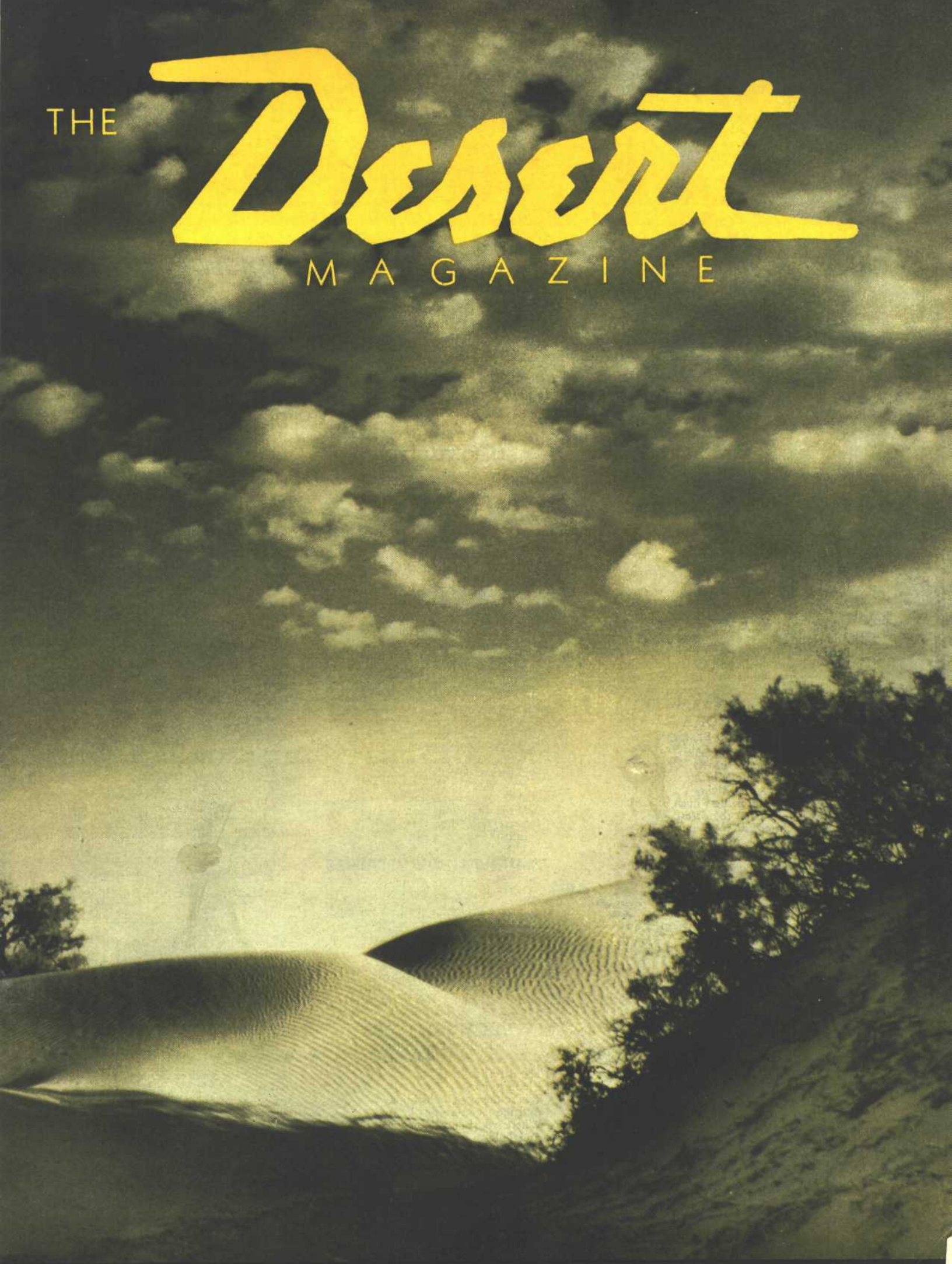
THE Desert MAGAZINE



JANUARY, 1945

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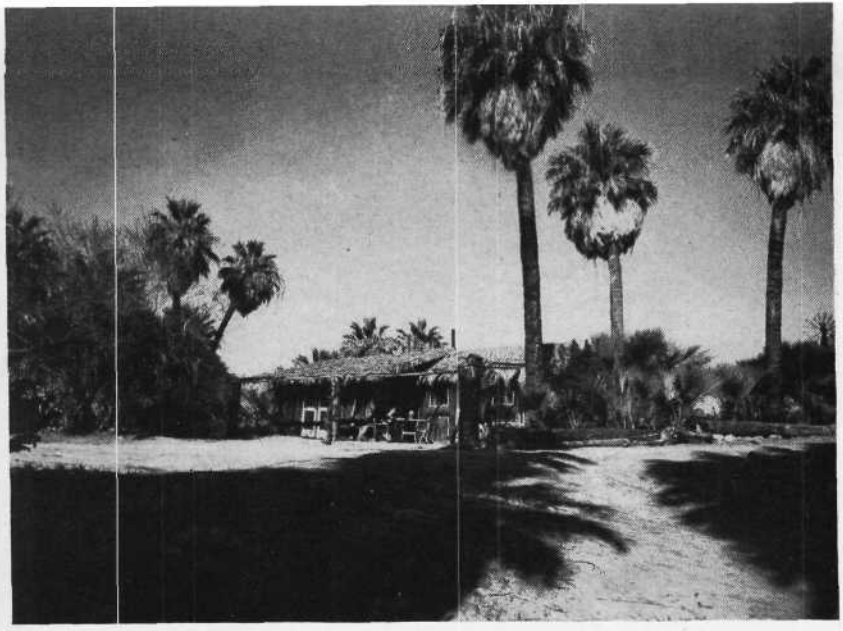

Paul Wilhelm's "Vagabond House," Thousand Palms Oasis, California. Wilhelm now is serving with U. S. army in France.

My Desert Fastness

By E. A. Brininstool
Hollywood, California

I'm in my desert fastness—the silent painted land,
Where sunrise glories thrill me, and where, across the sand
Gleam splendors which no painter but God Himself can show,
In changing lights and shadows, spilled by the sunset's glow.

Across the wide arroyos the broken buttes rise high,
And far beyond, the mountains, whose white crests pierce the sky.
The wine-like air brings to me the desert smells I love—
The scent of sage and greasewood from mesa lands above.

I'm in my desert fastness—a welcome solitude!
No city noises clanging outside my cabin rude.
Only the gentle breezes across the sagebrush floor,
In low-crooned, soothing whispers, drift idly past my door.

Oh, glorious desert country! Your magic spell I know!
Your lure is strong, resistless, when from your depths I go!
Your wild wastes call and beckon in accents glad and true,
And your calm stretches soothe me when I return to you!

NOMADS OF THE SOIL

By Margaret Woodin Couche
Hollywood, California

Here on this arid waste of desert sand
No tender violet nor lovely rose
Could brave the breath of dragon wind that blows
Unceasingly across the sun parched land.
In their stead I have found a sturdy band
As carefree as a tribe of Gorgios
Who dauntlessly have overcome their foes;
An humble throng, yet unafraid they stand.

Where others would succumb they thrive alone,
And fly no banners when their kind succeeds.
Persistently they come into their own:
Brave nomads of the soil; this old earth needs
Folk with the selfsame virtues they have shown,
To be victorious in life—ah, weeds.

• • •

ARIZONA

By W. Lou Berkness
Long Beach, California

Only Arizona's sunsets
Defy the painter's brush.
Only here, at twilight,
Comes that breathless hush
That falls upon the desert
As night comes sweeping in,
And shadows shroud old Camelback,
And all the stars begin
To creep so soon from out the blue
And twinkle, two by two.

I lay me down in peace tonight;
Another day is done.
My heart's as glad and warm again
As Arizona's sun.

• • •

THE DESERT

By Sara Van Alstyne Allen
Mecca, California

God knew
That man grows weary
Of the turbulence of beauty,
Ornate and frosted palaces,
Too crowded green,
Along the river's brink,
Bright colors dazzling to the eyes,
And birds confusing in their melody.

God fashioned
In a quiet hour
The desert,
And in it sowed
The beauty of emptiness,
The bliss of space,
The sands of peace.

ENCOURAGEMENT

By Frances Hopkins
Newark, New Jersey

Many a weary pioneer
Might have halted
But for illusive cheer
Mirage afforded,
Luring the spirit on
When body faltered.

• • •

TREE OF THE DESERT

By Ruth Reynolds
Tucson, Arizona

It asks for little sustenance,
This wasteland tempered tree,
But waits the sun's beneficence
To spread a filigree
Of gold-green foliage on a breeze
Of sunflame that would sere
The leaves of greener, prouder trees.
And yet the semi-sheer
And delicately faded lace
Worn by the grave mesquite
Shelters the desert's tired face,
Impervious to heat.
And when mesquite leaves chastely go,
Disdaining color riot,
Imperceptibly they flow
Into the desert quiet.

• • •

TRANQUILLITY IS TREASURE

By Jessie Fisher
Los Angeles, California

While some may mine the hills for gold
Or dig for gems the rocks may hold,
I store within my city breast
The desert's quiet, closely pressed;
A hush, like fleecy robe at night
Enfolding me, subduing, quite,
The turmoil born of constant striving
Which desert calms with peace surprising.

• • •

THE DESERT CALLS

By Belle C. Ewing
Riverside, California

The desert calls,
I long to go,
Where the sky climbs high
And the moon swings low;
Where naked mountains touch the sky
And golden galleons go sailing by.

I dream of my land
In the sunset's glow—
Where the sky climbs high
And the moon swings low.

GHOST OF DEATH VALLEY

By S/Sgt. Marcus Z. Lytle
Montrose, California

As twilight creeps up the Valley of Death,
The kiln of the desert burns low,
The umbers fade from the Funeral Range
And the rose from the Panamint snow.

A tide of dark blue floods over the salt
And mounts to the verdureless strand
Where, eons ago, a rain-stippled lake
Fondled a pine-covered land.

The pines have withdrawn to the top of the peaks,
And the lake is a ghastly sink,
But its ghost comes back in the early dusk
And I hear a song on its brink:
A light is twinkling along the shore
At the foot of a purple cliff—
Not a miner's camp bv a bitter spring,
But an Indian lover's skiff.

• • •

KEEP ME THE MOUNTAINS

By Mina Morris Scott
Columbus, Indiana

Keep me the mountains, for some day I'm coming;
Though I had to leave them, they still are my own.
Still I remember their grandeur, their glory—
God's greatest temples of eternal stone.

Guard me the slopes where the blue spruces flourish,
And high peaks are gilded with glistening snows;
Keep me the crests where the last rays of sunset
Gleam with the splendor of topaz and rose.

Watch the blue mesas, and save me the blossoms
When dry deserts bloom in the gay month of June;
Search the cool canyons, and hoard the clear crystal
Of springs and of lakes that reflect the full moon.

Prolong the spell of fiesta, siesta,
Of corn-dance and kiva where rain-gods are sought;
Preserve traditions of far distant ages,
The pueblos and plazas with mystery fraught.

Save me the rugged arroyo and rimrock;
Catch the strange beauty of cactus and dune;
The green of the sagebrush, the grace of the yucca—
Keep them all for me; I'm coming there soon.

DESERT *Close-Ups*

• Major Weldon Heald, who served as Chief of the Climatology unit for the office of the Quartermaster General during the past two and one half years, has returned to inactive duty and is looking forward to resuming his exploration jaunts on the desert. Major Heald wrote a very interesting article for Desert readers on the subject of desert climate just before he entered the army, and during his time in the service has added much to his knowledge of this subject. He will continue in the role of civilian consultant for the same office in which he served as an army officer. In addition to his scientific material for Desert Magazine, Heald has supplied mapped travelogs of out-of-the-way places on the desert—and promises more of them in the future.

• Story of Uncle Sam's camels in the next issue will be Frances E. Watkins' first contribution to Desert Magazine. It was 15 years ago that she became an assistant in the Southwest Museum of Los Angeles. She was just out of college, and fresh from a summer's digging at Pecos and Tecolote in New Mexico—full of enthusiasm and inexperience. A month later she became librarian of the museum. Her title since 1930 has been that of Assistant Curator. While Dr. Watkins' writing has been largely of a scientific nature, her story for Desert will give some of the humorous sidelights of the episode of the camels, which "nobody wanted and nobody loved—except Lieut. Edward Fitzgerald Beale and their native drivers."

• Charles Kelly's next story is about the Rumbling Mountains of Utah, in the House Range west of Delta. Frank Beckwith, Delta newspaper publisher, collaborated on the story and illustration. Frank says that although the Rumbling Mountains have been silent for some time now, they probably are "gaining headway to begin chattering any day. They have periods of quiescence, stop grumbling, and then row and jangle, throw the rolling pin and dishes around, and then again quit fussing."

• Next in Randall Henderson's series of sketches covering the native palm oases in the desert of the Southwest will be the story of Hellhole canyon in the San Ysidro mountains west of Borrego valley. This group of palms is not as well known as those in Borrego palm canyon, nor as numerous, but the canyon has botanical features that give it high standing among the scenic attractions in the Anza Desert state park. On his last trip six years ago he counted 28 healthy palms. Another trip is to be made to verify this count and secure additional photographs.

CREED OF THE DESERT

By JUNE LEMERT PAXTON
Yucca Valley, California

Now grandma tortoise told an ailing lizard,
To get in the sun each day.
For the touch of the sand is a tonic great
And the air is filled with violet ray.

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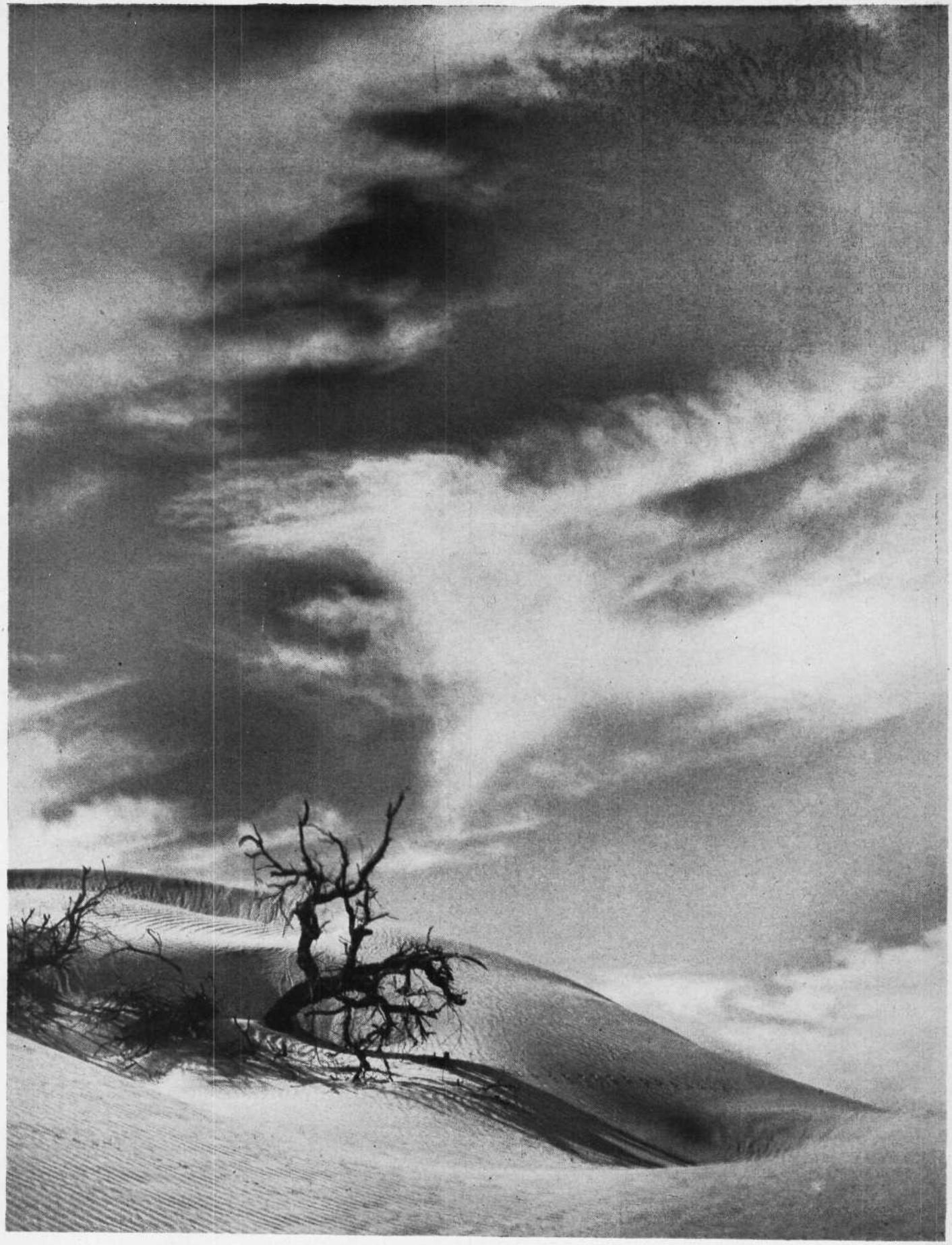
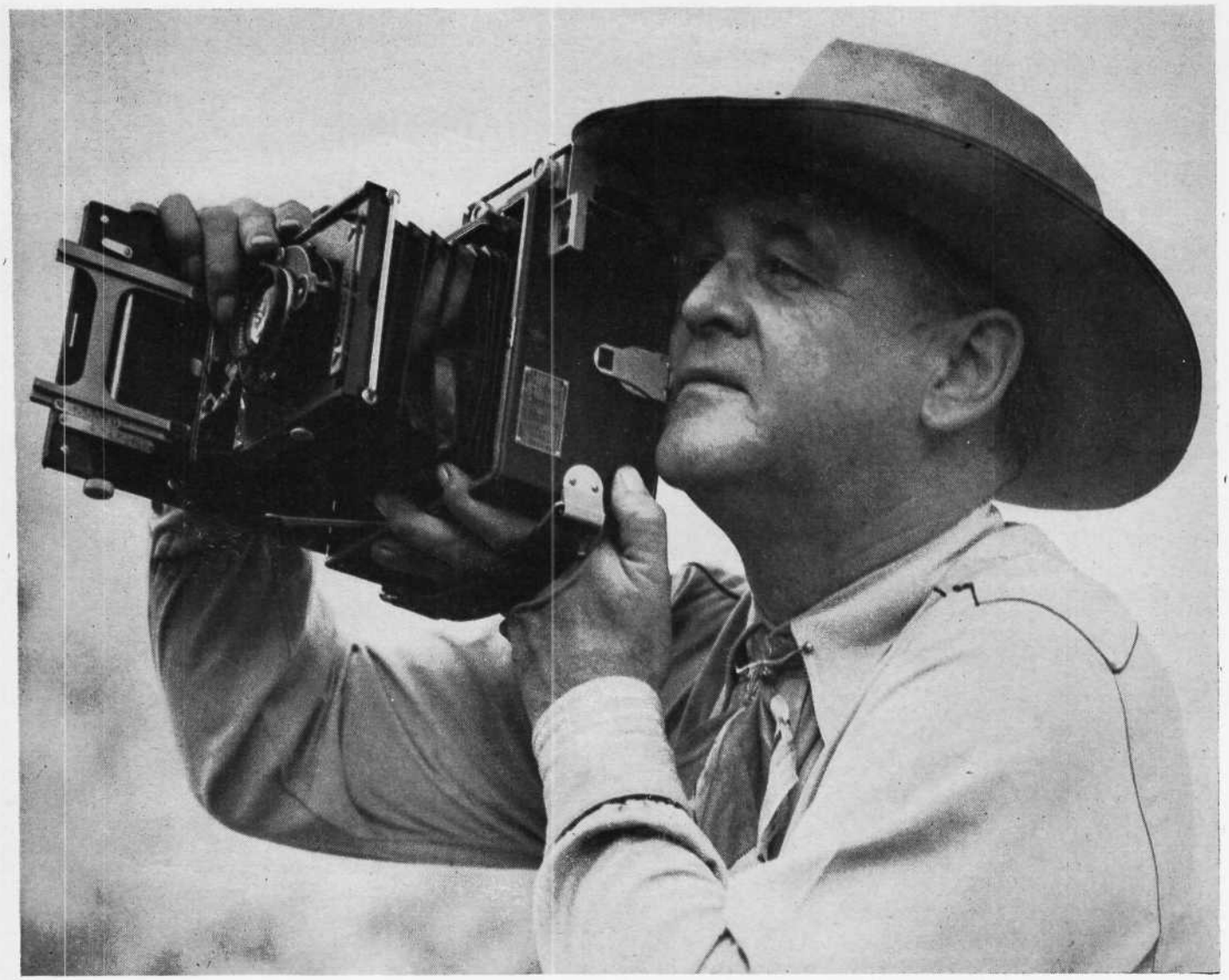


Desert Dragon Photograph taken by Evans in Death Valley. This is a comparatively recent picture which has been very popular with the salon juries.



Most of Floyd B. Evans' outdoor pictures are taken with a 4x5 Speed Graphic. He just cannot be bothered with a tripod—it takes too much time and bother.

Photographer of the Dunes

If you were to go into the Floyd B. Evans studio in Pasadena when the artist-photographer was in the midst of his work you would find the place all cluttered up with prints and mounts and acids and equipment. But out of this disorder comes some of the finest salon prints exhibited in United States in recent years—prints that show the desert in all its natural charm. Evans has his own formula for photography—both in the field and in the studio. If you are interested in knowing why his work is so popular with the juries which judge salon prints, here are some interesting glimpses of the man at work.

By JOHN HILTON

ONE OF the reasons why pictures of the desert Southwest have occupied so important a place in the international photography salons held in United States during recent years is—Floyd B. Evans.

When Evans takes a picture of the desert it is a work of art, as you may judge from the fact that during the year ending June 30, 1943, he placed 127 prints in 46 international salons, and most of them were desert pictures.

Evans did not intend to be a photographer. When he gave up a business career in Chicago a few years ago to move West, he planned to spend his leisure time painting. He rented a studio in Pasadena, California, from Edward P. McMurtry, recognized authority in the carbro printing process. In that atmosphere, Evans first became interested and then enthusiastic over photography as an art.

His first public recognition in his new field of interest came in 1940 when he sub-

mitted four prints in the annual News and Pictorial salon sponsored by Kent University in Ohio. All four were accepted. With that encouragement the Pasadena artist-photographer really went to work in earnest.

But he did not attain his record as high man in the salons without many disappointments. He experimented with various kinds of trick shots—sliced fruits, nuts and bolts, and other commonplace items which once were quite popular with "arty" photographers. At various times he experimented with almost every type of subject from nudes to snow scenes. But he derived little satisfaction in the passing fads of photography.

Then he found one field that fascinated him beyond all others. He made his first trip to Death Valley—and "discovered" the desert.

His enthusiasm for desert photography never has cooled—and his pictures reflect his feeling. The desert, in turn has been good to him. It has furnished him with a high percentage of his winning salon prints. His picture "The Wind Passed By" (Desert Magazine cover this month), taken in the sands of northern Death Valley has been accepted by 69 international salons.

Studio pictures still are represented on the Evans lists, but after that first trip to Death Valley, most of his film has been exposed out of doors. In the desert he has found subject matter that needs no trick handling. He doesn't have to roast, freeze or boil in oil any of his negatives to make them interesting. The desert itself, unmarred by man or any of his works, is all that he needs. If people do appear on his desert, they are desert dwellers—not imported models or visiting dudes dressed in western costumes.

I asked Evans why he prefers desert subjects. "The answer to that is easy," he said. "It is the sunlight." Then he pointed out how all-important is the matter of lighting in the taking of good photographs. It is possible to secure good artificial lighting in the studio—but on the desert the sunlight and clear atmosphere combine to furnish just the right highlights and shadows for whole ranges and entire landscapes. Floyd Evans did not say this, but I suspect that he regards studio lighting fixtures and gadgets as somewhat of a bother—just as he looks upon the use of a tripod in the field.

Evans has little preference between early morning and late afternoon light. But there must be shadows, and he seldom takes his camera out at midday. Cloud effects generally are best on the desert in the late afternoon.

In the absence of a tripod, Evans seldom clicks his camera at a shutter speed of less than 1/100th of a second. He prefers a large camera, his favorite for outdoors being the 4x5 Speed Graphic with panchromatic film.

He believes that color photography will gain steadily in popularity, and that eventually when costs are lowered and processes simplified the amateurs will be taking more color pictures than black and white.

I had the good fortune to accompany Floyd on one of his photographic jaunts. It remains in my memory as one of the most completely pleasant trips I ever have taken. It led us on a loop route through Flagstaff and Cameron, Arizona, Monument Valley and Blanding, Utah, Mesa Verde ruins in Colorado, Shiprock and Gallup in New Mexico, the Petrified Forest, Painted Desert and the great Meteor Crater of Arizona. We traveled without any set schedule and stopped when either one saw something that pleased him.

It was on this trip that I first saw Evans in action. He kept his Speed Graphic within reach at all times, and was out of the car pointing it at some object of interest on a second's notice. He doesn't bother with a tripod. It would cramp his style. I had seen some of the very "arty" photographers who invade the desert loaded down with a half dozen different cameras and a suitcase full of attachments. At first I believed that all this sort of thing was necessary to good picture taking. Evans works with his Speed Graphic, one yellow filter, and plenty of film. (This was before the war.)

I soon lost track of the number of pictures he took. The film supply seemed inexhaustible and so did he as long as subject matter presented itself. The day Harry Goulding took us out to visit the camps of some of his Navajo neighbors must have been an all-time high for film consumption by one photographer. The light was perfect, Harry is always an excellent guide, and the Navajo liked Floyd Evans. When we returned to the trading post that night, he had enough exposed film to have kept the average photographer busy in the darkroom for weeks.

