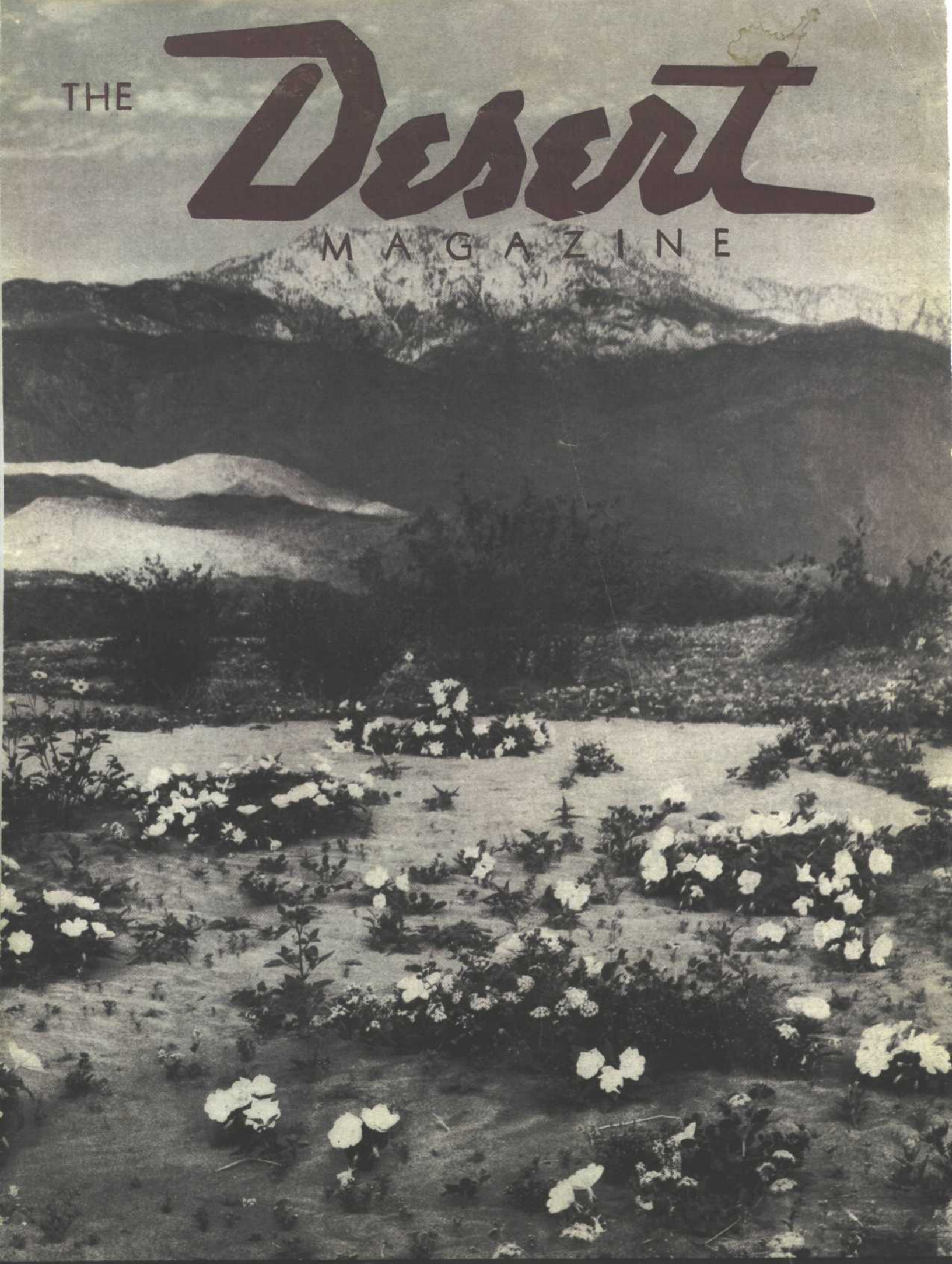
THE Desert MAGAZINE



MARCH, 1942 25 CENTS

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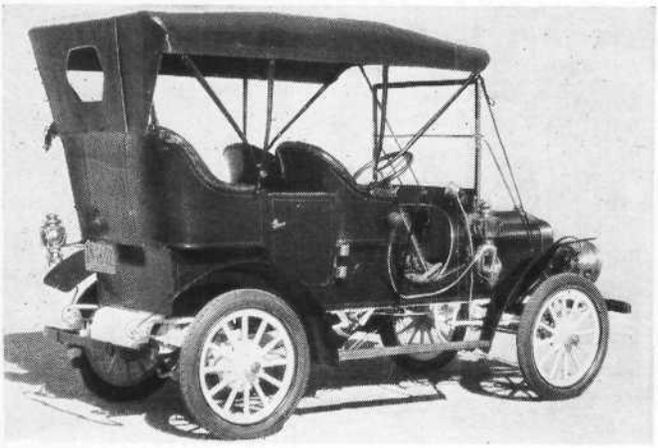

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DESERT *Calendar*

MAR. 1 Trek to Superstition Mt. 56 miles east of Phoenix, Arizona. Annual all-day trip sponsored by The Dons, V. E. True, president, to search for Lost Dutchman mine. Chuckwagon dinner, western campfire program.

3 Abram Chasins, pianist, University of Arizona fine arts series, Tucson.

6-7 New Mexico Cattle Growers association meets at Albuquerque.

6-8 Downhill, giant and regular slalom ski tournament, Alta Ski club, Alta, Utah.

7-8 Sierra club to camp at Mountain Palm springs in Anza Desert state park. Randall Henderson, leader.

7-15 Imperial Valley's 13th annual midwinter fair, Imperial fairgrounds. Dorman V. Stewart, manager.

8 Annual student rodeo, Tucson, Arizona. Open to national entries.

8 Arizona Citrus show, Phoenix.

9 Commemoration of Pancho Villa's raid, Columbus, N. M.

12-14 New Mexico state basketball tournament, Santa Fe.

15-16 Inyo-Mono ski meet, McGee Mt., near Bishop, California.

16 Rockwell Kent, artist-lecturer, University of Arizona fine arts series, Tucson.

20-21 Southern Arizona music festival, College of Music, University of Arizona, Tucson.

21 Annual tri-state Rotary meeting, Needles, California. Rotarians from Arizona, Nevada, California.

22 Swiss Swing, Holtville, California. Paul Eggler, president.

25-28 Desert Circus, Palm Springs. Frank Bogert in charge.

29 Traditional Palm Sunday outdoor play, Taos, New Mexico.

