocate controls against burros which allegedly are crowding-out other wildlife species, including bighorn sheep. Photograph by Wm. A. Oberlin.

wildlife species, the law was re-adopted for an additional two years in 1955.

This year, when the bill once again came up for renewal, State Senators Charles Brown of Shoshone and Jess R. Dorsey of Bakersfield—authors of the original legislation—proposed the two new burro laws.

The first was for the establishment of a burro sanctuary—a gigantic 6000-square-mile rectangle in the southeast corner of Inyo County (see map). Within this area it is now unlawful to “take, possess, harm, molest, harass, or in any way interfere with any burro.”

The sanctuary contains some of the state’s most rugged and primitive mountain and desert country. Included within the asylum are sections of Eureka and Saline valleys, territory being

sought as a rocket testing range by the U.S. Navy.

A trackless uplift of mountains between the two valleys, and parts of the Last Chance and Inyo ranges also are included, as are the Nelson Range and the Hunter Mountain area north of Panamint Springs, the sand and lava boulder flatland of Panamint Valley, the frosty high Panamint Range on the east and the stark treeless Argus Range on the west.

The sanctuary includes almost all of Death Valley National Monument, but park authorities are taking a cautious view of the refuge idea.

“For several years the National Park Service has found it necessary periodically to control feral burro numbers at Death Valley in order to insure the continuation of the native

bighorn population,” Acting Regional Director of the National Park Service C. E. Persons told me.

“Even with this planned assistance, the bighorn have had great difficulty holding their own,” he added. “While the Monument is included within the overall area designated as a state burro sanctuary, we understand the State legislation does not affect operation of the feral burro management program within the Monument. Thus, when it appears advisable in the interest of Monument wildlife to do so, necessary management practices involving reduction may be carried out.”

In the past, Death Valley National Monument personnel have shot wild burros when the herds were considered out of hand. This year there were rumors, however, that the Monument people were going to live-trap and ship away the offending burros. Acting Regional Director Persons denied this, saying: “Our present management plan contemplates no program of live-trapping for commercial use. We have no plans for trapping for shipment to other areas, whether within this state or to another state.”

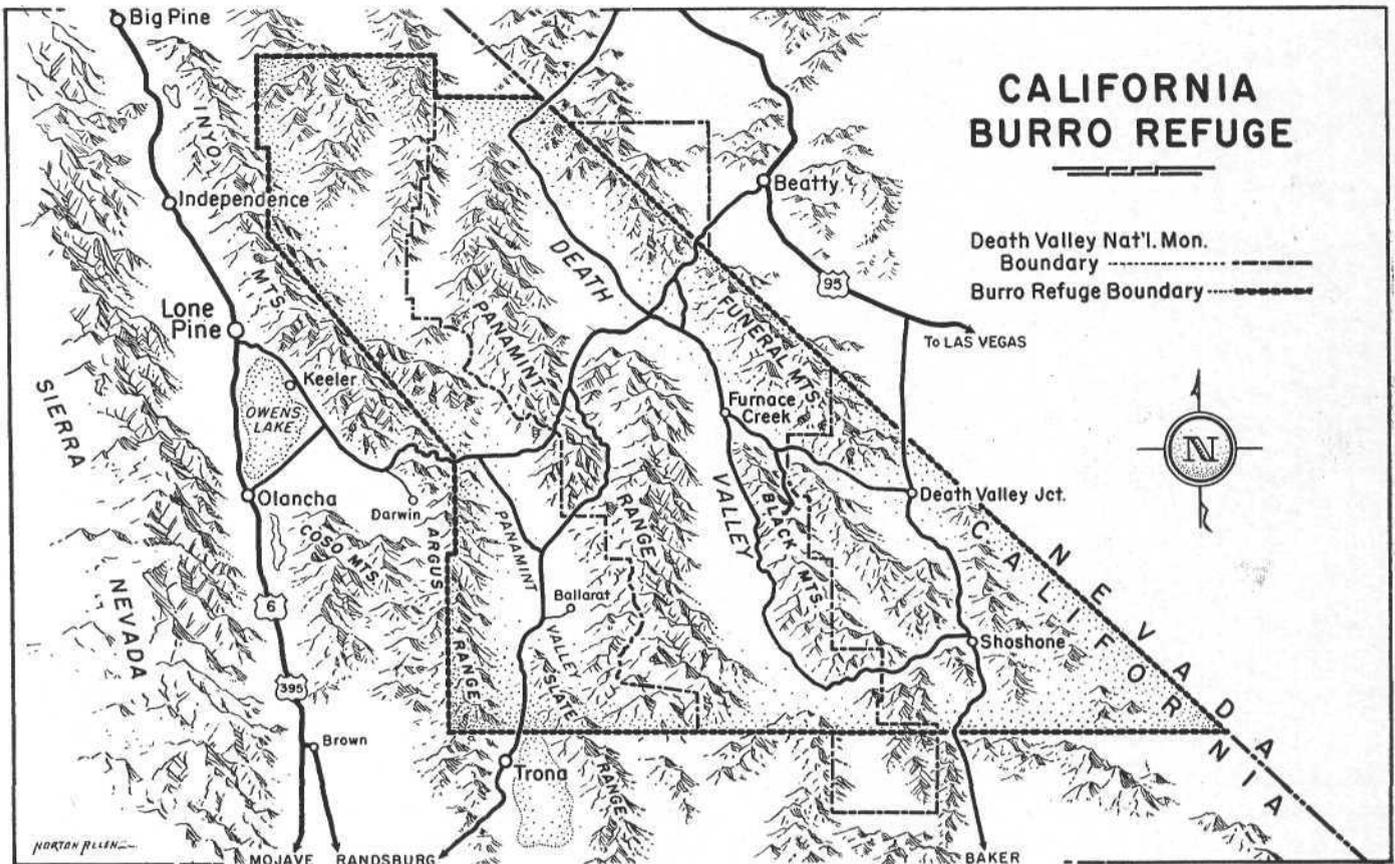
Early in 1956 Naturalist L. Floyd Keller estimated there were 1000 feral burros in the Monument. Persons believes there are 700 animals in Death Valley today.

The second new burro law—Senate Bill 32 — reads like it has enough sharp teeth in it to protect the wild burro against almost any eventuality.

The law states in part: “It is unlawful to kill, wound, capture, or have in possession any undomesticated burro, except as hereinafter provided in this section or under a permit issued pursuant to Section 1404. An undomesticated burro, for the purpose of this chapter, is a wild burro or a burro which has not been tamed or domesticated for a period of three years after its capture. The fact that a burro was killed, wounded, or captured on publicly owned land, or on land owned by a person or persons other than the person who killed, wounded, or captured the burro is prima facie evidence that the burro was an undomesticated burro at the time it was killed, wounded, or captured . . .

“All undomesticated burros are hereby declared to be the property of the State of California and no one may possess an undomesticated burro except for the purpose of domesticating it and possessing it as a pet or for use as a beast of burden.”

According to the previous burro law only 12 permits could be issued annually by the California Department of Agriculture to persons wishing to capture a wild burro for pet or pack animal. During both 1955 and 1956



the maximum number of permits were granted, but six were returned, unused, each year.

The new law places no such limit on the number of permits that the Department of Agriculture may issue. It merely insists that the Department issue a total number of permits based "on its determination of the number of domesticated burros necessary to properly preserve and maintain the species in relation to available land."

But it is the following section of the new burro law that has raised the most comment:

"Any owner or tenant of land or property that is being damaged or destroyed by burros may apply to the Department of Agriculture for a permit to kill such burros. The department, upon satisfactory evidence of such damage or destruction, shall issue a revocable permit for the taking of such burros under a permit. Burros so taken shall not be sold, nor shipped from the premises on which they are taken, except under instructions from the Department of Agriculture."

W. C. Jacobsen, director of the Department of Agriculture, said his department did not have much information on the burro problem as yet. "Due to our limited connection with the wild burro situation, we cannot even estimate how many requests for permits to kill wild burros might be received

from farmers under the new law," Jacobsen stated.

William P. Dasmann, game management supervisor of the California Department of Fish and Game, was critical of the new law. "Because of the competition for food and water that the feral burros give bighorn sheep in desert areas, the Department does not favor laws which give total protection to these animals," he declared.

And so the California wild burro winds up with a sanctuary that is not quite a sanctuary, and is protected by a law that doesn't completely protect him.

It is a compromise situation, undoubtedly the best kind of safeguard that could be provided in the face of

opposition to any kind of burro legislation.

Newest wrinkle in the problem comes from an observer in Banning who reports having seen truck loads of burros being shipped east, out of the state.

These trucks, bearing Texas license plates and each carrying at least 50 burros, have been seen leaving the state on other occasions. I learned too that some of the animals have died en route.

An old-timer near Randsburg summed up the situation for me something like this:

"The burro's got too much sense to get into this kind of a mess by himself. But what chance has he got against so many well-meaning people?"

JOHN HILTON EXHIBIT BEGINS DECEMBER 14

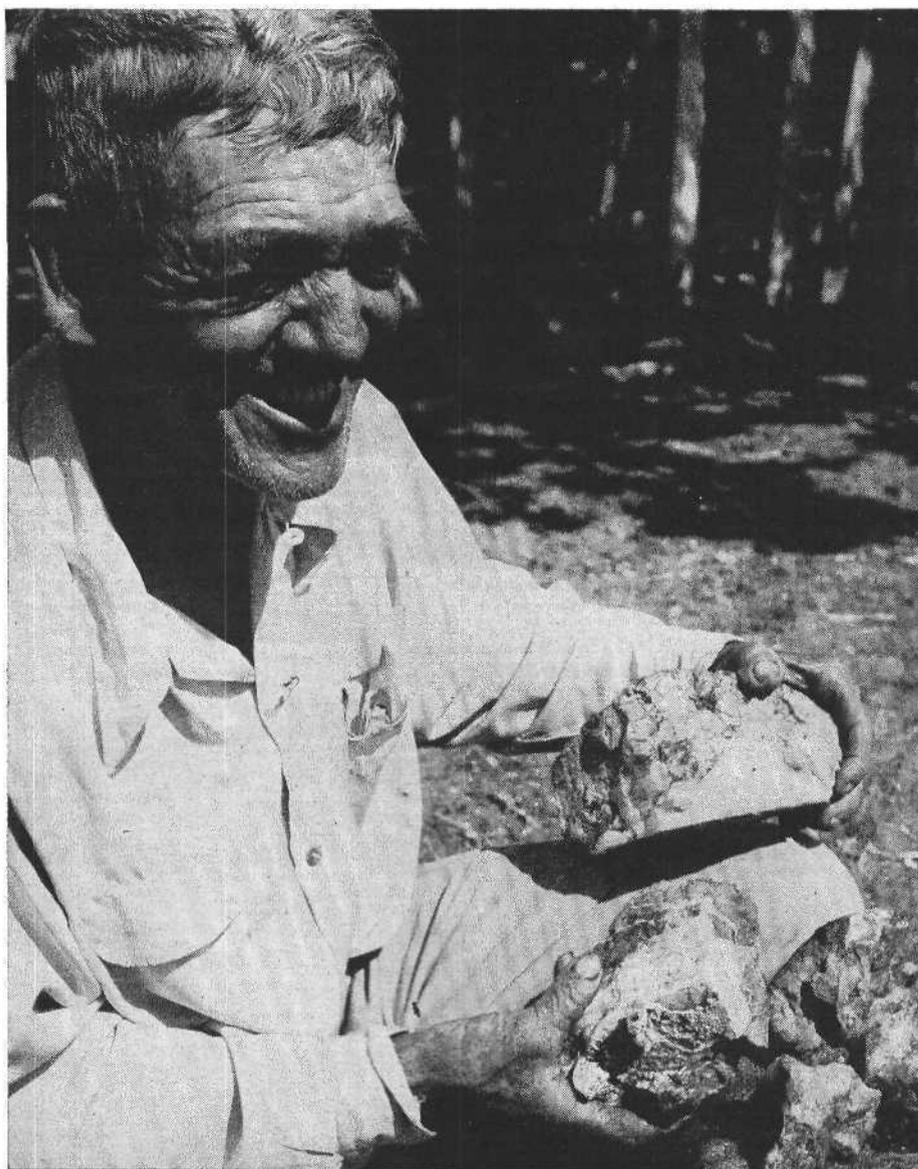
Fresh from a triumphal exhibit of his Desert Southwest paintings in the East where New York's Grand Central Art Galleries acclaimed his show as one of the three finest ever held in their galleries, artist John W. Hilton will exhibit his work at the Desert Magazine Art Gallery, Highway 111, Palm Desert, California. Show dates are December 14 to January 3.

In addition to painting demonstrations at the Desert Gallery, Hilton will

entertain visitors with his guitar and songs. Also he will autograph his book, *Sonora Sketch Book*.

A dynamic personality of countless talents, Hilton is recognized today as one of the foremost painters of the Southwestern scene.

The admission-free Desert Art Gallery is open seven days a week during the winter season, from 9 to 5. Besides outstanding works of art, visitors can browse in the adjoining book store-crafts shop specializing in literature of the Southwest.



Frank Roberts inspects banded agate specimens from Ike Springs.

Gem Stone Trails in the Pancake Range...

By NELL MURBARGER
Photographs by the author
Map by Norton Allen

FOR NEARLY half a century, records of the U. S. Census Bureau have listed Frank Roberts as a rancher in Duckwater Valley, Nye County, Nevada—which is true, as far as it goes. But Frank has so many irons in the fire that ranching, at times, almost seems a sideline. For example, he is a self-educated geologist, paleontologist and mineralogist; a

summertime prospector and rockhound, and a wintertime lapidary; and, besides all this, he is a great-grandfather, a great story teller, and one of my favorite friends.

He is a good host, too. Each summer, for half-a-dozen years, I've spent a few days at the Roberts' ranch, and Frank and his wife, Josephine (*Desert*, Aug. '57), always have an interesting

Chalcedony roses, banded agate, amethyst-lined geodes, colorful jaspers—these are the gem stone treasures that await explorers of the Pancake Range in the arid heart of Nevada. Nell Murbarger's guides to this rockhound paradise, Frank and Jo Roberts of nearby Duckwater, have spent most of their lives in this area and know their neighborhood gem locales as few people do.

trip planned for me. We've hunted agates and fossils, visited old mining camps and ghost towns and Indian petroglyphs, prowled lava beds and collected crystals from abandoned gold mines.

This year, as usual, my arrival at Duckwater found Frank busy on his ranch. As he, Jo and I sat at the supper table on the first night of my visit, talking, as usual, of lost mines, ghost towns and old emigrant trails, Frank said, "How about going somewhere tomorrow? Maybe Ike Springs?" The springs are at the east base of the Pancake Range, 17 airline miles southwest of the Roberts ranch or, 25 miles by road.

"By making a couple side trips we could include visits to a meteor crater and a fossil ledge, and pick up some chalcedony and dendritic jasper," Frank continued. "On the ridge above the springs is about a quarter-section covered with banded agate and geodes . . ."

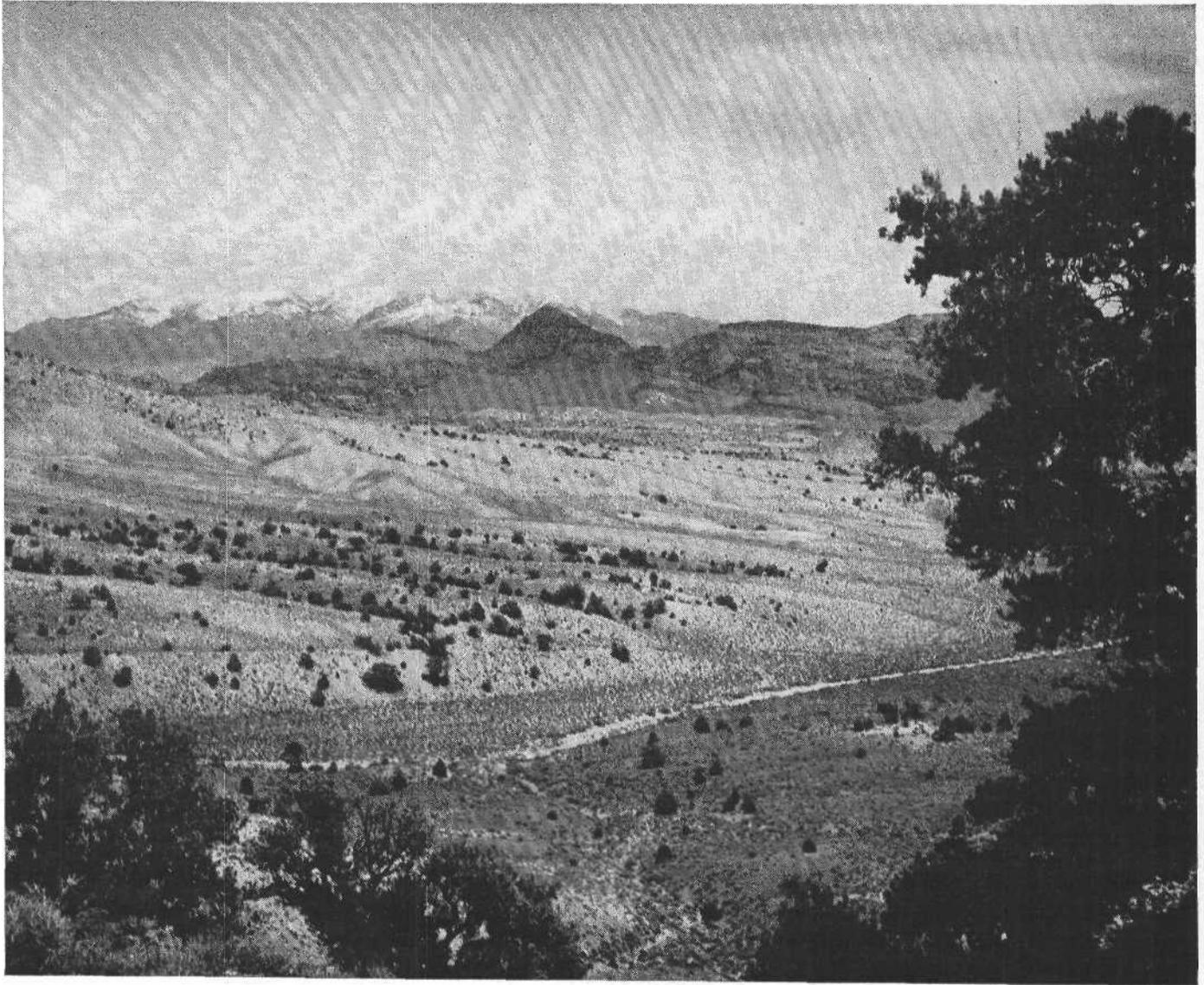
And then, as if he hadn't already extended inducement enough for several trips, Frank offered the clincher:

"Some of the geodes aren't much good. But, occasionally we find one stuffed with amethyst crystals!"

At sunup the next morning Frank, Josephine and I left the ranch. Crossing the clear swift flow of a small creek which winds beneath a screening row of willows, we headed out Duckwater Valley to the desert hills on the west.

Watered by the abundant flow of a large warm spring, this fertile basin has been the home of Shoshone Indians for more generations than any man knows. About a hundred Shoshones still live in the upper end of the valley in the Duckwater Indian Reservation.

The desert ranges which border the valley on both the east and west are not the most colorful hills in the world, to be sure. They are rough, dry, unplanted, unsurveyed, unfenced and uninhabited—but that is the reason I



Looking southeast toward the snow-capped Grant Range, from the banded agate-geode area. Slopes of the Duckwater range in middle rear. Ingress road to the agate area is shown in wash, foreground.

like them, and why their every parched gully and gulch looks beautiful to my eyes.

As Frank's old truck clattered along the seldom-used trail that wound over the sage-grown slopes, we glimpsed in passing the feathery clumps of red-topped Indian paintbrush, the spiny mounds of several species of cactus starred by waxy blooms of vermilion, fire-orange, rose, canary and scarlet. Jackrabbits and cottontails occasionally showed themselves in the sage. Once, a large bullsnake slithered across the road in front of us; another time, a cocky little horned toad scampered down one of the dusty ruts ahead of our wheels.