I watched him in his studio later going over all those films. The darkroom looked like rush season in a professional photo finishing plant. The whole house was strewn with test prints. The housekeeper was frantic trying to keep things tidy, but Floyd was happy. About the only spots around the place not cluttered up with prints were the parrot cage and the cactus garden. But it was great fun—almost as much as the trip itself. Friends dropped in and after removing a stack of prints from a chair or sofa, Floyd invited them to sit down and then he and I would vie with each other in recounting the high points of the expedition—illustrated of course by more prints.

The final, and to me the most interesting phase of the studio was the actual making of the salon prints. Floyd had sifted his hundreds of shots and settled down to a few that he thought had real promise. Then work began in the darkroom. There the floor was littered with discarded prints. Floyd is a perfectionist and many times makes a dozen tries with a film before he gets the effect he wants.

After the first test, he decides on the portion of the original film he wishes to use. Sometimes it is a relatively small area of the negative. Then this is enlarged to salon size and studied. Some spots are too dark to suit him—others too light. The picture is made over and dodged with his hand or some other object to correct these things. The print is still probably a little light in the upper left corner so it goes on the floor and another is made. Finally one approaches the point where Floyd approves, and it is laid aside for further work such as spotting and shading. Salon photography is not as simple as it looks and Floyd's severest critic is Floyd Evans.

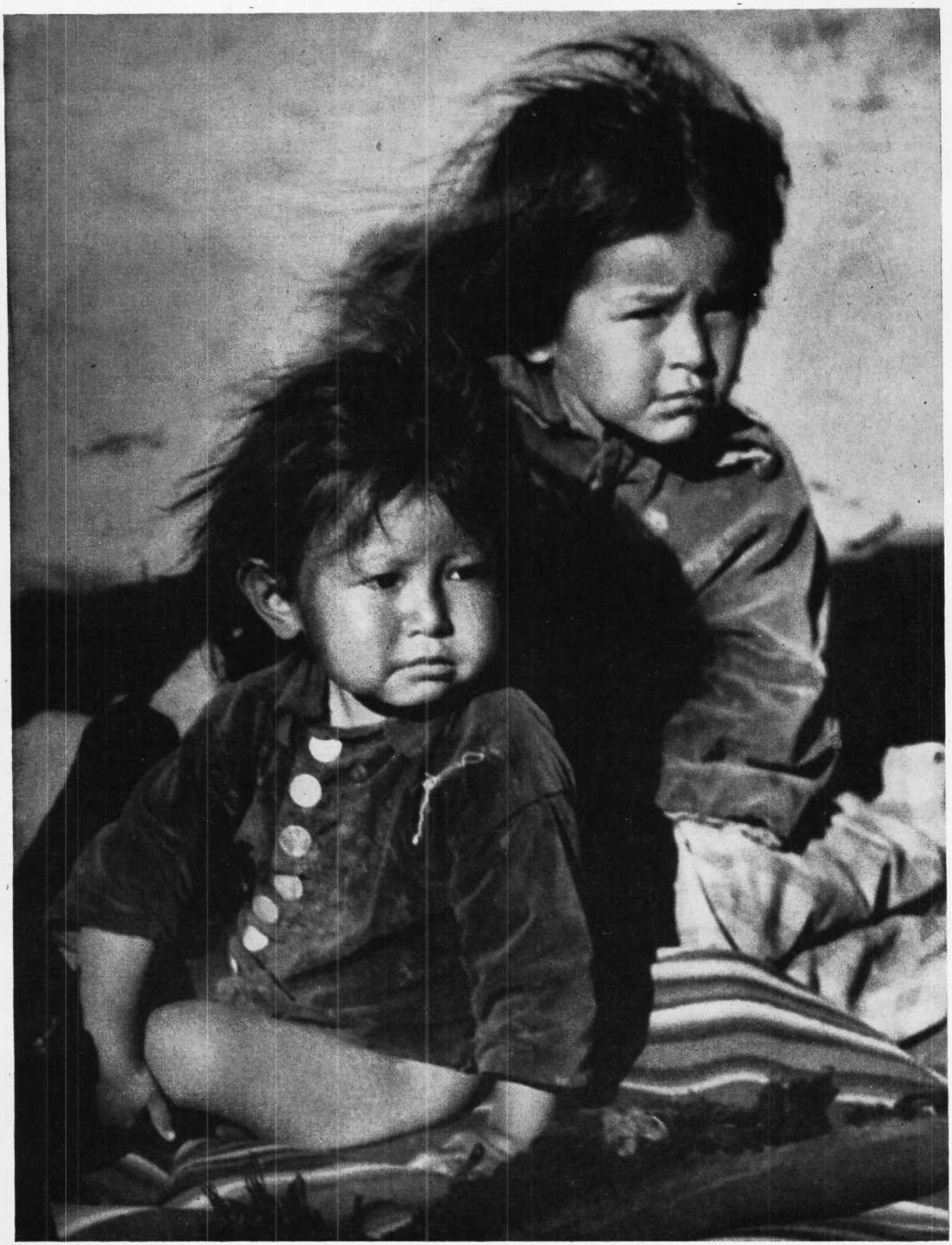
The final result is a picture that brings a warm glow to the heart of the desert dweller—and to the uninitiated in a city thousands of miles away, a great desire to see this strange land that lends itself so well to the photographer's art.

When I saw the finished print of "Navajo Children," all the thrills of that afternoon in Monument Valley's Navajo camps returned in memory. Those two little Indian children were part of a large family that had posed with a dignity and lack of self-consciousness seldom found in professional models. This particular pose was one of dozens in which these children appeared, but Floyd had recognized the fact that this was THE picture of the day.

After prints are made and mounted they pass one more final test before he sends them on their way to the salons. This is the "living test." He hangs them in his dining room or bedroom for a few weeks to see how they "wear." If they look as good to him after he has seen them every day for a period of time, then he considers them worthy. If they don't pass this test they are discarded.

When I asked Floyd for prints to be used in Desert Magazine, my request included a picture of himself. It brought out a very interesting and significant side of the man. Of the thousands of negatives in his files, there was not a recognizable picture of himself. In spite of his protests, I insisted that he pose for one.

Folks who seldom or never have the opportunity of visiting the desert, owe a debt of gratitude to Floyd Evans for the superlative job he is doing of bringing the desert to them through his nation-wide salon exhibits.



Navajo Children This Floyd B. Evans picture, taken in Monument Valley in northern Arizona has been accepted by the juries in 25 international salons.

Rosita and small Pedro and the motherless child who lived with them.

Old customs and old beliefs still linger in the Indian Pueblo of Zuñi in northwestern New Mexico. Women still follow the steep trail to Sacred mountain east of the village to supplicate the House Blessing gods who dwell there. Zuñis still look to Salt Lake, ten miles away, as their mecca, where dwell the spirits of departed tribesmen. And tradition and ritual bound the simplest tasks of daily life, as well as the pattern for ceremonial days—as Rosita learned to her dismay when she returned to her home after having lived in the modern ways of the white man. Her friend Margaret Stone tells how Rosita took some shortcuts through these formalities and effected a compromise which pleased not only her "correct" mother but the headman of the tribe as well.

Rosita of Zuni

By MARGARET STONE
U. S. Indian Service Photos

SUNLIGHT streamed through the windows flooding the big white-washed room where Rosita lay sleeping in old Zuñi Pueblo. The young woman stirred from her warm blankets, tucked them snugly around small plump Pedro, and began the daily chores. Life in her childhood home was very complicated, she thought, after her years spent in a small city where she and Frank and the baby had lived in a modern house with all the conveniences of civilization.

Frank was a member of the Laguna tribe, and theirs had been a non-reservation school courtship and marriage. When they left the school Frank worked as a skilled mechanic for the Santa Fe railroad and neither of them knew the hardships of primitive pueblo living. War brought an end to their way of life, and with Frank doing his share to keep the great bombers flying over South Pacific islands, Rosita took her son and went back to Zuñi to wait for peace, and to care for her crippled mother left alone by the father's death.

She uncovered the coals, buried in last night's ashes on the hearth of the corner fireplace, and blew on them until a tiny flame started in the dry cedar bark. Each day she pleaded with her old mother to allow a cooking stove to be placed in the smaller room where the meals could be prepared and eaten away from where the family worked and slept.

"No. Always loaves have been baked for this house in the outside ovens, and *hewa* (wafer bread) prepared on the cooking stone on my hearth. You will not change these ways."

Rosita's mother had been one of the best Zuñi potters, and her fine big bowls were sold for a good price. She was proud of her work, and the worst part of her sickness was that it left her unable to continue the hard work connected with making pottery. She kept two or more of her most perfect bowls near at hand where she could touch them and talk about them when I came to the house, as I did daily. Seated on one of the wide stone ledges which ran around three sides of the big thick walled room with its huge log beams festooned with feather trimmed prayer sticks, I wrote down stories of the Zuñi people as they were told to me by Rosita's mother. The older woman's name was Ti-h-za, or at least that was how it sounded, but it was easier to think of her and speak of her as "Rosita's mother."

When Rosita learned that a new hewa stone was needed, she mentioned the matter to me. We three women were all at work in the big room, and the chubby brown baby was helping each one in his solemn adorable manner. The five-year-old daughter of a dead sister lived there too and she was earnestly trying to make rabbit foot dolls along with her grandmother. Since she no longer could shape and paint pottery the old lady had been

making the tiny beaded dolls, using a rabbit foot for the body and covering the upper part with padded cotton and beads. The trader gladly exchanged food for the dolls which tourists liked as souvenirs.

Rosita was crushing corn in the grinding bin next to the wall. She rolled the kernels up and down on the metate with the mano stone rolling pin, until the dry corn was turned into meal.

"My mother says we are to have a new hewa stone," she said casually. "Will you take your car and help me look for one?"

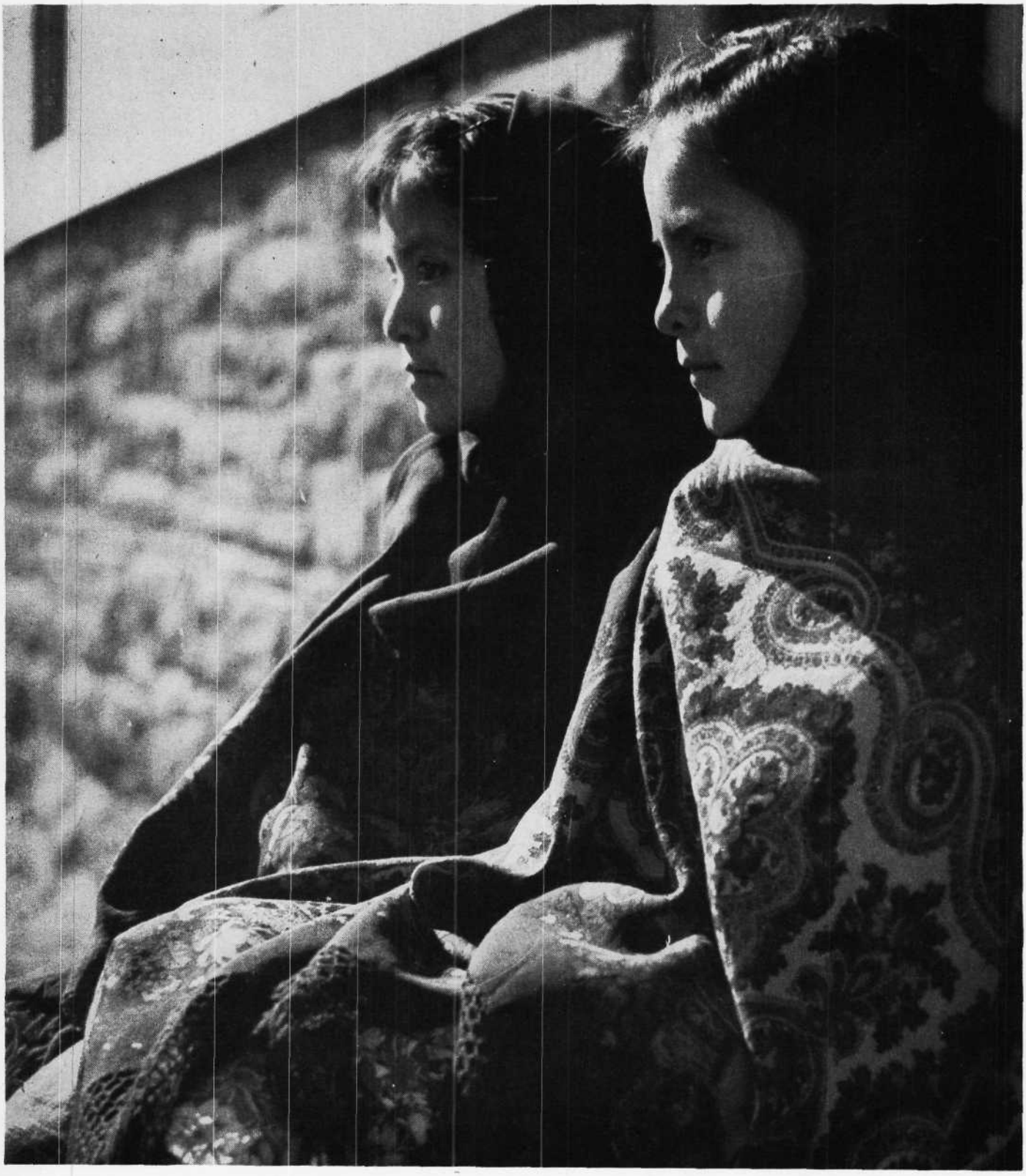
"Sure will. Shall we go this afternoon?" I answered, my eyes on my notebook. Rosita and I were startled at the outburst of Indian conversation from the old mother. After awhile calm was restored and English re-entered the scene.

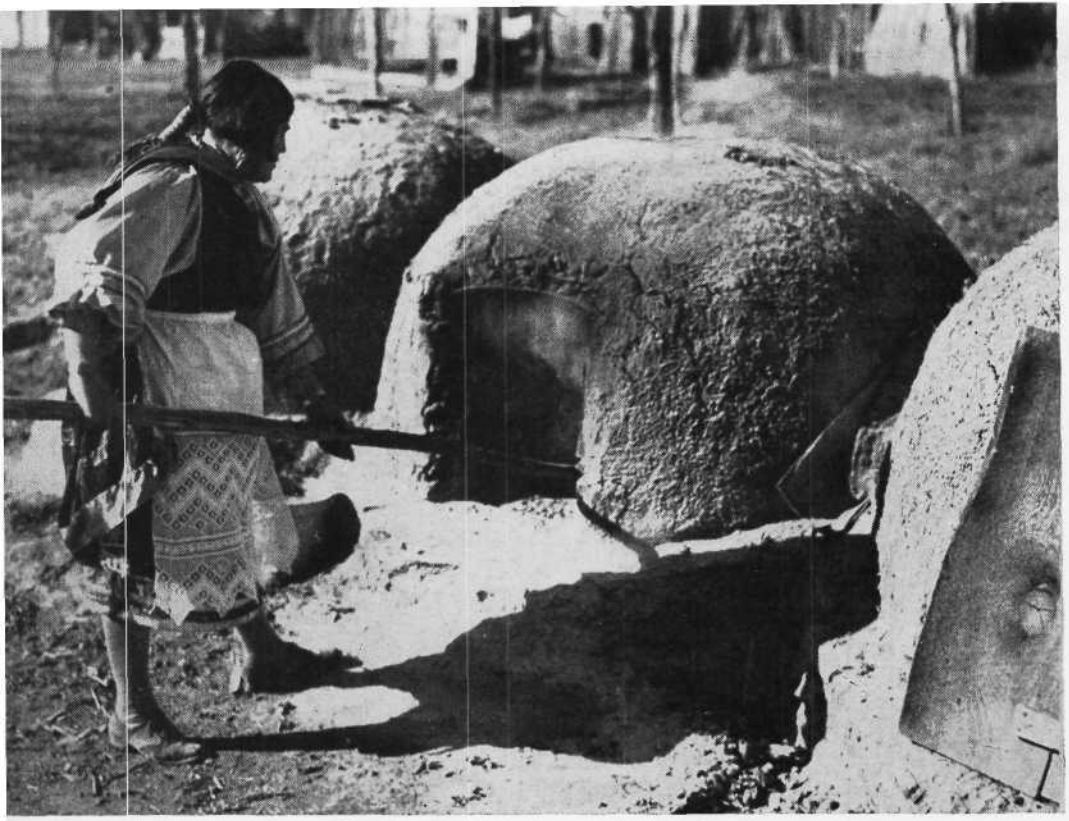
"*You* will *not* find a cooking stone. That is not *your* business, my would-be-white daughter. *Men* of the Corn society select the baking stones."

"All right, Mother. All right. I was just trying to do what I thought you expected of me." The old lady was pacified.

"Tell me just what is done about getting a cooking stone." Rosita made a swift

Zuñi girls are beautiful. These girls are waiting for the Indian Service school to open. Shawls, many of them imported from Czecho-Slovakia, are widely worn by Pueblo women and girls.





Domestic duties are shared by Zuñi women. To this one falls the responsibility of baking bread for several families. Baking still is done in outdoor adobe ovens. With the exception of her modern wristwatch and leather shoes this woman is dressed in traditional Zuñi style. A pitami, or large handkerchief trimmed with ribbons, hangs over her back, as does her braided hair.

motion behind her mother's back and I picked up my pencil and waited. This, the sign had indicated, would be worth recording.

"First we send a gift to the headman. Then he chooses a member of the clan to go to the quarry at the foot of Towa'-Yallanne (Corn mountain or Sacred mountain) to find a place to get the stone. That member reports in the kiva to the society and two additional members are assigned to go with the finder, quarry the stone and carry it to our doorway. Then we feed the men, and the smoothing and curing of the stone is *your* work!"

I wanted to see the quarrying of the stone and the accompanying ceremonies. I turned to the old house-owner. "Friend's Mother," I began, "I will bring the men and the stone home in the car if you think it would be correct." The old lady was non-committal, but Rosita carried half a dozen bottles of the sweet pop so dear to Indian stomachs, with her for the headman, when she took the traditional gift of ears of corn rubbed with salt from the banks of the sacred Salt lake about ten miles away. She slyly mentioned to the old man that her white friend always had bottles of pop in her car and that the stone could be brought home in the car and thus save three miles of footwork in the hot sun. The old man and Rosita twinkled at each other and he nodded his head.

"You just mention to my mother that there is no harm in having the stone ride home instead of walk and *she'll* tell *me*!" Next day while beads were being carefully strung for doll making, the mother hinted that since the white woman was such a good friend, she had prevailed on the Corn Society chief to allow the stone to ride home in her car. And since the white woman must not go alone on such an errand, she guessed Rosita might as well ride along.

It probably just happened that the headman himself was close to the car when Rosita and I were ready to go. Anyway he accepted the invitation to accompany us and he directed our course eastward toward the base of Corn mountain. There, since the first knowledge of the Zuñis, they have been splitting off smooth sections of sandstone for their essential cooking slabs.

High noon's sun beat down on the three men waiting for their priest. They rose from their place under scant juniper trees and came to the car. I suggested that a bottle of pop might make the work go easier, and the headman accepted the first one opened!

Before the first effort was made to split the stone loose, sacred meal of appropriate colors was sprinkled toward the six directions, and a prayer stick, which was an ear of corn plastered with Salt Lake mud and

These Zuñi women show further contrasts between the old and the new. Younger woman is dressed in "white" clothes. She probably has bought the boy's clothing at government school. Older woman wears typical tribal dress. The dark jumper covers one shoulder, while over the other hangs the pitami. Blouse and longer skirt are trimmed with embroidery and appliqué, as is her white apron. All women and girls have their ears pierced for eardrops. Older woman wears silver eardrops made by Zuñi silversmiths. Her coiffeur also is Zuñi style but she wears modern wristwatch and leather shoes instead of moccasins. Women here have just finished washing out the oven preparatory to baking bread.

adorned with eagle down, was placed on the shrine dedicated to the gods of the quarry.

With all that preparation, and because the workers really were skilled in its handling, there was small chance for the slab to break. Once free from its surroundings and trimmed to a size approximately 24 by 36 inches, it was brushed clean with juniper branches and placed on its edge against the back seat of the car. It seemed a good time for the second round of drinks, and again the headman was first in line.

The slab was sprinkled with meal and pollen by the head of the Turquoise society whose blessing was for the purpose of keeping sickness away from anyone eating bread cooked on the stone. He then carried it into the little corn room behind the row of metates. This time a case of cold pop was brought from the trading post and as a bottle was opened it was tasted and passed around from one to another.

One side of the stone has to be as smooth as ivory and it was days before Rosita, working briskly with a rubbing stone made of petrified wood, had the surface in condition to suit her mother. She had to work in silence, no loud word must be spoken in the house, and all her motions were made from right to left. Now and then she looked at me and grimaced, but she never flagged until her task was complete.

Then the real period of suspense began. The stone slab was carefully placed on the rock supports from which the discarded one had been removed. These rocks which held the big slab were placed at each end and lifted the slab about a foot above the wide hearth. For some reason not explained, the right side of the hearth always holds the cooking stone, and all motions employed in seasoning the rock, greasing it for use and spreading the batter is made with right-to-left strokes.

When the slab was carefully centered on its supports a very small fire was kindled underneath it. Live coals from one of the kivas were carried over to Rosita in a beautiful old bowl, which doubtless had been used for centuries to convey live coals, and these were blown upon until the shredded cedar bark blazed. Bits of cedar wood were added now and then, just enough to keep warmth pouring upward against the stone. No word above a whisper was spoken. The mother, wearied with all the excitement, slept in her chair, while I crouched on the floor beside Rosita in silent companionship.

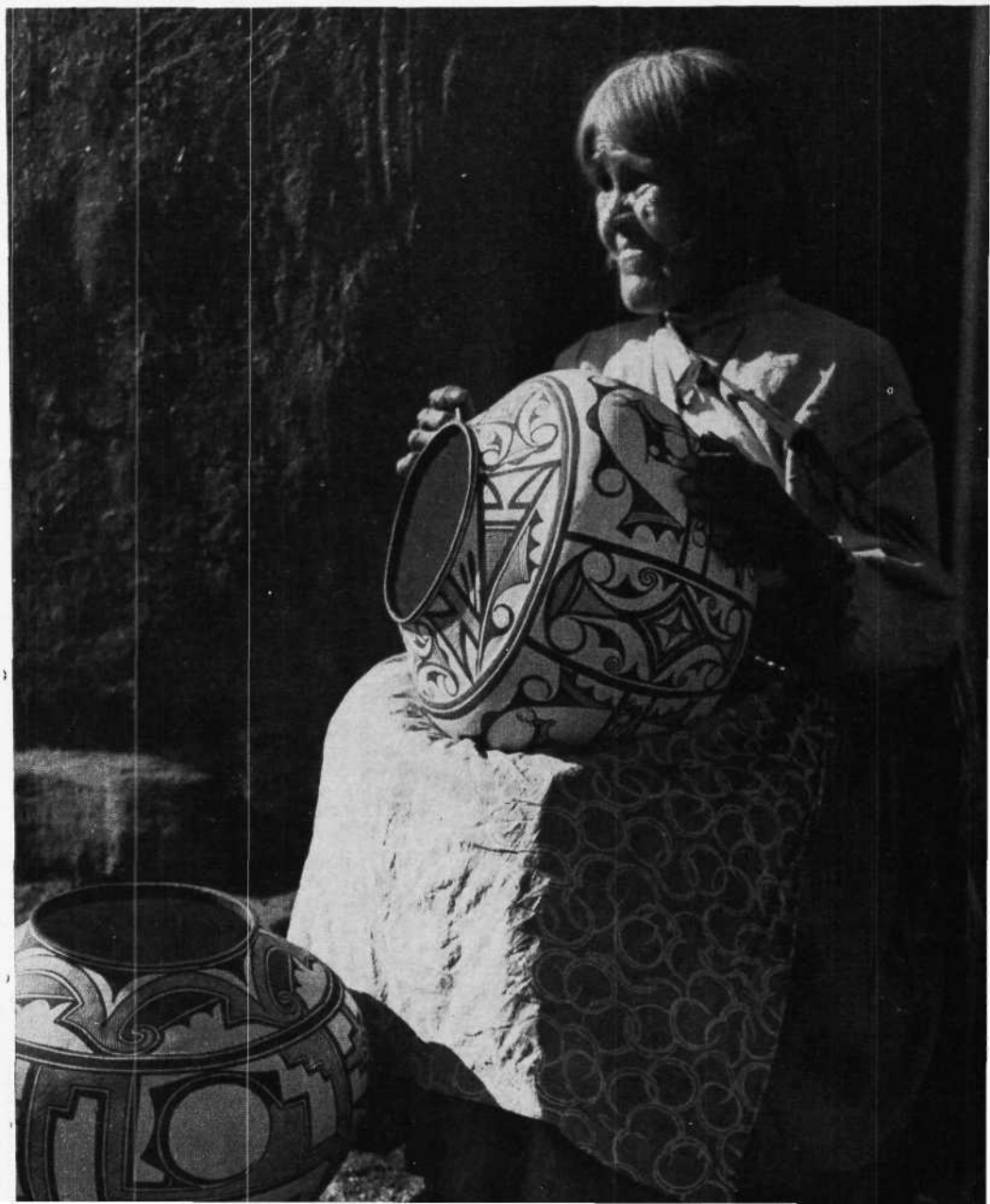
After midnight I opened a package of sandwiches I'd brought with me and we ate them in silence. Small Pedro was spending the night in the hospital nursery because he couldn't be expected not to make a noise, and Rosita would not allow him to sleep with any of the neighbors. The taboo on talking had been explained. Loud voices attract the evil spirits, who delight in breaking cooking stones. The same holds true when pottery is being fired.

"When a stone cracks in spite of everybody keeping still—what causes that to happen?" I questioned Rosita's mother.