Volume 5 **MARCH, 1942** **Number 5**

The Desert Magazine is published monthly by the Desert Publishing Company, 636 State Street, El Centro, California. Entered as second class matter October 11, 1937, at the post office at El Centro, California, under the Act of March 3, 1879. Title registered No. 358865 in U. S. Patent Office, and contents copyrighted 1942 by the Desert Publishing Company. Permission to reproduce contents must be secured from the editor in writing.

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Manuscripts and photographs submitted must be accompanied by full return postage. The Desert Magazine assumes no responsibility for damage or loss of manuscripts or photographs although due care will be exercised for their safety. Subscribers should send notice of change of address to the circulation department by the fifth of the month preceding issue.

SUBSCRIPTION RATES

One year, including gold-embossed loose leaf binder $3.00
Two years, including binders for both years 5.00

You may deduct 50c each for binders if not desired.
Canadian subscriptions 25c extra, foreign 50c extra.

Address correspondence to Desert Magazine, 636 State St., El Centro, California.

Navajo Family

By HELEN E. ELLIOTT
Glassboro, New Jersey

Winner of first prize in Desert Magazine's January photographic contest is this picture of a Navajo Indian family. Taken with a Wirgin camera, Panatomic X film, 1/25 at 6.3.

Special Merit

The following photos were judged to have special merit:

"Echo Cave Ruin, Monument Valley," by Alfred Schmitz, Oakland, California.