We had traveled about five miles when Frank turned off to the right on a sideroad still more vague, and in another couple of miles halted the truck in the bottom of a wide gravel-

floored wash. He yanked our gear out of the box — rock sacks, prospecting picks, a canteen of water and my cameras. Also he took a heavy Army blanket and a mineral lamp.

From the edge of the wash the desert hills mounted steeply and our climbing feet soon carried us through a lower fringe of scrub junipers and small-nut-pines into a region thinly forested by gnarled junipers that must have been centuries old. On many of the larger specimens, which had succumbed to age or other causes, every shred of bark had been sandblasted away leaving exposed the rich cinnamon-brown wood of the twisted branches and the intricate convolutions of the huge trunks.

We detoured to the hillslope on the left where a limestone reef revealed a small interesting deposit of fossil crinoid stems, macaroni coral and a

few small brachiopods. We found it difficult to free the specimens from the engulfing rock, but did chip out a few samples before swinging back toward the agate trail.

After climbing for 20 minutes, we reached the first deposit of choice chalcidony—white and beautifully fluted desert roses. Frank shoved the black light into my hands and said, "Get down on your knees, beside this cropping, and after Jo and I spread the blanket over you, turn on the light."

Fumbling in the brown vagueness, I aimed the lamp in the general direction of the white stones and felt for the switch. It seemed as if I had pressed a magic button that controlled all the neon lights of a Lilliputian fairyland—cold little lamps that sparkled in pale lime-green, chartreuse, blue-white and lemon yellow!

"You see," said Frank, as he pulled

away the blanket, "that's how we hunt fluorescent chalcedony!

"The jasper," he continued, "is over this way about a mile . . ."

We were high on the range now, and the sharp breeze that whistled around the rocks and tugged at the feathery branches of the nut-pines came on to clutch at our hats and bite frostily into our faces and sting our eyes and cheeks. To the southeast we saw deep snowbanks caught and held in the higher north-sloping ravines of the Grant Range where Troy Peak, only 30 miles distant, lifted its hoary head to over 11,000 feet.

Between that peak and our exposed ridge lay the long creamy-white alkaline bed of Railroad Valley, named for a rail line that was never built. Nearly 100 miles in length and 20 miles across at its greatest breadth, Railroad

agate and jasper in red, yellow and green!

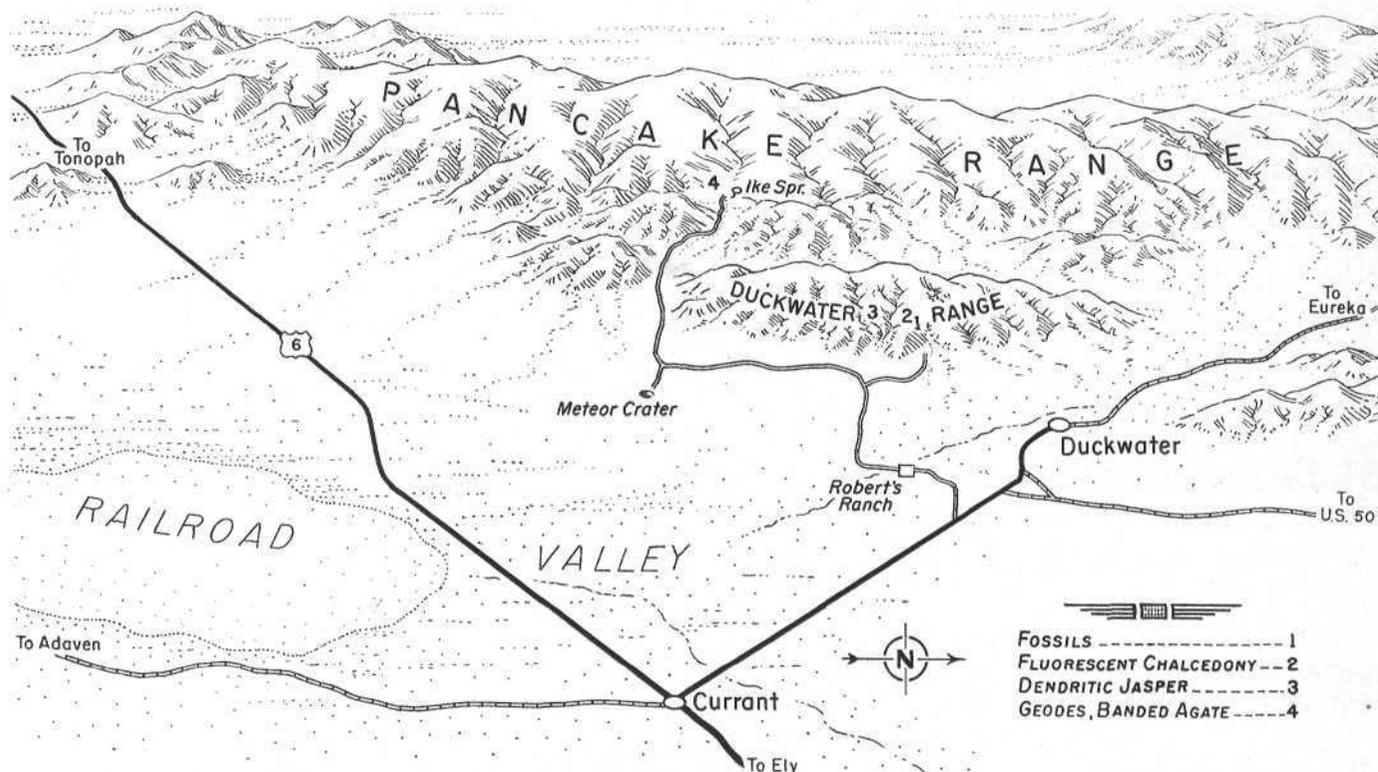
When, on the previous evening, I had examined Frank's choice collection of colorful cabochons, I never dreamed that his material had come from a natural showcase such as this, where one only had to make his selections and walk away! Of course, we still had to carry the stones three miles back to the pickup, but this factor of relative inaccessibility is the only thing that may save this jasper deposit from exhaustion by over-zealous harvesters, Frank pointed out.

"Most rockhounds are fine folks," he said. "I like to talk to them, and I'll gladly show or tell them where to get good cutting material — provided they limit their collecting to a few pounds and leave some for the next fellow. But, the rock-hog who does

"I really struck pay-dirt with the Indians," chuckled Frank. "Chief Blackeye, past 80 years of age when he died a few years ago, said his grandfather told of seeing the 'fiery star' fall when he was a small boy. The afterglow lasted for four days after the meteor struck. For years afterward, according to Blackeye, no Indian would venture near the crater for fear of the Fire Spirit.

"I was excited by this information, so I hunted up another old Indian and asked him about it. 'Oh, sure, sure!' he told me, 'star he fall—ground he smoke 30 days!'"

Dr. James Gibson Alvorsen, noted geophysicist of San Gabriel, Calif., made magnetometer tests at the crater in 1950, and Dr. Russell A. E. Morley, research geologist and meteorologist of Salem, Oregon, studied the site



Valley is one of Nevada's great interior sinks. It swallows the run-off water from thousands of acres of surrounding hills, and subsequently gives it up elsewhere in the form of hot and cold springs.

Our way lay over a series of sharp ravines, like a long row of M's and W's, where we were either sliding down or climbing sharply every foot of the way. Much of the soil here is vividly red and contrasts sharply with the deep green of the junipers and soft gray of the sage.

An hour and a half after leaving the pickup we broke out on the brow of a ridge that dropped away abruptly toward the valley. All around us lay

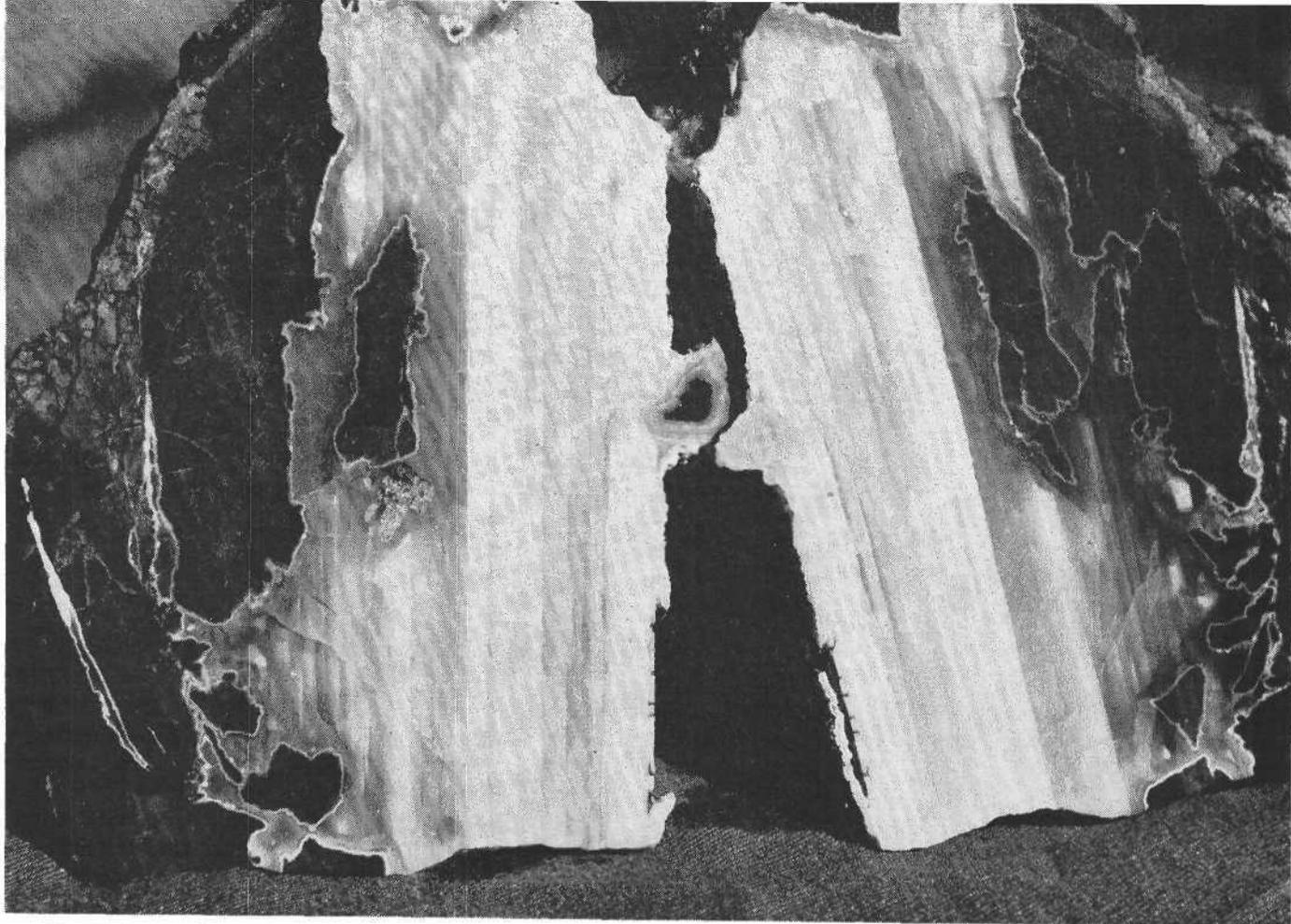
his collecting with a bulldozer and truck is something else again. If I spot him first he'll be lucky if I even tell him the time of day!"

We returned to the pickup and drove half-a-dozen miles south to the rim of little known Duckwater Meteor Crater which Frank discovered 35 years ago. From his first glimpse of this unusual earthen bowl, with its steeply-sloping sides and top diameter of nearly 300 feet, Frank felt it was the burial place of a meteor. He sought information regarding the crater from older Indians of the area, hoping that their tribal legends had not overlooked this fiery visitor from outer space.

in 1952. Although these and other eminent researchers are not all agreed in their findings concerning the Duckwater site, consensus of opinion is that this is the world's eighth-largest known meteor crater; that the meteor responsible for its creation probably fell in comparatively recent times, is of nickle-iron composition, and probably weighed between 100 and 500 tons.

Frank Roberts' interest in the crater is not prompted by thought of material gain, and may best be described as plain unvarnished curiosity. About 25 years ago, after giving the matter considerable thought, Frank sank a shaft in the bottom of the crater.

With the help of another man who



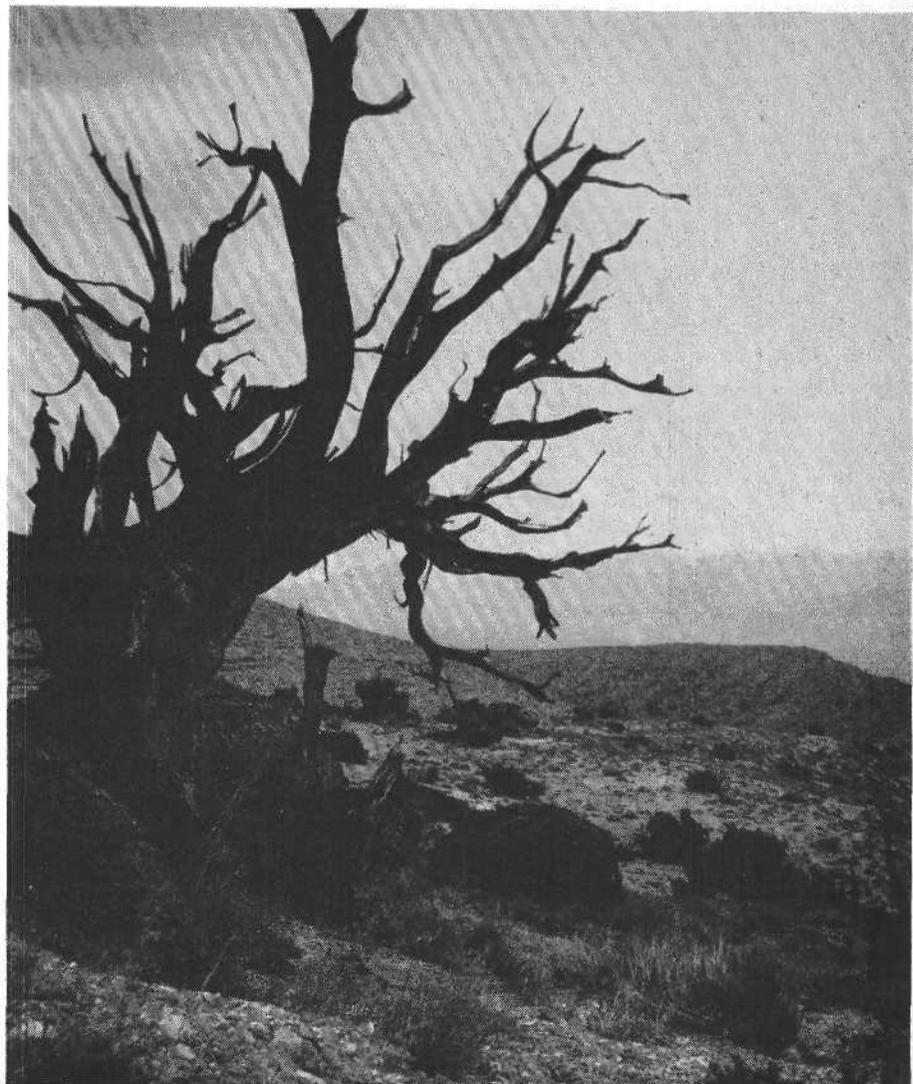
Banded agate from Ike Springs.

operated the windlass, Frank dug a five-foot shaft through dirt, sand and gravel to a depth of 60 feet—all without timbering, certainly not the best recipe for living to a ripe old age! Finally they abandoned the hole without encountering any meteoritic material.

From the crater we continued west, skirting the south end of the Duckwater Range, and then angling north to the mouth of a wide wash into which Frank turned the pickup. As we traveled upward along its winding course, the dry waterway narrowed into a canyon. Five miles of gradual ascent—most of it through loose sand and gravel—led to a point on the east base of the Pancake Range half a mile east of Ike Springs. This small group of springs, at the time of our visit reduced to little more than a seep, was named many years ago for Josephine's grandfather, Isaac Irwin, an early Duckwater settler. On all maps I have seen of this area these springs are mislocated, being placed 11 miles east-southeast of the point where they actually occur.

After lunch the wind dropped to a whisper and the midday sun was pleasantly warm. We climbed for a mile through junipers and nut-pines to a clearing where we could look out over thousands of square miles of des-

Sandblasted juniper skeletons dot the chalcedony-jasper area.



ert country devoid of houses, fences or other signs of human habitation. Near here was an area where the ground was sprinkled with geodes. Roughly round and cocoa-colored, they were larger than average—few being smaller than a grapefruit, many the size of giant pumpkins.

In the heart of one broken geode we discovered a nest of amethyst crystals, the mass being six inches in length by roughly two inches wide, and of a bright clear lavender hue. It was a gorgeous sight!

We moved over the 100 acres of

banded agates and geodes peppering the brow of the hill and found other geodes containing good agate, some with water-clear to faint lavender crystals, but none to compare to the big jewel-case geode that had come to our hand so early in the search.

The basic rock underlying the surface of this portion of the range is perlite—strange volcanic glass material which resembles popcorn in its ability to expand and “pop” when subjected to intense heat. Because of this unique characteristic, perlite is valuable insulating material and this deposit would

be worth much money if the potential cost of transporting it to market was not so great.

After I had photographed the blooms of several brilliantly-colored torch cactuses and blue penstemons, we worked our way down the north face of the mountain, and the field trip came to an end.

To Jo and Frank Roberts, the delight of such a day is not dependent on how large a sack of rocks they take home.

“Just being out in the desert hills, under the warm sun and the blue sky, is enough to make a day successful for me,” Jo said. Frank and I nodded agreement.

Announcing a New

Life on the Desert

True Experience Contest!

\$25 FIRST PRIZE

\$15 for all other manuscripts accepted for publication

Once again Desert Magazine is asking its readers to participate in the telling of the Desert story by relating their personal tales of human interest, adventure, inspiration and eventful experience.

There is no limitation as to subject matter so long as the story is set in the Desert Southwest and the other contest requirements listed below are met. Judges will select those stories which they feel will best contribute to the entertainment and enlightenment of the Desert Magazine family of readers.

Manuscripts should be from 1200 to 1500 words in length, and first award will be \$25. All other stories accepted for publication will earn \$15 for their authors.

Manuscripts should be true experiences, preferably of the writer, but stories written of and with the first hand knowledge of the desert experiences of others will be accepted. Tall tales and heresy stories are not solicited.

The contest is open to both amateur and professional writers. All manuscripts must be typewritten and double spaced, on one side of the page only. Leave wide margins on both sides of each sheet.

Entries should be addressed to: Life on the Desert Contest, Desert Magazine, Palm Desert, California, and must be postmarked not later than January 1, 1958, to qualify for the awards.

If 5x7 or larger photographs showing good sharp contrast are available, an extra \$3 will be paid for each used with the story. Pictures are not essential, however.

Writers must be prepared to supply confirmation as to the authenticity of their stories. Only true experiences are wanted.

All stories must be essentially of the desert, and the setting is limited to Arizona, Nevada, Utah, New Mexico, the desert portion of California, Baja California and northwestern Mexico.

True names of those involved must be given, although with the knowledge of the judges, fictitious names can be substituted if there is good reason for doing this.

If the story previously has appeared in print, this fact and the time and name of the medium in which it appeared must be given. All readers of Desert Magazine are invited to submit manuscripts.

Judging will be done by the Desert Magazine staff, and the decision of the judges will be final. Unaccepted manuscripts will be returned if accompanied by return postage.