"In that case, either the one working on the stone, or someone watching her has a bad wicked heart!" declared the old woman. Rosita picked up my pencil and scribbled a message, "Let's hope *our* pasts have been blameless!" We smothered giggles and Rosita laid a hand on the top of the rock to see how warm it was getting. On the second day the fire was increased and the slab was properly tempered. It smoked and hissed when Rosita smeared it with crushed pumpkin seeds. The oil from the seeds went into every pore and then the stone was allowed to cool. Still no word was spoken in the house.

When the stone was cool, Rosita, under her mother's directions, polished it vigorously with a sheepskin buffer, and it shone smooth and black as ebony. Another small fire was kindled, and this time chunks of raw piñon gum were rubbed over the stone time and again. When fragments hardened or broke from the lump, pine twigs were used to brush them off—toward the left, of course. When the piñon gum was consumed, the stone again was allowed to cool, and this time the fragments were swept away with juniper twigs. Each bunch of pine or juniper branches was used but once and then laid aside. While the stone cooled, it was sprinkled with crushed juniper twigs and berries, and the air was heavy with their resinous odor.

The stone had been successfully



Rosita's mother, a Zuñi potter. Zuñi pottery is egg-shell white, with intricate reddish brown design.

prepared, tempered and oiled. Now everybody was crowding in to see it and congratulate Rosita on her fine work. She looked pleased, but put off making the hewa mixture for wafer bread until the next day. Real bread was needed and she mixed a huge batch of yeast bread from flour bought at the trading post.

Zuñi women pride themselves on their beautifully browned fragrant loaves of bread, which they bake in the beehive ovens of adobe along the river's edge or in the plaza. Because there are so many duties confronting Indian women, they have learned to apportion their work, and sometimes one woman does the baking for a dozen neighborhood women in one day. The women of each house mix their bread in big granite dishpans and leave it covered with clean muslin close to the corner fireplace. In the morning when baking is to be done, it is worked down and allowed to rise the second time, then kneaded and shaped into loaves. Sometimes these loaves are put in pans, but more often they are carried out on a smooth board to the hot oven and slipped in on the meal-sprinkled floor.

The woman selected to do the baking has been at the ovens since early morning, kindling her fires from bark and gradually adding cedar wood until the oven is thoroughly heated. She has perhaps four or five ovens heating at once, and when the first customer appears, she opens the rock door, shovels the hot coals out and puts them into the next oven, takes a long handled broom made of juniper twigs and dips it into a pail of water. With this she swipes the floor clean of ashes, then throws a handful of coarse meal in on the floor before placing the loaves, which are slid into the oven on the broad end of a paddle shaped pole. The door is closed when the oven is full and the baker knows just how long a period should elapse before it is time to unchink the stone and take the sweet smelling nutty bread out for delivery to its owner. She either can take her pay for the work by accepting a loaf of bread from each customer, or they each will give her two cups of flour for her labor.

Rosita had not yet learned how to regulate the heat of the outdoor ovens so in lieu of her turn at baking she paid double toll on baking done for her. When she was summoned to bring her loaves to the oven I walked along and helped carry them. The ovens are bits of heaven for shivering dogs and cold bare-bottomed little boys. In winter time the youngsters, with just short cotton shirts clothing them, linger near the ovens and lean their chilled backs against them. They are very careful to keep out of the way of the busy women, and woe to any urchin who kicks up dust or causes any dirt to touch the precious loaves. On days preceding village dances or special ceremonies, all the ovens are used, and sturdy women go up and down ladders, back and forth from house to kiva, with great baskets piled high with white and brown loaves. They carry these baskets on their heads, never needing to balance them with a touch.

Zuñi women are beautiful. A great part of their beauty comes from the proud graceful carriage, and I think I know how they won their grace and poise—those heavy baskets on their heads. I remember having to walk up and down stairs with a book on my head because my lady grandmother thought I was inclined to slump!

Rosita delivered her loaves for baking and went back to mix and bake her first hewa. The mother told her exactly what to do.

"Put your hewa bowl half full of water, and take enough salt to fill the hollow of your cupped hand. Put that in the meal you have ready in the second bin, and then stir it all together in the water—stirring, of course, toward the left."

That was the recipe, and I waited with interest to see what that unleavened, non-shortening style of batter would produce.

The cooking slab was smoking hot and the mother asked to be placed in front of it. She brushed away the crushed juniper twigs and berries, and exposed the beautifully smooth black surface. Tucking her thumb back into her palm, she dipped the four fingers of her right hand in the thin mixture and with one swift swipe, she covered the far side of the stone from end to end. Three more passages along the stone and it was covered. Instantly she lifted the thin wafer off and laid it flat on the hearth. When she had cooked about twenty of the wafers, she began laying them back, one by one, on the heated stone. As soon as they touched it they were flexible enough to be folded twice and rolled into cylinders about the size of small ears of corn. These were piled on a woven plaque.

"You try it now, my daughter. The stone is true and shows that your heart is right." Rosita looked wildly at me for help, but meeting a baffled look, she crouched beside her mother and began what seemed to her a hopeless job. Her first attempt spattered the thin mixture here and there but she grimly set her teeth and kept trying. She was a very proud daughter of the Zuñis when she lifted her first perfect wafer from the stone. Each time she spread the mixture she learned what not to do if she wished to avoid blistered fingers. When the mother said she would finish the task Rosita rose gratefully and accompanied me to the door.

"Gee Whiz," she said, examining a burn. "I hope this war ends soon!"

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Zuñi Indian Pueblo, 40 miles south of Gallup, New Mexico, is the largest Indian pueblo, with more than 2000 people. From the fateful day in 1539 when Coronado's gold seeking Conquistadors sacked the village, and drove its inhabitants to their sacred Corn mountain, the Zuñi Indians have figured in Southwestern desert history. They, more than any other pueblo, adhere to the customs, traditions and full religious rites of their ancestors.

What the return of the hundred or more Zuñi men serving in armed forces, and the number of war worker girls, will do toward modernizing this ancient pueblo remains to be seen.

In the meantime Rosita, who longs to be working in an airplane plant or thinks what a wonderful thing it would be to wear a WAC uniform, cares for the helpless children and crippled mother dependent on her. Perhaps some day she can look back on the everyday battle she fights there against superstition, dirt and disease, and realize that her's was a major conflict, bravely fought and valiantly won.

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HOSTEEN JOHN, FRIEND OF THE NAVAJO, IS DEAD

The Southwest lost one of its most colorful pioneers when John Wetherill, aged 78, of Kayenta, Arizona, died at Ash Fork November 30. Wetherill was on his way to Needles, California, seeking a lower altitude for the benefit of his health, when death came. He has been in failing health for the last two years.

Respected by his neighbors, both white and Indian, John Wetherill played a leading role in both archeological and geographical explorations in Arizona, Utah, New Mexico and Colorado during the last 38 years.

He led Dr. Byron Cummings and the first party of white Americans to see the Rainbow natural bridge in 1909, (Desert Magazine, May '40). Previous to that he had been one of the first to discover and explore the Mesa Verde Indian ruins in Colorado, and had led an archeological expedition to the Cliff Palace in the region which has since been made a national park.

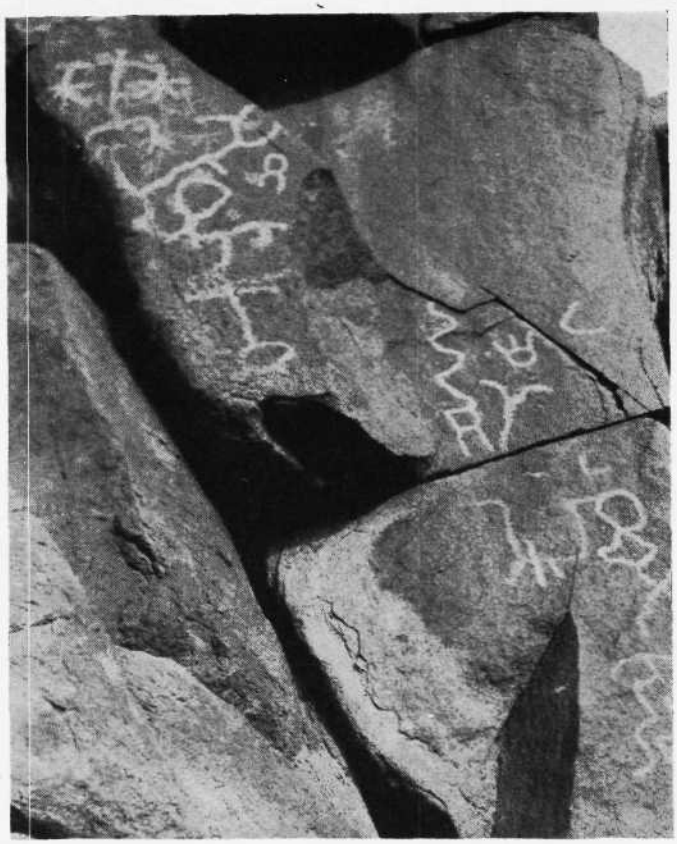
"Hosteen John" as he was called by his friends on the reservation, knew the Navajo better than most white men, always was their friend, and his passing will be mourned by friends of many races and creeds.

John Wetherill was born at Leavenworth, Kansas, September 24, 1866. In 1906 he came to Arizona and during the past 38 years made his home on the Navajo reservation. During most of that time he operated the Kayenta Trading post as a partner of Clyde A. Colville.

Surviving members of his family are his wife, Louisa Wade Wetherill, author of *Traders to the Navajo*, and his son Benjamin Wade Wetherill, now in the Aleutian Islands.

Funeral services were held at Kayenta on Sunday, December 3.

This is the first of Randall Henderson's series of stories about the native palm oases found on the American desert. Corn spring is given first place in the series because it was here 24 years ago that the author made his first acquaintance with Washingtonia filifera, the wild palm of Southwestern United States. Since that time he has continued his search for these native palm groups and has logged more than 60 of them—with others yet to be located and photographed. Some of these oases, like Palm Canyon near Palm Springs, California, are well known to desert travelers. Others are hidden away in almost inaccessible places and are unknown except to a few members of the prospecting fraternity. Palms are an infallible promise of water near the surface of the ground. They must have their roots in moist soil or sand—and it is because they serve as a permanent and reliable guide to many of the waterholes on the Southern California desert that their location is important.



Prehistoric Indians left their record on the rocks at Corn spring before the white man came this way.

Oasis in the Chuckawallas

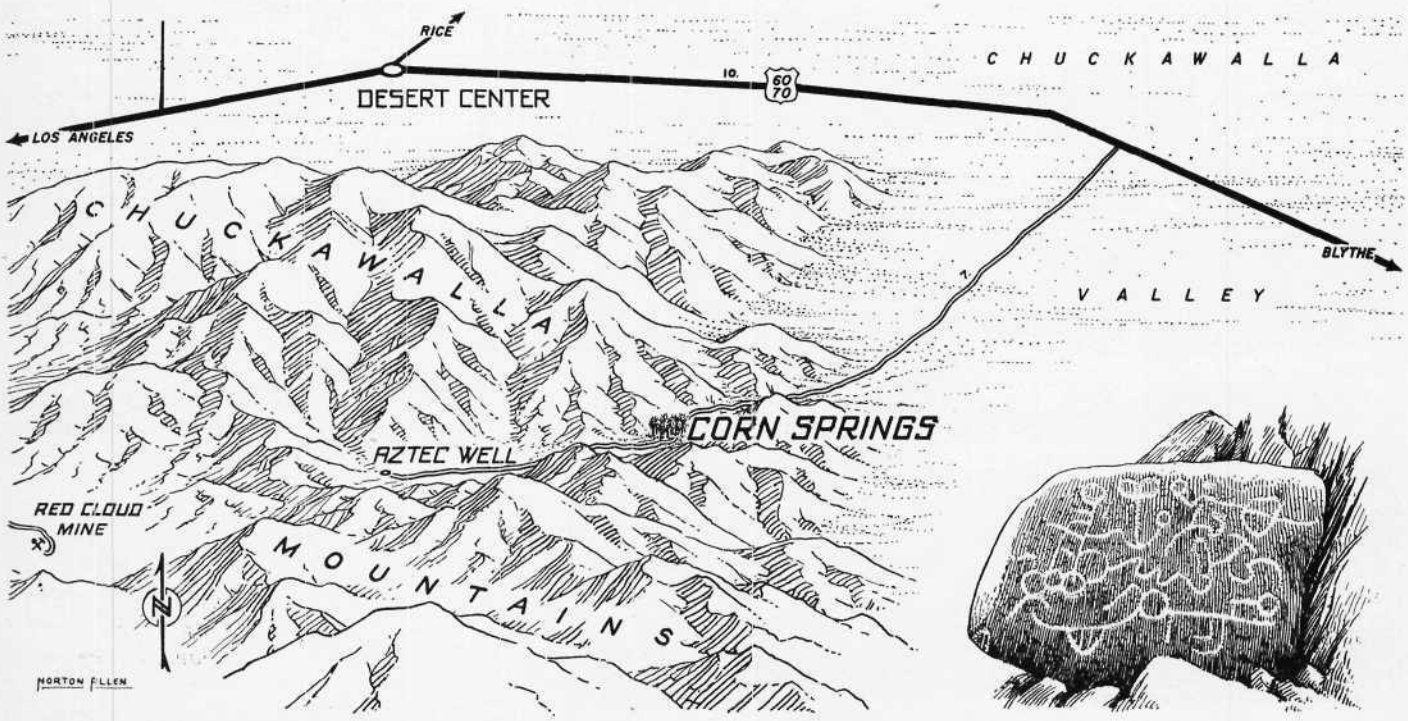
By RANDALL HENDERSON

DESERT Indians who once camped beneath the native Washingtonia palms at Corn spring left a rather detailed record of their life in this remote oasis. It is incised in the boulders close by the little spring of clear cool water.

But no white man, or living Indian, has yet deciphered those prehistoric glyphs. And so my story of the spring and its guardian palm trees snuggled deep in a bowl-like valley in California's Chuckawalla mountains will start with a summer day in 1920 when I helped push a wooden-wheeled motor car up the sandy wash that serves as the only road to this ancient waterhole, and saw the oasis for the first time.

The trip across the sandy floor of Chuckawalla valley and up the wash to the spring was a rugged adventure in the days before U. S. 60 became a paved highway. But the hospitality of our reception when we reached there was reward enough for the effort.

For those were the days when Gus Lederer lived in a little cabin among the palms—and left his door unlatched to all who came that way. For many years Gus was the self-appointed guardian of Corn spring. He kept the waterhole clean. He



fed the quail and burros that came to his door. He built a fence around the two fig trees planted there at an earlier date by an unknown hand.

To his friends, Gus was the Mayor of Corn spring. He was a prospector who staked many claims but never found any pay ore. During the annual melon harvest in Imperial valley he would herd his jalopy down the sandy road through the Chocolate mountains to Brawley and in six weeks made the grubstake that kept him in flour and bacon and beans for the other 46 weeks.

Between prospecting excursions Gus spent his idle hours with paint brush and canvas. His was the untutored art that knows no rules except to transfer to canvas as faithfully as possible the beauty and color of the desert landscape. And considering the fact that he had never attended an art class, he did amazingly well. I doubt if he ever sold a picture—or even tried to. He just painted for the happiness that comes from creative work—and gave the pictures to friends who liked them.

Gus died in December, 1932, and today his body lies beneath a mound of stones at Aztec well, three miles up the wash from Corn spring, placed there in accordance with his last wish, by his friend and neighbor Desert Steve Ragsdale. There are two mounds on the little mesa above Aztec well. The other marks the resting place of Tommy Jones, another of the veteran prospectors of the Chuckawallas. Gus and Tommy disagreed on every subject under the sun. They always were arguing about politics or rocks or art—and perhaps that was the reason they were so attached to each other. Life could become very dull in a place so isolated—but it was never boresome when these two prospectors were together.

Side by side on a rocky mesa near Aztec well, three miles up the arroyo from Corn spring, are the graves of Gus Lederer (left) and Tommy Jones, veteran prospectors in this area.

I had planned to write the story of this Chuckawalla oasis for one of the early issues of Desert Magazine. Then word came that careless campers had left a fire which swept through the palms, burning the dry fronds on many of the older trees. I did not want to tell Desert readers about a pretty desert oasis that overnight had become charred and ugly. And so the story was postponed.

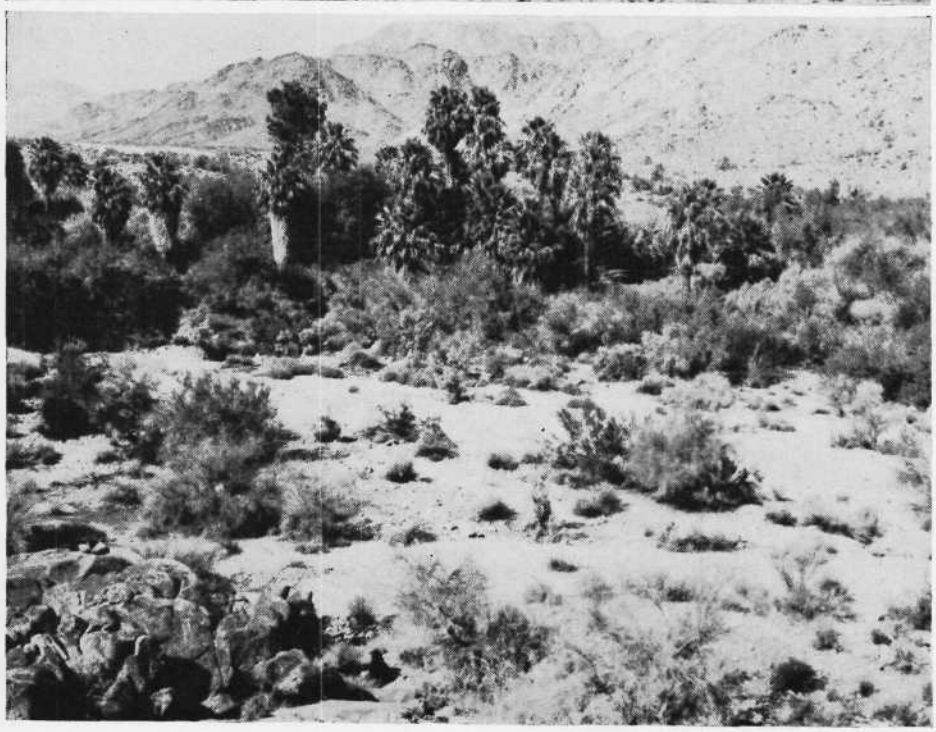
I am glad to report now that Corn spring has regained most of its former charm. Fortunately, fire seldom kills the native palm trees. The *Washingtonia filiferas* at this oasis are well supplied with water. The skirts of dry fronds that once reached the ankles, now come barely to the knees. But perhaps even a desert oasis should make some concession to the passing fads of dress.

The number of trees has increased. Twenty-four years ago I counted 57 palms, including all those over three feet in height. Today there are 82 vigorous trees that rear their stately heads above the thicket of mesquite and catsclaw and arrowweed which grows at their base.

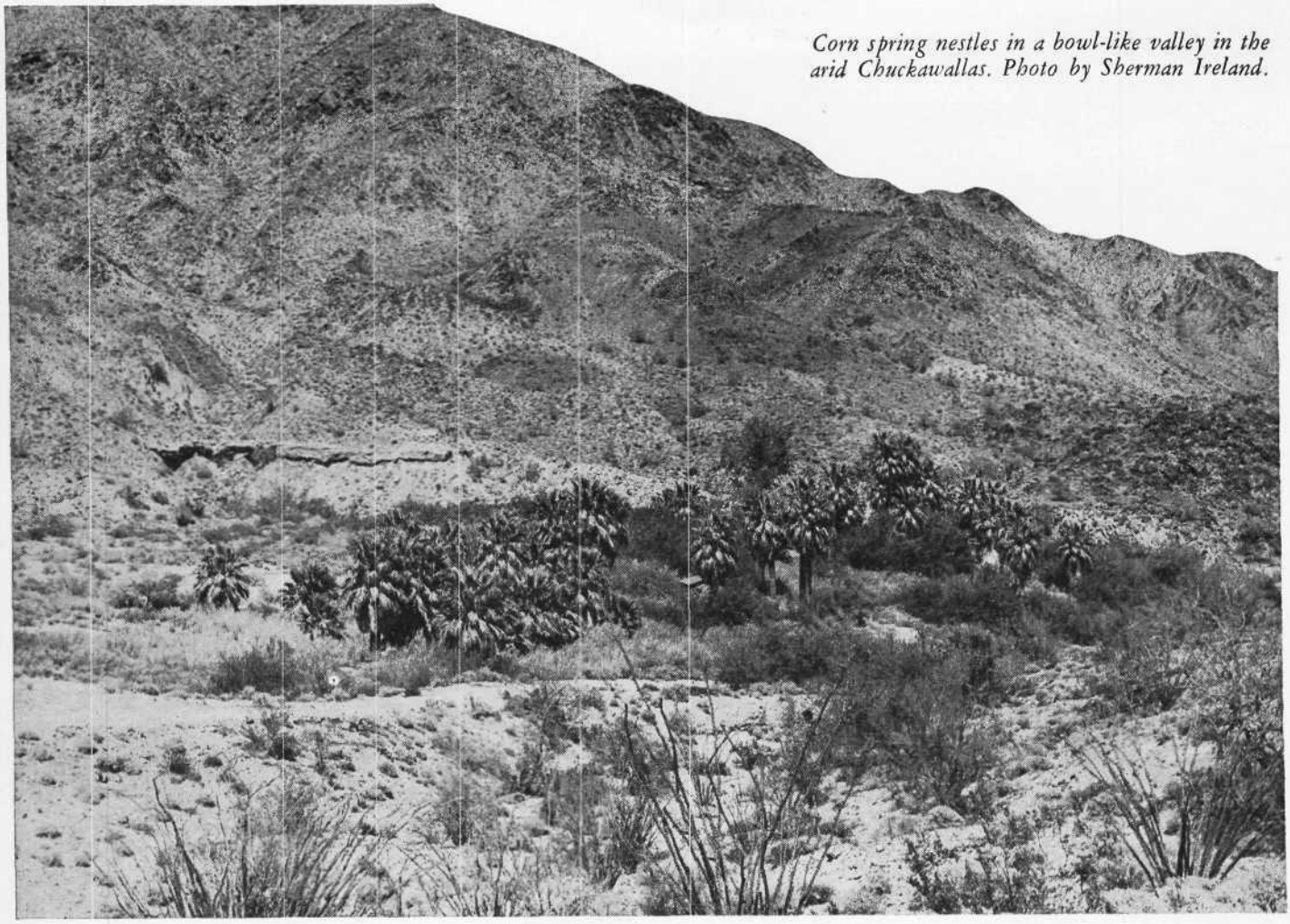
I visited the oasis late in November, my first trip there in five years. The road up the wash is still just a winding trail, but it has been packed by rain and travel and I made it easily in high gear.

That night I spread my sleeping bag in a little clearing at the foot of the palms. I had the oasis all to myself, but there is no loneliness when the breeze is rustling the dry fronds overhead and night birds are on the wing.

Among the palms where Gus Lederer's cabin once stood is a new concrete-walled cottage. It is empty. I was told by one of the prospectors later that a mining man with claims in the surrounding hills had planned to make this his headquarters during the development of his property. He did not know that all the land within 1320 feet of the spring has been with-



The palms quickly recovered from the fire that swept through the oasis four years ago. This picture was taken this past November by the author.



Corn spring nestles in a bowl-like valley in the arid Chuckawallas. Photo by Sherman Ireland.

drawn from permanent settlement by federal order, and that Riverside county supervisors have established this oasis as a county park. He learned about these reservations after the cabin was built—and it has never been occupied.

The next morning I drove up the arroyo to Aztec well to visit the graves of Gus and Tommy. The mounds are well preserved, thanks to the interest of A. B. Chaney, another of the old-time Chuckawalla prospectors. Chaney lives in a cabin by the well. Periodically he goes down to Corn spring to clean out the waterhole, but except for this volunteer service on his part, the oasis is unattended, and unoccupied except by an occasional camper.

Miners and others at various times have sought to establish a private right to the water in Corn spring. The foundations of an old mill where ore from the Red Cloud mine 12 miles away once came for processing, still may be seen. But that was in the days before the federal government withdrew this waterhole from private entry. Now the oasis belongs to the public, where all may come and camp in the shade and replenish canteens from the spring.

Indians who once lived by Corn spring have left abundant evidence of their sojourn here. Many of the rock faces across the arroyo from the spring are covered with petroglyphs. Broken pottery is found all over the area, and occasionally a flint dart point. Gus had several metates which he had found near the oasis.

There was food and water here for the aborigines. From the palm trees they could obtain an annual harvest of sweet-skinned seeds. Great gnarled mesquites grow in the oasis. Palms gain dignity with age, but not the mesquite. They become twisted and bent with years—but they continue to grow a fine crop of beans, and mesquite beans were a staple item in Indian diet. Also, the catsclaw were heavy with beans when I last visited the spring. There always has been some doubt in my mind as to whether or not the Indians used catsclaw beans for food. It almost requires a sledge hammer and an anvil to crack one of these seeds. But probably the aborigines found a way.

Somewhere up in the hills above Aztec well is a little flat marked by weirdly eroded sandstone boulders—Monkey flats it is called. Dick Emerson of Calexico has told me about the place, but I never have visited it.