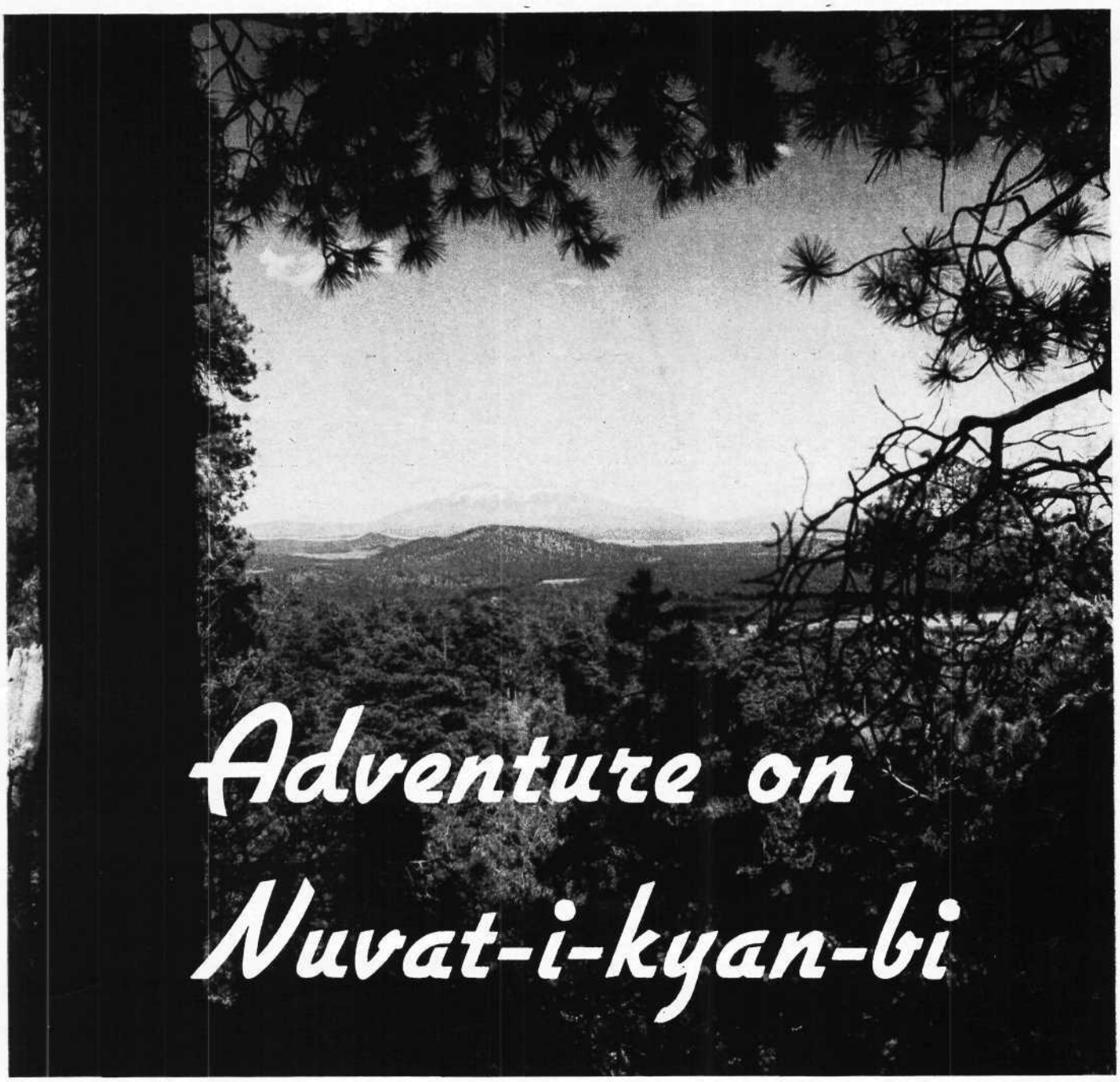
"Desert Rattler," by Ralph Hartman, Los Angeles, California.

"The End of the Trail," by R. B. Lyttle, Los Angeles, California.