MEXICAN HAT RIVER TRIPS AGAIN IN NEVILLS FAMILY

Mexican Hat Expeditions, founded by Norman Nevills as a fast water guide service on the San Juan and Colorado rivers 30 years ago, and operated by J. Frank Wright since the death of Norman and Doris Nevills in an airplane crash in 1949, was purchased in October by Gaylord L. Staveley of Grand Junction, Colorado, who plans to continue much the same type of service as was carried on by Nevills and Wright.

Actually, the transfer brings the river enterprise back into the Nevills family, for Staveley's wife is Joan, the elder daughter of Norman and Doris.

Staveleys were married in 1954 when Gaylord was an officer in the Air Force. Later they accompanied Frank Wright on some of his river trips and Staveley became so intrigued by the challenge of white water navigation that a year ago he became a partner in the boatman-guide service, and now he has acquired the business, including three of the boats which were built originally by Nevills. These are the cataract boat *Sandra*, and the San Juan boats *Music Temple* and *Redbud Canyon*. Other boats of the type designed by Nevills have been added by Frank Wright in recent years.

Schedules for the 1958 season will include trips on the San Juan River, Glen Canyon on the Colorado, and at least one expedition through Grand Canyon. While the home address of the Staveleys is at Grand Junction, they will make their headquarters during the boating season at Mexican Hat, Utah, with sub-headquarters at Hite, Utah.

As a result of the fine record of safety made by Nevills, Wright, and other boatman-guides on the rivers of the West, increasing numbers of vacationists are taking these river-canyon excursions each season.

To interpret the beauty of the world around them—the world of open skies, deer, sheep, birds and gentle sensitive people — is the dedicated mission of most Indian artists. One of the most successful of these is Harrison Begay, a Navajo whose work reflects the traditional influence of the Pueblo Indian art forms, and whose message is universally understood by all men.

By W. THETFORD LeVINESS

SHORTLY AFTER taking up residence in Santa Fe, I traveled extensively over the Navajo Reservation. Shiprock, Chinle, Monument Valley and Lukachukai became familiar places to me. I saw sandpaintings made and destroyed at the Gallup Ceremonials, and a fire dance in a gray December dawn near Chaco Canyon—and this was my background in the complexities of Navajo religion and ritual.

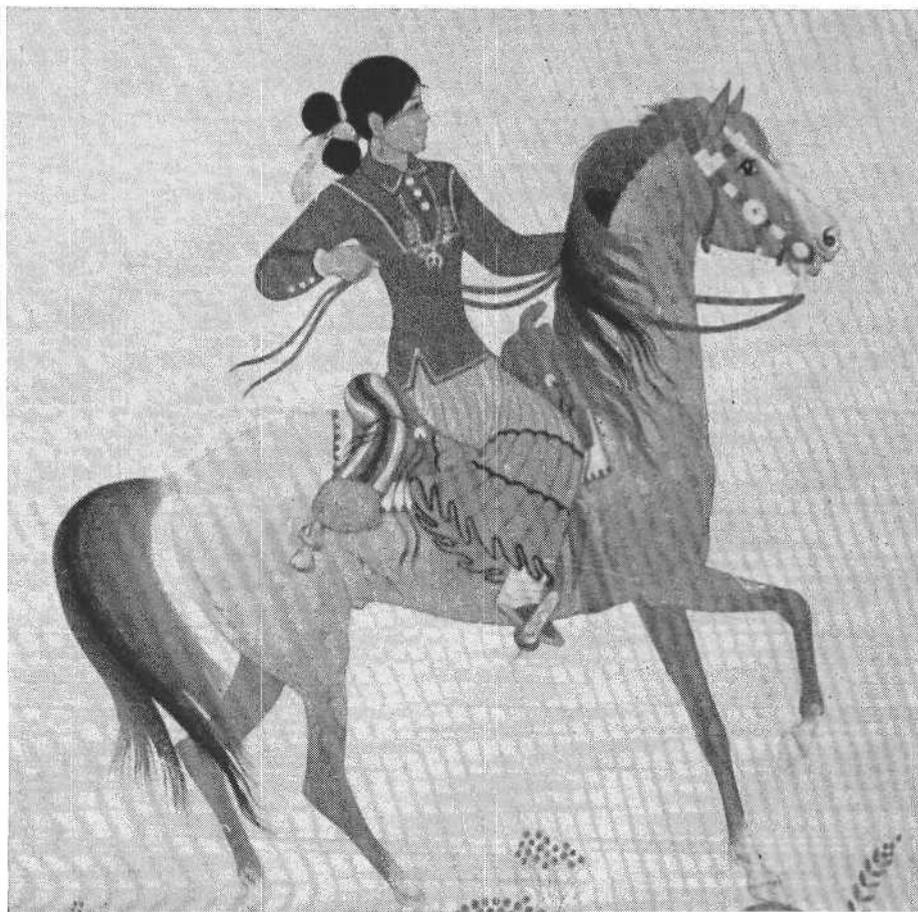
But, actually I knew nothing about



Harrison Begay at work.

Harrison Begay--Navajo Artist

"Navajo Girl on Horseback."



the Navajos until I met the artist, Harrison Begay.

Harrison had just returned to Santa Fe from a winter in Tucson when we met at the home of a friend. He was looking for a studio-apartment, and I told him of a vacant one next to mine. He took it and that summer I had a tutor in things Navajo.

It was always interesting to be a guest in Harrison's studio. There, surrounded by his paintings, we discussed the legends and mysteries of "The People." The Mountain Chant, what motivated the sandpaintings, and the Navajo Creation Myth were subjects we particularly enjoyed. This was the heart and soul of Harrison's vocation: to interpret *nizhoni* (Navajo for beauty) in painting—a language understood by all men.

As a boy Harrison Begay enjoyed drawing. He began spontaneously, doing crude paintings in oil on cardboard while tending sheep near White Cone, a trading post settlement in northeastern Arizona.

This was the place of his birth following the first frost in 1917, and he was the son of Hosteen Clah Begay, known to outsiders as "Block Rock."



Harrison Begay's "Girls and Lambs."

Harrison's mother died when he was three and his father married again.

Harrison was seven and did not know a word of English when he started school at Fort Defiance, Arizona. Indian schools on reservations specialize in English for the first grade or two, and soon Harrison knew the language. Later he went to two other government schools, both in New Mexico — Tohatchi and Fort Wingate, north and east, respectively, of Gallup.

In 1929—not yet 12 years of age—he was sent to an Indian Bureau hospital at Fort Defiance as a tuberculosis suspect. He spent a year and a half there—a time which, in spite of dull institutional routine, was one of intellectual development for him. "I read a lot at the hospital," he recalled, "and I was taught geography by a Navajo who had attended college. I felt fine and wanted desperately to be released so I could go and see all the things in this wonderful world I was learning about."

In the fall of 1930, he left without permission and headed straight for White Cone. He was 13 and big enough to work among the horses and sheep near his father's homestead.

"While the sheep were grazing," Harrison related, "I'd sit under a tree and draw the things around me — sheep, horses, cows, rabbits, dogs, eagles, white-tailed hawks and owls. It was fun and a few traders saw my work and said I was 'quite an artist.' It made me feel good for them to like what I was doing, although at that time I didn't know what 'artist' meant!"

During this time, Harrison was talking with medicine men and attending nine-day sings. He learned many of the legends and chants of his forefathers and how to do the sandpaintings for several of the sings. He even created new designs for gods, rainbows and animals.

After four years at White Cone, Harrison enrolled at the Santa Fe Indian School. Along with the usual secondary and manual training courses offered there, he studied art under Dorothy Dunn. She had begun teaching Indian children water color techniques soon after the government lifted its ban on the use of native subject matter by Indian art students in its schools. The ban had been unpopular with both Indian and non-Indian art circles, and now Indians were free to express themselves in the ways they knew intuitively.

Most of Miss Dunn's students were from the pueblos near Santa Fe, but a few were Apaches and Navajos.

Painting was traditional in Pueblo

Hard Rock Shorty of Death Valley



"I'm an artist," explained the dude who had just parked his car outside the Inferno store. He was addressing Hard Rock Shorty, who had come in from his mine on Eight Ball Creek and was dozing on the lean-to porch while the clerk filled his order for another week's grub.

"I've come up here to spend a few days painting your colorful landscape," the artist went on. "Everybody wants to know about Death Valley but most of them are afraid to come to this horrid place."

"Aw, it ain't so bad after yu git used to it," Shorty assured him. "Trouble is, most o' them city folks think they's pizen in the springs and scalpin' Indians behind every bush an' they never relax."

"You ain't the first artist to come here. Best paint dauber we ever seen in this part o' the country wuz a mucker me an'

Pisgah Bill had workin' fer us up at the mine one winter. He couldn't make a livin' paintin' but he really could make things look nachural. Did wood carvin' too.

"He heard about them ducks that come in every fall down at Badwater, an' said he wuz gonna get us some fresh meat. So he got one o' them dead trees down the creek an' started whittlin'.

"'Makin' decoys,' he explained.

"An' sure enough after a few days them hunks o' wood began to look like ducks, an' after while he had 'em all finished 'cept the paintin'. An' that wuz when we found out what a good artist he wuz.

"They looked jest like mal-lards, two hens an' a drake. Fact, they looked so much like ducks the cat ate two of 'em and the third one flew away."

culture. Murals with a ceremonial motif have been found in ancient kivas from Kuaua on the Rio Grande to Awatobi in northeastern Arizona. Inevitably, even the non-Pueblo Indian students became strongly influenced by the Pueblo refinement in art.

This is what happened to Harrison. He began to use stylized earth and cloud symbols, ornamented birds and figures without background to portray the milieu of such typical Navajo scenes as women riding horseback through the sage, the dance of the plumed prayer-sticks, deer sunning themselves in pine forest clearings, or wagon-loads of families gathering in the dusk for an all-night sing.

Harrison achieved a phenomenal success even before he left school. He exhibited several times with other students at the gallery of the Museum of New Mexico in Santa Fe. Rene d'Harcourt, director of New York's Museum of Modern Art, arranged an exhibit of Indian paintings in that city, and Paul Coze, French consul in Phoenix, got a Paris gallery to exhibit Indian work. In both shows, Harrison's contributions were considered outstanding.

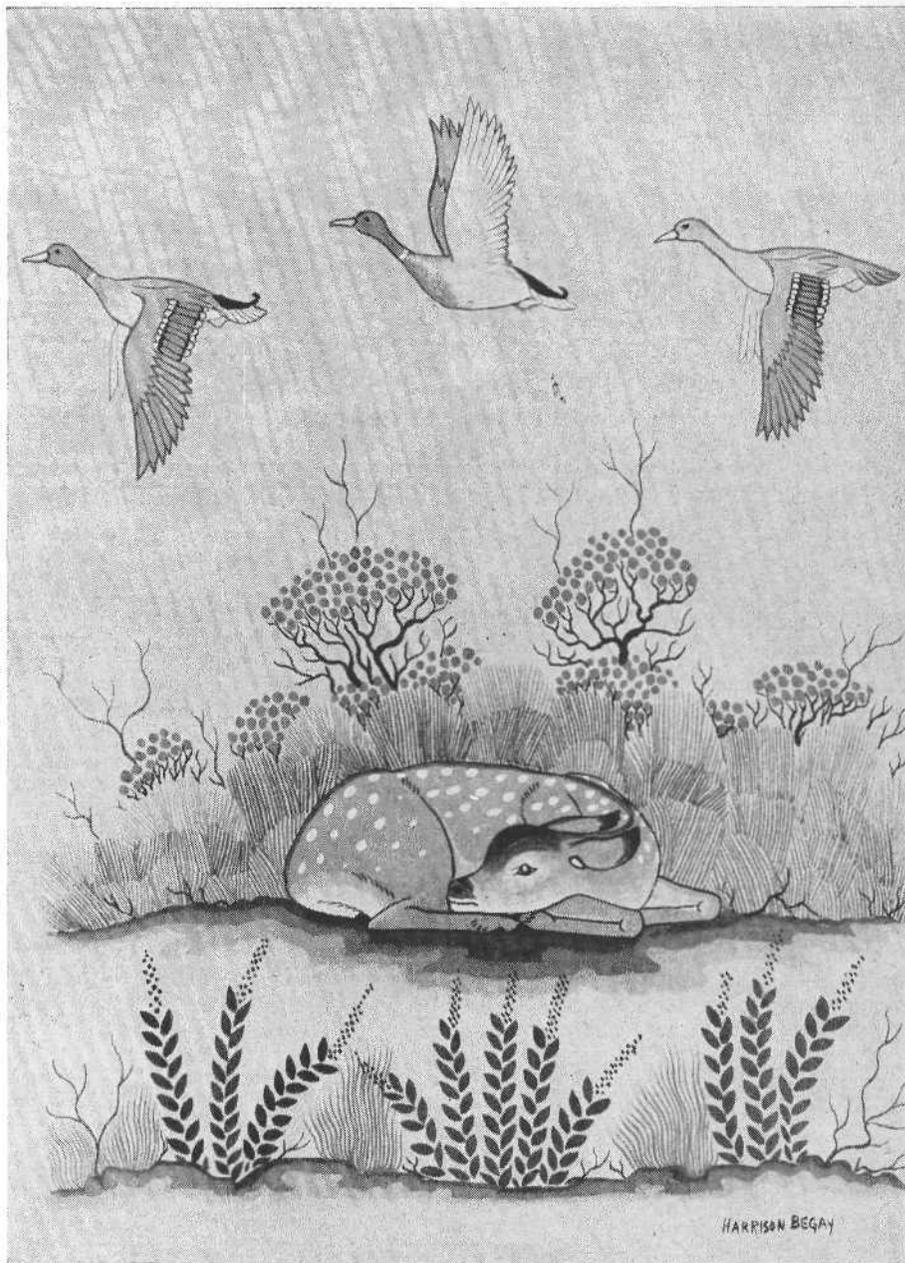
With this European exhibition Harrison—and Southwestern Indian art in general — achieved international acclaim.

He remained at the Santa Fe Indian School until 1940, working during vacations as a house painter and welder, trades he had learned in his manual training courses. He revisited White Cone as often as possible, and participated in Navajo rites when he could. He attended the Gallup Ceremonials each summer, and regularly exhibited his paintings there before the war. It was at Gallup that he made his first big sales and now he knew he could make a living as an artist.

After a year of study at the Black Mountain College in Asheville, North Carolina, Harrison returned to the Southwest to launch his career in earnest—and then the war came. For three and a half years the tall Navajo artist was absent from the Southwest and America, serving with the armed forces in Europe.

War in the Navajo scheme of things is the total breakdown of the established order. For a person of Harrison's sensitivities, this was especially true. He spent a month late in 1945 at White Cone, just after he had been mustered out of the Army, and while in his native surroundings underwent a purification rite—one full night of magic and ceremonial ablation.

In Santa Fe, Harrison is a full part-



The important part animals play in the lives of the reservation Indians is reflected in Harrison Begay's work.

ner in Tewa Enterprises, dealers in Southwest arts and crafts. Tewa purchases many of his paintings outright, then reproduces them by the silk-screen process. In Tucson during the winters, Harrison is associated with Clay Lockett, another arts-and-crafts dealer. Harrison has a studio in Lockett's shop and his paintings are sold there on straight commission. In addition, Harrison personally markets much of his own work.

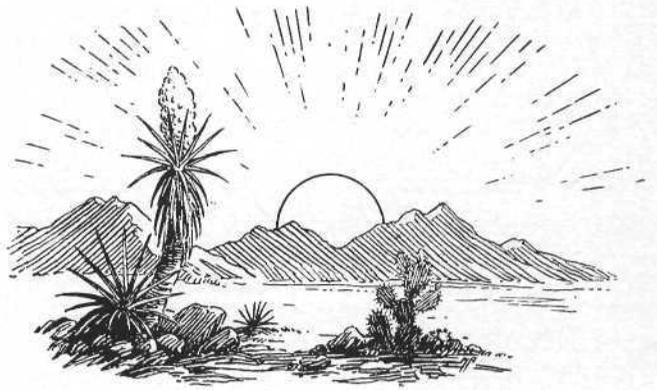
Harrison enjoys college football, and his favorite team is the University of Arizona "Wildcats"; he likes their marching band, too. He takes an interest in politics now that Indians of

New Mexico and Arizona have the ballot.

Harrison has exhibited at the Denver Art Museum and the DeYoung Museum in San Francisco. In 1949 he won first prize for the Southwest at the annual exhibition of Indian painting at the Philbrook Art Center in Tulsa, Oklahoma. In 1954 he was one of several Indian artists to win the *Palme Academique*, an award of the French government. This award also was given to Dorothy Dunn, now Mrs. Max Kramer of Las Cruces, New Mexico, for her outstanding work in developing talent among Indian artists of the Southwest.

LIFE ON THE DESERT

My Desert Awakening...



The desert! You either hate it or you love it and the surprising thing is that many who once feared it are today among its strongest advocates. Each desert lover knows that the first joy of discovering the real desert under the thin mask of austere harshness is a priceless moment. Here is the story of how one woman first looked upon the great arid land with new understanding.

By EDITH M. HOCKEY

IT WAS vacation time—September in Arizona—a glorious month of wonderful sunshine and blue skies.

We were visiting our friends, Freddie and Artie Lind, at Mineral Park in northern Arizona. The Linds, like my husband Chet and I, are interested in rocks and minerals, and Freddie is working some copper veins in that mining area of a bygone day.

In the course of a lively discussion about our individual rock collections, I remarked that I would dearly love to get some turquoise in its natural state. To this, Freddie replied that they would take us to Turquoise Mountain, a few miles to the south, where he was sure we could pick up some stray samples left around from former blastings.

We drove as close as possible to the foot of the mountain and hiked up a short trail.

There were signs of turquoise everywhere, especially in a shallow circular pit resembling a large bowl. The boulders strewn around had streaks of pale blue running through them and the walls of the pit were mostly composed of the same chalky material, ranging in color from white to various shades of blue.

Naturally, I thought this was where we would prospect, but Freddie said apologetically that we were at the back of the turquoise mine and would have to climb up and over the mountain. Without even looking to see how high the climb would be, I knew I would not be able to make it.

"I'm sorry," I said, "I could not attempt it."

Artie said she would stay with me while the men went over the mountain, and maybe we could find some good samples in the test pit we were in. But, I knew how Artie loved mountain climbing, especially when searching for gem stones, so I told her to go ahead with the men. Chet hesitated about leaving me alone, and Artie objected, saying she did not mind staying back—but I persisted. I told them I would find a comfortable seat and watch them, or else look around for samples.

"Well," Artie said, "if you're sure you'll be all right, and won't be afraid . . ."

If ever there was a human mountain goat, it is Artie Lind.

The east side of Turquoise Mountain is very steep and rocky, a hard climb of 600 feet, and the men were taking it slowly, zigzagging to cut down the angle of the climb—but Artie went up easily. I watched them all, Artie in particular, her light springy steps were effortless, as though she were merely walking up a flight of stairs.

How I envied her!

I watched them until they were over the top and passed from my view.

Now I started in with my part of the prospecting. Most of the rock crumbled at the slightest pressure. Occasionally I found a strong streak of greenish blue in some of the boulders, but I had no miner's pick to break it off.

Suddenly my thoughts turned from turquoise to the aloneness of my position, and I became very conscious of the stillness around me. Here I was, not too well, and with no one in sight or hearing—in a wild spot deep in an isolated canyon. At these thoughts I became cold as ice and commenced to tremble. It was the coldness of fear which possessed me—an irrepressible fear I had never known before.

The turbulence of my thoughts was insufferable. My wild imagination ran riot and pictured Chet and the Linds failing to return because of rock slides, broken legs or some other disaster. I closed my eyes to everything about me

and a movie-reel of rattlesnakes, gila monsters, javelinas and all the other wild things of the desert passed before my eyes.

The ugly moments slipped by, and I slumped down on a boulder, wet with the perspiration of my fears.

There was a void in time and then something quieted me, and that inner voice which is in all of us became uppermost and pierced my fears, saying:

"Look around again, Edith. Of what is there to be afraid? These mountains and deserts are for mankind, that they may seek solitude, peace and quietness when the stress and tumult of life becomes unbearable. Here is no place for fear. Remember, long ago, a poet wrote, 'I will lift up mine eyes unto the hills from whence cometh my help.'"