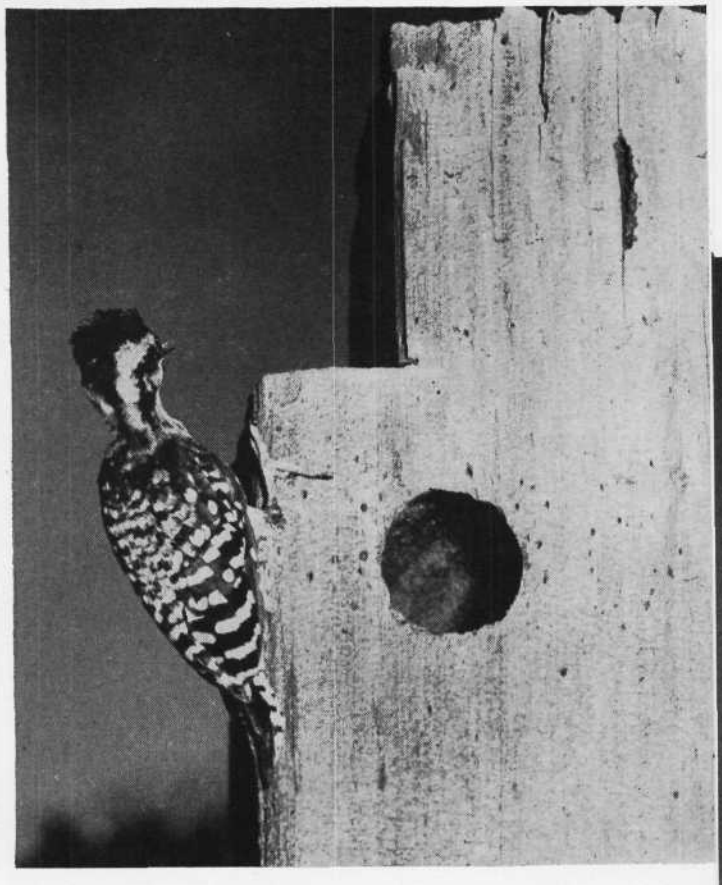
Gus Lederer always expected to find rich ore in the Chuckawallas. Countless claims have been staked out in years past, but with the possible exception of Red Cloud mine, pay ore never has been uncovered in quantities to insure sustained operations. The search continues, and today the range is dotted with monuments erected by men who have found a trace of color.

But while gold-seekers have tramped the hills in vain search for wealth in this region, the rockhounds have found the Chuckawallas a happy hunting ground. Geodes are gathered from outcropping ledges in many places and much cutting material of agate, chalcedony, jasper, carnelian and sagenite has been recovered—and much more awaits the quest of future collectors.

Corn spring is little known to the rock-collecting fraternity for the reason that little material has been found in the vicinity. The rockhounds usually camp at Wiley's well or Chuckawalla well or Chuckawalla spring, the latter two being about three miles apart.

Corn spring oasis is mainly a watering place for prospectors, and for those weekenders hardy enough to brave the sandy trail up the wash.

Corn spring is a typical American oasis —and thanks to the interest of local people and the foresight of the federal government it is to be preserved both as a source of life-giving water in the heart of a very arid region, and as a haven of rest for those who come to the desert for peace and relaxation.



Baby woodpecker has just left his post-hole for the first and last time. A moment after this photo was taken he made a 50-yard solo flight to a nearby mesquite.

If birds are subject to the same emotions as human beings, the fledgling woodpecker in this story no doubt hopped off the fence post for his first flight with much the same scared feeling that a flying cadet has on his initial solo. And the parent birds felt no less pride in their youngster than does the average American father and mother when their GI son writes home that he is now a solo pilot.

While baby woodpecker stares at the camera one parent clings to side of post, having just fed the young one. Note characteristic stance of woodpecker—stiff tail braced against wood, sharp toes digging in.

Solo Flight

. . . of a Woodpecker

By GEORGE McCLELLAN BRADT

EARLY last summer my wife and I were the uninvited, though none the less appreciative, guests at a coming-out party for a young ladder-back woodpecker, the species known as *Dryobates scalaris*. It is the little black and white bird of the mesquite and agave.

It happened at our deserted rancho near Noria, New Mexico, where we had gone for a weekend of bird study. It was while we were spreading our bedrolls and preparing supper that we learned of the approaching fete.

A loud shrill cry from the direction of the empty corral focused our attention on a small, striped, long-nosed bird clinging to the side of a dark fence post. It was a woodpecker, our first *scalaris* of the season. That in itself was enough to get excited about. But when the gay, loud-mouthed fellow was joined by a second, and then the two by a third which poked its feathered head out of a heretofore unnoticed hole in the post, our elation knew no bounds. Here, under our very noses, was the occupied nest-hole of a pair of ladder-backs.

During the next half hour we watched the parent birds make eight trips, beaks laden with insect food, to the nest. Between the second grub and third pupae courses, while the adults were foraging far afield, we hurried to the post to find out how many young birds were sharing all this food. By means of a flash-light and some prodigious eye-straining we were just able to see the nest's single occupant in the bottom of the hole. Others, probably three or four, must have recently left the nest for this last one was well feathered and almost as large as the adults themselves. No wonder, with eight helpings of supper!

Just before seven, although it was still quite light, the little bird gave a final, ear-piercing shout and disappeared into his deep nest for the night. The summer sun soon dropped behind the western mountains to relinquish the desert to the silent starry evening, and we turned in to dream of photographing nest after nest of ladder-back woodpeckers.

At 5:45 the next morning a woodpecker reveille put a welcome end to a sleepless night that had been filled with everything from a horned owl duet on the top of the creaking windmill to a hungry rodent tripping over a pile of tin cups and plates. The sun, just gilding the tops of the cottonwoods, had not yet touched the dark nest-post. But apparently sunlight had little to do with the young ladder-back's appetite. With his little head thrust far out of the black hole he began demanding food, food, and more food in a voice so loud, so shrill and so unceasing that after a few minutes of listening to it I was about to go searching for grubs and ants myself.

Within an hour we had finished breakfast, thrown together a crude blind of army cots, and set up our camera equipment a few feet from the post. Two cameras were focused on the nest

cavity—one with kodachrome, the other black and white. Both were operated with a throw switch from the blind. Some 75 feet of wire ran from the switch to a relay which completed the circuit to fire both shutters and synchronized flash-guns. By seven all was ready and we climbed into the blind to await developments.

The parent birds evidently suspected that we were plotting against them. With beaks full of breakfast they tried time after time to summon the courage to feed their fledgling, but the cameras were too much for them. This shyness was hard to understand, particularly since both birds had remained but two posts away while the cameras were being set up. Now, even though we had disappeared, they stayed far away while the little bird almost blew his top, as they say in the army, in exasperation.

The young ladder-back's antics during this first trying hour were as ludicrous as anything in the wildest Disney cartoon. Like a feathered jack-in-the-box he kept popping his head in and out of his hole, looking in every direction for his parents. We expected momentarily to see him wring his own neck as he looked first to the right, then down, then to the left, finally up—and then, apparently without unwinding, all the way around again. But when all this maneuvering failed to locate his parents he raged with impatience. His calls grew louder, more insistent, his eyes fairly spun in his curious little head, and finally he leaned so far out he almost fell to the ground. At this point the adult male rushed to the post with some insect gruel, his concern for his offspring overcoming his fear of the cameras.

We got our first picture at this time (eight o'clock). After the young bird had thrust his head far into the parent's beak for his first bite of breakfast, the latter flew off with the characteristic, graceful, wavy flight of the woodpeckers. During the next hour two tries were made by the female but on neither occasion could she bring herself before the cameras.

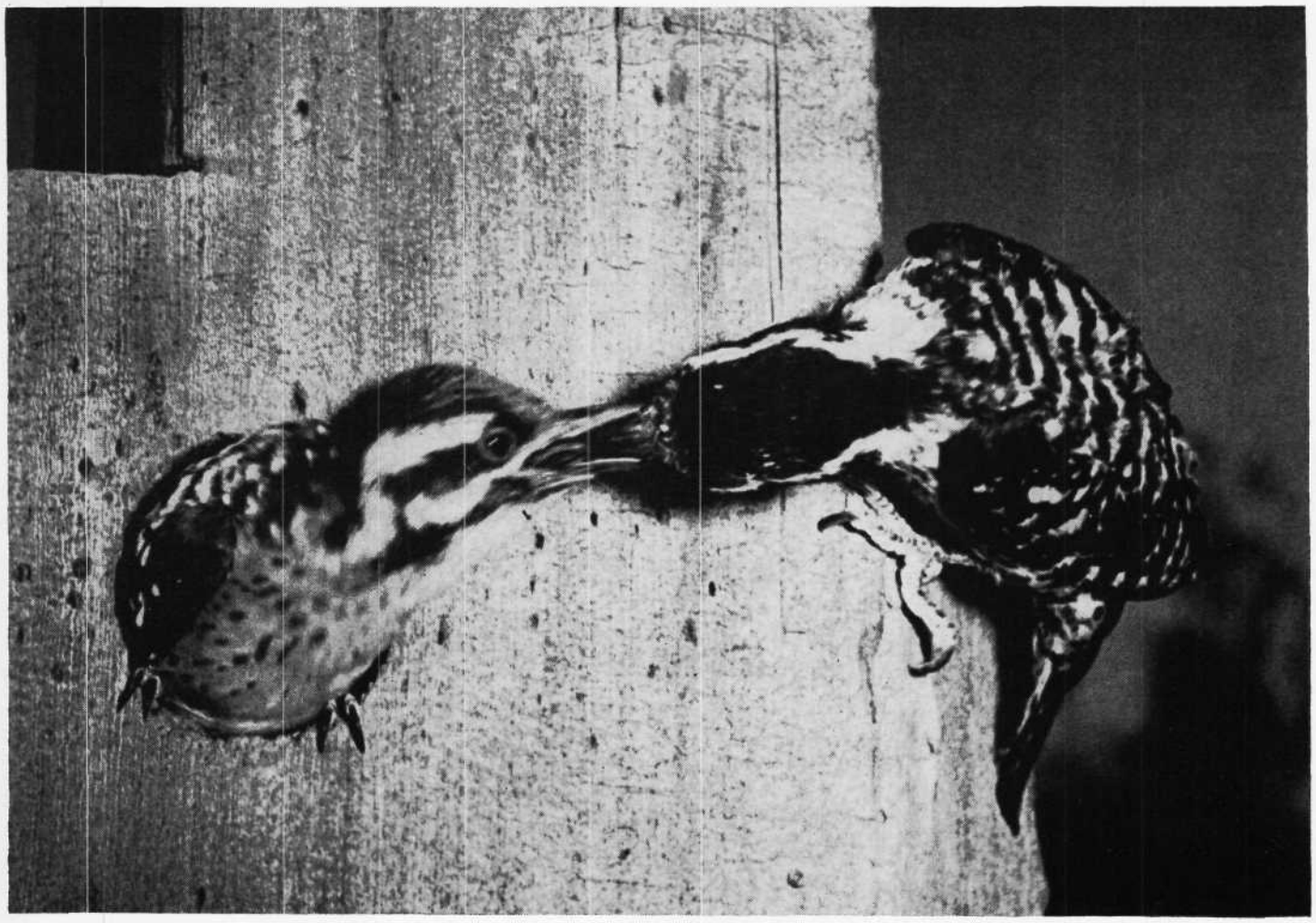
At nine the male again fed the birdling. The first visit had netted us a photograph of the feeding process itself. This second was a shot of the adult on the side of the post. Both adults alternated during the next two hours in making four more food-laden visits, a total of six for the morning. Then between eleven and twelve, except for one silent survey on the part of the fledgling of the new world he was about to conquer, we saw nothing of the woodpecker family.

The adults doubtless needed a good rest. I know we did. The suspense of waiting for the cautious parents to fly to the nest, and the judging of the proper moment to make the exposure was a nerve-racking affair.

At the time the young bird made its single appearance during the rest hour we had our first chance to examine this whirling dervish of a woodpecker. A patch of scarlet feathers, interspersed with a few tiny white ones on the crown of his little head, proclaimed him a male. In this and all other features he resembled his father. Females are marked similarly except for the vivid crown patch. Juvenile and adult plumages are very much alike, chief differences being the duller blacks and greyer whites, and buffy underparts of the young. All have the striking black and white ladder pattern across wings and back. This and the curious white areas on the face are the distinctive markings of the members of the *scalaris* species.

By noon our little friend apparently had enough of resting for he put his tiny feet on the edge of the hole and leaned far forth to call for lunch. When the last echo had died away and nothing even faintly resembling food had materialized he pulled head and shoulders disgustedly back into the nest. For the next hour

Breakfast is served. Adult's beak is thrust far into the little one's throat. Apparently feeding this time was done by regurgitation since no food was seen in the beak.



and a half he repeated this routine, peering coyly out, inflicting one raucous shout upon the desert stillness, then disappearing into the hole. Finally, at 1:30 papa ladder-back appeared with some juicy morsels. The ravenous fledgling almost swallowed papa and all.

Another hour's inactivity, wherein the only sound was an occasional dull thump from within the post, ended with the sudden appearance of the two adults. Both took up positions at one corner of the corral some ten posts away from the nest. Neither seemed to have food for the nestling. They made no effort to approach closer, but clung to their posts and cried loudly and long. The young one answered them, and this weird trio kept up for about ten minutes. Af first we did not appreciate what was happening. But the adults' refusal to approach the nest, which could not be explained by fear of the now familiar cameras, led us to believe that more was taking place than met the eye. At 2:45 our suspicions were borne out. Without the slightest warning the little ladder-back pulled himself out of the hole to cling a bit uncertainly to the side of the post.

Ladder-back woodpeckers, Dryobates scalaris, include some 15 subspecies or geographical races. They inhabit the southwestern United States, most of Mexico and British Honduras. They are non-migratory. Only four races are found in North America: The Texas woodpecker (D.s. symplectus), Cactus woodpecker (D.s. cactophilus) of western Texas to southeastern California, and the San Fernando and San Lucas races of Baja California.

They are beneficial, eating larvae, eggs and adults of wood-boring insects, and weevils and ants; nest in holes in mesquite, agave, palo verde, willows, oaks, telegraph poles and fence posts; lay two to six pure white eggs from April through June.

It was an exciting occasion for all concerned. But our excitement was nothing compared to the adult woodpeckers'. They did everything but embrace, shake hands and say, "We knew he'd make it." They never took their eyes off their daring son as he clung for a few seconds to his ex-home before trying out his brand new wings in a magnificent 50-yard solo to the trunk of a nearby mesquite. When he succeeded in making a perfect three point landing near the base of the tree we thought for a moment he was going to pat himself on the back. But all he did was start hitching himself up the trunk, feet digging into the bark, stiff tail braced against it, as if he had been doing it for years.

After getting about half way up the trunk, and while his proud parents encouraged him with shouts of praise, he began pecking purposefully at the dry bark. Nobody had to show him how to make a living. We couldn't tell whether or not his infantile labors were rewarded but for several minutes he drummed steadily on the hard mesquite. Perhaps he was just showing the adults that he could fend for himself. Finally, on joyful wings he flew off alone far beyond the sunny yuccas.

By this time we had spent eight consecutive hours in the blind and were really not too sorry to see the little ladder-back strike out on his own. We wasted no time in crawling out of our cramped quarters and going to investigate the nest-hole. It was located five feet above the corral floor and six inches from the top of the post. The hole's diameter was only one and one-half inches, its depth seven. Quite a safe and cozy home. These facts determined, we dragged the cots under the cottonwoods, for the sun was still high and hot in the cloudless sky. There in the cool shade we wrote up our notes and rested, while above our heads the myriad leaves sounded like little green hands clapping in the soft desert breeze.

TRUE OR FALSE

Here's a bit of history, geography, mineralogy, botany and desert lore—just to see how much you know about the Great American desert, past and present. You would have to be a wizard to score 100 per cent. The average person will answer less than 10 questions correctly. If you know 15 of the answers you are better informed than most of the desert rats. Answers are on page 34.

1—A Chuckawalla is a venemous reptile.
True..... False.....

2—Nevada and Idaho are adjoining states.
True..... False.....

3—The famous old Goldfield mining camp is located in Death Valley. True..... False.....

4—The book, *Death Comes for the Archbishop,* is plotted in California. True..... False.....

5—Desert lilies grow from a bulb. True..... False.....

6—Desert tortoises hibernate in the sand or earth.
True..... False.....

7—Experts can determine the species of the tree by microscopic study of petrified wood.
True..... False.....

8—Carson City, Nevada, was named for Kit Carson.
True..... False.....

9—Snails are never found on the desert.
True..... False.....

10—Tinajas Altas is the name of a historic waterhole in Arizona. True..... False.....

11—Indio, California, is below sea level.
True..... False.....

12—The Bill Williams river is a tributary of the Rio Grande. True..... False.....

13—The Gadsden Purchase included part of the territory now in Utah. True..... False.....

14—Asbestos is made from the fiber of a tree that grows on the desert. True..... False.....

15—Desert Mistletoe never grows on Ironwood trees.
True..... False.....

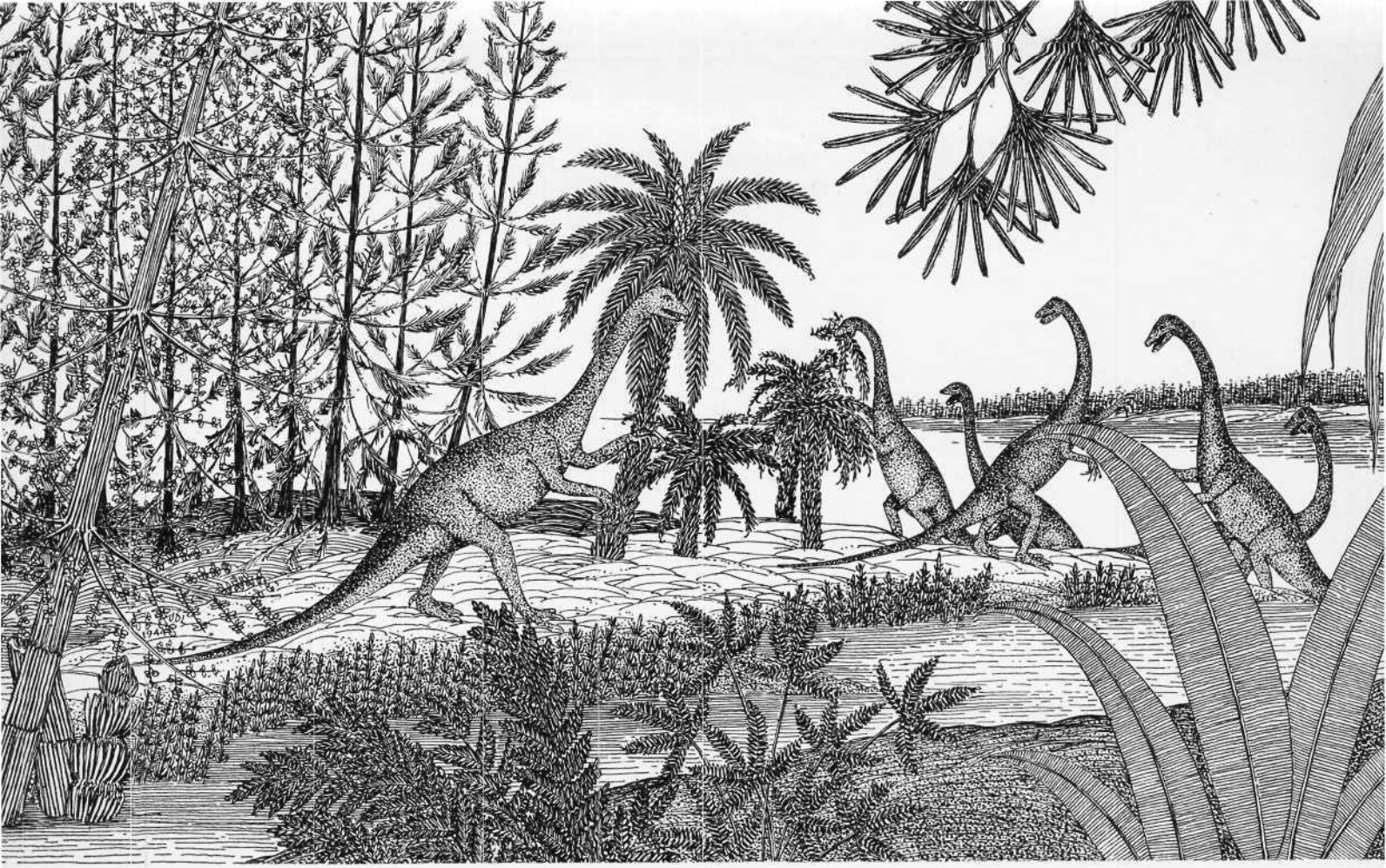
16—Most of the weaving on the Navajo reservation is done by the women. True..... False.....

17—Dickwick Hall was a scout with Kearny's Army of the West. True..... False.....

18—Canyon del Muerto in Arizona is a tributary of Canyon de Chelly. True..... False.....

19—Sheba's Temple is located in Zion National Park.
True..... False.....

20—Amethyst is a member of the quartz family.
True..... False.....



Probable scene near Kanab, Utah, about 60 million years ago when dinosaurs were a common feature of the landscape. Plants shown in drawings reconstructed from "The Upper Triassic Flora of Arizona," by Lyman H. Daugherty.

The Giants of Kanab

When Ray Alf went hunting in southwestern Utah, he did not have to wait for open season. He was on the trail of giants that roamed the land 60 million years ago. And when he came back to Claremont he brought only the footprints of the giants—but from these footprints, scientists have been able to reconstruct the probable appearance and habits of these dragon like monsters who disappeared from the earth about 25 million years ago. Here are some facts, theories and myths about dinosaurs, who left their tracks in the red mud of Utah and Arizona before the Southwest became a desert land.

By JERRY LAUDERMILK
Drawings by the author

THIS is a story about giants that stalked across the Utah mud-flats at least 60 million years ago when the waves of the Pacific still beat against the shores of Arizona. California was buried deep beneath the sea. The Rockies had not yet been upheaved. And where the Colorado river has since cut the terrific gorge of Grand Canyon, quietly meandering streams flowed through a level flood-plain.

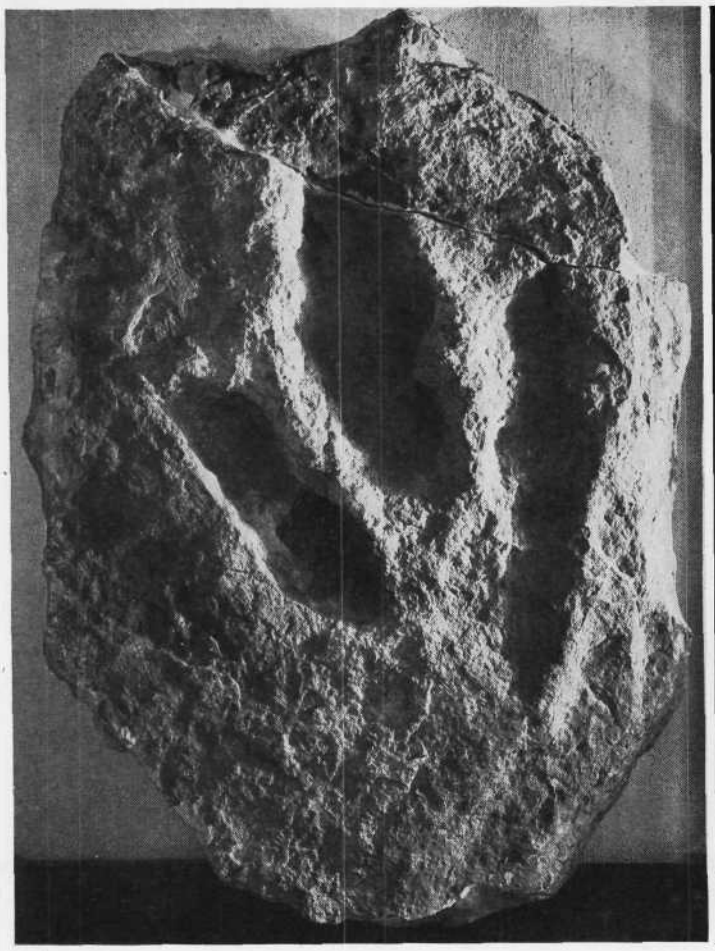
It was a spring morning four years ago when Ray Alf, geologist of Claremont and instructor at the Webb School for Boys, was on a geological excursion near Kanab, Utah. The day had started all wrong. In the first place, he had left without hammer and knapsack. In the second place, he had only a general idea as to what he might expect to find and where to find it. This combination generally means that you will wind up in good collecting territory without means of removing or transporting your choice specimens.

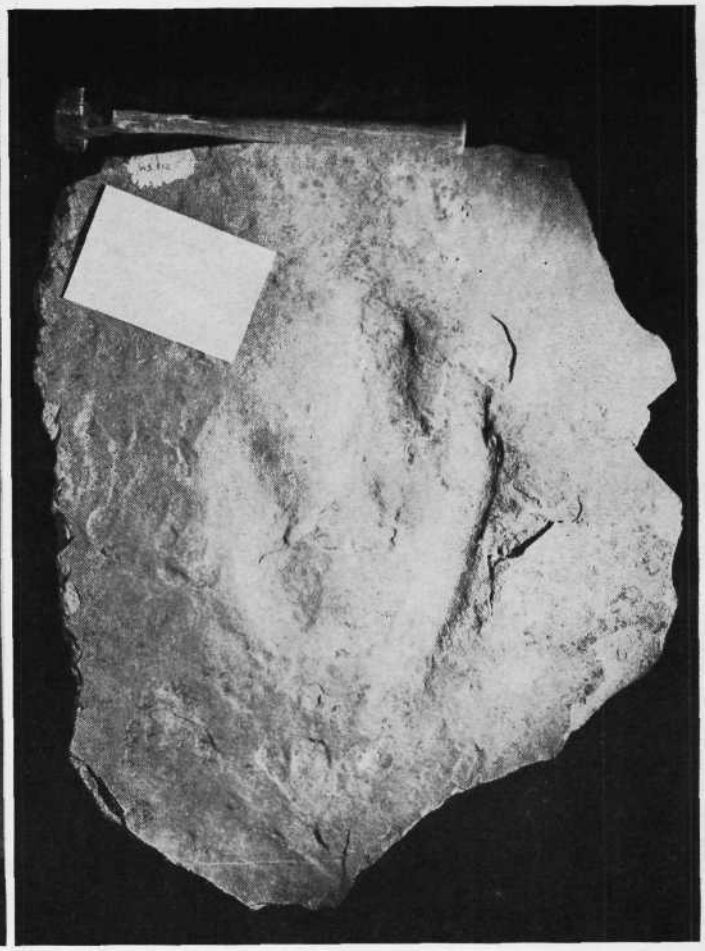
This was famous dinosaur country, or rather, dinosaur *track* country. At Kanab, the garage man had reported plentiful tracks of all sizes in the sandstone strata of the nearby canyons and furnished directions to find them. A hammer and chisel were donated by a cooperative stone cutter of Kanab.