Stormy Day

By BILL THOMAS
Pomona, California

This desert scene on the road between Edom and Thousand Palm canyon in the Colorado desert is winner of second prize in the monthly contest. Taken about 4 p. m. with a 4x5 Speed Graphic camera. Agfa Isopan film, f22, ½ sec., K2 filter.



Adventure on Nuvat-i-kyan-bi

San Francisco peaks as seen from Bill Williams mountain, just south of Williams, Arizona.

Snow is not generally regarded as one of the hazards of the desert—and yet during the winter months some of the mountain oases in the desert Southwest are blanketed with drifts so deep they become inaccessible except to members of the ski fraternity. Hulbert Burroughs and a companion undertook the ascent of the snow-capped San Francisco peaks without the benefit of skis—and here is the story of an experience that came near resulting in tragedy.

By HULBERT BURROUGHS
Photographs by the author

ADVENTURE is the result of poor judgment, inefficiency, incompetence, and general stupidity. Thus, in so many words, a wise man once wrote. A bitter pill for the adventurer to swallow!

I do not recall who wrote that choice group of words—it probably was Vilhjalmur Stefansson — but I have reflected upon them many times since. I have analyzed my own "adventures" under their cruel light and I find that nine times in ten he was right. I landed in trouble either through poor judgment or failure to give adequate thought to a problem before jumping in head first.

What occurred last May near the summit of Arizona's highest mountain in the deep snows of San Francisco peak serves as a fair example of what I have in mind. Anyone who has had experience in the mountains or the desert appreciates the importance of a hiking companion tried and experienced in the outdoors. Had I not ignored this axiom there would have been no "adventure" and our climb would have been no more than a very pleasant outing.

George Clary was in no way to blame for what happened, for I talked him into making the trip. I asked George to climb the San Francisco peaks with me solely because he was a swell fellow and I enjoyed his company. I foolishly ignored the fact that he was fresh from the east and had

never been in the mountains before. And therein I used poor judgment—and set the stage for adventure.

George himself has asked me to write of our experience in the belief that others might profit from it. I hesitated at first but consented only after he agreed to let me use a fictitious name in place of his. Inasmuch as the lesson to be learned is the most important point in question and not particular individuals, I believe this is entirely permissable in a factual article.

It was during the first week in May that we started up the 13 mile road north of Flagstaff, Arizona. At the 9000 foot level we were forced to abandon the car. A heavy drift of snow and ice made further progress by road impossible. While George wedged rocks behind the rear wheels I drained the radiator as a precaution against freezing. At 6:30 a. m. with a light pack of cameras and food we took to the trail. Ahead of us was a climb of only 3500 feet. Plodding through deep snow might be tiring but I did not anticipate more than a good workout.

Rangers in Flagstaff had warned us about the snow—told us we would be wise to wait another month and the climb would be easy, that we could drive all the way to the summit. But that is precisely why we wanted to make the ascent in May—we did not want to *drive* to the top of the San Francisco peaks, we wanted to see this mighty mountain in its winter garb, to experience a good hike through deep snow.

The preceding night we had camped in the wonderful pine forests above Flagstaff. We had chosen a small clearing from which we could see the three main peaks—Humphreys on the left, 12,611 feet; Agassiz in the middle, 12,340 feet; and Fremont on the right, 11,940 feet. Early in the 17th century the Franciscans who established a mission at Oraibi gave the name San Francisco to the peaks in honor of St. Francis of Assisi, founder of their order.

The night was icy cold with a brilliant moon cutting the clear Arizona atmosphere. George was much impressed. It was his first night sleeping on the ground. The smell of pine, the sound of the wind in the tall trees—"Why haven't I done this before?" he exclaimed.

High above us jagged *Nuvat-i-kyan-bi,* Hopi for "the place of the snow peaks," softened and mellowed by the moon's rays, seemed of another world. We could well visualize the awe and sense of mystery it must have instilled within the primitive minds of the Indians who had long lived about its base. From time immemorial old *Nuvat-i-kyan-bi* had been a sleeping volcano. No lava had poured from its massive crest since Tertiary times, but the countless lesser cones about its base had been active in comparatively recent times—since Indians had learned to cultivate its fertile soil. Legend teemed with stories of the underground giant and of the time he last spoke in A. D. 885. In that year, fateful to the tribesmen of the locality, Sunset crater a few miles to the east of the big mountain suddenly came to life. Today prehistoric villages are found there covered with many inches of volcanic sand and ashes.