I listened to this voice and the tenseness and fear evaporated as though they had never been. Then I opened my eyes to see the beauty of the canyon around me, the lower reaches in purple and violet shadow, the air filled with a soft haze of light.

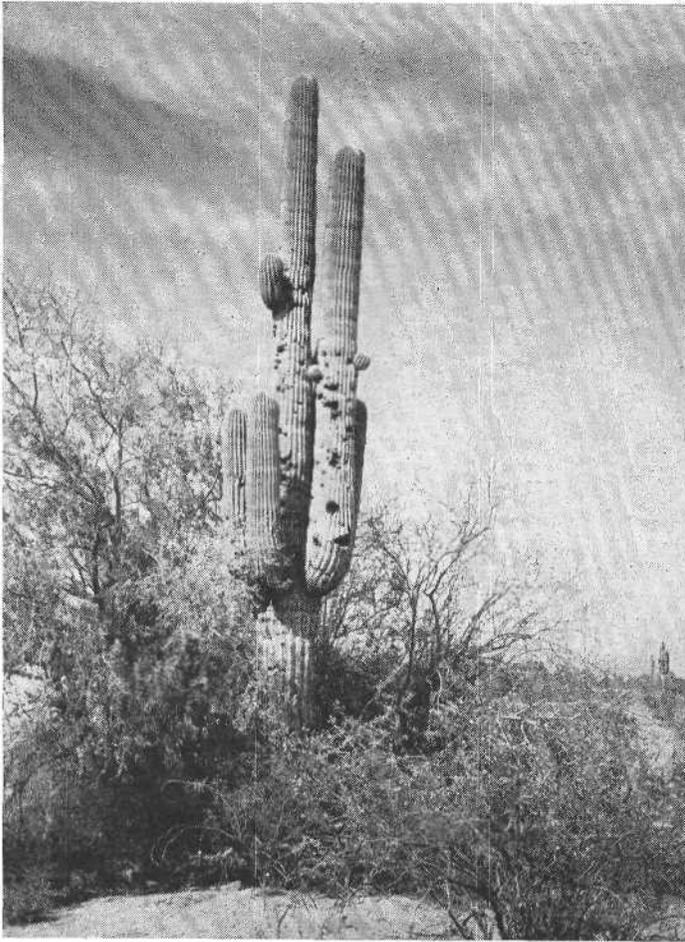
At the top of the precipitous peak over which my companions had gone, the golden afternoon light settled as a crowning glory, and I became ashamed of my dreadful panic. Now, a sure knowledge that all was well flooded my being.

I returned to my rocks and found some small but beautiful pieces of blue turquoise, and it was not long before I heard a distant "Yoo hoo!" and my companions returned with three pounds of samples, none of it first grade, but of unbelievable value to me.

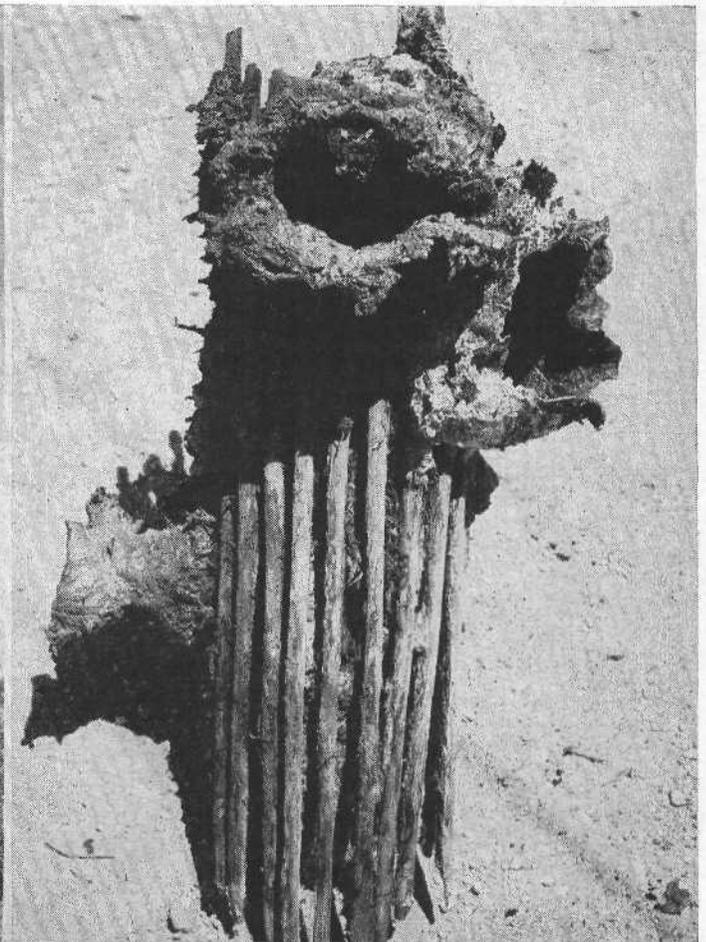
"Were you afraid?" asked Artie.

"A little," I answered.

Today Chet and I frequently go on prospecting trips and I have no fear of the lonely places of the desert. Instead, I always return feeling mentally refreshed and uplifted. An operation a few months after the foregoing incident greatly improved my health, so that I can follow Chet on these trips almost anywhere.



Large holes in this saguaro cactus mark entrances to bird nesting cavities.



Old nesting cavity still embraced by the skeleton of a long-dead saguaro.

Cave Dwellings in the Sky . . .

One of the strangest partnerships in the desertland is that of the giant saguaro cactus and the tiny bird friends which excavate and nest in cavities in these trees. In return for the advantageous home sites, the birds repay the saguaros by helping control the insect population which is a constant threat to the desert flora.

By DOUGLAS and ELIZABETH RIGBY
Photographs by the authors

ON ONE OF my first excursions into the southern Arizona desert I found a strange object lying amid the crumpled ruins of a fallen saguaro cactus.

"It must be a primitive drinking vessel, very old, made of some sort of parchment that has been mottled and toughened by time," said one of my companions.

"Not at all. It's a hardened wasp's nest," suggested another member of our group.

There were other ideas—and all of them wrong. What we had found was a bird's nest, cast exactly to the bird's specifications by the tree itself.

Everywhere in the saguaro cactus

forest one sees round holes drilled into the giant stalks. To a person not acquainted with the botany of this desert land it may appear that the cactus trunks have been attacked by a virulent disease. This sometimes happens. A certain larva, the caterpillar of a small moth named *Cactobrosis fernaldialia*, does tunnel into the soft tissues of the saguaro and feed on them. This caterpillar carries an infecting bacterium which in some localities becomes a serious threat to the saguaros.

This, however, is not the cause of most of the holes in the cactus, sometimes a dozen of them in a single trunk.

The hole-drillers actually are two species of woodpecker, Mearn's Gilded

Flicker and the Gila Woodpecker. For countless ages these birds have been finding shelter and nesting space in the built-in apartments they create with the sharp beaks and the muscular necks with which Nature endowed them.

Sometimes it is noted that other species of birds fly in and out of the woodpecker holes — but the others merely are intruders. They did not drill the holes.

When a flicker or woodpecker has selected its building site, which may be either the main trunk of the saguaro or one of its arms (anywhere from eight to 40 feet above the ground) the sapper begins cutting horizontally inward for several inches. How far he will penetrate depends on the size, shape and texture of the plant at this point. When the desired interior depth is reached, the excavation proceeds downward, perhaps 10 to 20 inches in the case of the Gila woodpecker, as much as two feet in that of the larger flickers.

Molded over the saguaro's inner skeleton of upright circular wooden

ribs—which for structural strength are cunningly joined in a way suggestive of the use of steel rods in modern towers—is the pleated pulp-mass of the cactus. This is the reservoir of the tree's "blood," and it would soon bleed to death from so large a wound were it not for a defense which Nature provides: the plant manufactures a sticky exudate—more than a mere coagulant—which hardens like the toughest plastic to seal off the deeply chiseled holes into ironbound waterproof compartments which protect both the host and the forceful guests.

Although rot can attack the saguaro at these wounds before the cure is complete, this is not likely to happen except in rare seasons of exceptional rainfall. When the wounds are completely healed (some authorities believe the hardening requires a few weeks, others as long as a year or more) the cavities are so resistant that

the tough scar-form outlives even the remains of the dead tree. Desert dwellers often find these forms clasped between the rotting staves of standing or fallen saguaro skeletons, and it was such a form that we carried home from that early foray. So water-tight are the pouches even in this state of antiquity that Indians formerly employed them as canteens.

Seldom does a saguaro nesting hole look fresh-cut, since the moist plant tissue turns dark quickly on exposure to light. To the novice this gives the edge of the cavity's entrance a weathered appearance; but to the experienced ornithologist the sooty-looking border—which rapidly disappears—is the sign of a recent excavation.

Although only the flickers and Gila woodpeckers are capable of carving out these soaring cave dwellings, many other birds use the holes after they have been abandoned, and some will

even pre-empt them before the hard working owner-builders have had a chance to nest in them. Among such secondary tenants are the diminutive elf owl, the larger saguaro screech owl, the ferruginous pygmy owl, the ash-throated flycatcher, the Arizona crested flycatcher, the sparrow hawk and the Palmer's thrasher.

The woodpeckers and flickers themselves, it is believed, wait for the lining to harden before moving in, but of the usurpers there are those unwise in the ways of the saguaro. Occasionally they select a home in which the varnish is still too fresh. Then a severe penalty for such rashness may be exacted: should a heavy rain fall, the slow-to-mature apartment can become a death-trap for the birds' helpless young. Particularly is this true in the case of the screech owl, whose early nesting season often coincides with the rainy season. At such times the thirsty saguaro may swiftly draw up so much water that the unsealed chamber will be flooded like a cellar with a burst water main, and the desert nestlings will drown.

These apparently impregnable dwell-

Desert FOR CHRISTMAS . . .

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THE *Desert* MAGAZINE CLOSE-UPS

Douglas and Elizabeth Rigby, authors of "Cave Dwellings in the Sky," are residents of Sedona, Arizona—"in a pleasant altitude between desert and pine-forested mountains."

They are co-authors of several articles and a book, *The Story of Collecting: Lock, Stock and Barrel* (Lippincott). Douglas Rigby's *Desert Happy* (Lippincott) was released in October. The book tells about the Rigbys' introduction to the desert.

* * *

Friends and relatives of Edith M. Hockey told her so often that she had a knack for telling interesting stories, she wrote one of them down and sent it to *Desert*. That true experience tale, "My Desert Awakening," appears in this month's magazine.

Since 1950 Mrs. Hockey and her husband have made Tucson their home. "Though perhaps occasionally I get a twinge of yearning for the green fields of my native England, I would not live anywhere else but in this sunny wonderful Southwest," she writes. The Hockeys share a deep interest in lost mine stories and spend many hours "trying to separate facts from legend." Old histories of Mexico and Arizona are her special reading pleasure.

ings also can be breached by another unexpected peril. Although serpents have sometimes been found fatally impaled on the inch- to three-inch-long saguaro spines, bird- and -egg-eating snakes are quite capable of scaling the bristling fortresses. While high on a ladder, exploring the interior of a gilded flicker's nest in a giant cactus near Tucson, a famous ornithologist, the late Arthur Cleveland Bent, once was unpleasantly surprised when his investigating hand touched something coiled, cold and clammy, in the dark interior. Closer investigation disclosed a larger gopher snake busily swallowing a sizable young flicker.

On the whole, the association of the birds and the giant cactuses is a happy one. The trees provide the birds with a relatively protected homesite along with a rich harvest of arachnids and insects to eat. In periods of drouth, many observers believe the moist sap of the cactus tree is sipped by the peckers. In return, the birds help protect their hosts from potentially harmful insect invasions.

Besides nesting and brooding sites, adult birds use the saguaro cavities for shelter during inclement weather, as do many other forms of animal life, including lizards and small desert rats and mice, spiders, scorpions, and, upon occasion, even springtails and silverfish.

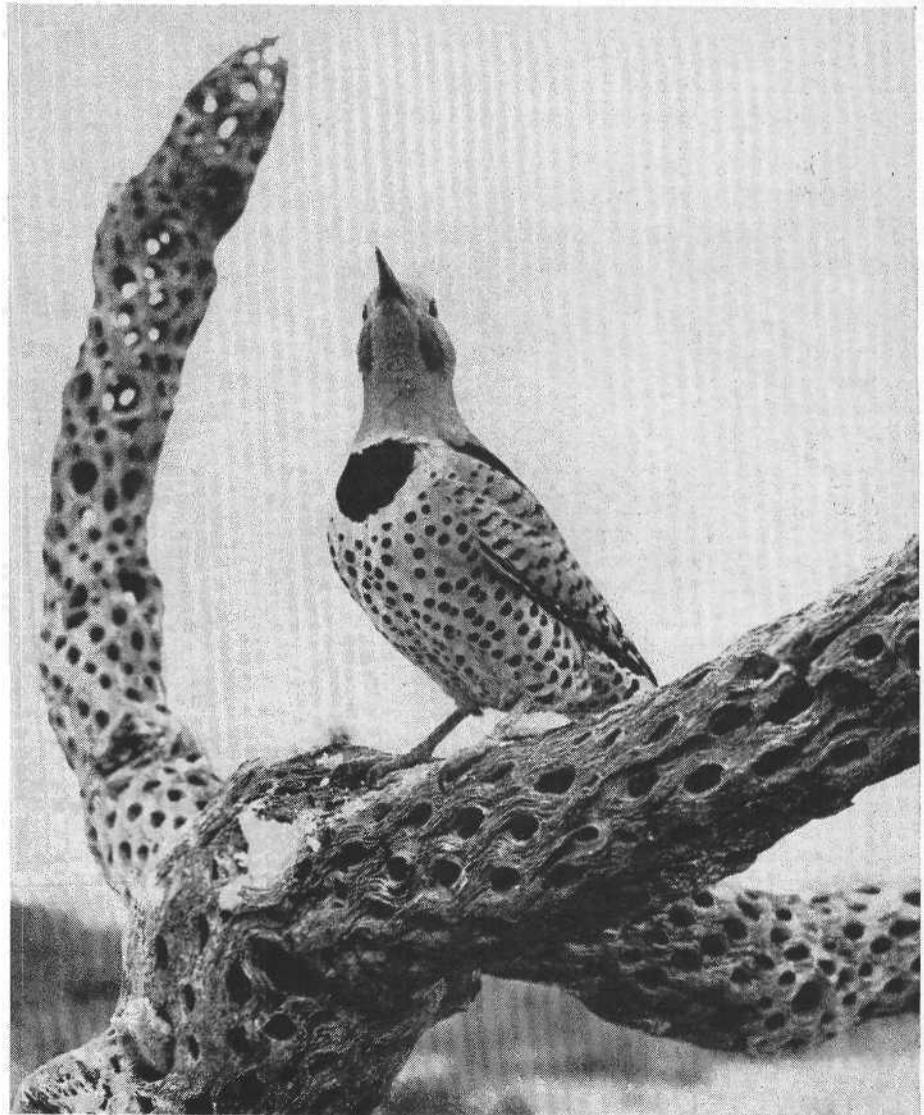
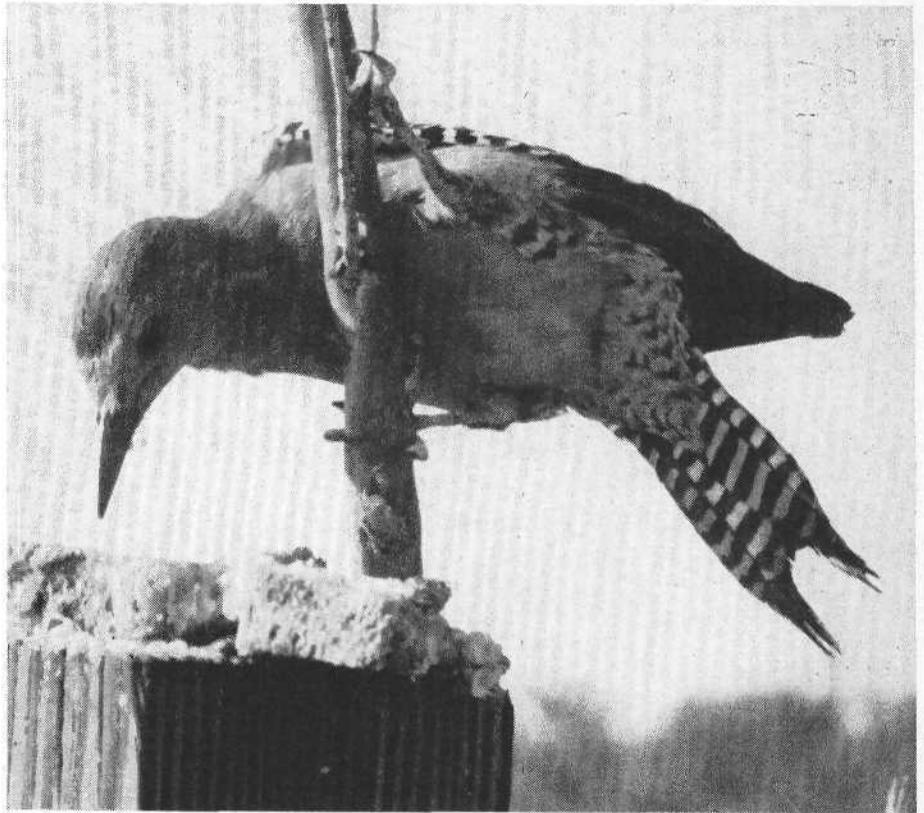
Wrote Marshall French Gilman, an acutely perceptive observer, "... these woodpeckers may be considered among the class of innocent or unintentional benefactors" to numerous other species.

Is it any wonder, then, that a Gila woodpecker should sound so prideful as he clatters away at the entrance to one of his ingenious saguaro cave dwellings in the sky? "Look what I've made," he seems to say. "Am I not a great architect, even a philanthropist, working myself to the bone for the sake of my fellow creatures?"

Over the years since our first find on the desert, we have often heard a Gila making the same speech, and when we re-examine one of his creations, produced with the considerable aid of his obliging silent partner, the saguaro, our admiration goes out to both of them.

Top—Gila woodpecker feeding on suet on post within three feet of authors' cottage near Tucson. These birds eagerly come to feeding stations on the desert.

Bottom—Mearn's gilded flicker on a cholla cactus skeleton perch. Red malar patches mark this bird as a male. Unlike the Gila woodpeckers, with whom they share the saguaros as favored nesting sites, flickers are seldom seen outside of the giant cactus belt.



LETTERS

Packing a Lost Art? . . .

Ontario, California

Desert:

It looks like packing burros is becoming a lost art.

I refer particularly to the way the burro is packed on page 22 of your September issue.

I offer free of charge to teach anyone living within a reasonable distance of Ontario the packing art.

I am 72 years of age and have prospected from Tonopah to Eldorado Canyon beginning in 1904. I packed burros and mules for cattle outfits back into the mountains, and in 1909 I brought horses across the desert to Los Angeles. With a friend, I made a pack trip through northern California, Oregon, Washington, Idaho, Montana, Wyoming and Utah in 1911-12.

The packer and his mules played a very important part in building the West and I want to help Old Jack get credit for his part.

I hope some of the boys will take me up on my offer, for I am sure getting hungry for a chance to sling a pack on Old Jack again.

L. W. MESCHER
968 W. 6th Street

• • •

San Luis to Sonoyta Highway . . .

Santa Monica, California

Desert:

I recently made a weekend motorcycle trip from San Luis to Sonoyta over the fine new highway Mexico has built just below the Arizona border. The road is absolutely marvelous and where it traverses mountainous terrain its curves and grades rival those of a first class railroad.

The 122 mile road remains for almost all its distance within sight of the fence or markers on the International border. *El Gran Desierto* through which this highway travels, is certainly a bleak and barren plain. Creosote bushes struggle to attain a maximum height of 10 to 12 inches in some sectors. Before it was paved, this route was popularly known as *Camino del Diablo*, and for good reason.