Now well equipped, Ray soon arrived on a ledge 150 feet up the canyon wall. There he gazed fascinated at the three-toed tracks of a giant whose birdlike foot had a total length of 16 inches and whose stride was more than eight feet. Ray finally succeeded in chopping out a 75-pound slab with its footprint intact from the red, calcareous sandstone of the canyon. After several narrow escapes from loss and breakage including near-engulfment in the quicksand of the wash, the slab with several others finally came to a safe harbor in the Webb School museum where they stand, silent witnesses to events that took place in Arizona and Utah long ago.

The red track-bearing sandstone with shale, conglomerate and other rocks makes up the strata of the Chinle formation, sedimentary deposits of the Triassic age which underlie a vast area in Arizona, Utah and part of New Mexico. The formation takes its name from the Chinle valley of northeastern Arizona where the deposit is 1182 feet thick. Chinle itself (pronounced Chin-Lee) is a Navajo word meaning "at the mouth of the canyon."

To date, a few bones from Kaiparowits peak and some scraps from New Mexico are the only instances of actual dinosaur remains which have been recovered from the Chinle. Aside from these two cases the





Left—Three-toed dinosaur footprint from Triassic formation, Utah. Total length of track, 16 inches. Right—Another dinosaur track from Triassic of Utah. This apparently is track of smaller animal of different species. Photos by Ray Alf, Claremont, Calif.

sole record of the dense dinosaur population that once lived in and around Kanab is preserved in these ancient footprints left in the old muds and sand bars now hardened into rock.

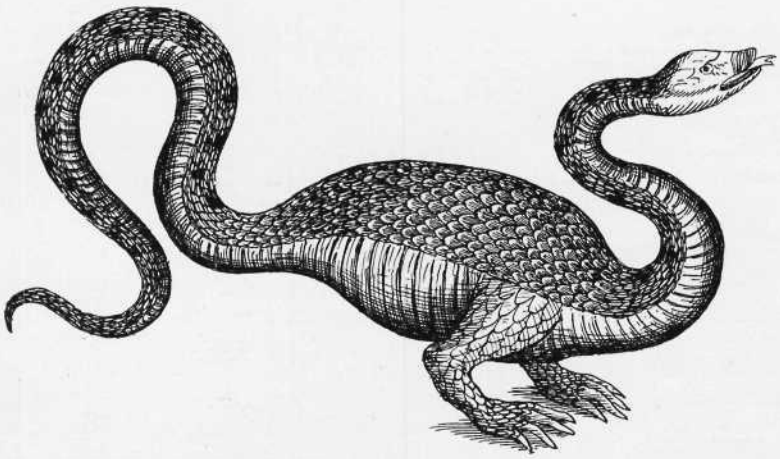
This dinosaur track locality at Kanab is not the only place where a vast concourse of reptilian giants had left their footprints. There was something like it in the celebrated dinosaur localities of the Connecticut valley, another formation which, like the Chinle, was a deposit of the Triassic age. Here again the scarcity of bones caused species after species (98 in all) to be known only by the tracks the animals left in the mud of swamps and on the sandy banks of Triassic rivers. Fortunately an expert sometimes can tell a great deal about an animal from its tracks alone.

Since paleontologists know in much detail the general anatomy and proportions of the many species of dinosaurs, examination of a set of footprints furnishes an indication as to the size of the beast that made them. In the case of the tracks that Ray Alf found we can say that the animal was large, probably 20 feet high, and that it walked like a man. When it made the tracks it was in no hurry for the tracks are sharp and show that he set his feet down and lifted them up without splashing the mud which was a trifle too wet for ideal casting and would have splattered if he had been in a rush.

The Kanab tracks are those of many different species of dinosaurs and very closely resemble the footprints from Connecticut valley where the track of one giant named *Eubrontes divaricatus* is almost a duplicate of the 16-inch track from Kanab. All the evidence indicates that these dinosaurs were related species and ranged generally throughout North America and lived in the same type of climate and surroundings.

The Triassic was one of the most interesting intervals in the earth's history. It was a time of reorganization after the great depression of the Permian period when for at least 15,000,000 years, hard times were general throughout the whole earth. Ancient and outmoded animals and plants were passing out of the picture to give place to newer but still fantastic types in a state of evolution. Some aspects of the late Triassic of Arizona and Utah require considerable effort of the imagination to visualize.

For instance, one sec-



In 1657 folks thought one type of dragon looked like this. Dr. John Johnson, in his "Historia Animalium" says this specimen was captured in the fields of Bologna, and calls it a wingless, two-legged dragon.

tion of the Pacific coast line of the ancient North American land-mass extended north and south for a distance of 250 miles or more almost in exactly the same meridian as the western Utah border and was about equally divided between the two states. Beginning here and extending eastward, the part of the land in which we are most interested, stretched away for a thousand miles in the shape of a sock with the bottom of the heel just at the coast line. The foot extended to the north with the toe in central Wyoming, while the leg reached all the way to central Texas.

For decades geologists have been of the opinion that this region was either desert or semi-desert because typical red sediments, generally supposed to indicate excessive aridity, occur everywhere. The sand and silt of these red rocks are soil transported by streams from the erosion of the ancestral Rockies and the mountains of Cascadia, an obliterated land-mass in the west. Much clay from the weathering of ash from either local or remote volcanoes is another typical feature of the region. Some of the particles in these old rocks are aeolian sand and the accepted theory was that these materials had accumulated on the bottom of a shallow sea of immense extent and surrounded by parched and arid shores. Recent discoveries, however, made it necessary for geologists to modify some of their views.

In 1941, the paleobotanist, Lyman H. Daugherty, who then was making extensive investigations of the Triassic deposits of northern Arizona as part of the program being carried out by the Carnegie institution of Washington, D. C., identified 38 species of plants some of which were of types that precluded the possibility of a permanently desert habitat. Although Daugherty's researches were on material from the Petrified Forest national monument about 20 miles east of Holbrook, Arizona, and all of 220 miles southeast of Kanab, much of the petrified wood is from the same species of trees in the two localities. So it is reasonable to suppose that the flora was the same in the intervening territory.

That the Kanab locality was not desert is shown conclusively not only by the abundance of fossil plants but by the great size of some of the petrified trees, one from Utah being twelve and a half feet in diameter and 185 feet long. It is generally accepted that much of the region was only slightly above sea-level and spread out in vast flood-plains traversed by slow streams carrying much driftwood. The battered condition of many of the petrified logs shows that they have come from afar. Reeds and rushes grew in thick brakes in marshy places.

Even swamps were a common feature of the landscape. This is shown by the presence of fossil trees with their trunks swollen at the base like those of the bald cypress of Louisiana. On slightly higher ground curious cycad-like trees and plants with broad, strap-like leaves—*Yuccites* (no relation to our yuccas), grew frond to branch with conifers and the forerunners of our modern hardwood trees. One of the most abundant conifers was a close relative of our star-pine frequently seen in parks.

The wonder of trees and logs changed to stone naturally has left a deep impression on the legends of the Indians who saw them scattered over the waste and felt that there must be some supernatural explanation. To the Navajo they are *yeitsobitsin* or the bones of Yeitso, a monster slain by the Sun in a great battle. The scattered and broken bones of Yeitso and his congealed blood—the lava-flows—are all that remain to tell the tale of the titanic struggle. The Pahutes explain the logs as being the broken weapons of the Great Wolf god, *Shinarav*.

The triassic climate throughout the region typified by the Chinle was evidently one of sharply divided rainy and dry seasons. For months the rainfall would be very great, then would come a season of absolute drought and it is believed probable that it was during the long, hot, dry spells that the desert aspect originated. The temperature was mild, possibly tropical.

This Triassic world, which ushered in the Mesozoic or Middle Ages of the earth's history, supported an animal population stranger than any that lived before or since. It was the Reptile Age just beginning, the reign of the dinosaurs (terrible lizards). The creation of these fantastic beasts was not, as is sometimes supposed, one of Nature's experimental failures. Actually, the dinosaurs were a great success. For 55,000,000 years these almost brainless, moronic animal thugs dominated the entire earth as Lords of Creation.

Knowledge of the different species of dinosaur and their anatomy is rather new and is being constantly enlarged by new finds and continual research. As recently as 1802 some of the tracks in the Connecticut valley were explained by the local inhabitants as the tracks of Noah's raven. They looked like gigantic bird tracks and were so accepted. Our grandfathers had not the slightest inkling that such animals as dinosaurs ever existed. The dragon myth appears to have had nothing whatever to

Western half of United States during Late Triassic Period when waves of the Pacific beat against shores of Arizona, and the red Chinle geological formation was dominant in Utah, northern Arizona and New Mexico. Map adapted from Piersson and Schuchert, "Textbook of Geology."

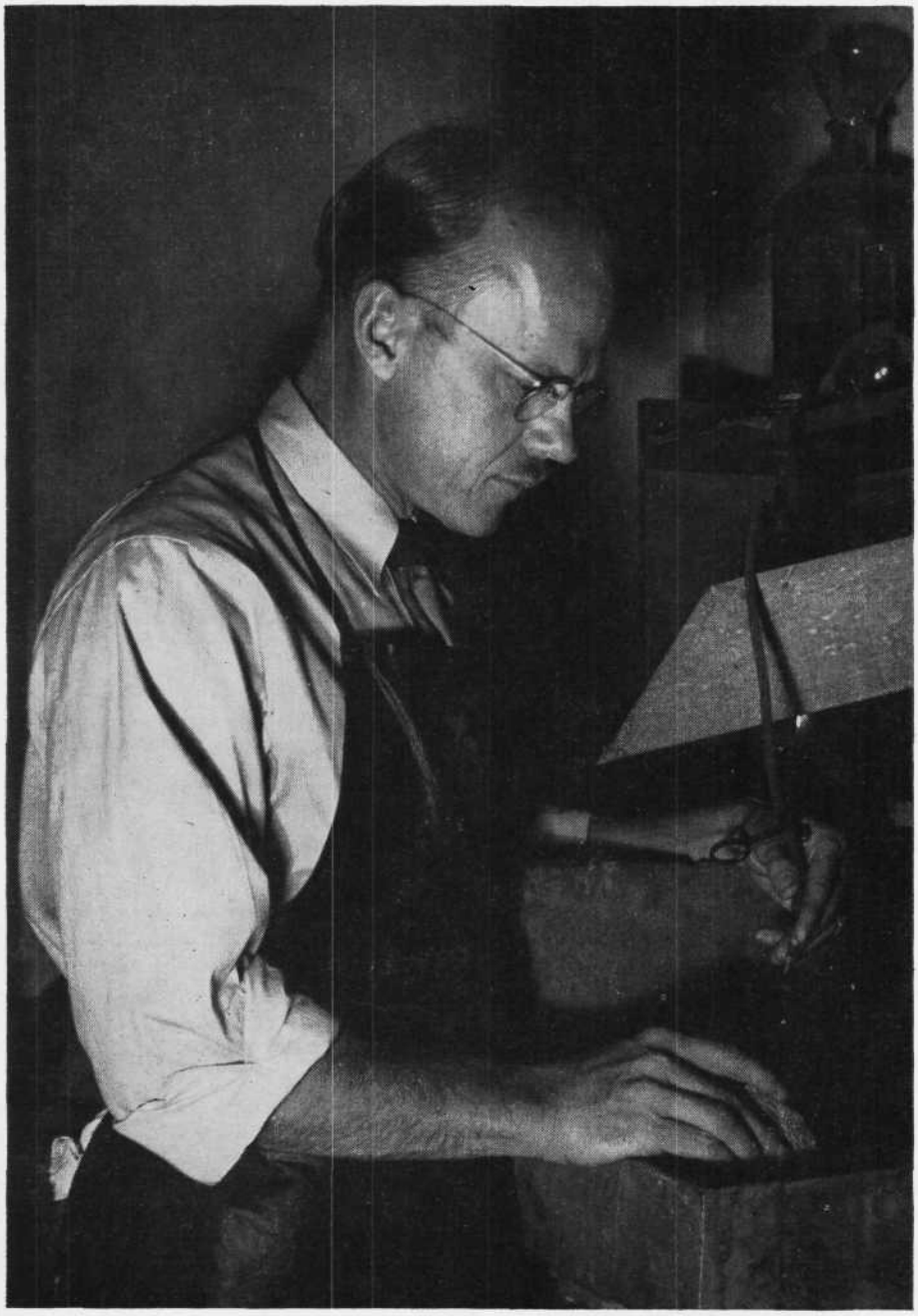
do with finds of the bones of these actual dragons because these myths developed in parts of the earth where dinosaur remains rarely are found. Where such a foundation might be expected, as in China, the dragon was no ordinary animal but a supernatural being connected with earth, air, fire or water. Despite the fact that the ancients had no data to go by and apparently created their dragons from thin air, they sometimes did a fairly decent job in unknowingly inventing an imaginary dinosaur. The reproduction shown is from an old "History of Animals" published in 1657 and except for the fact that it needs another pair of legs and that the neck and tail are a trifle "arty" it almost could qualify as a picture of *Anchisaurus,* one of the smaller carnivorous dinosaurs.

It was not until 1824 that any attempt was made to explain in a scientific way the meaning of fossil dinosaur bones. This was from an account of a find in the Jurassic deposits of southern England. The question remained indefinite however until 1841 when Richard Owen, the anatomist, pointed to the fact that the bones were those of a lizard-like animal and he named the thing a "dinosaur."

It is easy to acquire the wrong impression of dinosaurs. We are likely to think of them as being simply magnified lizards, but some were little fellows less than a foot long from nose to the tip of the tail. Their bones show that they were allied to three other groups—the birds, the crocodiles and a curious clan, the *Rhynchocephalia,* a group which now has but a single living representative, the *Sphenodon,* or tua-tara of New Zealand. This low-grade, lizard-like reptile has a pee-wee brain. In specimens 20 inches long the brain is smaller than a pea. This animal also has a third eye on top of its head, the pineal eye, which is a very primitive characteristic also shown by some lizards including the common horned toad. But in the horned toad's case the eye is marked by a tiny opaque scale while in tua-tara the pineal eye is well developed and said to be sensitive to temperature changes. Some dinosaurs, the *Plateosaurs,* show evidence of having had a pineal eye on top of the head. Like tua-tara the dinosauran mental equipment was slight. The *Brontosaur* was sometimes 65 feet long and weighed close to 40 tons yet the brain responsible for the action of this great mass of lizard flesh tipped the scales at two pounds!

From the study of the teeth and jaws, anatomists know that there were both herbivorous and carnivorous types of dinosaurs. Some with spoon-shaped snouts ate the vegetation of the ancient swamps. Others had batteries of teeth with serrated edges set edgewise in the jaw to shear like the blades of scissors. These were the typical flesh eaters, living engines of destruction like *Tyrannosaurus rex* (King of the Tyrant lizards). Many species laid eggs like those found in Mongolia with the unhatched baby dinosaur inside. We also know something about the skin that covered these dumb reptiles. Casts of the hide have been recovered in a number of finds. This was thin like most snake skin but not covered with scales. Instead, it had a mosaic of tubercles like the skin of the gila monster.

What wiped out the dinosaurs? Nobody knows for certain but there are some attractive theories. The facts are that for a period three times the length of the mammalian domination of the earth, the reptiles flourished exceedingly, and then suddenly at the close of the Mesozoic, about 25,000,000 years ago, the last dinosaur died. Possibly this extinction was due to changing of the earth's climate from warm to cool and actually cold. Reptiles, with their cold blood and lack of any protective covering such as hair or feathers to cut down heat lost through radiation could not stand the rigors of even a moderate winter. With the onset of cold a torpor would settle down on the entire dinosaur race. This coupled with a slow mind challenged by the problems of changing environment would have been too much. They couldn't think fast enough to carry on. However, on the warm day of the Triassic when the unhurried giant left his track in the sandy mud at Kanab, such misfortunes were still a long way in the dim future.



Ray Alf, Claremont geologist and instructor at Webb School for Boys, who went on the trail of dinosaurs in Utah — and brought home their tracks. Photo by Helen Laudermilk.

"They Found a Place to Search . . ."

Barry Storm's tales of lost gold and silver in the Superstitions are partly confirmed legends, not so much of gold found and lost as of an enchanted wilderness, reckless men and the exquisite way of life that belonged to both. For vast, unknown distances and wild, primeval horizons gave mystery to the sublime hopes of men and a hiding place for the gorgeous phantoms they pursued.

Castañeda, recorder of Coronado's sanguine but fruitless hunt for the Seven Cities of Cibola, set forth the eternal dream when he wrote: "Granted that they did not find the riches of which they had been told, they found a place in which to search for them."

And so the gold and its hiding place are still there, but that matters little. It was the mystery of the unknown, the dangerous game of chance that was fascinating—the life wagered recklessly upon the turn of incredible odds for a mirage at the end of an ever-shifting rainbow. This was Adventure.

Search for the lost gold and silver of the Superstitions has continued for many decades. But while each generation has brought new seekers into the field in quest of the elusive treasure, the lands have not changed. The same burning deserts are there, wild and wide and thirsty, losing in sheer immensity the infrequent cattleman's hut and prospector's camp. And as always, unchanging, the giant saguaros and grotesque chollas lift twisted arms over vast solitudes; yucca, palo verde and mesquite march forever away to infinity over lonely canyon chasms, eternal mountains.

Soldiers' Lost Vein of Gold

This month Desert Magazine publishes the first of a series of lost treasure stories written by Barry Storm whose search for the Lost Dutchman mine in the Arizona Superstition mountains has extended over a long period of years. Storm hasn't found the Lost Dutchman, but during the quest he has become acquainted with every gulch and pinnacle in the rugged Superstition range. There are legends of other lost ledges and veins containing ore of fabulous wealth in the region of the Superstitions—and it is about these less known gold and silver deposits that Storm has written his latest series of stories.

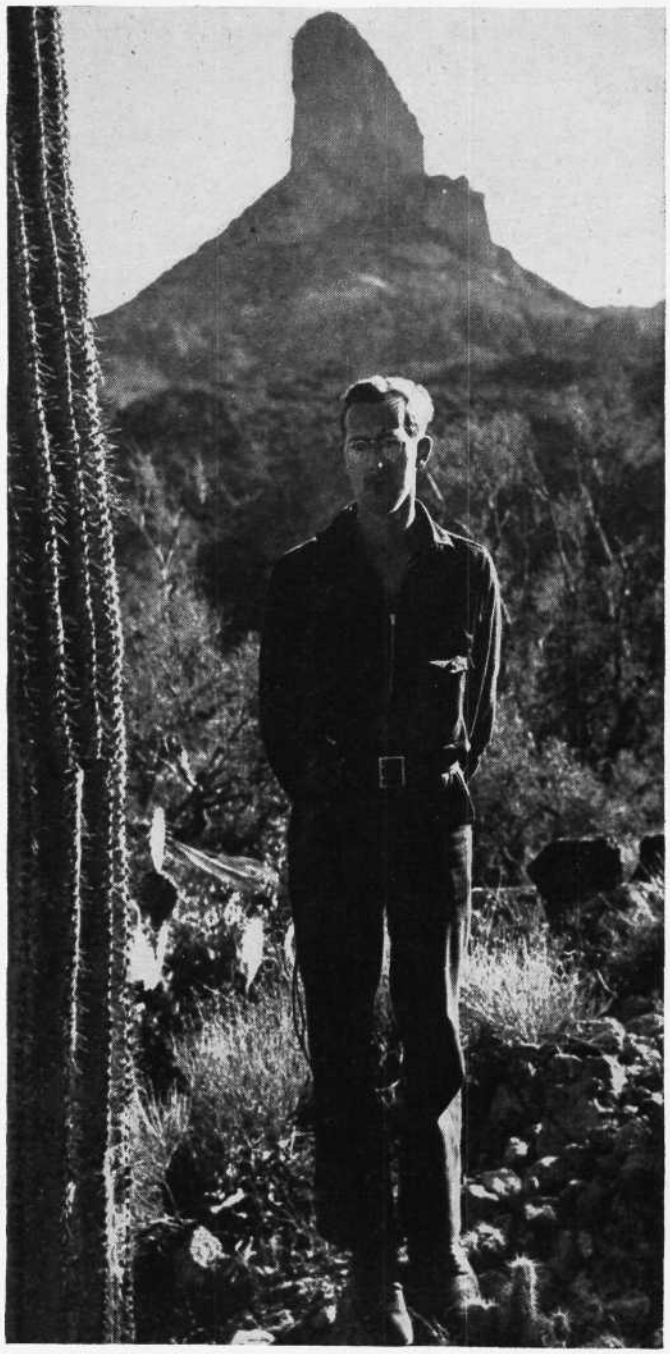
By BARRY STORM

DURING the early 1870's, due southeast of Arizona's Superstition range and near General Stoneman's new military camp at Picket Post, a soldier named Sullivan, who was working on one of the military trails for pursuit of raiding Apaches, sat down one evening as he returned from work to rest a moment. He idly picked up a handful of stones. Among them were pieces of black silver ore of bonanza richness.

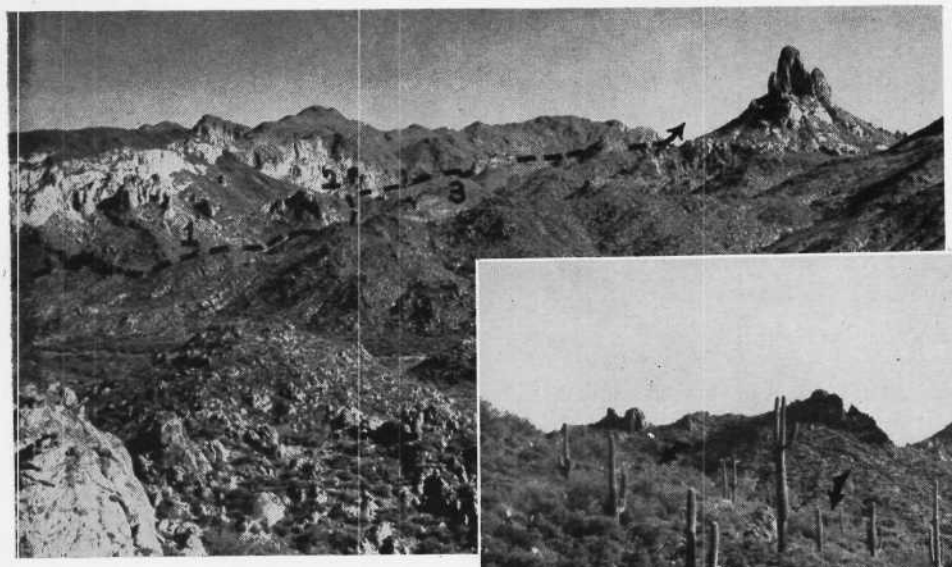
A short time later, his enlistment up, Sullivan went to work at Charles G. Mason's ranch on the nearby Gila river. He displayed his black ore but refused to tell where he had found it. Later after the soldier had departed, Mason started organizing prospecting parties among his neighboring ranchers and finally found and staked out on March 22, 1875, the future location of the fabulous Silver King mine.

The strike itself was a major sensation, and mining turned up one sensation after another—lenses of black sulphide ore running up to $20,000 a ton. Between 1875 and January 9, 1877, when Mason sold out his interest, he and his partners shared in over a million dollars of production. The Silver King Mining company, incorporated on May 5, 1877, stirred widespread talk of new and equally fantastic returns from the development of a real mine—talk that was backed up in the next few years by another production record of three million dollars, and the growth of Picket Post into the town of Pinal.

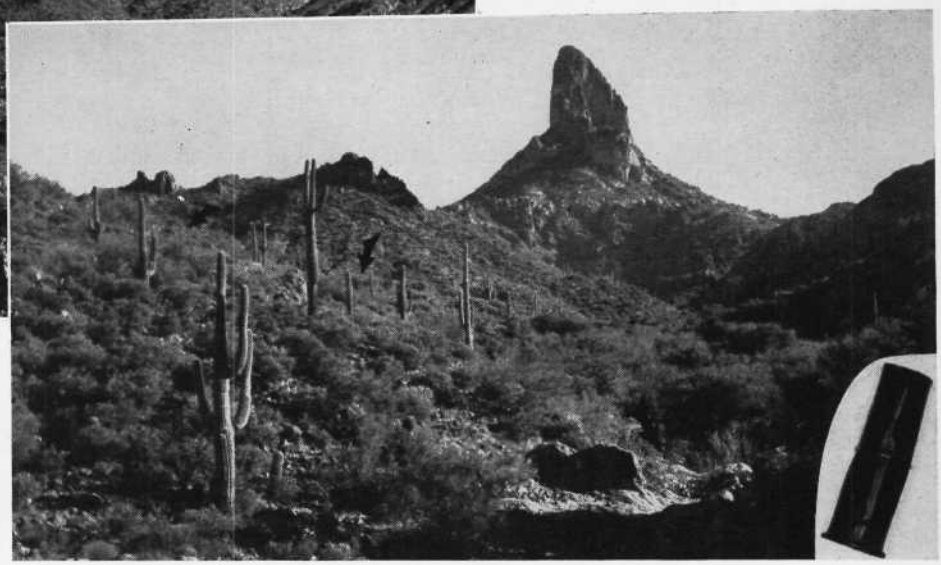
During this same period, while Mason was still part owner and superintendent of the Silver King mine, two other soldiers, French-Canadian adventurers doing a hitch in the U. S. Army



The writer standing in the region below the southern slopes of the Superstitions in which the two ex-soldiers found rich golden ore.