But to George and me hiking along the snow covered road early that May morning there was little indication that this great mountain was an extinct volcano. It was not until we reached the high pass known as Fremont saddle that we could look down into the great eroded amphitheater and partially visualize the once great crater. Desolate and bleak now, it is strewn with millions of feet of fallen timber—silent skeletons of a once dense forest that lightning or a careless hand had set ablaze. Dropping abruptly to the north, the huge depression descends in a long canyon to the plains beyond—the entire north rim of the crater having long ago eroded away.

During our short stop on Fremont saddle I noticed that George was a bit winded and rather quiet. I thought little of it at the time because many hikers are slow starters. I was busy taking pictures of Fremont, Agassiz and Humphreys, Fremont saddle offering a particularly good vantage point for a spectacular panorama of the three main peaks. When I had made the last exposure George jumped up quickly and we started on our way.

Crossing over the saddle we found the northern slopes were more deeply mantled in snow. We could see the faint outline of the road but there was little advantage in following it. Our plan was to scale Mt. Agassiz first and then proceed along the very lip of the crater—a sharp rocky ridge —to the top of Humphreys, highest of the three peaks. We set our course diagonally upward along the slope of Fremont's northern shoulder so as to arrive at the base of Agassiz without losing elevation.

It was my first experience hiking in deep snow and I must say it was not particularly easy. We found that the snow in the shade of the pine trees had formed a relatively hard crust enabling us to walk easily over the surface. But where the sun shone it was soft and we sank in to our knees. At first we essayed a somewhat zigzag trail from one area of shade to the next, but soon found that this consumed too much time. We then decided to head as straight as possible for our goal, and plodded on as best we could.

George began to lag behind during the half mile stretch to the foot of Agassiz, but we had plenty of time and rested often. Once on the ridge joining Fremont and Agassiz we had little more difficulty with snow. The long steep ascent of Agassiz' southeast face is made up of great sharp edged blocks of broken trachyte, the product of ancient eruptions. There was little or no snow clinging to them so we climbed more or less easily from block to block. These massive rocks show practically no sign of erosion. Their edges are sharp and jagged as if they had been but recently fractured.