In those 122 miles I counted four places of business. All sell gasoline

from tins, and only Cafe Nacional was not selling food or drink at the time of my visit. I found that Mexican gasoline stations prefer Mexican currency, while U. S. dimes are preferred at refreshment stands.

Everywhere one looks along this highway there is a picture—colorful mountains varying from rugged faceted metamorphic escarpments to state-ly granitics and fluid volcanics. In the Agua Dulce sector there are two ranches with windmills just across the American side not far from the cottonwoods marking Quitobaquito Spring (*Desert*, Sept. '57). Numerous side-roads used mostly by woodcutters branch off from the main highway, offering many off-road camping places.

WILLIAM UTTERBACK

• • •

Weed that Traps Insects . . .

Chloride, Arizona

Desert:

While one often reads about flowers and plants that attract and trap insects, I never have found mention in print of a weed common to this area which also exhibits this method of supplementing its food supply.

It is a scraggly plant four to 16 inches long bearing tiny flowers and seeds.

Its stems are covered with a gummy substance which traps minute flies and other insects, along with bits of trash and anything else the wind blows against it.

Turkey ranchers have told me that many newly hatched quail perish when their down feathers become stuck to these plants, and it is almost impossible to free baby turkeys trapped in the sticky stems.

Perhaps one of your botanist readers would supply the name of this weed and some pertinent information regarding it to *Desert's* readers.

C. CAMP

• • •

Ex-Mormon as an Author . . .

Hermiston, Oregon

Desert:

I wish to take exception to a statement made by your book reviewer in the September issue.

I do not agree that Ray West's ability to evaluate the Mormon religion has been enhanced "since he has lost faith in it." I feel this may be likened to a man who writes an article explaining Democracy after he has embraced Communism. Neither one, I feel, should be given too much credence, but if a person wishes to read them, that is his own business.

BOB WURTSMITH

Desert Pictures Are Valuable . . .

If photography is your hobby you undoubtedly have many outstanding examples of your work which would make appropriate entries in *Desert Magazine's* monthly photo contest. Any scene will do—so long as it is of the Desert Southwest—wildlife, sunsets, flowers, mountains, insects—and perhaps most suitable of all—people enjoying themselves in the great outdoors. The contest is easy to enter and two cash prizes are given each month.

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

HERE ARE THE RULES

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

Address All Entries to Photo Editor

The Desert Magazine

PALM DESERT, CALIFORNIA

Fish Springs . . .

... in the Salton Sink

On the sloping land above Salton Sea stand the ageless palms which mark the oasis of Fish Springs. Once an important watering place on the old Imperial Valley wagon road, today the area is a favorite camping place for Southern California desert enthusiasts.



Artesian wells have replaced several of the old open waterholes at Fish Springs. This once important watering place on the old Imperial Valley wagon road is now a popular retreat for campers.

By WALTER FORD

AFTER J. Smeaton Chase visited Fish Springs in 1918, he described it in his *California Desert Trails* as follows:

"Fish Springs is marked by a growth of mesquite and small cottonwoods, spread over a few acres of damp land close to the border of the (Salton) Sea. The road, or rather track I have been following is used occasionally by travelers to the Imperial Valley. The usual mode of travel nowadays is by automobile, which can cover long distances quickly and, barring accidents, without danger from lack of water. It was significant of the sort of country I was entering to find beside the road a sign-board pointing to the water, with the warning, 'Fill up. Last convenient water for 45 miles.' At Fish

Springs itself the water is brackish and tepid, nevertheless quite fair water for the desert. In the pool were numbers of tiny fish about the size of tadpoles."

Not all the old-time references to the quality of Fish Springs water were so charitable. When George Wharton James, author of *The Wonders of the Colorado Desert*, stopped there in 1906, he stated that the water was salty and bitter and chose the nearby still-fresh Salton Sea to quench his thirst.

In his *Water Supply Paper* 224, published in 1906, Walter C. Mendenhall stated that Fish Springs was the last point water of fair quality could be obtained in abundance before Harper's Well was reached. On a map published by the State Mining Bureau in 1902, Soda Spring and McCain Spring are shown on the road that

extended southward from Fish Springs, but Mendenhall did not speak highly of the quality of water at either one. He described the water at Soda Springs as too salty to drink and that at McCain Springs as highly charged with carbonic gas.

A Bower's Spring also appears on the map approximately where the first oasis in Palm Wash is shown on present-day maps, but little seems to be known of it. Mendenhall failed to mention it and Henry E. Wilson, who first entered this area in 1900, told me that he had never been able to find it.

I visited Fish Springs recently after an absence of 20 years, and so many changes had taken place that at first I was not certain I was at the right place. The fish-filled pools have given way to artesian wells which discharge their water into huge concrete cylin-

Calico, California

By JOSEF and JOYCE MUENCH

ders. When I drove up to one of the wells a Mexican workman was filling a large water bottle. When I asked him if this was Fish Springs, he replied, "No savvy," then added, "Agua dulce!" For a few moments I thought that I was at Figtree John's old homestead, several miles north of Fish Springs, then my meager knowledge of Spanish came to my rescue and I realized that the water carrier merely was voicing his appreciation of the water.

A mention of Figtree John brings to mind the story that makes the rounds periodically, which credits him with having had a fabulous mine from which he was able to take huge quantities of gold at will. This story puzzles many of the old-timers who knew John. The cagy old Indian showed little evidence of ever having had more than the essentials of a bare existence, they maintain.

Chris Lucia formerly operated the Salton Sea service station about five miles south of the Fish Springs turnout on Highway 99. The highway passes over Grave Wash a short distance from the service station and on days when his duties would permit, Chris would head his Jeep up the wash to follow some of the ancient Indian trails, which are numerous in the area, and to study the peculiar geometric stone markings which line the trails at many points.

He believes that the ancient Indians of the region had access to a supply of gold, and that if the trail markers could be correctly interpreted, they would undoubtedly lead to its source. He also believes the Figtree John mine story and recently told me of following one of the marked trails and finding a figure chiseled in the wall of a cliff, which resembled the top hat old John used to wear.

This strengthens Chris' belief that Figtree was a frequent visitor to the area, but Henry E. Wilson, whose half century of wanderings brought him into intimate contact with this sector of the desert, believes the figure is the work of some wag. While he is convinced that there is gold in the region, he does not think Figtree John knew of its existence. Henry's most vivid recollections of Figtree John are of the many times John attempted to collect a fee from Henry for camping near his place.

Fish Springs can be reached by following a dirt road that branches off Highway 99 toward Salton Sea, approximately a mile and a half south of Travertine Point. The area is a popular haven for campers. Palm trees growing near the wells are prominent landmarks.

A FEW MILES off U. S. 91 between Barstow and Yermo in the heart of the Mojave Desert, stands Calico, a ghost town that is returning to life.

In the 1880s Calico was the largest silver camp in Southern California. With a production record of \$86,000,000 in one decade, transportation facilities close at hand, and a growing population, it seemed assured of a solid future. But, the price of silver dropped in 1896 and with much ore

still underground, Calico became another desert ghost town.

The "petticoat camp" was purchased a few years ago by Walter Knott of Knott's Berry Farm in Buena Park, and is being restored to its former liveliness.

New "old" houses are springing up along Calico's single street which lies below the colorful slopes of Calico Mountain—named for the varied tints of rocks on its side.

Top photograph, opposite page—"Pretty as a gal's pettiskirt" was the way old-timers described the once productive silver camp of Calico in the mountains northeast of Barstow. Buildings are being restored as tourist attraction. Across the dry lake in background is Elephant Rock, site of a former stamping mill.

Bottom photograph, opposite page—Assay office at Calico. A river of precious metal flowed through this little building in the days when Calico was the largest silver diggings in Southern California. Fred Noller is in charge of restoring the town.

Naturalist-Writer is Honored by Desert Protective Council

Dr. Edmund C. Jaeger, naturalist and author, was selected by the Desert Protective Council as its 1957 choice as the man who has contributed most to the knowledge and preservation of the deserts of the Southwest. Announcement of this award to the Riverside scientist was made at the annual campfire meeting of the Council in Deep Canyon October 12.

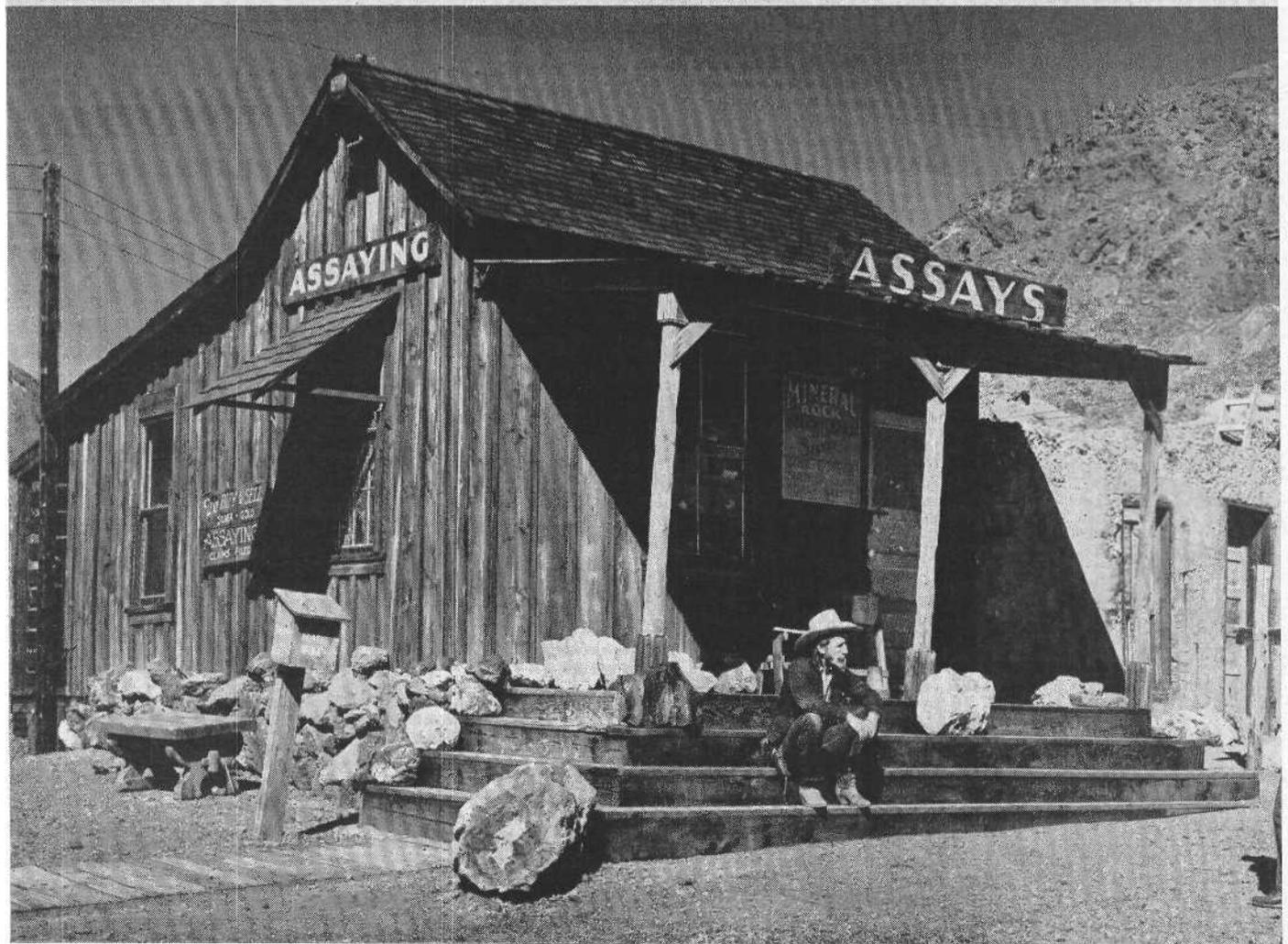
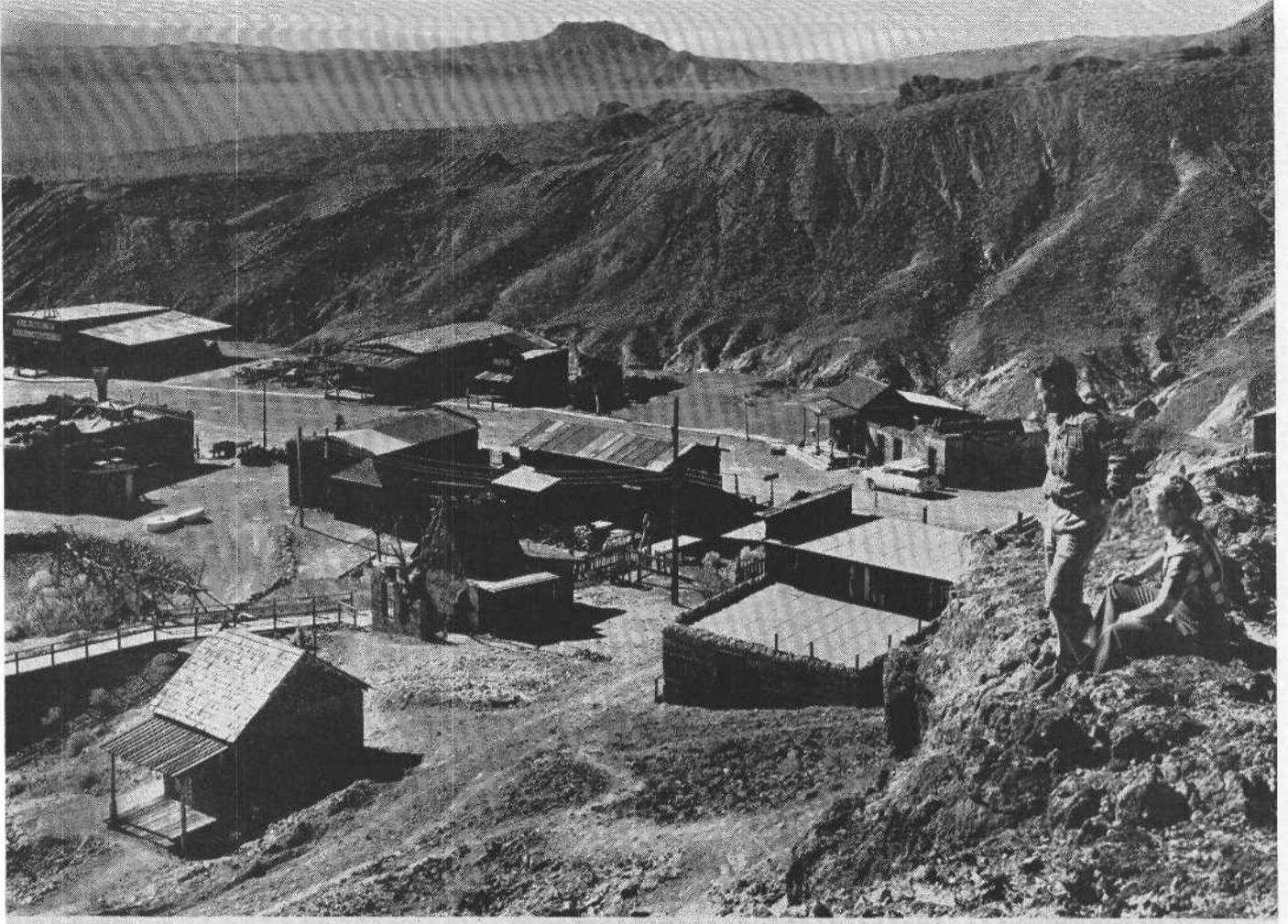
President of the Council for the year ahead will be James Westerfield of Mecca, California. Col. Westerfield succeeds Randall Henderson, who as president during the past year presided at the annual meeting.

Harry C. James was re-elected executive director for the year ahead. Other officers were named as follows: Mrs. Ralph H. Lutz, Twentynine Palms, re-elected vice president; Mrs. Henry T. Read of La Quinta, secretary; and Dr. Henry M. Weber, Indio, re-elected treasurer. New directors elected in addition to Col. Westerfield were: Clarence Smith, director of

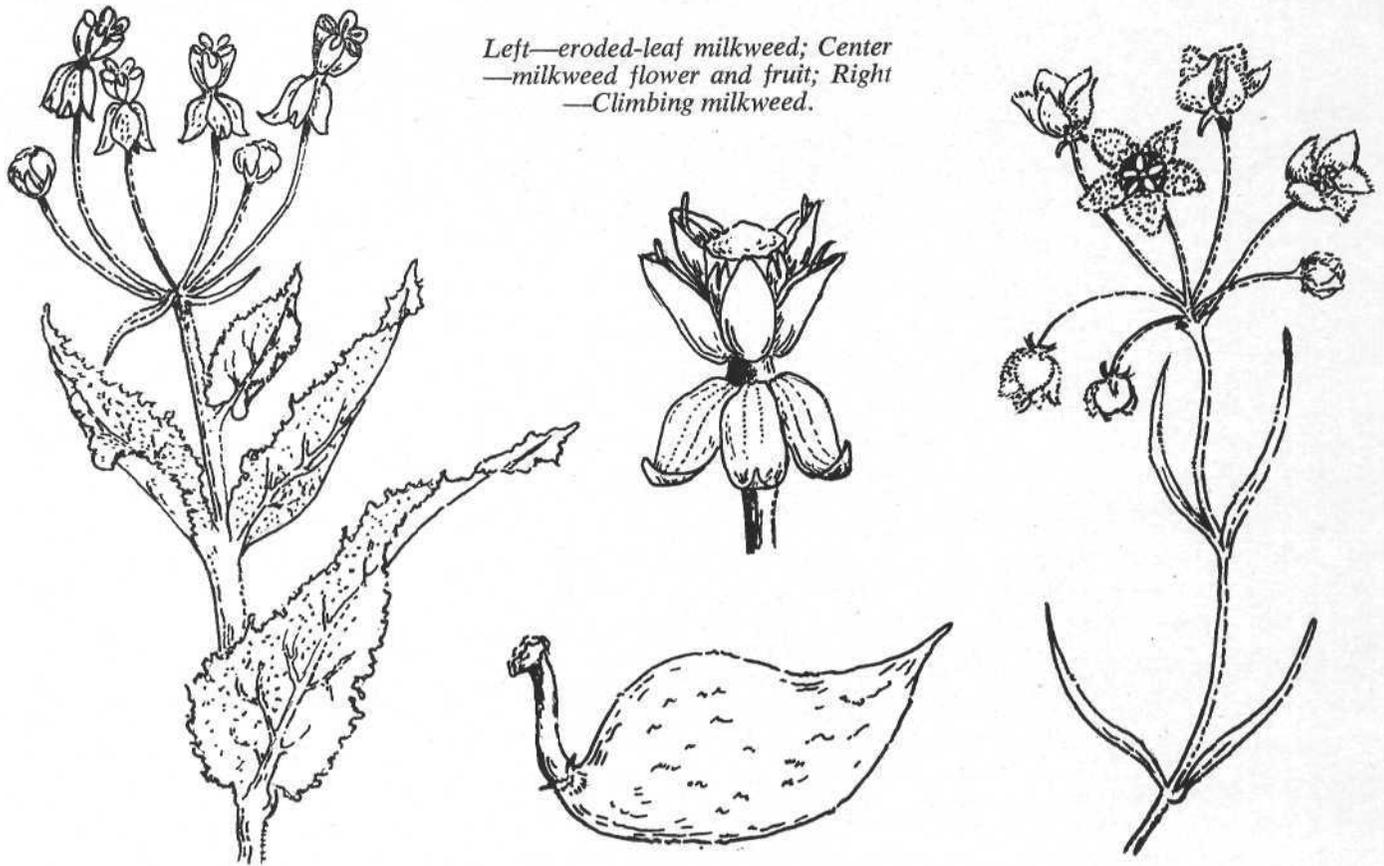
Palm Springs Desert Museum; Nina Paul Shumway, Palm Desert; and Lloyd Tevis, director of the desert mobile laboratory of the California Institute of Technology.