Left—Route followed by the two soldiers past the mountain, on or near which they discovered a vein of rich ore. 1—East Boulder Canyon; 2—Pass between East Boulder and Needle Canyons. 3—Needle Canyon.



Right—East Boulder Canyon near bend of the military trail, indicated by arrows. Within a half mile the two ex-soldiers found "a reddish vein about a foot thick, halfway up a black-topped hill." Inset—.50 caliber Spencer rifle shell found on trail, which fits the guns carried by ex-soldiers.

at Fort McDowell, whose right names either are buried now in the archives of the war department or more probably never were known, were drawn by the sensational talk to seek work there for no other reason than merely seeing what a boom mining camp was like. To reach there, after their enlistments had expired late in 1875, they followed the military trail through the Superstitions.

Hiking due southeast from the Mormon Flat crossing on the Salt river, they entered the mountains between Kayhatin and La Barge creeks, followed the trail past the prehistoric Indian ruins now known as Garden Valley, over Black Mesa to West Boulder canyon a quarter mile above its mouth, crossed the low ridge that separates East and West Boulder canyons at this point and proceeded on up East Boulder canyon toward Weaver's Needle which now was in plain sight. Then they turned east on the trail to go through the low pass below the southern slopes of the black-topped mountain which separates East Boulder and Needle canyons, a scant half mile apart. Somewhere in this region they flushed a deer, fired at it at least once with their .50 caliber Spencer repeaters, Army-issued, and in the resulting chase came upon a partly exposed "reddish vein about a foot thick, halfway up a black-topped hill."

The two ex-soldiers did not know it was fabulous golden ore that they had found. They knocked off a few pieces of the "pretty rock" to carry with them as souvenirs. With these samples still in their pockets they applied for work several days later to Jack Frazer, mining foreman of the Silver King mine.

Frazer hired them both. After several more days in the mine they began to see for themselves that valuable ore had much the same characteristics of heavy weight, unusual coloring and metallic content as the rock which they had brought from the Superstitions. Then they asked their foreman for an opinion of its possible value.

Frazer, being shown the glittering rock, took one astounded look and sent for the superintendent. When Mason arrived he confirmed what Frazer already was excitedly telling the adventurers—that they had struck it rich! From the few samples the two ex-soldiers had with them was recovered and weighed up more than $500 in gold which was placed to their credit upon the mine commissary books.

Mason, doubtless remembering his luck once before with an ex-soldier, approached the two with the idea of forming a partnership for a share in their discovery.

He would outfit them, he said, from the mine commissary if they would return to the Superstitions and stake out a mining claim upon the site of their golden ore. And in the meantime, since neither was a U. S. citizen, he would personally vouch for them and so obtain the naturalization papers that would make their claim valid.

The men agreed. Next morning they set out to backtrail themselves to fortune. But riding behind and following secretly with a rifle across his saddlehorn was a peg-legged gambler named Smith! And the two ex-soldiers never again were seen alive.

Weeks later when their remains were discovered in the present Quarter-Circle-U ranch pasture, where they were buried after being identified by the cost marks of the mine commissary upon their equipment, both were found to have been shot from ambush. Local opinion immediately placed the blame on Smith, who, it was learned, had vanished from the mining camp at the same time as the two soldiers. Later he turned up in Alaska with his bags stuffed with a fortune in glittering golden ore. There, many years later, he wrote to former friends in Arizona and tried to persuade them to go into the Superstitions for him and stake out for a half interest a claim on bonanza ore to which he would furnish directions. No one took his offer seriously and he again dropped from sight.

Forest, however, who was a member of the coroner's jury which traced and buried the ex-soldiers, immediately tried to trail them. He said in later years that he followed their tracks into the second canyon east of Weaver's Needle, going up from the desert into the Superstitions.

Then again, a short time later, Phipps, a Superior miner, fired by tales of their rich ore, said he had succeeded in backtracking them to its source. When he returned to town greatly excited, he added: "It's less than two miles from Weaver's Needle. I seen a cool million dollars in sight!" But Phipps never lived to enjoy it. When he went down into his own shaft after tools with which to work his new-found bonanza, an unexplained cave-in killed him.

Thus do the thunder gods spin their fatal web!

LETTERS . . .

It Is an Honor to Be Called a Desert Rat . . .

Long Beach, California

Dear Editor:

Now that I am in the Desert "family" I feel that I am privileged to express my opinion in one matter I noticed in the November issue. It is the letter by Marvin E. Singleton suggesting that the expression "Desert Rat" is obnoxious and should be changed. Now I don't feel that way. Desert Rat has come to mean a certain type of individual; namely, "one who inhabits and loves the desert."

True, at one time this title was applied to some desert hoboes and later to desert prospectors, and still later to desert lovers. But nevertheless, to me and many others the name of Desert Rat now means "One who loves and inhabits, when possible, the desert." I think it's an honor, not a disgrace, to be called a Desert Rat.

H. J. HAGENS, A Desert Rat

• • •

Yes, I'm a Desert Rat, and Proud of the Name . . .

Hemet, California

Dear Editor:

Please do not let Marvin E. Singleton start another letter-writing crusade about the Desert Rat. The Desert Rat is not a fair-weather weekend tripper looking for a soft spot and a hot bath when night comes.

We old-timers do not mind the name. During 50 years of roaming the deserts in all directions, long before there was a foot of graded road, with a team of mules and a wagon, or only a burro or two, we were always glad to make camp where we were when the sun went down. That was home, the only home we had. We took the elements as they came, sometimes 120 degrees in the shade and no shade.

It was the Desert Rats who located the waterholes and put up crude signs to direct others there.

I was glad to read in Desert Magazine of September, 1944, about my old friend Charles Fletcher Lummis. I used to talk with him when he was building his stone house in Arroyo Seco. If he was living today I think he would move out on the desert, far away from an automobile road and be a Desert Rat. He was a great character.

When camping at Palm Springs on the way to Mexico City in March, 1897, Nellie Coffman, now owner of the Desert Inn, came to look over our outfit. Dr. Welwood Murray and three others were the only white people we saw during a week at the spring. Figtree John and two Digger Indians visited us when we camped at Indio. Then we met only one white person all the way across the salt flats where Salton Sea is located today. It took us six weeks to make the trip to Yuma, going by way of the old salt works and then down to the present site of Brawley. I walked all the way.

John Hanlon near Pilot Knob saved our outfit from going down the Colorado. The river was rising fast and the next morning our former camp was two feet under water. One has to live and learn. A Desert Rat is not a Water Rat.

If I was able to swing a pen in literary style I could write plenty about the Mojave desert, Death Valley and the old-timers in 1896.

I often wonder if your readers who write about the terrible desert life of the Souths really know where Ghost Mountain is located. If they do they are one jump ahead of me. My guess is that it is somewhere around Julian and the border of old Mexico. If so, it is a beautiful location—with the Pacific on one side and the desert on the other.

TOM CLARKE

This is the Turtle mountain arch near Carson's well—the one referred to in Mr. Battye's letter. The two men seated in the lower left corner would indicate that this arch is many times larger than the one pictured in Walter Ford's story in the November issue of Desert Magazine. Photo by R. A. Martin of Oatman, Arizona.

Let's Find the Gold—Then We'll Know Which Arch . . .

San Bernardino, California

Dear Editors:

I am referring to the Ford article in the November issue of Desert, the one titled: "We Found the Arch."

After a first reading of the story and glancing at the map I thought Mr. Ford and his companions might have reached a spot approximately near the real Arch. But further study convinces me that they were not within miles of it—not the Arch of the old-timers, not the Arch of story and legend.

Furthermore, the real arch is not "lost" and has not been discovered by Explorer Ford. For years the camera fans of Needles have driven out to Mesquite spring, now called Carson's well, and from there climbed to the Arch—and a stiff climb it is. R. A. Martin, now of Oatman, has photographed it, also A. P. Miller of Needles and many others. I send you the photo taken by Martin for comparison with the one reached by Ford. You will note this Arch is many times larger than the one visited by Mr. Ford. Also, it is many miles north or northeast of the Ford Arch.

It must be understood that these Arches are not such masterpieces of Nature as those found in Utah. We old-timers of the desert, all enthusiastic readers of Desert Magazine, look with disfavor on any writer who would change the location of our well-known landmarks. It is our earnest wish that Desert continues to be the exponent of truth and accuracy.

CHARLES BATTYE

Dear Mr. Battye:

You are right—there is a bigger and better known arch in the Turtle mountains near Carson's Well. And I have heard of other arches in the Turtles. But is it proper to refer to any of them as the REAL arch until someone finds that legendary Lost Arch gold mine? The "real" arch is the one near the lost vein of gold—and until some one locates the gold let's just keep all the Turtle mountain arches—well, as the FBI would say, under surveillance. And more power to the fellow who finds the lost gold. —R.H.

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Who Built the Road in Coyote Mountain? . . .

Fullerton, California

Dear Editor, Desert:

I would greatly appreciate seeing an article giving a description and history of the Painted Gorge near Coyote Wells on the Southern California desert.

Several years ago I visited the gorge and found the site of a cabin and also what looked like the running gear of heavy trailers, with wide steel-tired wheels. Later, I think it was in 1940,

I drove from Warner's Ranch past Vallecito and Carrizo on the old stage road, and visited the gorge again.

This time I was able to go farther up the canyon in my car, and I noticed two old roads taking off from the upper canyon and leading into the hills.

I am interested in knowing what activity in the early days required this equipment and the building of these roads, which are now abandoned and badly washed out.

HENRY P. HOLMES

Many other visitors to Painted Gorge, including the editor of Desert Magazine, have wondered about those old roads, which presumably were used in mining development. If any reader of Desert Magazine knows the answer, we would appreciate a letter from him. —R.H.

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Walter Ford's Turtle Mountain "Peep-Hole" . . .

Needles, California

Dear Sir:

Regarding the article by Mr. Walter Ford in the November 1944 issue of the Desert Magazine about, "We Found the Arch—but not the Nuggets."

It is true that Mr. Ford found not the nuggets, neither did he find the arch in the Turtle mountains, that is if the picture in the magazine is supposed to be the arch. This picture in the magazine is one of the many pin-holes or eyes to be found on the south side of the Turtles. There are many more there just as small.

The real Turtle mountain arch is located on the north side of the Turtles and a stiff climb from Carson well, or a roundabout trail via Coffin spring, which Mr. Ford's map does not lead to; it is far longer than the one shown in the magazine.

I have visited this arch and these mountains many times, and know all the miners in that locality. They say that this arch is Mr. Ford's PEEP-HOLE and that he cannot see either the lost mine or the lost nuggets by using this as a PEEP-SIGHT, as there are no mines or nuggets lost in this district; they have all been located and recorded.

Others have pictures of the real arch, which are far larger and of different shape than the one in the magazine, as the arch extends far above the heads of the men seen in it.

This is not to cast any reflections on Mr. Ford, but just to say that he has followed the wrong DESERT-TRAIL to the WATER-HOLE, like many prospectors have in the past, which I and others have done.

A. P. MILLER

Quiz Editor Has Dumb Moments . . .

San Francisco, California

To Desert Quiz Editor:

We all enjoy your department, particularly the questions relating to desert flora, geology, ethnology, etc.

I wonder if we read Question 9 in the December magazine aright? Does this refer to the Lucin cut-off across the Great Salt Lake, of the Southern Pacific railroad. See Bertha Greeley Brown's article in August, 1944.

F. J. SOUTHERLAND

Apologies to DM Reader Southerland and all other Quiz fans. It is the Southern Pacific, not the Union Pacific which crosses Great Salt Lake. The Quiz editor has been flying around in airplanes so much lately he has sort o' lost track of how and where the railroads run. So you may score yourself another five points in the December Quiz — and we hope that makes you a Desert Rat.

—Quiz Editor

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Paging Charles Kelly . . .

Los Angeles, California

Desert Magazine:

Please get after Charles Kelly for another story. I admire his articles very much. He seems to follow a line of facts and history which I find very interesting.

M. R. HARRISON

After many months of drought, the rain gods finally brought two small showers and then a deluge to Yaquitepec. Now the cisterns are well filled—and the South children even enjoyed the luxury of mud for sculptoring miniature houses and cisterns. Rain is very important to people who depend entirely on the storm water that drains from the sheet-iron roof of their cottage.

Desert Refuge

By MARSHAL SOUTH

THE SUN has moved far south into the lowlands and the long string of "goldfish" which announce his rising each morning, are back in their places upon the smoke-blackened ceiling beam. The goldfish, which are fish-like splashes of golden light caused by the sunbeams striking through under the edges of badly fitted corrugated iron roofing, abandon us in the summer. For then the sun is too far north and the angle of the light is not right. But every winter they return, varying in number from 10 to 22 as the sun moves. They serve as alarm clocks. For, on those rare occasions when we happen to drowse beyond sunrise, we are bound to be aroused by the solemn chanting of Rudyard and Victoria as they count the long line: "One, two, three, four . . ."

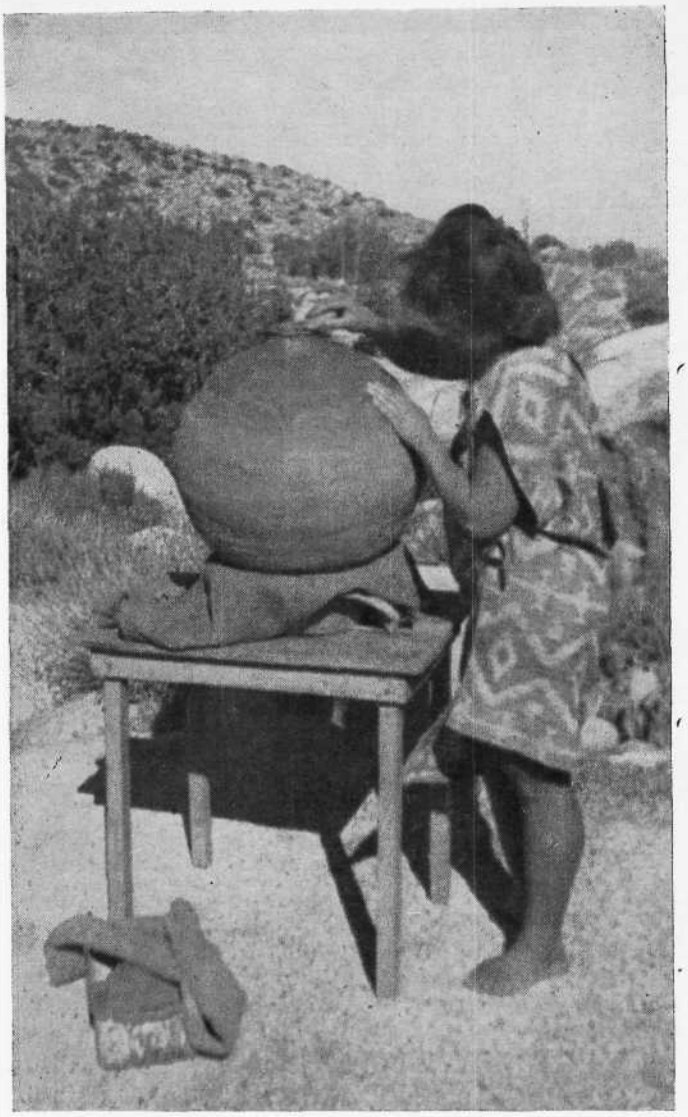
Yes, the goldfish are out, and it is high time to get up! Another desert day has begun.

But the winter-moving sun brings us, this year, more than a line of brilliant little fish to thrill the sense of beauty. For, on these mornings, as it lifts above the silhouetted summit of the juniper tree and pours his flooding beams in through our east window, it brings us what Tanya calls "The Treasure of Kings" —a great, tall jar of flashing gold, as dazzling as any that ever were the pride of Aztec emperors. Fashioned by Tanya during the long days of summer and as big as one of the huge oil jars that figure in the ancient phantasy of the Forty Thieves, it sits now, against the wall, upon the summit of a green chest, waiting for the day when it will be taken out and baked in an open fire —for it is too big for our primitive kiln.

A homely thing. A thing of mud—of unfired clay. Yet now, each morning as the sun rises, it flames to a thing of glory. Humble enough, through all the day, set there against the drab background of a mud wall as unfinished as itself, it nevertheless leaps each dawn from the shadows to stand forth as a glowing golden urn over whose beauty we have not yet ceased to marvel.

Mud! Mud turned to gold at the touch of a sunbeam. Just a trick of the light. A simple thing, one to smile about and to forget. But somehow the thing has become our daily miracle—a flashing symbol of the manner in which human clay, touched by the rays of the Great Spirit, can suddenly flame forth to unguessed heights of glory. And perhaps Tanya may be right when she calls her pet olla, "The Treasure of Kings." For the true treasure of kings lies in understanding.

The wind gods that herald the approach of winter, prowl now about Ghost Mountain. And often in the night rush upon it with shoutings, roaring through the cliff-edge junipers and flinging quartz gravel upon our iron roof like clattering bursts of buckshot. Several times in the dark we have arisen and by flickering light, gone out to sweep eaves troughs and to prepare for threatening showers. False alarms, most of these midnight scurryings. But we have had two tiny rains. From one we caught 25 gallons and from another 15. Not much, but enough to be a heartening promise. The rain will be along later. Perhaps before these lines see print we will again be contentedly drawing from newly-filled cisterns.



Tanya puts the finishing touches on one of her storage ollas.

But if our recent catch of drinking water was limited, the showers at least provided a welcome diversion for our trio of young Yaquitepecos. Water has been for so long a jealously guarded, non-wasteable commodity, that to use it for play purposes has been out of the question. But the two storms light as they were, fell not only upon our roof, but also upon the private dams of Rider and Rudyard—tiny reservoirs built carefully of cement in strategic points among the granite boulders. Therefore, after the showers, there was much excitement and rushing to and fro with tin cans and bottles to collect the precious liquid and store it before it could evaporate. There were hasty dashings, with Victoria trailing along in the rear of the procession, slopping water from her own tiny bucket and shrieking in breathless excitement. What an orgy of "mudding"—until the water gave out.

Rider and Rudyard build model 'dobe houses, situated cliff-dweller fashion in crevices of rocks. But Victoria builds cisterns. Her cisterns are constructed by the simple method of heaping up a mound of mud and patting it nice and smooth on top. After which the whole family is summoned to admire the work

of art. "A vewwy *fine* cistern," says Victoria, contentedly eyeing her own work. "An' after I get it smoothed out some more—"

Oh, the mud that one happy, barefoot youngster can acquire! But mud is healthful—that is, *clean* mud. Humans would be better off physically if they came more often in contact with it and with the earth. The Indian knew this. But, being a savage, he has been outvoted.

There is an end to mudding when the water gives out. And there wasn't much this time. The builders now have gone back to the regular daily round of lessons and of fuel gathering and of helping set and distribute type—and the score and one other daily duties. That is, the two boys have. Victoria has gone back to the job of raising Susie and Barbara, which, outside of her light daily allotment of reading and writing, provide her with worries enough.

Victoria decided some time ago that her dolls needed sun treatments. They should bask each day in the healing rays of the desert sun. "Only thing, they haven't got a truly bed," she lamented. "They are 'fraid to sleep right on the ground. They are 'fraid of—of *mice*." And she wrinkled up her nose and giggled as she said it. For mice happen to be Victoria's chief delight.

So it came about that, taking the hint, Rider and I, in secret, constructed a "truly bed" of just the right size to accommodate Susie and Barbara—and even, if necessity called, the somewhat dilapidated Peter Rabbit also. We flatter ourselves that the bed was, in its way, somewhat of a work of art, being fashioned of nicely trimmed dry mescal shoots, lashed and fitted together with not a nail in all its fastenings. And the bed "spring" was of interlaced fiber also, after the manner of the old style rawhide laced beds. Bringing this contraption home by stealth we hid it. And when Victoria's birthday came round a few days later, we presented the bed to her, with fitting speeches.

Victoria sits beside her invalids in the sunshine and holds converse with them in encouraging tones. And the bright eyed young collared lizard whose habitat is on the window screen, cocks his head and wonders what it's all about.

Quite a little desert sprite, that collared lizard. It has been so long since he took up his residence in the vicinity of the window screen that we have come to look upon him as part of the scenery. And we miss him when he happens to be away for a while. A mighty hunter of flies, he has learned that his favorite game always hangs round window screens. Through long practice he has developed a technique which seldom fails. Observing an alighted fly contentedly cleaning its forelegs together in the sunlight he begins to creep cautiously toward it. Stealthily he executes a wide, circling approach. Then, with a lightning rush, he dashes upon the over-confident insect from behind. You cannot see what happens to the fly. But you *can* see the satisfied hunter going off, smacking his lips. The number of flies that he consumes in a day must do no little toward keeping the balance of nature adjusted.

Remarkably intelligent these harmless reptiles. The small fly-lizards, the most numerous, can spot their quarry at long distances. Often I have seen a fly alight to sun itself upon a granite boulder in a section where there apparently were no enemies. And then, from a distance, I have noted the cautious approach of one of the beady-eyed little lizards. You can see his tiny eyes fixed intently on his prey. Nimbly he slides down the sides of intervening boulders. Swiftly he darts across open spaces, taking advantage of every scrap of cover. With deadly purpose, keeping out of sight as far as possible, he begins to climb the stone whereon the fly rests. Sometimes, from its thousand eyes, the fly glimpses him, and makes off. But more often than not it leaves the rock tucked away inside of Mr. Lizard. I even have seen these lizards leap several inches from the ground and capture flies upon the wind. A feat comparable to that of a bare handed human catching flying birds.

. . . And, just to even matters, before I could finish this the rain gods, possibly having read what I wrote in the first part, decided to come in good earnest. In full ceremonial costume, heavy laden with water jars, they swooped down upon Ghost Mountain, shouting their songs and whirling their headdresses and sounding rattles.

How the water splashed from their ollas! And how the wind gods yelled in accompanying chorus. What sudden scurryings to and fro on our part—adjusting rain spouts and dragging dry fuel to shelter. The falling water made a deafening tumult on our iron roof. Mud fell from the plastering over the windows, for a leak suddenly developed in the concrete eaves trough and spilled an overflow along the wall top and the front of the house. The first fire of the season roared merrily in the big fireplace and three happy little Yaquitepecos toasted hands and toes in the cheerful warmth. And while water plunged into the empty cisterns, whirling snowflakes sheeted the distant mountains in white.

Rain! and WATER! And the far sight of snow. Yes, perhaps, as we expected, it will be a cold winter. But today the sun is shining again and the mudders are busy at their building. The lizard is back at his fly-catching. And it is such a gloriously warm and clean-washed world that it might well be a perfect day in spring.

"But it really isn't spring," Rudyard and Victoria object, as I voice the thought. "It's really *almost* Christmas!" "And don't forget," Victoria adds, looking up, muddy faced and muddy handed from her vigorous patting of wet adobe, "that *vewwy* soon we all have to go and bring home the Christmas tree."

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LITTLE THINGS

These things are worthy anyone's regard:
A willing hand, a careful and close guard
Over our tongues and tempers, and a care
That we sincerely all our burdens bear.
Such simple little things that all can do
To guide us safely all the narrows through.
Life is not hard if we sincerely try
With all the good and upright to ally.

—Tanya South

HERE AND THERE..on the Desert

ARIZONA

Indians Speak For Rights . . .

WINSLOW—While representatives of America's 400,000 Indians met in Denver to organize a national council and write a constitution and platform advocating greater equality for their race, a congressional sub-committee headed by Congressman John R. Murdock of Arizona, held hearings in New Mexico and Arizona to investigate complaints and pleas of the tribesmen. "More education and a better chance to make a decent living" were the chief needs of Hopi and Navajo Indians. Indian spokesmen asserted that reservation schools overstressed agricultural training, virtually ignoring academic subjects required for college entrance. Indians also want voting privileges and improved conditions in their irrigation and power rights. Congressman Carl Mundt of South Dakota, committee member, stated, "This committee doesn't like an educational program which freezes one group of people into one occupation. It's a hopeless, futile program. There is no future for the Indian."

Bird Cage Will Open . . .

TOMBSTONE — Famous Bird Cage theater, relic of silver mining boom here, soon will be open to the public as a historic museum, according to Mrs. C. L. Cummings. Mrs. D. E. Dover of Dugger, Indiana, wife of present owner, recently supervised repairs on the building.

James Babbitt Dies in Storm . . .

FLAGSTAFF—State Senator James E. Babbitt died November 12 from exposure and exhaustion after becoming separated from his companions on a bear hunting trip in Fossil Creek area, 90 miles southeast of here. His body was found five miles north of Fossil springs after all-night search during one of the most severe storms in years. Babbitt, who had just been reelected to office with highest vote cast in Coconino county for any candidate in the general election was mourned throughout the state. He was member of one of Arizona's oldest pioneer families, had studied law at Loyola university and University of Southern California. He also attended Santa Clara university and Georgetown university, where he wrote his master's thesis on Colorado River project. He had been active in public life since 1933. At time of his death he was vice-president of Babbitt Brothers Trading company. His younger brother, John G. Babbitt, was appointed to succeed him in office.

Hospital For Christmas . . .

YUMA—Construction of the $250,000 addition to Yuma General hospital, started June 1, was scheduled for completion Christmas, according to Manager Paul Lipscomb. Work was started in mid-November on the $40,000 nurses' home, just south of the hospital.

Peak Crashes May End . . .

FLAGSTAFF—It is hoped that Navy experiments now being completed in collaboration with Northwest Airlines will prevent plane crashes such as have occurred in San Francisco peaks near here by eliminating static which has caused planes to become lost when their communications signals were disrupted. Research has been conducted in a specially constructed hangar in which a plane can be suspended as if in flight, and rain, snow and dust storms, from which static comes, can be created.

Author Kelland Sells Ranch . . .