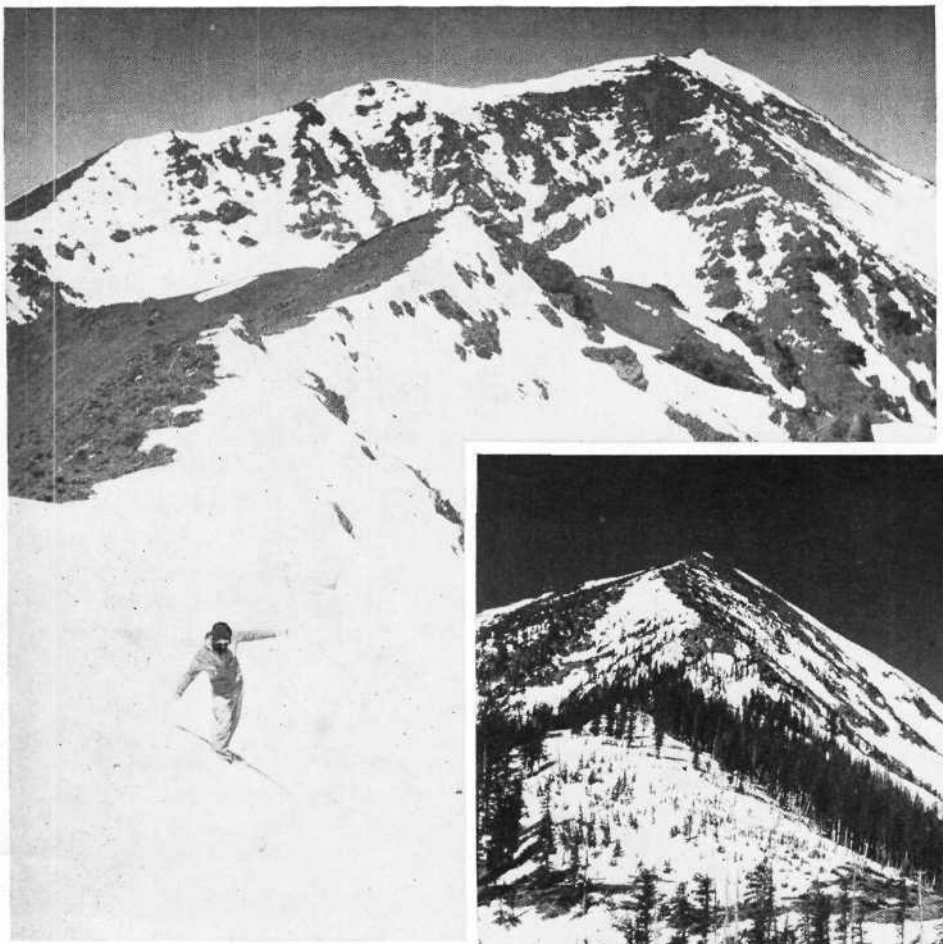
Shortly before noon we reached the summit of Agassiz peak at an elevation of 12,340 feet—named in honor of Jean Louis Agassiz (1807-73), noted geologist and zoologist famed for his pioneer work in classifying marine fossils and for advancing the theory of the glacial epoch. Two days before we had been sweltering in the heat of southern Arizona. Now as we stood practically on the top of the state, an icy biting wind whipped savagely down from the north. We were thankful for the heavy jackets that gave us some protection from the bitter cold. Despite the discomfort it was highly exhilarating and we felt keenly thrilled as we surveyed the tremendous panorama extending on all sides far into the aerial haze of the distance.

Miles below us to the south lay the forested region around Flagstaff. Interspersed with green meadows, here and there a tiny lake, it was a beautiful pattern. The town itself was an insignificant feature of the vast Coconino plateau country that reaches its lofty apex in these grand San Francisco peaks. On tiny Mars hill not far from Flagstaff we picked out the famous Lowell observatory—ideally situated because of the clarity of the atmosphere—where Professor Percival Lowell carried on his interesting observations and studies of the planet Mars—studies which led him to believe that our sister planet is inhabited.

Farther to the southwest we could see the tortuous cleft of colorful Oak Creek canyon—one of Arizona's most beautiful. Swinging to the west we found Bill Williams mountain rising out of the haze above the town of Williams—southern gateway to the Grand Canyon. Dimly on the far northwest horizon, barely distinguishable from the ground haze was the southern edge of the Grand Canyon escarpment. To the north extended a vast plain, a few rolling hills reaching, we thought, into southern Utah. It is said that on a particularly clear day portions of California and Nevada as well as Utah are easily discernible. We thought we saw a tiny bump on the horizon in the northeast that might have been Navajo mountain—10,000 foot landmark in the Navajo Indian country on the Arizona-Utah border.

We were amazed at the number of tiny scoriaceous craters along the lower eastern slopes of *Nuvat-i-kyan-bi,* the final feeble outpourings of a dying volcano. There are said to be several hundred, cones of such perfect shape as to suggest recent origin. Geologically speaking they are very recent. J. C. McGregor says the last activity occurred in A. D. 885 when Sunset crater had its spectacular birth and short-lived spree.

So cold and penetrating was the wind



George Clary on the long snow slope below Humphreys peak. The big peak itself is in the background. This picture was taken shortly after we left the summit of Agassiz and just before George was taken sick.

that we spent little time refrigerating on top of Agassiz. I took a few pictures—among the most difficult and painful I have ever made. My fingers became so numb and stiff I could barely focus the camera and release the shutter. A quick snack of lunch and we started down the steep snow slide along the lip of the old crater to Humphreys peak.