Plans were discussed for the proposed San Jacinto-Santa Rosa Wildlife Sanctuary, the protection of native palm oases in Southern California, protection of desert reptiles and plant life against commercial collectors, opposition to direct sale with no building or zoning controls of federal land to small tract homesteaders, and the curbing of billboards along scenic highways.

A resolution was passed in opposition to the acquisition by the U. S. Navy of a large acreage of additional land in Imperial County for bombing range purposes. Resolutions opposing the changing of Petrified Forest National Monument to a national park, and in opposition to a proposed new road in the Organ Pipe National Monument also were adopted.



ON DESERT TRAILS WITH A NATURALIST -- XLIV



Left—eroded-leaf milkweed; Center
—milkweed flower and fruit; Right
—Climbing milkweed.

Desert Plants That Give Milk ...

Plants that exude thick milky latex through stem wounds are well represented in the Desert Southwest. Used by the plants as a coagulant to close the lacerations and also as a depository for waste materials and poisons, the sticky "milk" is familiar to everyone who has picked the bloom of a prickly poppy or the fruit of a fig.

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

I LEARNED MANY of my first lessons in botany by watching my burros as they selected and fed on certain plants. Among their great favorites was a small compact gray-green bush I called burro's delight or burro straw. If left to themselves the animals often would consume these plants right down to the roots.

This shrub generally was found growing in sandy washes and sometimes on stony bajadas; but always in the semi-shelter of larger shrubs or stones. Its dainty dime-sized lilac-colored flowers appear in great profusion in late spring and botanists call this

shrub a *Stephanomeria*, a name of Greek origin meaning "having parts like a wreath," in reference to the often elongate flexuous branches of some of the species.

I early noticed that when my burros bit off the stems of *Stephanomeria* the broken ends exuded small drops of a thick milky juice resembling that found in dandelions and wild chickory. This milk is not a plant sap, but a juice called latex. It occurs in special longitudinal-branching tubelets which penetrate, much like the lymph system in our bodies, to all parts of the plant.

Latex is a mixture of gums, resins,

fats and wax in emulsion. In some plants such as the spurges, it may contain, in addition, violently poisonous alkaloids and peculiar dumbbell-shaped starch grains. Function of the material is as a coagulating substance for the ready closure of plant wounds, and as a storehouse for often poisonous waste products.

Latex cells are several yards long in plants of tree-like proportion. Many plants of the nettle, poppy, sunflower, spurge, milkweed and mulberry families contain latex tubes. The cow tree of South America actually furnishes a nutritious beverage.

There are some most extraordinary species of true milkweeds. On rocky mountain sides of some of our hottest deserts of southwestern Arizona, southeastern California, northeastern Baja California and western Sonora grows a milkweed (*Asclepias albicans*) whose several upright leafless branches resemble finger-thick silver-green one-and-a-half to two-yard-long bent steel rods. It sometimes is called the wax milkweed because of the whitish wax that covers these barren stems. Within

the stems are numerous stout thread-like fibers which so strengthen them that the plants are able to stand up without breaking against the strongest desert winds. It is only when the wax milkweed comes into flower or has the characteristic fusiform pods bursting and shedding their silky-tufted seeds that the plant is recognized as a true milkweed.

This plant, like all of its kind, possesses most unique flowers. Rich will be your reward if you carefully examine one. Above the five down-hanging greenish-white, yellow or purplish petals are five hood-like structures clustered about a central broad and flat-topped highly polished column. This column consists of a central stigma and flat-topped style around which are joined the pollen-bearing anthers, the whole structure resembling a five-sided table.

When a bee alights on the top of this shiny table, one of its legs is quite likely to slip into one of the five grooves along the table edge. As it pulls the leg free, up comes a dumb-bell-shaped pollen mass clinging to it. When the insect visits other milkweed flowers the pollen mass is deposited and thus fertilization is brought about.

Mexican jumping bean.



Sometimes it happens that the bee can not extricate the trapped appendage and it is then doomed to perish by starvation.

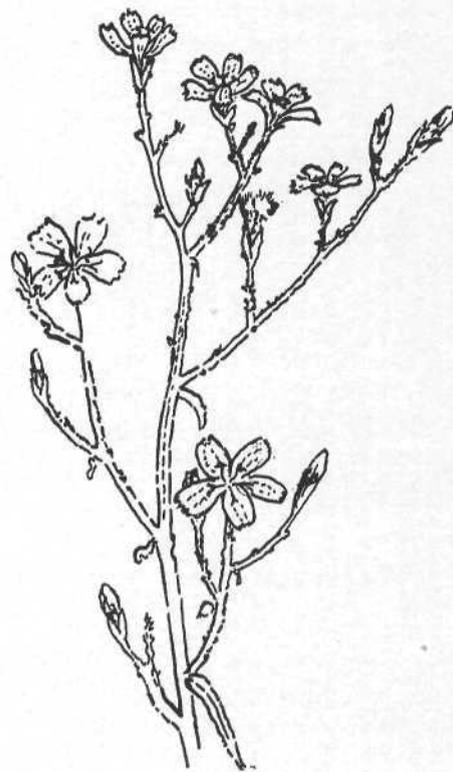
In sandy washes where moisture is more plentiful occurs another peculiar milkweed which looks quite like a big dense cluster of dark green rush stems, each two to three, and occasionally five feet long. This is the rush milkweed, sometimes called the rubber milkweed because of the large amount of true rubber found in its milky juice (up to six percent), a rubber content probably higher than that of any other Southwestern desert plant. The Indians used the latex as an emetic and purgative. Here again it is the peculiar



Prickly poppy.

flower and characteristic fruit which leads to the identity of this plant as a true milkweed.

In many desert areas the most abundant milkweed is the eroded leaf milkweed (*Asclepias erosa*). Its one to several stems grow up to six feet high and are adorned along their length with numerous large green rough-edged leaves, and later at the top with greenish-yellow flowers or fat spindle-shaped seed vessels. Usually it is found in broad sand washes from below sea level to high desert country. It often is very abundant, especially in the pinyon forest washes such as those in northern Baja California. The ripening seed vessel, properly called a folli-



Burro straw.

cle, when plucked with its stem and held horizontally looks like a tiny swimming goose. Seeds of this and other milkweeds, with their flossy comas of silky hairs, were gathered in quantity during the war for use as stuffing for life-jackets. The latex is a promising source of rubber. The Southwestern Indians have long prized the fibers from which they made strong cords and durable cloth.

Closely related to these large-stemmed milkweeds are the slender-stemmed climbing varieties which riotously clamber over bushes and even high into desert trees growing along and in sandy washes. Their large flat clusters of purplish or greenish flowers often occur in great abundance making these climbers among the most handsome of desert plants. Unfortunately the milk which exudes so quickly and freely from the plucked stems has a very rank sulphurous odor.

Most of the fig trees have a milky juice containing rubber. The India rubber tree (*Ficus elastica*) is a fig. In the lower Viscaïno-Magdalena Desert of Baja California grows one of the strangest of all wild figs. It thrives along the edge of rocky canyons. The lower parts of the trunk are flattish and spread out over the vertical surfaces of the rocks like eels; and the roots penetrate deep into the crevices. The fruits are small and rather dry,

but the Indians who formerly inhabited the area are said to have eaten them.

All over the desert in the spring, summer and early autumn, from low ground to high, we see along roadsides and in washes the multitude of handsome large white-petaled orange-centered prickly poppies (*Argemone*). The plants, two to three feet high with beautiful blue-green notched-edged leaves, are armed throughout with stout yellow spines and even the seed vessels are full of stiff prickles. Break the stems and out oozes a deep cream-colored to yellow latex. This is said to have narcotic qualities, but not as strong as the opium poppy of com-

merce (*Papaver somniferum*). If you wish to see some really pretty seeds, tip over some of the splitting follicular seed vessels and catch the black spherical seeds in your hand. Each is covered with numerous tiny rounded beads giving them almost jewel-like beauty.

The number of seeds in each vessel is amazing. No wonder these handsome drought-resistant plants are plentiful in so many waste places. In Sonora and Arizona I have seen roadside areas bordered for miles with these handsome large papery-petaled white flowers. California and other yellow-flowered annual desert poppies have

no milky juice, but rather a watery sap.

The enormous Spurge family (*Euphorbiaceae*), with its 7300 species, has two major centers of distribution—tropical Africa and America. Many of the African desert species are imitators in form, color and armor of our most grotesque cacti, even being spiny and often ridged like cacti.

Almost all of the euphorbias have milky juice and many are of economic importance, producing rubber, tung oil, castor oil and tapioca. Many species, including the poinsettias, are grown as ornamentals.

On our deserts we have among other species of euphorbia the rubber plant (*Jatropha*), a wild milky-juiced poinsettia and the oft-seen rattlesnake weed which grows in abundance in the sands as a flat small-leaved plant. Its milky juice was esteemed as a potent remedy for rattlesnake bite by many of the Indian tribes. The perennial species are capable of withstanding long drouth because of their exceedingly long roots. A rattlesnake plant four inches across may have a tap root extending three to five feet straight downward in the sand where there is perennial dampness.

Some of the fantastic cactus-simulating euphorbias of the African deserts contain latex so poisonous that the smallest amount introduced into the eyes will cause almost instant blindness; other species are deadly when the alkaloid-laden latex is taken internally. American Indian desert tribes long have used chopped euphorbias as fish poisons.

The Mexican jumping bean (*Sapium biloculare*), a spurge, grows in Arizona from Gila Bend southward across the Papago country into Sonora and Baja California. Its milky juice was used by the aborigines not only as a fish poison but also as one of the diabolical arrow poisons, hence its Spanish name *hierba de la flecha* (herb of the arrow). *Hierba mala* (bad herb) is another Spanish name for this plant of evil reputation. The "beans" jump because of the violent lashing motions of a moth larva within them.

Another kind of jumping bean, a common article of curio shops, is known from the seeds of a different Mexican euphorbiaceous west coast plant, also with poisonous sap: this is *Sesbastiana pavoniana*. In the interior of the beans of this shrub lives the larva of a tortricid moth. The larva consumes the interior of the seed then spins a web over the inner surface. Its quick movements, among which are striking the seed wall with its head, causes the bean to hop, especially when it is warm.

TRUE OR FALSE:

It requires a very broad knowledge of the desert land and its history and people to score 100

percent in this quiz, but more power to those who keep trying—for the quest for knowledge is what keeps the mind young and active—but your good common sense will help a lot. The test includes history, botany, geography, mineralogy, and the general lore of the Southwest. Grade yourself five points for each correct answer. A score of 65 to 75 is a passing mark. Eighty to 90 is excellent, and any score over 90 is super. The answers are on page 30.

- 1—Desert drivers should carry chains to put on their cars when driving in fine sand. True..... False.....
- 2—Desert birds sometimes build their nests among the thorns of cholla cactus. True..... False.....
- 3—The Mojave River is a tributary of the Colorado River. True..... False.....
- 4—Tallest of the native cacti growing in Arizona is the Organ Pipe. True..... False.....
- 5—Jacob Hamblin was the leader of the famous Mormon Battalion. True..... False.....
- 6—Billy the Kid was a noted outlaw in Utah. True..... False.....
- 7—Ocotillo is a member of the cactus family. True..... False.....
- 8—Only poisonous lizard found in the Southwestern deserts is the Chuckawalla. True..... False.....
- 9—The University of Arizona is located in Tucson. True..... False.....
- 10—The town of Winnemucca, Nevada, was named for a famous Navajo Indian chief. True..... False.....
- 11—The Mexican-American border at El Paso, Texas, is farther south than the border at Nogales, Arizona. True..... False.....
- 12—Davis dam in the Colorado River is upstream from Needles, California. True..... False.....
- 13—The Great Salt Lake is a larger body of water than Lake Mead. True..... False.....
- 14—Screwbean mesquite gets its name from the gnarled form of its trunk. True..... False.....
- 15—The book *Death Valley in '49* was written by William Lewis Manly. True..... False.....
- 16—The traditional manner of divorcing a husband in the Hopi tribe is to put his belongings outside the door. True..... False.....
- 17—One of the lead ores is named Galena. True..... False.....
- 18—Butterfield stage stations were welcome havens for the gold-seekers who came to California in 1849. True..... False.....
- 19—The river which flows near Wickenburg, Arizona, is the Hassayampa. True..... False.....
- 20—Rainbow Bridge National Monument may be reached only by foot trail. True..... False.....

Here and There on the Desert . . .

ARIZONA

Health Service Cuts Hit . . .

The Intertribal Council of Arizona Indians has criticized the U. S. Public Health Service's administration of Indian health programs. The Council hit at cuts in health services, claiming that this year the public service received \$2,000,000 more in appropriated funds than last year, but is spending the money on administrative personnel. The Council heard a report that Congress appropriated only \$40,000,000 for Indian health last year while nearly \$44,000,000 was requested and \$65,000,000 actually needed.—*Phoenix Gazette*

Monument Valley Road Rejected

TUBA CITY—Four requests from Utah for cooperation on the part of Arizona in building roads linking the two states have been rejected by the Arizona Highway Commission. Included was the proposed improvement of Route 47 from Mexican Hat to Arizona and through the Navajo Reservation. The Navajo Trail Association also had called on Arizona and the Indian Service to pave this road between Tuba City and the Arizona-Utah border. The route passes through Monument Valley (*Desert*, August '57 p7). Utah is at present paving the road north of the state line through to Mexican Hat and Blanding. Also rejected by Arizona was a road from St. George, Utah, to Littlefield, Arizona; a road from the Hurricane, Utah, area through Short Creek and the Kaibab Forest and around to Kanab; and an access road to Glen Canyon Dam. The Highway Commission said funds are not available for these projects for the state has more urgent highway needs than the cross-state routes proposed by Utah.

Parker Dam Road Assured . . .

PARKER—The Arizona Highway Commission has agreed to take the long-proposed Parker to Parker Dam road into the state highway system, thus assuring early construction. At the present time about 10 miles of the road is surfaced. Opening up the remaining 10 miles will give access to the Parker Dam and Havasu Lake recreation areas on the Arizona side of the river. At present, sportsmen reach this area by crossing the river at Parker, driving up the California highway to Parker Dam and re-crossing the river on the dam itself.—*Yuma Sun*

Glen Job to Kill 96 . . .

PAGE—An estimated 96 workers will be killed during the eight-year construction period of Glen Canyon Dam on the Colorado River, a labor spokesman estimated. Three men already have died since preliminary work began at the damsite earlier in the year. The labor spokesman said every effort will be made to conform to federal and state safety standards.—*Nevada State Journal*

Indian Land Check Made Good

PARKER—Colorado River Enterprises has made good a \$40,000 check representing payment of advance rental on two tracts involved in the corporation's 25-year lease on 67,000 acres of the Colorado River Indian Reservation in Arizona. The original check bounced. The Interior Department had not reached a decision on the corporation's request for an extension of time for the posting of a \$5,000,000 performance bond.

Solar Energy Station Started . . .

TUCSON—Construction is underway on a Solar Energy Research Station for the University of Arizona's Institute of Atmospheric Physics. The station will feature a heating and cooling system operated entirely by energy from the sun. Chief purpose of the project will be to test the proposition that a house can be heated in winter and cooled in summer by the sun.—*Yuma Sun*

Work Begins on Dam . . .

SENTINEL—Preliminary construction has started on Painted Rock Dam in eastern Yuma County. The long-awaited project is designed to provide flood control on the Gila River as it runs through the county. A U.S. Army Corps of Engineers project, the dam is expected to cost \$3,000,000.—*Yuma Sun*

CALIFORNIA

Navy Undecided on Grab . . .

BARSTOW — A final decision by the Navy to extend its vast gunnery ranges north of Barstow had not been reached by mid - October. Among those opposing the land grab was the San Bernardino County Board of Supervisors. The Navy's plans call for the adding of 585 sections of land to its present holdings of 600,000 acres. The additional land would include two areas — Black Canyon and Opal Mountain—which the county officials

describe as rich in scenic, recreational and archeological value. By adding the region to its gunnery test range the Navy would seal off access to tourists.—*Barstow Printer-Review*

Museum Gets Baltic Mill . . .

RANDBURG—Kern County Museum's Randburg branch recently received title to the historic Baltic Stamp Mill. The mill was a gift of the Surcease Mining Co. — *Indian Wells Valley Independent*

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FOR SALE—National Geographic Magazines. I am disposing of my stock of back issues. Send your wants to Frank Drew, 901 Ormond Lane, Redondo Beach, California.

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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.

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NICE SHADY oasis planted to grapefruit, tangerines. Good house, swimming pool, 33 acres, Coachella Valley. \$85,000. Ronald L. Johnson, broker, Box 162, Thermal, California.

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Squatters Protest Setback Plans . . .

BLYTHE—Park Service plans to create a 200-foot setback from the Colorado River have been criticized by spokesmen for the so-called squatters on the California side of the river. These people, occupying public property without authorization, have invested an estimated half million dollars in residences and commercial establishments on 11 miles of river frontage between the Colorado River Indian Reservation and Parker Dam. An estimated 98 percent of these improvements would have to be removed if and when the Park Service enforces its 200-foot setback.—Yuma Sun

Salton Sea Study Ordered . . .

INDIO—A one year study aimed at determining the chemical and bacteriological quality of Salton Sea's waters in relation to its increasing beneficial uses for boating, bathing, fishing, water sports and recreation of all kinds was authorized recently by the Colorado River Basin Regional Water Pollution Control Board. Many cities in Imperial Valley are discharging raw sewage into streams emptying into the sea. The board said the sanitary study was prompted by the realization that the sea now has a multi-million dollar recreational value. — *Indio Date Palm*

Cibola Bridge Span Removed . . .

BLYTHER — Cibola Ferry, Inc., builders of a 400-foot bridge across the Colorado River without permission of federal authorities, have removed a section of the bridge in order to allow boats enough clearance to pass. The bridge builders plan to make the span removable and are seeking approval of the U. S. Army Engineers to turn the removable section into a drawbridge. — *Yuma Sun*

Salton Sea Homes Planned . . .

SALTON SEA—Resort developer Harry Pon disclosed plans to build several hundred winter homes and a hotel on the western shore of Salton Sea. The Imperial Irrigation District has approved the proposed development. Pon recently received a 10-year lease on 1600 acres of District property which adjoins the Desert Shores resort near the Riverside-Imperial county line. — *Holtville Tribune*

NEVADA

Free Christmas Tree Ban . . .

LAKE TAHOE—The privilege of cutting Christmas trees free of cost will not be offered this year to area residents, Tahoe National Forest officials announced. Demand caused by increasing population has made the Christmas tree a forest product of real commercial value and one of some scarcity — and the advent of super highways and fast automobiles has made the demand for trees from the Tahoe National Forest increase nearly 10-fold in the past three years, they explained. — *Nevada State Journal*

Pole Line Road Opened . . .

CARSON VALLEY — Officially opened was the Pole Line Road, the modern highway which connects Hawthorne in Nevada with U.S. Highway 395 near Mono Lake, California. Originally designated the Midland Trail in 1915, plans for completion of this link were started 10 years ago.

Tourism Leading Business . . .

RENO—With mining in sharp decline and manufacturing off from its level of a year ago, Nevada's booming tourist industry in the current year employs more than four times as many people in the state as all manufacturing industries combined. These are the findings of the Bureau of Business and Economic Research of the University of Nevada. In mid-year employment in hotels and places of amusement and recreation totaled 18,300 — a five percent increase over 1956. — *Territorial Enterprise*

Bas Relief Dedicated . . .

ICHTHYOSAUR STATE PARK—The life-size concrete bas relief of the fish-reptile ichthyosaur recently was dedicated at the Ichthyosaur State Park 98 miles southeast of Fallon. The bas relief was constructed by William Huff of Alamo, California, well-known Bay Area sculptor, on the site of one of the many discoveries of ichthyosaur remains. The fish-reptiles ranged in length from 14 to 50 feet and were the largest living things on earth when they roamed the ocean during the Triassic period, 160,000,000 years ago. — *Nevada State Journal*

Cave Tour Hours Changed . . .