PHOENIX—The 46,000-acre Yavapai county cattle ranch owned in partnership by Clarence Buddington Kelland, Bruce Barton and John N. Wheeler has been sold to Daniel C. Gainey, Minnesota industrialist who is expected to arrive in Arizona in February. Kelland, popular author who maintains residence in Phoenix, Barton, New York advertising executive, and Wheeler, president of North American Newspaper alliance, acquired the ranch four years ago and built "bunk houses" for their families and a central ranch building, at a reported cost of $50,000.

Sandpaintings Given Museum . . .

FLAGSTAFF — A series of Navajo sandpainting prints with accompanying text has been given Museum of Northern Arizona by Dr. Gladys A. Reichard, author of *Dezba, Navajo Shepherd and Weaver,* and other books on Indian life and arts. The prints were made by the silk-screen method and are faithful reproductions of the original colors and designs. This series of sandpaintings is used in the Navajo chant, "Where the Two Came to Their Fathers," originally used for warriors before a battle, later coming to be used for illness. Now the chant is said to be returning to its former purpose and is being given in part for young men entering the service, some of the paintings being made particularly for boys going into their first battle, others for men who have crossed the water or who have been on enemy soil.

Drillers Strike Artesian Water . .

CASA GRANDE — Artesian water struck in a wildcat oil well in Casa Grande valley may bring thousands of desert acres into culitvation. Well is being drilled 11 miles east of here for Casa Grande Oil Development association, a group of local farmers and businessmen. No other flowing wells are within many miles of this valley, and other artesian wells in the state all are reported to be much shallower.

CALIFORNIA

Convention Set For May . . .

PALM SPRINGS — California Osteopathic association will hold its annual convention here next May 16-19, it has been revealed by Thomas C. Schumacher, executive secretary of the association. Plans for handling the 600 delegates and friends expected to attend are being made by Walter Kofeldt, executive secretary chamber of commerce, Earl Coffman of the Desert Inn and local hotels.

East Mesa Report Protested . . .

HOLTVILLE—Soil report released by University of California college of agriculture that only about 40,000 acres of the East Mesa area is suited to general farming has been protested by Evan T. Hewes and M. J. Dowd of Imperial Irrigation district. District officials challenge findings on ground that survey was not complete, that a much larger area is suitable for farming. They fear this report may limit development of area to a small portion of the total acreage available.

Mud Pots Are "Boiling". . .

CALIPATRIA — Unusual activity on Rock hill, about three miles southeast of famous mud pots of Salton Sea was observed in November by Roy Yarbrough of Imperial Irrigation district. Rock from this hill is used by district in riprapping cuts along the canal system. After supervising hauling of this rock, he said "smoke and steam were issuing from two deep cuts near the top of the hill" and many large boulders had been dislodged and had rolled into the roadway.

Shoshone Chief Dies . . .

DEATH VALLEY — Johnny Boland, Shoshone Indian who died of pneumonia was buried November 10 with full tribal ceremony in the old Indian burial grounds atop one of the foothills in the Funeral range north of Furnace Creek Inn. Although a chief of his tribe, as the only son of the late Chief John Boland, Johnny never had exercised the privilege. This is said to be the first time white people have been allowed to witness the burial ritual of Shoshone Indians in Death Valley.

Resort Seeks Air Stop . . .

PALM SPRINGS — That this desert resort will "in all probability" be put on the aerial map of the nation, is the belief of chamber of commerce secretary Walter Kofeldt, who was the first witness before San Francisco hearing of Civil Aeronautics board November 1. Six companies, he said, wish to include Palm Springs on their itineraries, two of them as main transcontinental flight stops and others with feeder lines touching main Southern California cities.

Plan For Aggie Training . . .

EL CENTRO—More than 100 farmers and business men in November endorsed a plan to extend the work of the Meloland Agricultural experimental station, a branch of the University of California. They approved establishment of a non-degree agricultural training school at the station at estimated cost of $165,000 for buildings and equipment. Training would include agronomy, truck crops, animal and dairy husbandry, soil technology, farm management, farm machinery and shop, physical education.

Needles Railroad Man Dies . . .

NEEDLES—Andy Miller, veteran engineer for the Santa Fe railroad at Needles, and life-long friend of the Mojave and Hualpai Indians, died at the Santa Fe hospital in Los Angeles November 18 and was buried at Needles.

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Universal Studio in November was shooting scenes on technicolor film, reportedly entitled "Salome, Where She Danced," in Lone Pine area.

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George R. Wade, member of first Imperial county board of supervisors and former Brawley city engineer, died November 24 in Long Beach.

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NEVADA

Spanish Lessons For Farmers . . .

RENO—To aid Nevada farmers and ranchers in directing Mexican nationals working for them, agricultural extension service of University of Nevada has issued an English-Spanish phrase book, which explains Spanish pronunciation and lists common expressions and a vocabulary of farm and ranch terms. Author is John Agrusa, U. S. office of labor in Nevada.

Snowstorm Maroons Flocks . . .

RENO — Unusually heavy snowstorm blanketed nearly every section of the state in mid-November. Heaviest fall of 50 inches was recorded in Marlette lake sector, with 42 inches at Donner summit. Stock losses were undetermined due to isolation of ranches. More than 25,000 sheep and an unknown number of herders were marooned 60 to 70 miles south of Elko.

Half of Farms Get Electricity . . .

RENO—With the latest allotment of REA loan funds to Nevada, about 1750 farms, or 49 per cent of all Nevada farms, are now electrified, according to report from rural electrification administration in November. When REA was established here in 1935, only 900 Nevada farms, or 26 per cent, received central station electric power. On basis of 1940 census reports, it seems likely that as many as 6800 occupied rural dwellings still do not have central station electric service in Nevada. It is believed that power lines may be built into more thinly settled rural areas under the Pace act.

Fewer Nuts For Candy . . .

GOLDFIELD — Nevada Indians had few piñon nuts to harvest this year. Even Lida canyon, Esmeralda county, termed the "home of the piñon nut," yielded only limited quantities. In good years Indians depend on this, Nevada's only wild nut, as a cash crop to sell eastern candy makers.

Wants Mead Water For Farms . . .

CARSON CITY—Southern Nevada as an agricultural and industrial center was envisioned by Governor E. P. Carville as he commented on disposition of the $5,000,000 pipeline which has supplied water for Basic Magnesium, Inc., which closed down in December. He believed that Lake Mead water running through the pipeline could be used both for industrial and agricultural purposes. The governor pointed out that water from Lake Mead could be used to develop small farms and ranches, a program which would fit in with plans to provide returning servicemen with self-supporting acreages.

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Arthur B. Witcher, 72, Nevada pioneer, sourdough of Klondike gold rush, and an early builder of Las Vegas, died November 23 at Las Vegas hospital.

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NEW MEXICO

Trail Herd Days Still Here . . .

MAGDALENA—Picturesque tales of the old trail herd days were revived in the wide open spaces of New Mexico, when the fall movement of cattle got into full swing in mid-November. Cowboys from as far as the Arizona border drove market bound whitefaces to this railhead—largest ranch-to-railroad shipping point in the state—in what was expected to be a record movement for recent years.

Incoming Cars Top Last Year . . .

SANTA FE—One-day count of incoming non-resident automobiles October 24 registered a total of 3036 motor vehicles carrying 9145 passengers. This compares with 2627 vehicles and 7769 passengers in the same 1943 count. Average persons per auto dropped from 2.6 a year ago to 2.3, but average persons carried in all incoming motor vehicles including trucks and buses was up from 2.9 to 3.0.

Ceremonial Directors Reelected . . .

GALLUP—Six directors of Inter-Tribal Indian Ceremonial association whose terms expired this year, were reelected in November for another two years. They are A. W. Barnes, John Brentari, J. M. Drolet, John J. Kirk, J. E. Lieberman and Clarence Uhland. They planned an early meeting with the five hold-over board members to organize and select dates for next summer's Ceremonial.

Change "New Mexico" to "Cibola"?

SANTA FE—Ernest Thompson Seton, writer, naturalist and founder of Seton Village near here, advocates that New Mexico change its name to Cibola. He complained that "at least 10 per cent" of his mail reached Mexico before it was sent back across the border to "New" Mexico. Besides, the lion-maned naturalist asked, "Why should we be 'New' anything, when we have such a historically suitable name as Cibola to substitute for it?" Seton said Dr. Edgar L. Hewett and other eminent scholars and historians favor the change. Cibola is the old Spanish-Indian name for the state, which means "the land where we find buffalo." He added that "Cibola is on all ancient maps, Coronado first spoke of this land as 'Cibola', and there is the Cibola national forest and the Cibola mountains."

El Morro May Be On New Road . . .

GALLUP—El Morro national monument and Gallup are on the route of one of six proposed north-south highways offered in postwar construction program. The highway would extend from El Paso, Texas, by way of El Morro and Salt Lake City according to the plan offered by Rep. Snyder of Pennsylvania.

Prehistoric Air Conditioning . . .

FARMINGTON — Air conditioning, considered a modern invention, actually is more than 1000 years old and was used by pithouse dwellers of the Governador region of northwestern New Mexico from 700 to 900 A.D., according to conclusions reached in *Early Stockade Settlements in the Governador, New Mexico,* published by Columbia University press. Pithouse people dug ventilating trenches into their homes, which admitted fresh air and possibly served as tunnelled entrances to their subterranean dwellings.

Experimental Range Increased . . .

FORT WINGATE — Southwestern sheep laboratory here took possession in November of nearly 14,000 acres at Rock Springs ranch northwest of Gallup to supply range for experimental flocks. Laboratory, operated by department of agriculture, has been conducting experimental developments in sheep breeding to ascertain types best suited to uses of Southwest Indians and to raise the grade of stock used by them.

UTAH

Would Save State Relics . . .

SALT LAKE CITY—Utah state publicity and development commissioners, Ora Bundy and H. J. Plumhof, have prepared amendment to be submitted to state legislative committee stipulating that any object of historic or scientific interest found in the state must first be submitted to Utah colleges and universities and specialists in various fields, for their use if desired, before the object is removed from the state, and then only by permit of the commission.

Indians Predict Mild Winter . . .

BEAVER — Indians who have been searching for piñon nuts which usually are plentiful in this locality report they have found none, and assert that the summer was too hot and dry for a good crop. According to Indian legend when pine nuts are plentiful a long hard winter is in store; when there are none, a mild winter will follow. In normal years hundreds of pounds of roasted pine nuts are brought into southern Utah towns by the Indians who gather and roast them with an art which the white man has hardly been able to match.

Mormon Head Presents Gift . . .

SALT LAKE CITY—To celebrate his 88th birthday, Heber J. Grant, for 26 years Mormon church president, presented a gift of $25,000 from the LDS church to University of Utah medical school. The gift is to be used to equip a laboratory for the department of pharmacology and physiology of the university's new four-year medical school. Gift was accepted for the university by Dr. LeRoy E. Cowles, president.

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Cyrus Edwin Dallin, 82, famed native Utah sculptor whose many works include figure of the Angel Moroni atop Mormon temple in Salt Lake City, died at Arlington, Massachusetts, November 14.

Mines and Mining . .

The day of the pick and pan prospector who formerly trudged along with his burros, but more recently travels in a jalopy, is not over, according to Charles Newmeyer in the Mining Record. There still is pioneering to be done in the search for minerals, and the prospector who follows the trails year after year is the man most likely to make new discoveries. He has gained a knowledge through experience, for which there is no substitute.

• • •

Tucson, Arizona . . .

Resumption of its ore testing service, inactive since September, 1943, has been announced by the Arizona bureau of mines at the University of Arizona here.

Tests are made on ores originating in Arizona, a minimum charge of $5 plus the cost of analysis assessed on samples of 100 pounds or less. No charge is made for the services of the metallurgist. One cent per pound is added for samples over 100 pounds.

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San Francisco, California . . .

Walter W. Bradley, California state mineralogist, has just issued a new edition of the California Journal of Mines and Geology, devoted mainly to three major reports. These include: Geology of Palm Springs-Blythe strip, Riverside county; Geology of parts of the Barstow Quadrangle in San Bernardino county, and Geology of the Needles-Goffs region in San Bernardino county. All the reports are accompanied by maps. This edition of the Journal, Vol. 40, No. 1, may be obtained by addressing the Division of Mines, Ferry Building, San Francisco 11, California. The cost is 60 cents plus state sales tax.

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El Paso, Texas . . .

So successful was the first International Mining Day celebration held here early in November that the mining committee of the chamber of commerce has decided to make the event an annual affair, and has designated the second week in November, 1945, for the next conference. Over 400 mining men from New Mexico, Texas, Arizona, Colorado and old Mexico were present at this year's program.

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Winnemucca, Nevada . . .

Purchase depots operated by Metals Reserve company ceased purchase of domestic tin ores and concentrates December 31. In the future tin will be bought only on a basis of negotiated contract. Persons interested in such contracts should write to Metal Reserves company at Washington, D. C.

Phoenix, Arizona . . .

According to information received here the Reconstruction Finance corporation is now accepting applications for limited loans for the development and operation of gold mining properties. While loans cannot be made at this time, it is anticipated there soon will be a modification of wartime restrictions which will enable the resumption of work on properties formerly active. The RFC has set a limit of $20,000 on the initial loan, with a possible second loan of $20,000. Legislation now is pending in congress which would remove these limitations. Applications should be filed through RFC field offices.

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Winnemucca, Nevada . . .

Molybdenum Products company is closing its Reno office and opening a new headquarters in this city, according to plans disclosed by President George Howe. The company has property in the Bottle Creek district. A plant for calcining and sintering is to be constructed at the Blue Bucket quicksilver property and a new camp is practically completed.

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Denver, Colorado . . .

Robert Palmer, secretary of the Colorado Mining association has sent out announcements of an inter-mountain mining conference to be held in this city January 26-27. Groups from Colorado, New Mexico, South Dakota, Utah and Wyoming are expected to attend the conference.

• • •

Gallup, New Mexico . . .

Oil drilling activity has reached a new high in northwestern New Mexico according to reports reaching here. Transcal Realty and Development corporation has resumed drilling on the deep test well in San Juan county; the Southern Union Production company is reported to be below 5750 feet in the Barker Dome area; Petroleum Products corporation is active in the Hospah dome in McKinley county where 40 producers already have been found. There are also several individual operators sinking test holes on the north rim of San Juan basin and over the line in Colorado.

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Cedar City, Utah . . .

Shipment of iron ore from deposits west of this city to the Kaiser plant in California, are scheduled to start as soon as a spur railroad and temporary buildings are completed at the property. Forty men are at work on the project, the construction being done by Utah Construction company.

Santa Fe, New Mexico . . .

First deep oil discovery in New Mexico has been made at the Humble test well in Lea county, at depth of 11,900 feet. It is reported to have tested 1800 barrels per day.

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Salt Lake City, Utah . . .

Government controls on use of magnesium were lifted in October by WPB ruling. No further restrictions will be placed upon manufacture of light metal products, including all varieties of civilian goods. Restrictions still will be felt in some localities however because of critical manpower situation.

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Winnemucca, Nevada . . .

Installation of 100-ton scheelite concentrator was made at tungsten mine owned by Joseph E. Riley to help ship high grade tungsten concentrates to industrial plants. What is said to have been largest tungsten stockpile in United States is awaiting treatment here. U. S. bureau of mines is preparing extensive diamond drilling of Riley property to determine extent of orebodies beyond present developed area.

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San Francisco, California . . .

Economic report for California division of mines, appraising postwar outlook and suggesting legislation for greater activity and postwar employment in mineral industries of the state, is being prepared by Samuel H. Dolbear, mining engineer.

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Las Vegas, Nevada . . .

Nearly 200 workers in BMI plant at Henderson are being laid off weekly as part of gradual curtailment order which will completely close plant in December, officials state.

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Washington, D. C. . . .

Government production controls on copper industry will cease following V-day in Europe, WPB announced October 10. At present, brass and bronze ingot makers may accept orders lacking priority ratings but may not produce them until after Germany's collapse. It is estimated 57,000 000 pounds of copper and copper products will be available each quarter for ingot makers for civilian use following V-E day cutbacks in arms production. Reports on production still will be required for some products after European hostilities cease.

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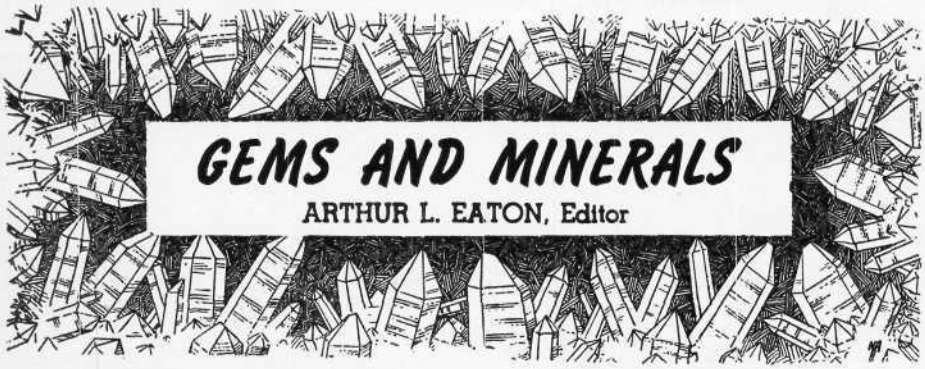
Kingman, Arizona . . .

Ed Imus has located a large deposit of barium ore, a base in paint manufacture, in the Cottonwood district 30 miles east of here. Former production at this location was unprofitable due to low price. Present price has doubled.



ARCHEOLOGIST TELLS L. A. CLUB ABOUT ATLANTIS AND MU

Dr. Ivan Alexis Lopatin guided Los Angeles mineralogical society in an adventure into the past at November 16 meeting when he spoke on the lost continents of Atlantis and Mu (or Lemuria). Dr. Lopatin is professor of anthropology and archeology at USC.

Officers elected for the ensuing year are Richard R. F. Lehman, president; A. J. MacArthur, 1st vice-president; Gertrude G. Logan, 2nd vice-president; Rosalie Gotfredson, 2118 Eastlake Avenue, Los Angeles 31, secretary; Ledona B. Koppen, treasurer; W. R. Harriman, editor; R. R. Newell, business manager; Charles W. Abbot, field trip chairman; Gordon Funk, federation representative. Member Willis displayed some clever carvings in talc.

A Christmas party was held at West Ebell clubhouse December 16. Members contributed rock specimens to fill Santa's bag for exchange gifts.

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USE OF PORTABLE LAPIDARY EQUIPMENT IS DEMONSTRATED

Ralph Dietz lectured on gem polishing at November 1 meeting of Mineralogical Society of Southern California. He was assisted by H. G. Kirkpatrick who gave a practical demonstration of cutting and polishing on portable lapidary equipment. Members divulged their own pet polishing tricks and propounded lap problems. Month's display was polished material.

The group enjoyed a field trip to California Institute of Technology November 19 to study the institute's mineral collection. W. J. Rodekohr made arrangements with R. Von Huene of Caltec for the visit.

Ceacel G. Wittorff submits the following in memory of Chris Wicht, pioneer prospector, rancher and storekeeper of Death Valley region and many times genial host to Searles Lake gem and mineral society, who died October 17.

THE PIONEER

He followed the rainbow in his youth,
In the days when the West was young,
He braved the heat of the desert waste,
Till his days on earth were done.
He took the West to his humble breast,
And dreamed his dreams in the hills,
Till he found 'twas not gold his soul has sought,
But true friendship and lasting goodwill.
So he gained the peace of a soul content,
When fortune had passed him by,
And he found his gold at the rainbow's end
In the gold of the desert sky.
!Vaya usted con Dios!

• • •

Rockhound Record, bulletin of Mineralogical Society of Arizona, reports evidences of glaciation in the San Francisco mountains. A small glacier has left its marks of polishing and striating with well developed moraines at the lower end. The glacier probably was about two miles long and one and a half wide, and some 300 feet in depth.

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Because of the difficulty in making field trips, Los Angeles mineralogical society invites dealers to bring material for sale to meetings.

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A daylight field trip took Searles Lake gem and mineral society to Ballarat and the late Chris Wicht's place in Surprise canyon December 3.

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John Hilton has secured from an Indian a specimen that would make any rockhound's mouth water. It is a cluster of amethyst crystals containing about 50 water bubbles.

Mineralogical Society of Arizona enjoyed color photographs of Four Corners at November 2 gathering through courtesy of Wendell Paulsen, Salt Lake City. All units of the Rocky Mountain federation traveling collection were started at the appointed time. Utah exhibit reached the Phoenix group in October and Grand Junction collection arrived in November.

Cogitations . . .

Of a Rockhound

By LOUISE EATON

Rockhounds sorta classifies into two breeds: those what collects rox f'r esthetic reasons 'n those what gathers speciments f'r learnin purposes.

• • •

Think uv all th little shugar sax a-waitin to bring home rox frum field trips rockhouns'll take when th duration is over!

• • •

Th longer folkes wurks with minerals 'n gems, th more they tends to specialize. Sum wants metals only. Wun man may turn out jus heart shaped pieces while nuther can see nuthin but sagenite to collect 'n polish. Sum wants only crystals 'n sum thinks agate nodules is tops. Lotsa rockhouns, however, is still omnivorous 'n gathers in enything that isn't plain country rock.

AMONG THE ROCK HUNTERS

Long Beach mineralogical society has a new meeting place. It's the Belmont recreation center, 4104 Allin street, just east of Belmont pier. Meeting day has been changed to second Wednesdays. Seal beach and east Ocean bus lines both reach the club house. Initial program in the new quarters was a motion picture of Alcan highway shown by Mr. Goodcell of Auto Club of Southern California.

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Marquette geologists association, Chicago, held its annual auction November 4. Dr. Ball of Northwestern university outlined a series of instructive lectures which will be inaugurated in January.

Richard Buhlis, Box 1012, Little Rock, Arkansas, secretary of Arkansas Mineral society, informs us that the annual meeting and banquet of the society were held October 11, in Little Rock. The meeting opened with election of officers, followed by several talks. Members arranged an excellent exhibit of Arkansas minerals.

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Wisconsin geological society recently elected the following officers: Gordon W. Borreau, president; Mrs. G. O. Raasch, vice-president; Mrs. J. O. Montague, secretary; Elmer Guessel, Verne Wrenecke, Carl Hub and Ted Wieseman, directors. They have just issued first copy of "The Trilobite," monthly bulletin.

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Identification of minerals has proved a popular activity at meetings of Los Angeles mineralogical society. A prize is awarded the member naming the largest number of minerals submitted for classification.

Dr. W. J. Mead talked on aluminum, its source and production at November 14 meeting of New Jersey mineralogical society. Dr. Mead is director of Reynolds research, New York, and head of the geological department at Massachusetts Institute of Technology. A film was shown through courtesy of Reynolds metals company.

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November Sequoia bulletin prints a travellog by E. E. Eldridge of a trip to Mother Lode district and north to Crater lake for the purpose of collecting mineral specimens to be used in geology and mineralogy departments of Fresno state college.

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Southwest mineralogists report interesting activities during September and October. Albert Hake explained how he built and operates a vise on his mud saw and demonstrated how he can automatically lap square cabochons. Ernest Chapman spoke on the crystal counties of the New Jersey zeolite region. For field trips the group visited the astronomical society club rooms and U. S. C. laboratories where Professor George Wyman demonstrated different methods of treating metals and ores. Charles Standridge talked on emeralds at one October meeting. Dana's new system was discussed and explained at October 27 session.

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J. Lewis Renton talked on Hawaii at November 15 meeting of Northern California mineral society. He illustrated his lecture with kodachrome slides made before the war. Last Fridays are lapidary nights under the direction of F. J. Sperisen.

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John Hitching of Lehi was guest speaker at November 7 meeting of Mineralogical Society of Utah. He exhibited some of his choice specimens to illustrate his talk on archeology and Utah aborigines.

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Julian A. Smith talked on mineral identification at November 2 meeting of East Bay mineral society; R. E. Lamberson propounded true or false questions and Charles L. Mills showed kodachrome slides taken on a prewar trip to the east coast. Adan E. Treganza discussed prehistoric Indian mining and quarrying in California at November 16 meeting, giving a brief outline of California Indian culture, illustrating with slides the lithic materials mined, some uses of the materials mined, technique of mining and tools used.

TRUE OR FALSE ANSWERS

Questions are on page 18

1—False. The Chuckawalla is harmless.
2—True.
3—False. Goldfield is in Nevada.
4—False. The story is about New Mexico.
5—True. 6—True.
7—True 8—True.
9—False. The desert has its own species of snails.
10—True. 11—True.
12—False. The Bill Williams is a tributary of the Colorado.
13—False.
14—False. Asbestos is mined from the ground.
15—False. Mistletoe is common in Ironwood trees.
16—True.
17—False. Dickwick Hall was a writer and prospector at Salome, Arizona.
18—True.
19—False. Sheba's Temple is in the Grand Canyon.
20—True.

Members of Los Angeles lapidary society modestly claim that it is the largest and best lapidary group in the world. Over 100 members attended November gathering. Colored films taken on a field trip to home of Mr. Hansen were shown. Ralph Dietz, foreman in an optical establishment, talked on pitch polishing. Members always are willing to help anyone needing advice or instruction regarding phases of the lapidary art. Herbert Monlux gives free instruction to groups twice a month.

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Kenneth J. Hines, 1501 Palm street, Puente, California, reports a possible diamond pipe four miles east of Jacumba, north of the road.

Arkansas mineral society observed its sixteenth annual meeting October 11 at Womens City Club, 401 Scott street, Little Rock. Lawton Kimzey of Malvern, Arkansas, drew the annual cash prize for his exhibits of specimens of brookite crystals from Magnet Cove. Door prize, an Arkansas diamond mounted on peridotite, presented by H. E. Powell company, was drawn by C. Stanfill of Morrilton, Arkansas. Election returns were: W. G. Shockley, president; L. B. Pringle, 1st vice-president; Byron C. Marshall, 2nd vice-president; Richard Buhlis, secretary-treasurer, Dr. D. E. Fletcher, D. M. Stuart, Joe W. Kimzey, trustees.