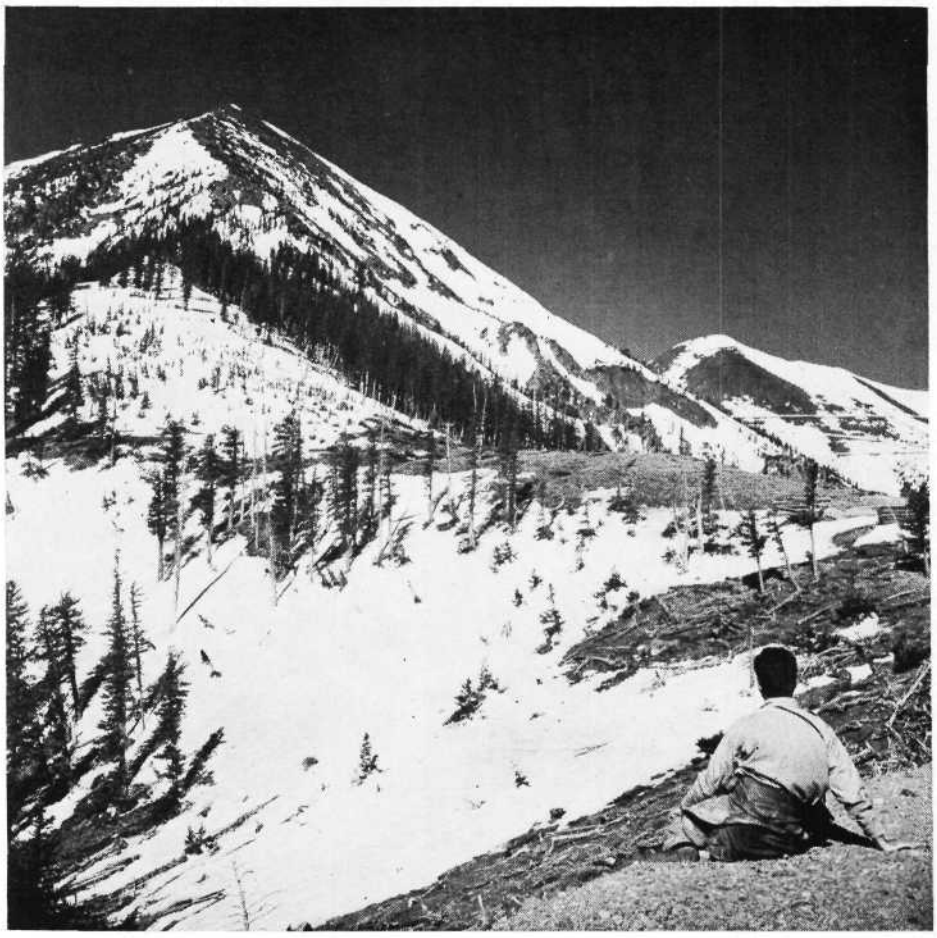
George had surprised me on the short but very steep climb up Agassiz. I falsely assumed that he was in excellent shape. From what he told me later he reached the summit of Agassiz on sheer will power alone. At the low saddle between Agassiz and Humphreys he stopped and sat down.

"I don't think I'll try it," he said, and his face and eyes showed his fatigue. "You go on ahead. I'll wait for you here."

We found a sheltered recess among the rocks well protected from the freezing wind. He was obviously tired, but as our return trip would be entirely down hill I felt there was no need for worry, so did not hesitate leaving him there. It would take me probably half an hour to reach the summit of Humphreys and return. A half hour's rest would put George in shape for the descent. I left him with what remained of our lunch and told him to eat a chocolate bar.

Fighting a stiff raw wind, climbing through knee-deep snow banks, over steep crags of jagged lava, I finally reached the very crest of Arizona — 12,611 foot Humphreys peak—named for Andrew Atkinson Humphreys (1810-83) who surveyed for a railroad to the Pacific, besides being an authority on river hydraulics, a corps commander of the Army of the Potomac, and later chief engineer of the army. Two days ago we stood at the state's lowest point near Yuma. Today it was this mighty mountain towering above all else in Arizona—loftiest elevation between California's Mt. Whitney and Colorado's Pike's peak.