LEHMAN CAVES—Tour schedule changes at Lehman Caves National Monument in eastern White Pine County were announced. First tour will begin at 9 a.m. and the last tour at 4 p.m. Mountain Standard Time. The monument is open to visitors seven days a week the year around. Visitations so far this year are running about three percent greater than the previous year. — *Ely Record*

Basque Shepherders Due . . .

CARSON CITY — Two hundred Basque shepherders will be admitted into the U.S. this winter to relieve shortages in the California-Nevada sheep industry, the Department of Immigration and Naturalization said. A study to arrive at an equitable minimum wage for the herders will be made by the Labor Department, state agencies and industry representatives. — *Nevada State Journal*

AEC Pays for Injured Horse . . .

ALAMO — Floyd Lamb, Alamo rancher, has received \$1000 from the Atomic Energy Commission for damages to his horse which apparently was burned by fallout from one of the early summer test shots. The horse was on pasture in the Kawich Valley, 20 to 30 miles north of the nuclear firing areas in Yucca Flat. — *Salt Lake Tribune*

NEW MEXICO

Indigent Indian Problem Told . . .

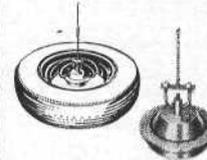
GRANTS—The problem of indigent Navajo Indians plagued Grants recently. First was the case of a men-

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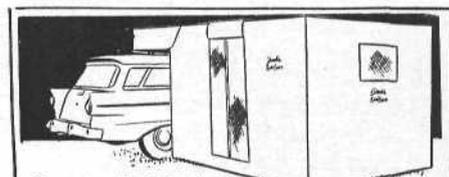
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tally incompetent Navajo woman whom city police could not get the Federal Government to immediately take custody of; and latest incident involved the bodies of three Navajos killed in a traffic accident. After a long delay, authorities claimed the bodies. The Grants mortician involved in the case said that during the past 11 years he has taken "literally hundreds" of Navajo patients to hospitals in Gallup and Albuquerque and has never been paid for the trips.—*Grants Beacon*

Range in Good Condition . . .

SANTA FE—The Western Livestock office of the Agricultural Marketing Service has offered the most

favorable report on Western range conditions in seven years. Only trouble spot in the 17-state area is in the Trans-Pecos area of Texas. Cattle and sheep in the west are reported to be in the best condition since 1950.—*New Mexican*

Communities Doomed by Dam . . .

ROSA—Two small communities, Arboles, Colorado, and Rosa, New Mexico, will be inundated by water impounded behind the projected Navajo Dam on the San Juan River in northern New Mexico. The Bureau of Reclamation said no investigation has been started on the problems involved in the removal of the rural hamlets.—*Aztec Independent*

Error in Historical Marker . . .

MESILLA—An official state scenic historical marker at a prominent highway junction carried in bold letters the misspelled name of the town of Mesilla. It was spelled "Messilla." That was not the only error, the *Las Cruces Citizen* pointed out. The short historical story on the marker was in error regarding several facts concerning the town.

UTAH

Virgin River Development . . .

SALT LAKE CITY—The governor of Utah has called upon Nevada and Arizona officials to join his state in working on plans for the development of the Virgin River, the water of which they share. The Virgin River's headwaters are in southwestern Utah and it is the state's main tributary of the Colorado River lower basin.—*Phoenix Gazette*

Funds for Damsite Road . . .

VERNAL—Road funds totaling \$400,000 have been earmarked to speed work on the access road between Vernal and Flaming Gorge dam-site. National Guard personnel and equipment will also be put to work immediately on the project.—*Vernal Express*

No-Littering Signs Posted . . .

SALT LAKE CITY—The Utah State Road Commission is posting signs warning motorists not to litter the roadways. The signs read: "Littering Highways Prohibited — \$299 Fine." The Commission has placed 200 such signs in the state with more to be put up later. Also planned are signs to greet travelers crossing state lines into Utah. They will read: "Keep Utah Clean, Trash Barrels Provided."—*Salt Lake Tribune*

Airspace "Grab" Criticized . . .

SALT LAKE CITY—A strongly worded letter condemning the military forces for "the greatest airspace grab in aviation history," was sent to Utah's congressional delegation by Harlon W. Bement, director of the Utah State Aeronautics Commission. Bement said if the present policies continue, they "will kill our civil aviation economy within a very short time."—*Salt Lake Tribune*

State Park Plans Studied . . .

SALT LAKE CITY—Commissioners of Utah's 29 counties were urged to "make big plans" for development of recreational facilities within and adjoining their counties. C. J. Olsen, director of the Utah State Park and Recreation Commission, has asked the commissioners to participate in an inventory of all areas in Utah which might be included in a new state park system. Meanwhile, Earl P. Hanson, deputy chief of California's Division of Beaches and Parks, recommended to Utah that it acquire all park areas now which might not be available for development at a later date. — *Salt Lake Tribune*

Air Force to Close Wendover . . .

WENDOVER AFB—The U. S. Air Force has announced that it will abandon its Wendover base before the end of this year. The facility, developed during World War II as an advanced training center, was included among seven Air Force facilities scheduled for closure in the economy program of the air arm of the U. S. government.—*Salt Lake Tribune*

TRUE OR FALSE ANSWERS

Questions are on page 26

- 1—False. In soft sand, chains will only dig you in deeper.
- 2—True.
- 3—False. The Mojave River ends in a series of desert playas.
- 4—False. Saguaro is the tallest cactus.
- 5—False. Jacob Hamblin was a Mormon missionary and colonizer.
- 6—False. Billy the Kid operated mostly in New Mexico.
- 7—False. Ocotillo is of the genus *Fouquieria*.
- 8—False. The Chuckawalla is non-poisonous.
- 9—True.
- 10—False. Winnemucca was a Paiute chief.
- 11—True. 12—True. 13—True.
- 14—False. Screwbean gets its name from the corkscrew type of seed pod.
- 15—True. 16—True. 17—True.
- 18—False. The Butterfield stage stations had not been built in 1849.
- 19—True. 20—True.

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MINES AND MINING

Government Restricts Oil Search on Public Domain

A move to restrict oil industry operations on the public domain was inaugurated by the Interior Department which announced that henceforth the

government would survey wildlife areas for oil and gas possibilities and would put selected lands up for competitive bidding.

Window Rock, Arizona . . .

The Navajo Tribal Council's proposal to increase oil royalties paid on Indian tribal lands near production from the traditional one-eighth (12½ percent) to one-sixth (16-2/3 percent) generally has been viewed with alarm by Western oilmen. The Navajo announcement was contained in a proposed call to bid for 370,000 acres located largely in Utah's San Juan County. In addition to the royalty, the tribe will receive a cash payment for the right to drill, plus an annual rental of \$1.25 an acre.—*Salt Lake Tribune*

The new regulations, which affect 4,418,000 acres of public domain in western United States and Alaska, would forbid leasing of wildlife refuge lands under the jurisdiction of the Fish and Game Service, except where the government has determined the lands are being drained of oil or gas at nearby wells. It would be up to the Fish and Game Service to determine what lands would be restricted to drilling.—*Salt Lake Tribune*

Lovelock, Nevada . . .

Mineral Materials Co. has started operations of its magnetic separation iron ore plant at its mine 30 miles east of Lovelock, on the west side of the Stillwater Range in northern Churchill County. The plant has a capacity of 300 tons per hour and is used to crush iron ore, and concentrate the iron from the rock by the use of powerful magnets.—*Lovelock Review-Miner*

Park City, Nevada . . .

New Park Mining Co., one of Utah's principal lead-silver-zinc producers, has closed its properties at Park City district. Company officials said continuing operating losses were responsible for the move. The jobs of 200 miners were affected by the stoppage.—*Pioche Record*

Grants, New Mexico . . .

Uranium ore reserves in the Grants area have been estimated at over a billion dollars. The same report said that uranium has turned into big business in Grants—and gone are the days of the lone prospector operating with burros and Geiger counters. Thousands of workers, instead, are engaged in exploration, drilling, mining and building the new mills needed to process vast quantities of new-found uranium ores. At present 22 major companies are active in the Ambrosia Lake mining district, with an estimated 3000 persons directly employed by the uranium industry. Within the next two years, it is estimated that the Grants area will have 10,000 uranium workers.—*Grants Beacon*



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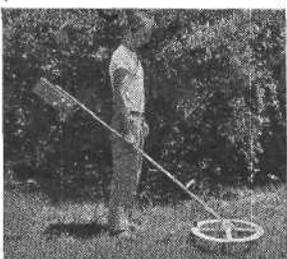
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Grand Junction, Colorado . . .

American Gilsonite Company announced it has broken the synthetic fuel barrier and said its development in the Utah-Colorado border country has added the equivalent of a major oil field to the country's petroleum reserves. Crude oil can be produced from the shiny black coal-like substance — gilsonite — for "considerably less than \$1.87 a barrel" against the current price of between \$2.20 and \$4 for crude oil, the company reported. Gilsonite-derived gasoline will be sold within a 100-mile radius of the Grand Junction area.—*Pioche Record*

Grants, New Mexico . . .

Phillips Petroleum Co. of Bartlesville, Oklahoma, disclosed plans to build a \$9,500,000 uranium ore processing mill at Grants, the fifth for this district and New Mexico's sixth. The company said completion is expected by mid-1958. Phillips began exploration activities in the Ambrosia Lake area in 1955.

THE PROSPECTOR'S CATALOG

We are pleased to announce the advent of a new Minerals Unlimited Catalog, specifically designed for the amateur or professional prospector. If you are interested in Geiger Counters, Mineralights, Blowpipe Sets, Gold Pan or any of the other equipment necessary to a field or prospecting trip, send 5c in stamps or coin for your copy. MINERALS UNLIMITED, Dept. D 1724 University Ave., Berkeley, California

Bisti Field, New Mexico . . .

New Mexico Oil and Gas Conservation Commission has denied application of Sunray Mid-Continent Oil Corporation to establish 80-acre spacing of oil wells at Bisti Field in northwestern New Mexico. It ruled the field should be developed on a 40-acre pattern. Meanwhile, hearings began before the Utah Oil and Gas Conservation Commission on the same problem at the rich Aneth Pool, and observers said the New Mexico decision likely is to have bearing on the amount of oil produced and rate of development during the next few years in the Four Corners region.—*Salt Lake Tribune*

Henderson, Nevada . . .

Formation of a new company to participate in the government's high energy fuel program was announced by the American Potash and Chemical Corporation. Initial work will be carried on at APC's Henderson plant. The operation is so highly classified no information can be given regarding its size or the amount of money involved, APC reported. The new company will be known as AFN, Inc., and is owned one-third each by APC, Food Machinery and Chemical Corp., and National Distillers and Chemical Corp.—*Pioche Record*

Geneva, Utah . . .

Judgments were handed down in 26 separate lawsuits filed against U.S. Steel Corporation by nearly 300 Salt Lake, Utah and Wasatch County farmers. The suits claimed livestock and crops had been damaged by fluorine effluents from U. S. Steel's Geneva plant. Absolute judgments totaling \$10,880.43 and conditional or optional judgments totaling \$24,958.60 were made in favor of the farmers.—*Salt Lake Tribune*

Silverton, Colorado . . .

Ute Indians are claiming that land the U. S. Government bought from them in the San Juan District in 1873 for 13 cents an acre will be producing valuable minerals for another 100 years. Over half-a-billion dollars worth of ore has come out of the area since 1870. The Indians are asking \$37,000,000 more from the Government in hearings before the U. S. Indian Commission.—*Mining Record*

Carson City, Nevada . . .

Nevada Employment Security Department reported a drop in the state's mining force of 1100 men or 22 percent from August, 1956 (5100 employees) to August of this year (4000 employees). Hardest hit were strategic metals mines — tungsten, lead, zinc and copper. Prospects are for even more layoffs, the Department added.—*Tonopah Times-Bonanza*

Ely, Nevada . . .

Kennecott Copper Corporation announced plans for a new \$1,500,000 skip haulage system to remove ore and waste material from its huge Liberty Pit at Ely. When completed, the project will inaugurate an entirely different method of mining in the world's largest open cut copper pit. At present, material is being taken out of the pit by trains over the switchback trails.—*Nevada State Journal*

Fallon, Nevada . . .

The newly organized Global Petroleum Co. is planning to drill wells south of Fallon to find the source of natural gas that is bubbling out of the ground.



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AMATEUR GEM CUTTER

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

Gem stone garnet has passed through several periods of high popularity. Pliny, the ancient, mentions the fact that garnet (carbunculus) was difficult to carve as seals and intaglios, and that sealing wax had a tendency to adhere to the gem. Later the great artists of the Renaissance produced some fine pieces from garnet both as cameos and intaglios, despite the fact that the material is brittle and difficult to carve.

When quantities of gem quality garnet were first found in the gem placers of Ceylon, inferior stones often were sold at high prices by unscrupulous dealers under the name of Ceylon rubies.

In the days of Mary, Queen of Scots, garnet jewelry enjoyed great popularity; the Queen wore a necklace of garnet cabochons at her marriage to the Dauphin. This piece of jewelry was worth 500 gold crowns, a large sum in that age.

* * *

About the year 1600 the well known small but fine quality Bohemian garnets (pyrope) were first utilized for facet cutting. These were found in abundance in the fields around Prague. At the outset the rough stones had considerable value, but 50 years later the production had reached a point where the value was greatly reduced. The popularity of pieces of jewelry covered with small facet-cut garnets lasted for many years, until some 50 years ago.

In recent years an effort has been made in the gem trade to return the garnet to popularity. The gem is hard and wears well and is available in a wide variety of colors.

* * *

Present day gem cutters may be surprised to scan old issues of mineral and gem magazines of some 55 and 60 years ago, and note the curious advertisements. One we have in mind is a commercial gem cutter advertising under the caption of "The Steam Lapidary." This was prior to the day when electric motors were in wide use. The copy in the advertisement reads as follows:

We have a plant especially designed for cutting and polishing tourist and cabinet material, and think we can do a little better work than is usually done in this line. We have a very interesting line of polishing material for sale.

* * *

Always turn on the coolant liquid and

start up work before starting to grind or saw. Truing a grinding wheel is primarily intended to make the wheel face run concentric with its axis. Dressing a grinding wheel conditions its face, although the face may not run true. Dressing may also be carried out to bring new and sharp-cutting grains to the surface.

Before grinding any fragile stone, like a valuable opal, the grinding wheel should be checked for true running. It is also customary for some cutters to dress the wheel before working on valuable material. A grinding wheel, bumping roughly, may fracture a thin or fragile gem.

* * *

The method of grinding spheres between two bare iron pipes is well known, and in common use. Some operators cover the ends of the iron pipes with heavy felt for the polishing operation. This method is quite satisfactory, and is in wide use.

However, some sphere cutters prefer to carry out the final polishing operation using hollow wooden tubes. This goes back to the original technique long used in the Orient centuries past. Bamboo is still used in the Orient for sphere work.

The hollowed wooden tubes need not be covered with felt, and they have the advantage in that they are fairly soft, and allow the polishing agent to work into the porous wood. A separate set of wooden pipes should be reserved for each polishing agent. Air floated tripoli is widely used, it is satisfactory for practically every gem material, and is low in cost.

Almost any variety of wood may be used. Some sphere cutters prefer hardwood like oak, but in general fir and pine are the favorites. The polishing technique is the same as when iron pipes are used. One tube is revolved by power, while the second tube is held in hand. Small spheres, not over two and three inches in diameter, may be ground and polished on horizontal running tubes. The larger and much heavier tubes are best worked on vertical running pipe.

* * *

For some years an imitation lapis lazuli, popularly known as "Swiss lapis," has been widely sold on the world markets. This material is a stain Jasper.

The new synthetic material is entirely

different, and closely resembles high grade lapis. It is of the typical cobalt blue color. The small grains of pyrite, often seen in natural lapis, are lacking in the imitation material. This, however, may not be taken as a criterion for identification, since natural lapis does not necessarily carry pyrite.

The new synthetic lapis is manufactured in Germany. It is essentially a sintered spinel, colored a lapis blue by the use of a cobalt chemical. The manufactured material, with a hardness of close to eight, is considerably harder than natural lapis. Its specific gravity (3.52) is also higher than genuine lapis.

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GEMS AND MINERALS

California Jade Collecting Areas

Here are some of the best known jade collecting areas in California:

1. Cambria Pines: jade pebbles found on beaches; material similar to Monterey jade.
2. San Simeon Creek: jade pebbles.
3. Salmon Creek: jade found at mouth of creek.
4. Willow Creek and Jade Cove: main sources of Monterey jade.
5. Porterville: jade is dark green and polishes well; light green and black specimens also found.
6. Clear Creek: one of the few sources of jadeite in the U.S.; most is unattractive green veined with white but some of good quality found along with colored jade.
7. Marin County and Sonoma County: a bluish jade has been found at Massa Hill.
8. Georgetown, Placerville and Stifle Memorial: not certain that material found here is true jade, although it looks, cuts and polishes like jade.
9. Feather River: float jade found here.
10. Wilbur Creek (Lake County-Colusa County border): along with jade, an egg-shell white mineral tentatively identified as jadeite found here.
11. Covelo area: Williams Creek produces nephrite and occasionally jadeite; some of the jade from this location is beautifully patterned; combination of jade and hornblende also found.
12. Eel River: blue jade found at Dos Rios and Mina, but very scarce.
13. Trinity River: beautiful green jade found in this stream, possibly best in California.

MARCASITE SPECIMENS OXIDIZE IN COLLECTIONS

Specimens of marcasite (iron sulphide) invariably oxidize in collections, freeing sulphur to form an acid which attacks the labels and trays and speeds disintegration of the specimen. No satisfactory method of preventing this break-up has yet been found.

Often confused with pyrite, marcasite is distinguished by its greater solubility in cold diluted nitric acid. It generally is whiter on a fresh surface than pyrite and, like it, harder (6-6½ Mohs) than most other sulphide minerals.

Marcasite is associated with galena, sphalerite, calcite and dolomite. It has a metallic luster and is light brass-yellow in color.—Lockheed Employees' *Rockcrafters' Psephite*

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WESTERN MINERALS

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14. Humboldt Lagoons: black jade pebbles found here, possibly some green also.—Jerry Hemrich in the Contra Costa, California, Mineral and Gem Society's *Bulletin*

New officers of the Mineralogical Society of Arizona are William E. Reed, president; Susan Cummings, vice president; Emma Jo Zimmerman, Donald Price, Perry Stufflebeam and Marvin Evans, directors.—*Rockhound Record*

Max Schacknies will head the Omaha, Nebraska, Mineral and Gem Club for the 1957-58 club year. Also named to office were Mrs. H. B. Bergquist, vice president; Mercedes Eisele, secretary-treasurer; and Carol Chapman, John Hufford, Harold Davis and Herbert Metzger, directors.—*Rear Trunk*



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SWAP DAYS PLANNED FOR MULE CANYON

November 30-December 1 dates have been set for the Annual Swap Days of the Mojave Desert Gem and Mineral Society.

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The event takes place in Mule Canyon, Calico Mountains, Yermo, California.

The South Gate, California, Mineral and Lapidary Club's first annual show is scheduled for November 30-December 1, at the South Gate Park Auditorium.

Scheduled for March 1-2 is the third annual Pasadena, California, Lapidary Society's show. The event, which will include lapidary exhibits, working lapidary equipment and special features, will be held in the Davies Memorial Building in Farnsworth Park, 568 East Mountain Curve, Alhambra.

The East Bay Mineral Society of Oakland, California, announced plans for its 20th Annual Gem and Mineral Festival. The show, whose theme will be "On the Lake," is scheduled for the Scottish Rite Temple, 1545 Oak Street, on May 17-18, 1958.

Dates for the seventh annual San Luis Obispo, California, Gem and Mineral Club's show were set for March 15-16. The event is scheduled to take place at the Veterans' Memorial Building at Grand Avenue and Mill Streets.