• • •

Orange Belt mineralogical society enjoyed a varied program at November meeting held in San Bernardino junior college. Howard Fletcher told of a former field trip to the Valley of Fire, Nevada, and of a fishing trip to upper Lake Mead region where he discovered a large gypsum deposit. Bernard L. Burk recounted the story of Adams Diggings, a lost gold mine in Apache country.

• • •

Edgar B. Van Odsel, professor of geology and astronomy, University of Redlands, lectured on physiography of the area at November meeting of Searles Lake gem and mineral society. He illustrated his talk with colored movies of Death Valley and the coast district. Public was invited to attend the lecture held in Trona school auditorium.

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San Fernando valley mineral and gem society studied hand-wrought silver and fluorescents at November meeting. Lucille McClure, Mrs. George McPheeters and Melba Ferguson exhibited their work and talked on silversmithing and equipment. George Parker explained cutting and polishing of gem stones and showed mounted specimens. Myra Sumner, Jo Iverson, Don Graham and Bill Taylor were in charge of the fluorescent display and each gave a short talk on his own rocks.

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Kitsap mineral and gem society, Bremerton, Washington, lists officers Paul Walling, president; J. J. Stoner, vice-president; Herb Brown, of Earland Point, Bremerton, secretary.

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Election of president of Rocky mountain federation of mineral societies was conducted by mail. Arthur L. Flagg, Phoenix, Arizona, was unanimously chosen to serve for the duration. He appointed Mrs. Charles W. Lockerbie, Salt Lake City, vice-president, and Humphrey S. Keithley, Phoenix, secretary-treasurer.

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Searles Lake hobby show yielded a net profit of $180 to the society and the Girl Scouts cleared $145.

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W. Scott Lewis now lists his minerals under the new Dana classification.

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Dr. Clarence J. Ryan of San Pedro donated to Searles Lake society ten first day issues of U. S. stamps honoring Korea, affixed to first day envelopes mailed from Washington, D. C. They may be traded for specimens or used as grab bag prizes.

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Member W. Scott Lewis conducted Pacific mineral society on an arm chair field trip to Yosemite by means of kodachromes and a talk on geological origin of the valley.

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Randall Henderson, editor of Desert magazine, talked on tropical Africa and the Sahara in kodachrome at December 2 meeting of Imperial Valley gem and mineral society held in Holtville high school. Officers of the club for the coming year are Louise Eaton, president; Lloyd Richardson, vice-president; Cecil Searcy, secretary-treasurer; Arthur L. Eaton, advisor, and Chuck Holtzer, board member. I.V.G.M.S. is happy to welcome Captain Henderson home.

Searles Lake gem and mineral society, organized January 8, 1940, met November 15, 1944, to disband and establish a new society, incorporated. This step long had been anticipated but had to be deferred until the present time. Attorney Orlin J. Bell of East Bay mineral club handled necessary legal work.

AMATEUR GEM CUTTER

This page of Desert Magazine is for those who have, or aspire to have, their own gem cutting and polishing equipment. Lelande Quick, who conducts this department, is former president of Los Angeles Lapidary society. He will be glad to answer questions in connection with your lapidary work. Queries should be addressed to Desert Magazine, El Centro, Calif.

By LELANDE QUICK

Christmas is again upon us and I hope that it will be a happy one for all our readers. Despite empty firesides I hope there are no empty hearts. Last year I expressed the hope and belief that it would be the last war Christmas but here we are hard at it and I do hope that things develop before this appears that will indicate that this one will really be the last Christmas at which "peace on earth, goodwill toward men" is nothing but an expression and a phrase out of the past. War is a profitable venture and I hope there will be enough persons in the world who have not profited from it so that when it is time to sit down and talk things over, war will be outlawed everywhere forever and there will be no fine game of power and economic politics. The men who do this will live in the hearts of other men long after the generals of the armies are forgotten.

• • •

In the past four issues of Desert Magazine I have been writing about coloring agates. I covered the methods of coloring agate red, blue, green and black in that order and I conclude the matter this month by telling how to color agate yellow. This method is the simplest of all and usually the most successful as the stone to be colored is merely soaked for some time in a strong solution of hydrochloric acid after having previously had a bath in ferrous sulphate solution. Allow the stone to soak until the desired shade of yellow has been obtained.

You will note that in these discussions I have never used the term "dyeing" but I have always used the term "coloring." There is a lot of difference. When a substance is dyed, an artificial color is introduced that sometimes fades but we introduce no artificial coloring when we treat agates. We introduce chemicals made from minerals and the mineral content of the agate is either changed or enhanced and the coloring is therefore intensified.

Now there are readers who are "agin it" on the ground that you can't improve on nature. "I take 'em as I find 'em," they say. Indeed that is the way to take them and I prefer it myself, for coloring agates is a great nuisance. But when it comes to improving nature in the coloring of agate, it is well to reflect that nearly every piece of agate ornament sold commercially has been treated to some form of color bath. In some sections of America there is almost no colored agate at all but there is much very good white agate that could be greatly improved by changing the mineral content. Agate, or chalcedony, includes the jaspers and the petrified woods although these usually are so vividly colored that they hardly can be improved. And of course you can't take the blue agate from Lead Pipe Springs, California, and make it yellow or the carnelian agate from Utah and make it blue or improve their colors very much as nature has done a fine job with those materials. To refrain from coloring on the ground that you can't improve on nature is closing your eyes against the inevitable. Is pork improved by being smoked into ham and bacon? I could cite a hundred such examples that we accept every day. I have seen beach pickers at Redondo Beach go into transports when they found a pebble with a pale amethystine color. They could have a pail full of good blue agates in a month if they'd just give nature a helping hand. And the fact that these beach pebbles *can* be colored at all is proof that they are agate and not "moonstones."

The chief drawback to coloring agates is that it is messy and it needs a large place and adequate vessels. Most of the coloring at Idar, Germany, is done in kitchens but I would not advocate that here. Another drawback is the difficulty in securing the necessary chemicals but if you are near some large city you can secure these from any laboratory supply house by consulting the yellow pages in the local telephone directory. Some enterprising dealer could really build up a fine business by selling these items and supplying instructions.

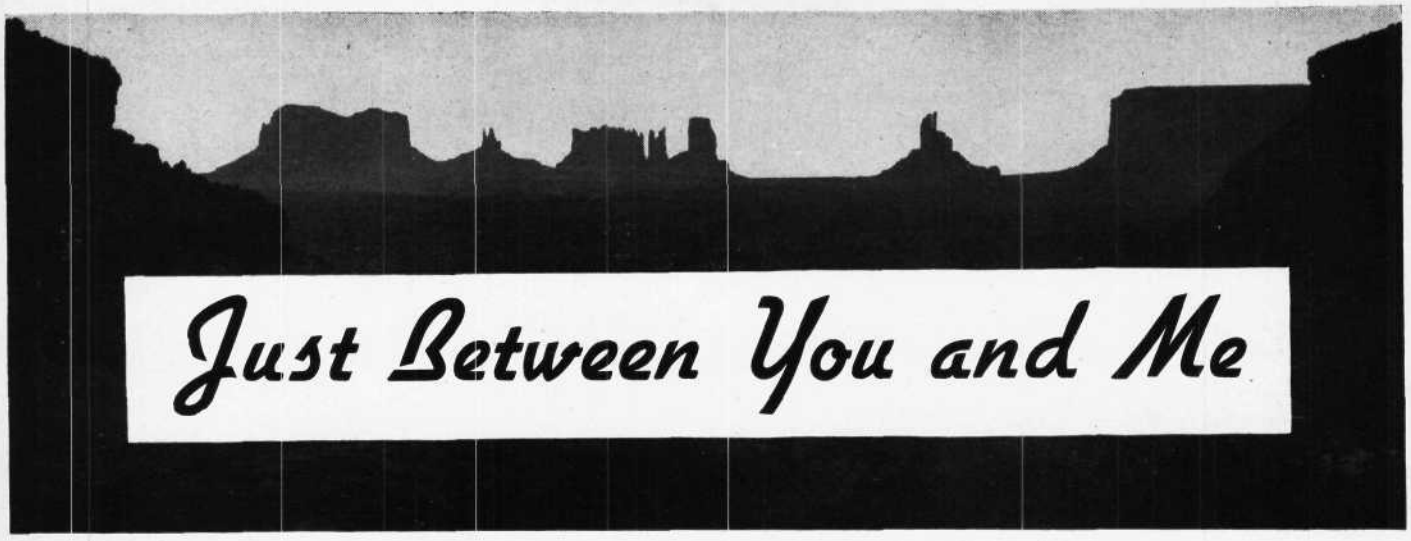
There are some things to remember. Agate and agate only can be colored with these methods because of the fact that it is a cryptocrystalline. Banded agate is the best because it produces contrasts having "soft" and "hard" layers which react differently to the chemicals. The nodules found in the Mint Canyon area of California should be ideal for this purpose. Not many of the books on gem cutting have much material on coloring but the most complete information available for further reading is contained in Fred Young's excellent book, *The Art of Gem Cutting* or in Geology Leaflet No. 8 published by the Field Museum in Chicago for 50 cents.

• • •

Probably no one resists change more than an amateur lapidary who has used successfully a certain method of grinding and polishing for a long time. To suggest various grade wheels and speeds invites a smile of quiet tolerance, an unexpressed thought of "listen to that; and my work tops his." But the only way you can get out of the amateur class is to do gem grinding like professionals do it and if you do you will get better results than you ever did before. Having polished stones successfully on a felt wheel with tin oxide for years, I believed that was THE way to do it—until I acquired a leather wheel, and then I found out that both types could be used with profit. And now I am even trying tripoli.

Nine out of ten amateurs buy "J" bond grinding wheels as a matter of course and they run them at motor speed—1750 R.P.M. The Carborundum agents told me one day that if I used a "K" bond No. 220 wheel at half motor speed, I would never crack or chip another opal. I took their advice three years ago and I have never spoiled an opal since. In fact my cracked stones of all kinds have been reduced to the vanishing point. If you have a trim-off saw you can get along very well with no more than two grinding wheels—a No. 220 and a No. 180 but if you have no trim-saw you need several wheels. I use motor speed on a No. 120 J bond wheel to shape a cabochon from a blank, then switch to a No. 180 J bond wheel to rough out the curved surface and then go to a No. 220 K bond for the final grinding and I cut my time in half and have almost no stone casualties. If I have a rock that I want to finish as a specimen I "peel" the surface with a No. 80 J bond wheel and I also use it for "spotting" rocks. My rule is, "the rougher the material, the coarser and faster the grinder. As the work progresses use finer wheels and reduce the speed. Use a No. 220 wheel at half motor speed on all soft materials."

Now this is not the last word in grinding. Probably no one else does it like that and most persons can beat my cabochon work but since I adopted those methods my own work has improved to where it compares favorably with top cutting and I can do a cabochon in half the time I used to take. If you will vary your grinding wheels rather than vary the pressure you will save time and stones and you will save a lot of grinding wheel expense because you will eliminate a lot of wheel dressing.



Just Between You and Me

By RANDALL HENDERSON

MY friend Arles Adams has found a way to explore the desert with an A ration card. He feeds his jalopy a mixture of half gas and half kerosene—three-quarters kerosene when the weather is warm.

Of course not all motors will operate on that kind of fuel. But Arles' car is no ordinary automobile. A junk dealer sold him the old Model A for $18.00—and being a very ingenious fellow, he converted the wreck into sort of a tarantula on wheels. It will go anywhere a jeep can travel—and makes a lot more noise doing it.

Late Saturday afternoon Arles and I took the rocky trail up Fish Creek wash—through Split Mountain canyon. This is in the Anza Desert State park. California has not built many roads in the park yet, but in the pre-war days there was a passable trail up the wash past the Gypsum mine and through Split Mountain gorge.

The route is still passable—but I wouldn't recommend it. Storm water during the past two years has created some rocky barriers along the route. It requires a sturdy car and a stout-hearted driver to make the trip today. Two automobiles recently had broken trail ahead of us in the lower gorge. But they turned back at a sandstone dike which blocked the canyon about eight miles upstream from the Split.

It looked as if our journey also would end there. At least, that was what I thought. But Arles had a different idea. "Sit tight and hang on," he shouted, as he stepped on the throttle. The kerosene burner gave a few snorts and somehow bounced to the top of that waterfall.

We camped that night in the bottom of the wash with a blazing fire of dead Smoke tree wood.

Ten miles above the precipitous gateway to the canyon the shrubs of the Upper Sonoran zone begin to appear—agave, yucca, goatnut, wild apricot. Not all the desert plants observe the zone classifications laid down by the botanists. Larrea, or greasewood, is one of these. It thrives in both the Lower and Upper Sonoran zones.

Locoweed is another. The dark green clover-like foliage of this desert annual was the most conspicuous thing in the canyon on this trip. I have never seen so much of it before, either there or elsewhere. Despite its sinister name and reputation, locoweed is a lovely flower. Its purple blossoms were much in evidence in the lower canyon, but at higher and cooler altitudes it had passed the flowering stage and the seedpods had burst and emptied their contents in the sand. There are two possible explanations of this odd fact. One is that the storm waters which carried the seeds to the lower canyon had been so timed as to give them a later start. The other possible clue is that in being swept down the canyon the seeds had been buried so deeply in the sand as to delay germination. Perhaps one of the botanists can tell which, if either, of these explanations is correct.

Our goal was a spring in the Vallecito mountains 14 miles upstream from the Split. There is fine water trickling from the rocks near the rim of a basin which the cattlemen call Galleta valley.

This is old Indian country. San Diego museum has recovered many artifacts from the area. Broken pottery is still much in evidence, and stone metates — too big to carry away — are numerous. Also a few petroglyphs. Agave, which furnished both food and raiment for the desert redskins, grows plentifully here, and the floor of the valley produces a fine harvest of chia seed.

I have gone into some detail regarding this trip because this is Anza park country, and there is widespread interest in the improvements to be undertaken in Anza park in the post-war period.

I believe it is the plan of the California park commission to preserve much of the 400,000 acres in Anza as a primitive wilderness area. I am sure that desert people with few exceptions are in accord with this program.

However, this does not mean that the park is to remain inaccessible. If the public is to derive enjoyment and benefit from the park—and after all, that is the purpose of a recreational reserve—trails must be built. Some of them will be for motorists, others for saddle tourists, and still other routes will be planned for the hiking fraternity.

It will never be practicable to build a surfaced highway through Split mountain gorge and up Fish creek. This is one of the routes which properly should be maintained merely as a passable motor trail. Each cloudburst will damage the road, perhaps make it impassable. But since these storms seldom come more than once a year, and not always that often, it would involve only a few days work and comparatively small cost for workmen to go over the route and re-open it. For the most part, the floor of the creek is well-packed sand where a careful driver can roll along at 10 to 20 miles an hour without discomfort or hazard. And one would miss much of the scenic charm of this area if he traveled faster than that.

At a later date, when the canyon is passable and the gasoline ration clerks have completed their tours of duty and resumed their peace-time occupations, Desert Magazine will publish a mapped motorlog of this trip.

In the meantime, we can be grateful to the ancient Indian women who chose for many of their grinding mills such enormous boulders that no museum archeologist or common pot-

hunter can cart them off. Anza park will always have many of these relics of the prehistoric people who occupied this area.

* * *

Out of the war will come many veterans with health impaired by injury or illness. Uncle Sam has made generous provision for these men, both in hospitalization and in pensions after they receive their discharges from the hospitals.

Economically, they will be fairly secure. But there will remain the all-important problem of regaining their health and strength. Many of them will have ailments for which the most curative environment will be the dry warm air and sunshine of the desert.

Under the Izac law, these men may obtain for a very small fee—$1.00 an acre a year—a five-acre homesite on the public domain. And since most of the public land now available is in the Southwest, there will be no difficulty in finding healthful locations.

Some of these veterans will be strong enough to erect their own modest cabins, and will find interest and gain health in the occupation. Since it is the policy of the Department of Interior to open tracts of considerable acreage, the men may colonize in groups, just as they did at Twentynine Palms, California, following World War I. Cooperatively, they can put down wells and provide recreational facilities without great cost to the individual.

Desert Magazine readers who have friends or acquaintances being discharged from the armed forces for disability reasons, can render them a service by calling their attention to the five-acre homesite law. Information as to the lands available may be obtained, and applications filed, at any U. S. Land Office.

* * *

There is a very important service that may be rendered by some of the partly disabled war veterans—if county and state and park authorities are willing to cooperate.

I can think of scores of oases and waterholes and camping places in the desert Southwest which have suffered for lack of custodians. There was no one present to assume the responsibility for keeping the springs cleaned out, for enforcing fire control, for coaching untidy campers, and for keeping a watchful eye against defacement of trees and landmarks.

Two places I have especially in mind—Tinajas Altas on the Camino del Diablo in Arizona, and Hidden Springs in the Orocopia mountains in Riverside county, California, have suffered serious damage from the vandalism of thoughtless visitors. There are countless other places—some of them inside of state and national parks—where a custodian on duty not only would preserve the charm of the local landscape, but would be an important source of historical and travel information for visitors.

It happens that a majority of the native palm oases in the Southwest are located in Riverside county. The damage in these oases has been especially serious because dry palm fronds are very inflammable.

The supervisors of Riverside county have said very frankly that they do not feel justified in employing a full-time custodian at the prevailing wage scale for every oasis. Probably they are right. But wouldn't it be practicable to erect a modest little cabin—not too conspicuously located—and allot a small salary to a war-pensioned veteran who would remain there on duty, and regain his health while he was serving as local ranger or custodian? Scores of men could be employed in such roles in the Anza Desert state park without making a serious dent in the state park budget.

As a matter of fact San Diego county for years has maintained a similar service at the old Vallecito stage station on the Butterfield stage route. Bob Crawford runs his herd of cattle in a nearby mountain valley, and serves as custodian of the restored adobe stage building. He spends a few hours a week at the station, and keeps a watchful eye over it the rest of the time—and Vallecito has been well guarded at much less than a full-time custodian's salary.

* * *

Since it is no longer a military secret, perhaps those who have been reading Desert during the past year will be interested to know that my army assignment in Africa where I wrote the Sahara Diary stories was at the oasis of Atar in French Mauretania.

This field was on the air route from Dakar to Casablanca, and was maintained to service bomber and transport planes which crossed the South Atlantic and then turned north over the Sahara to reach the Mediterranean and European theaters of war.

One of the interesting things which came to light during my tour of duty there was the relationship between the Arabs of the oasis, and the nomads who followed their goats and sheep out on the grazing areas of the desert.

The aristocrats of the Sahara are the nomads. They disdained such luxuries as permanent mud houses and brick fireplaces. When the dates were ripe they moved their black tents in and camped among the trees until the fruit was gone—then silently took the camel trails that led back to their various camping sites—wherever the flocks happened to be grazing.

It was no hardship to them to be far-removed from medical service and luxury foods. They are a lean hardy race of people—dignified yet hospitable. Their interest in the war is very remote. They only ask that they be left alone to follow their traditional way of life.

* * *

Since returning home I have been asked many times about the future of the British and French colonies in Africa. Do the natives want their independence? Are they qualified to govern themselves?

I am sure that the nomads out on the Sahara need no governing state to regiment their way of life. Like the American Indians before this continent was invaded by Europeans, the Arabs have worked out a comparatively peaceful family and tribal relationship which serves their purpose. Nothing would be gained by seeking to impose changes on them.

But while the problem of peace is simple enough in a sparsely settled region, it becomes fearfully complex when population becomes dense and people crowd together in great cities. And since cities are a natural result of dense population—even in black tropical Africa—it is meaningless to cite the nomad Arab or the American Indian way of life as a model for social and political organization.

During the time I spent in a half dozen African colonies, under both French and British rule, my conclusion was that, with the possible exception of the Arabs on the Sahara, the natives were not ready for self-government. Their own leaders, wise in the ways of the white man, probably would subject them to more damaging exploitation than is now imposed by their European overlords.

But that is not the final answer. United States, in my opinion, has provided the best solution to the colonial problem in our handling of the Philippines.

We sent engineers and teachers to help them prepare for their independence. We built roads and schools and hospitals, and provided them with coaches to instruct and train them in the way of self-government. Then we set the date on which we would resign our management of their affairs. While the Japanese war has upset the timetable, I am sure the program eventually will be carried out in good faith. The Philippines will have their independence.

United States and Russia, if they are so inclined, will be in a powerful position at the end of this war to demand that the European-held colonies in Africa and Asia be dealt with according to the pattern we already have provided. And if that is done, one of the most serious threats to permanent peace will have been removed.

HE FOUND PEACE IN THE SAHARA DESERT

It was Lawrence of Arabia who first suggested to R. V. C. Bodley that he go live with the Arabs. Bodley was an Englishman who had served as an officer in World War I. He was unhappy over the peace settlement. He knew no trade or profession and he hated the regimented routine of army life. He was an idealist in a world in which only hard business or crafty politics paid dividends. His dilemma was much the same as that of hosts of young American soldiers who will return from World War II.

It was in this state of mind that Bodley became acquainted with T. E. Lawrence. Lawrence pointed out "that nomad Arabs lived by sheep. A small capital would buy the preliminary flock. The sheep would multiply. The nomad had few needs. In time I might become rich among the Arabs. But even if I did not find material wealth, I would regain my health, I would become young again, I would have peace of mind. 'Go and live with the Arabs!' Lawrence cried."

Bodley took the advice. For seven years he lived with the nomads and oasis people in the Algerian Sahara desert. And it is the story of his intimate relationship with these desert people — their hospitality, their code of honesty, their religion and customs, and their cultural past and present, that Bodley has told in his book WIND IN THE SAHARA.

"I wore Arab dress because it was most suitable for desert life," he wrote. "I ate Arab food because it was all I could get, and also because I liked it. I practiced the Moslem faith and did not drink wine or eat pork because otherwise I would have seemed an outsider, a kind of disguised tourist, watching my Arab companions but not being one of them."

For three years the author roamed the desert with his Arab companions and his flock of sheep. Then for four years he dwelt in one of the Sahara oases. There is a vast difference between the nomads and the people of the oases—an even wider gap than separates the farmer from the city dweller in America or Europe.

Out of his experience Bodley gained a high regard for both the integrity and the intelligence of the Arabs. But while he discusses their religion and their cultural background and their place in the future world in broad terms, his story is mainly of the intimate details of their everyday life—what they ate, what they wore, how they slept—stories of love and laughter and hardship.

The author found what he was seeking for himself. "Nothing changes out there," he wrote. "Nothing touches those golden wildernesses. Nothing will alter my feelings toward that country. I have seen most of the world. I have met thousands of men and women. But nowhere have I found the same contentment as in the Great Sahara Desert."

Coward-McCann, Inc., New York. 222 pages and glossary. $3.00. —R. H.

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WESTERN ANIMAL STORIES PUBLISHED FOR CHILDREN

Stories of Western animals for the very young reader have just been published by Caxton Printers, Caldwell, Idaho. Allen Chaffee dedicates his WESTERN WILD LIFE to "Little Crick, who loves young folk in fur, feathers and scales." This is a collection of stories to delight children while teaching them much about outdoor life and geographical environments of the many animals. The book's three sections are: Wild Folk of Woods and Mountains, Wild Folk of Shore and River, Wild Folk of Plains and Deserts. Among the latter are Coyotl, the Clever One; Ya-Ya, the Little Yellow Wolf; Shadow Bird, the Burrowing Owl; the Cheerful Chuckwalla; Paisano, the Road Runner.

One of the best loved of desert folk is A-No-Ta, the Horned Toad. The story of this little lizard, who had horns "not only on her small brown head, but all over," is one of the best examples of an exciting child's story combined with a wealth of desert and animal lore. An accurate description of its appearance, habits, friends and enemies is given in such simple realistic manner that children will feel familiar with A-No-Ta's desert home, within the sound of the rustle of the wind in the dry palm leaves—and it is also an example of how each story illustrates some one characteristic of the wild folk which adapts them to their particular surroundings.

Amusing, realistic drawings illustrate the red-and-silver bound book. $2.50.

GOOD GOVERNMENT IN PREHISTORIC AMERICA

The weaknesses in present-day democracy are not in the system but in the nature of man—and are within his power to correct.

Presenting this thesis, Dr. Edgar L. Hewett of the School of American Research in his latest book MAN AND THE STATE, in five brief chapters discusses the complete range of governmental systems from man's earliest days to the present in Europe and America.

At one extreme Dr. Hewett cites the communal life of the American Indian in the pre-Columbus period when the redskinned native's sense of individual freedom and of obligation to his family and clan and tribe forbade the rise of kings or dictators or even of all-powerful leaders. There was no state in the Indian scheme of things.

The other extreme is a product of modern civilization—the totalitarian government in which the state is supreme, and the individual an atom with many obligations and few rights.

Somewhere in the middle ground lies democracy—struggling with a disturbing trend toward centralization of political and economic power.

Dr. Hewett has drawn on his life-long studies as an anthropologist to give a clarifying picture of the prehistoric American Indian and the distinctive culture that existed on the American continents before the coming of Europeans.

The tragedy of the Indian has been that the white people have sought to judge him by white standards. "Almost all trouble in dealing with the Indian would disappear if one group of facts could be clearly apprehended: Namely that it is neither through stupidity nor perverseness that peace-loving, order-loving Indians resist the well-meant efforts for their betterment. It is simply the conflict between age-old ideals of authority, morality, justice—ours seeming as perverted to them as theirs seem to us."

The welfare of the people was the supreme end of all authority in the tribal relations of the Indian. Rigid adherence to this code prevented the rise of all-powerful leaders. Representative government was the rule where authority was needed.

Dr. Hewett does not suggest that we attempt to return to that prehistoric system of human relations which was developed by the Indians. But from our Indian heritage we could learn very important lessons bearing on the critical problems of the world today.

MAN AND THE STATE is one of a series of very pertinent publications under the general title of "Man in the Pageant of the Ages."

Published by the University of New Mexico at Albuquerque. 1944. 154 pp. $2.00. —R.H.


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