EASTERN SOCIETIES MAKE PLANS FOR 1958 SHOW

The Eastern Federation of Mineralogical Societies recently announced that the Southern Appalachian Mineral Society of Asheville, North Carolina, was selected as host society for the 1958 show, scheduled for August 7-9.

New officers of the Eastern Federation are L. J. Pursifull of the Gem and Mineral Society of Virginia Peninsula, president; J. C. McClure, Miami Mineral and Gem Society, vice president; Mrs. Elsie Kane White, Gem Cutters Guild of Baltimore, secretary; and Sam Brown, Newark Lapidary Society, treasurer.—*Gem Cutters News*

GREATEST COLOR VARIETY FOUND IN TOURMALINE

The varied colors and combinations of color of tourmaline probably exceed that of any other gem. The color suite of this gem stone includes practically every shade and tint of the solar spectrum. Crystals are found with colors in single hue or in polychrome; with colors delicately shaded from one to another or sharply contrasted; sometimes with colors zoned concentrically such as a red core encircled with a white zone followed by a green outer border, or other combinations.

It has been said that no flower displays the entire range of color seen in tourmaline. This variance of color confused early students of gems and resulted in a different name for each color variety, the use of which persists. For example, rose or pink tourmaline is called rubellite; blue, Brazilian sapphire; indigo-blue, indicolite; green, Brazilian emerald; honey-yellow, Celonese peridot; black, schorl; violet, siberite; brown, dravite; and colorless, achroite.—George E. Smith in the Oklahoma Mineral and Gem Society's *Sooner Rockologist*

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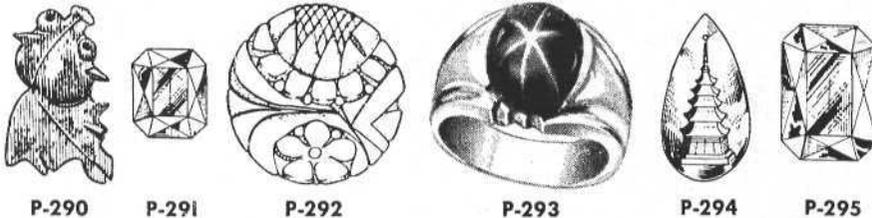
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CINNABAR-STAINED STONES MAKE ATTRACTIVE CABS

Beautiful cabochons can be cut from unflawed pieces of cinnabar-stained agate, jasper, chert, feldspar and opalite, but such cutting material is scarce. Cinnabar in agate or quartz is called myrakit.

Cinnabar or mercury sulphide is the principal ore of mercury. Its color varies from red to brown to dull gray, but when tested by the streak test method, will always show up red. A soft ore (hardness of 2 to 2.5), cinnabar has a high specific gravity of approximately 8.1, making it one of the heaviest of all minerals.

Though cinnabar usually is in massive form, occasionally it occurs in crystals of deep red color. Some of the crystals may be transparent, others opaque to translucent. Their structure generally is rhombohedral, though six-sided prisms have been found. Regardless of shape, a good specimen of crystalline cinnabar should be a worthwhile addition to any collection.

Crystals large enough to facet sometimes are available from dealers, but the extreme softness of the material and small size of even the largest crystals would make such an operation very difficult.—Gerald Hemrich in the East Bay Mineral Society's *Bulletin*

"QUOTES"

FROM THE GEM AND MINERAL WORLD

"Daylight Saving originated when an old Indian chopped off one end of his blanket and sewed it on the other end to make it longer."—Long Beach, California, Mineral and Gem Society's *Mineral News*

"The grapevine is a marvelous thing—not only from it do we get grapes—but also we get grapes."—Glen Gipson in the Arrowhead Mineralogical Society's *Arrow Points*

RESOLUTIONS ADOPTED BY BELLFLOWER GEM CLUB

As a new season of club activity begins, the Bellflower, California, Gem and Mineral Society is asking all members to pledge themselves to the following resolutions:

I will welcome guests personally — at meetings and on trips.

I will be prompt to meetings and encourage others to be prompt.

I will encourage interest in our hobby among my friends, knowing well that I will be doing them a favor.

I will be a considerate, friendly, cooperative rockhound — even when no one is watching.

UNDERGROUND A-BOMB MAY HAVE PRODUCED GEM HORDE

The recent underground atomic bomb explosion at the AEC's southern Nevada test site probably produced a fortune in rubies and sapphires.

An abundance of rhyolite and all the other necessary ingredients were present, atomic energy experts reported, and the heat of the shot undoubtedly fused the stones into gems. There even is the possibility that diamonds were produced by the shot.

The trouble, so far as present day rockhounds are concerned, is that the area in which the explosion occurred is now so radioactive that it will be unsafe to approach for at least 100 years.

The explosion took place 900 feet underground and at the end of a twisted 2000-foot tunnel.—*Reese River Reveille*

For the first time in history, a gem and mineral show was held in conjunction with the recent Utah State Fair. Sponsoring the event was the Wasatch Gem Society in cooperation with the Golden Spike Gems and Mineral Society of Ogden, the Mineralogical Society of Salt Lake City, the Castle Valley Gem Society and other individuals.—*Millard County Chronicle*

A good way to carry home small specimens found in the field, such as crystals, thumbnail specimens and micromounts, is in an egg carton. Place cotton or tissue in each of the egg compartments to protect the specimens. These cartons are easy to carry.—*Rockhound News and Views*

DAROLD HENRY ISSUES REVISED GEM TRAIL BOOK

A completely revised third edition of Darold J. Henry's *California Gem Trails* now is available to field trip enthusiasts. Henry, a California naturalist, mineralogist and educator, is well known for his many contributions to the rockhound hobby.

From the state's Oregon border down through the coast and valley regions to the Mexican border, Henry describes and maps the most productive gem fields. Mixed with the narrative is much "rockhound talk" and the type of humor that enlivens many a desert campfire get-together.

Henry very thoroughly covers the desert scene, including the Chuckawalla Springs, Wiley Well, Calico Mountains, Mule Canyon, Yermo and other famous collecting areas. Whether you travel the gem trails or not, you will find worth in Henry's book.

Published by Lowell R. Gordon, Long Beach, California; 101 pages; \$2.50. This book is available from Desert Crafts Shop, Palm Desert, California. Please add 8c postage; California purchasers add 4 percent sales tax.

CRYSTALS TAKE ON LUSTER WHEN PLACED IN SOLUTION

To give non-water soluble crystals added brilliance, bathe them in the following solution:

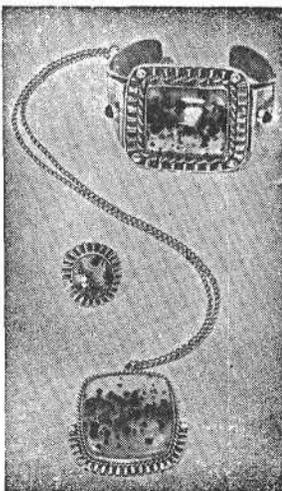
Dissolve quarter cup of "Raindrops" in two quarts of hot water. Add and dissolve two rounded tablespoons of "Spick and Span." Let cool until comfortable to the touch and immerse crystals. Let stand for two or three minutes and then remove.

Especially dirty crystals can be lightly scrubbed with a soft toothbrush. After removing from solution, rinse thoroughly under running water. Let stand on paper towels to dry. — Montebello, California, Mineral and Lapidary Society's *The Braggin' Rock*

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Elected to direct the activities of the recently organized Pomona, California, Rockhounds, were Tom Starkey, president; Fred Warren, vice president; Leona Perdew, secretary; and John Salado, treasurer. Club membership totals 75.

Granite used in the construction of the Mormon Temple at Salt Lake City was found in the canyons of the Wasatch Mountains about 20 miles from the temple site. Eruptions and glacier activity had isolated enormous boulders which were chiseled out with hand drills and transported by oxen to the building site. Four yokes of oxen were required for each block, and the 20-mile trip took three or four days.—*Matrix*

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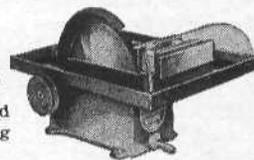


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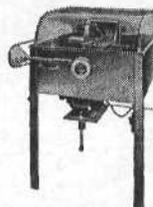
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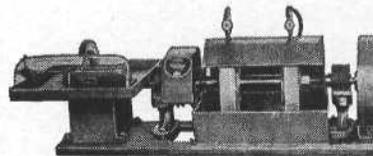
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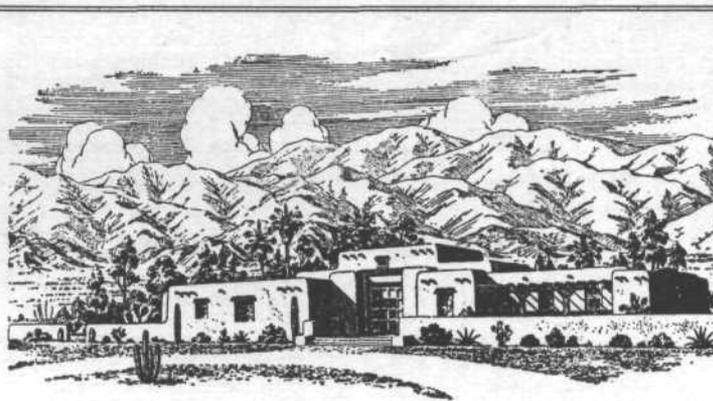
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BOOKS of the SOUTHWEST

NATURALIST EDMUND JAEGER DESCRIBES FIVE DESERT REGIONS OF NORTH AMERICA

The *North American Deserts* by naturalist Edmund C. Jaeger is the first comprehensive work ever published on all five of the deserts of this continent — Chihuahua, Navajoan, Mojavean, Great Basin and Sonoran. The latter is subdivided into six units: the Plains and Foothills of Sonora; the Arizona Upland or Saguaro Desert; the Yuman Desert; the Colorado Desert of California and areas surrounding the upper part of the Gulf of California; the Vizcaino-Magdalena Desert of Baja California; and the Gulf Coast Desert.

Interesting and highly readable, the book bears the authoritative stamp of a man who has devoted a lifetime to the study of the subject he deals with

—a desert-specializing natural scientist generally regarded as foremost in his field. This is a text for both student and layman, and one that no library in the Southwest—public or private—will be complete without.

The need for such a book stems from the fact that each of the deserts of North America have characteristics of climate, fauna, flora and landscape that are distinctly unique. In fact, so singular are the continent's arid regions that they have prototypes in the principal deserts of the world, Jaeger points out.

The Great Basin desert and steppes are akin to the deserts and steppes of western interior Asia. The Kyzyl Kum and Kara Kum of Russia are like the drier warmer deserts of Nevada and Utah. The mountains of Iran and the

Samarkand area, the Anatolian Plateau of Turkey and the lower slopes of the Atlas Mountains in northwest Africa closely resemble the moister Salt Lake City-Boise region. The still colder Wyoming-Montana area is more like the Gobi Desert.

The Mojave Desert, with cool relatively moist winters and hot dry summers closely resembles the plateau of Iran and the northwestern part of the Algerian Sahara.

The northern Chihuahuan Desert (El Paso) is like the eastern Karroo of South Africa; the southern Chihuahuan (Ciudad Lerdo) like the Kalahari and western Angola deserts of Africa. The Nile Delta and other mild coastal deserts resemble the Vizcaino Desert of Baja California.

The Arizona Upland (Tucson) region, with mild winters, hot summers and preponderance of summer rain, finds its climatic analogues in the

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By RANDALL HENDERSON

CHAIRMAN CLAIR ENGLE of the House Committee on Interior and Insular Affairs told me recently he has confidence that the next Congress will pass the bill requiring congressional approval before the military can establish new ranges and target areas of more than 5000 acres.

This measure passed both houses in the last session, but died in conference committee due to a difference of opinion among Nevada's representatives over the status of the Black Rock desert, which the Navy has been seeking to acquire.

There is a critical need for this enactment, for there seems to be no limit to Navy's greed for land. The most recent threat is in Imperial County, California, where, in addition to the 280,000 acres already acquired for various types of bombing and target ranges, the 11th Naval district is making appraisals preparatory to a request for a huge sector of the Superstition Mountain and Borrego desert areas. This proposed range includes five and one-half sections of land which have been tentatively selected for inclusion in the Anza-Borrego Desert State Park.

When the Navy moves in, the terrain is closed to all other uses, and becomes unsafe for peace-time occupation far into the future. During World War II the Navy asked and was given emergency permission to extend its target range into the Carrizo sector of the Anza-Borrego State Park. At the end of the war, the Navy relinquished its range within the park — but the land remains posted against public entry because it is unsafe due to unexploded shells. To the big braid in the Pentagon this may not be a serious matter, but to those of us who live on the desert, or who look to the desert for our recreational opportunities, it is a tragic thing.

Somehow, we cannot dismiss the thought that if the three branches of the Department of Defense would coordinate their training operations, as it will be necessary for them to do in time of war, they would require only a fraction of the great desert domain they have taken over and posted against all civilian entry.

* * *

Believe it or not, here is a rockhound who deserves some kind of a special award. I have known him for many years, and more than once have asked him what he was going to do with the tons and tons of mineral specimens which clutter up his back yard.

Recently, he answered my question. He backed his station wagon out of the garage and loaded it with carton after carton of rocks, most of them of rather mediocre quality, hauled them out to the desert where he found them, and scattered them far and wide over the horizon.

"I've reformed," he assured me. "Pickin's been get-

ting pretty thin in some of the collecting areas, and I finally admitted to myself that it was bozos like me who are to blame. I've got a couple of youngsters who are getting interested in rocks—an' they want to do their own collecting—they're not interested in all this stuff I've been hauling in. From now on I'm picking up only a few of the best—and on every trip to the desert I'm taking back my surplus material. There's some pretty good material here, but my kids will have a lot more fun finding it where Nature put it, than in our back yard."

* * *

I have a very high regard for the achievements of the men of science, and especially for the progress they have made in the fields of discovery and invention during my own lifetime, but frankly I haven't been able to generate much enthusiasm over Sputnik. And I think I would feel the same way about it if our own American scientists had been the first to launch the new space satellite.

As far as I am concerned, it would be a much more significant achievement if the Office of Saline Water in the Department of Interior had announced that processes and equipment had been perfected for converting salt water to fresh water at a cost of not over 10 cents a thousand gallons.

Just why we should aspire to make a landing on the moon I do not know. The astronomers have told us it is unlikely either the moon or Mars or Venus or Jupiter are habitable for our species of human beings.

But we do have some rather pressing problems to solve here on the planet where we live. The question of water supply already is becoming critical in many parts of the United States. And as population and industrial use of water increases, it will become more critical.

We cannot turn back from the atomic age. And yet it requires greater faith than most of us have, to look to the future with confidence that our children and grandchildren will live in a world of peace.

I do not know the answer. But I am sure it will be found, not in the direction of more wheels and wings and deadly missiles, but in better understanding of the human nature that is responsible for the management of the mechanical devices our scientists have become so adept in creating.

Emotionally we are still primitives. I wish the scientists who are working so diligently on the development of gadgets would take a 10-year recess, and convert their laboratories and skill to the study of the human mechanism. We really don't need more machines, but there is an urgent need that they show us the way to develop a finer emotional discipline in the mortals who operate the machines.

BOOKS . . .

(Continued from page 41)

higher portions of interior Australia.

The low-lying Colorado Desert approaches central Saharan conditions. Most of the mild-wintered Colorado (Yuma) is similar to lower Iraq from Baghdad to the Persian Gulf.

The Sonoran Desert near Guaymas is very much like the Thar Desert of Pakistan.

Thus, to know the North American deserts is to have good understanding of the arid lands which cover one-fifth of the surface of the earth.

After describing the various desert regions of this continent, the author uses the second half of the book for the line drawings of representative insects, reptiles, birds, mammals and plants, identifying and describing each in the style used in his previous work, *Desert Wild Flowers* (available from Desert Craft Shop at \$5 plus postage, tax).

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• • •

ANZA-BORREGO DESERT GUIDE IS WORK OF MANY YEARS

Largest of the California state parks is the Anza-Borrego desert of approximately 450,000 acres—comprising 75 percent of the total area devoted to state parks in California.

Yet despite the huge area encompassed by this park much of it is inaccessible and therefore unfamiliar to a majority of the residents of the state.

It has remained for Dr. Horace Parker, veterinarian of Balboa Island, California, purely as a hobby, to pro-

vide the first complete and authentic guide to this Anza-Borrego desert wilderness.

For many years Dr. Parker has devoted most of his recreation days to the exploration of this little-known desert region in his 4-wheel drive car. He has found so much of interest that the urge to make this information available to the public became almost an obsession, and now the painstaking work of years has been published as *Anza-Borrego Desert Guide Book*, complete with maps, trip logs, photographs and indices.

The Anza-Borrego area is rich in history as well as in scenic and scientific values. The trails blazed by Juan Bautista de Anza when he brought California's first white colonists from Mexico to Monterey crossed this terrain. Later Kearny's Army of the West and the Mormon Battalion, and still later the Butterfield stage lines followed routes which were first used by prehistoric Indians of the Southern California desert.

The author not only has given abundant and accurate information as to highways, trails and waterholes but he has presented his data from the standpoint of a conservationist who would "enjoy but not destroy."

A brief outline of state park rules

governing travel and camping in the park is given, also hints for desert motorists and hikers who are not versed in the safety precautions that a desert traveler should take.

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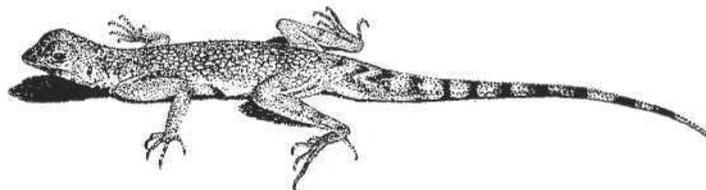
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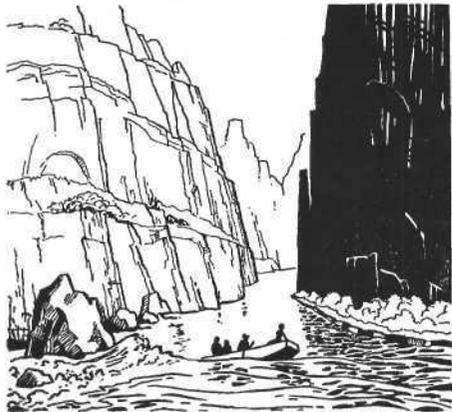
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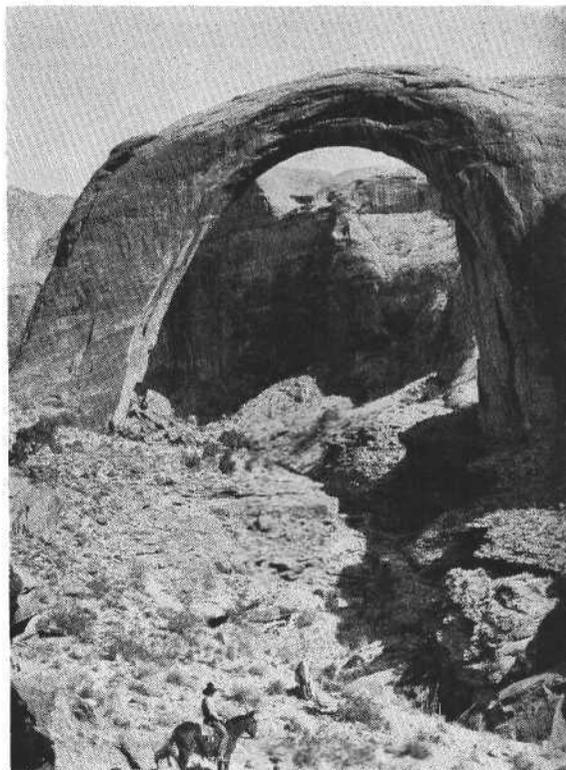
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