I was pretty well done in myself now and concluded George was wise not to have assailed Humphreys, although it was unfortunate to have come so far and then have to stop so short a distance from the summit. Many persons say they cannot understand why anyone can be fool enough to expend thousands of ergs of energy and many hours of valuable time climbing mountains. To them a mountain climber is just a plain fool. But as I stood upon the crest of Humphreys an indescribable feeling of ecstacy was my compensation for the gruelling hard climb. To me the fascination in climbing a mountain is a complex combination of several factors. It is partially an animal pleasure of hard deep breathing, the pitting of leg and heart muscles against the mighty mass of a mountain. It is the thrill and satisfaction in knowing that your body is in good health, that you are not too decadent as a consequence of your city existence. It is the emotional excitation of standing upon a lofty summit and looking far out and down upon a strangely different world beneath you. It is a feeling of humble awe for the staggering forces of Na-



Looking west from Fremont saddle showing Fremont peak (11,940 *ft.*) *on the left, and Agassiz peak* (12,340 *ft.*) *on the right. Note the snow-covered outline of the road that climbs to the high saddle between Agassiz and Humphreys.*

ture that built the mountain. Perhaps it is a satisfaction of man's inherent desire to conquer and rise above his surroundings, to be the ruler of all he surveys. Whatever the underlying reasons, once a mountain climber always a—"damned fool."

A half hour later I found George lying unconscious behind the rocks where I had left him. I worked over him for several minutes before he opened his eyes. He was very weak. I massaged his arms and legs vigorously until he felt strong enough to sit up. He said he didn't know what had happened—only that he suddenly grew terribly weak and then lost consciousness. He complained of blurred vision. A moment later he became nauseated. I was convinced it was a case of severe exhaustion combined with high mountain sickness. The only thing to do was to get him out of the mountains.

It was then about 2:30 in the afternoon. I explained to George the necessity of starting down as soon as possible. He agreed and rose slowly to his feet. He said he felt better. I led the way, making footprints in the snow for him to follow. We had gone only a few hundred feet when he fell down and could not rise. As I helped him to his feet he was crying. When he tried to talk he went all to pieces. He sobbed pathetically and repeated over and over again that he couldn't make it. I put his arm around my neck and with my other supporting him we headed down the long snow covered slope toward Fremont saddle. Deep wracking sobs shook his body and he mumbled incoherently.

The sun was directly at our backs now and George was watching our long shadows moving grotesquely out in front of us. For a few moments he was quiet. Suddenly he hung back. His eyes scanned the horizon wildly then he pushed my arm away.

"We're on the wrong trail!" he sobbed. "You're taking me in the wrong direction!" Tears were running down his cheeks and his eyes shone wild and challenging.

"This is the right trail, George," I assured him. "See, there's Fremont saddle right down there." He looked at it intently.

"You're lying!" he sobbed as he sank to his knees in the snow. "We're lost! We're lost and you're afraid to tell me!"

Here was a problem I had never faced before. I had no idea how to handle a man who had lost all self control. I was confident that he was suffering from sheer exhaustion and didn't know what he was saying. The problem confronting me was to get him out of these mountains before darkness. Neither of us was dressed for spending a night in the snow. It would be suicide to attempt it—especially for George in his weakened condition. I decided to humor him.

"Okay, George, we're lost. But there's no use staying lost in this particular spot. Might get sort of cold tonight. Let's go down hill a ways and be lost where it's a little warmer—down toward those trees." I reached down to pull him to his feet. He jerked his arm away.

"I can't! I can't!" he sobbed. "I can't get up!" I lifted him to his feet but again he jerked his arm away from me. The effort unbalanced him and he fell down in the snow. "Leave me alone!" he shouted.

There was no further time for this sort of thing. I knew I had to act quickly before we really found ourselves in serious trouble. What I was forced to do next I hope I never have to do again. I had once seen a life-guard forced to knock a struggling swimmer unconscious in order to rescue him. That seemed my only out. I pulled George to his feet held his jaw with my left hand and struck him sharply on the point of the chin with my right fist. He collapsed in a heap in the snow. I had quite a time getting him to my shoulder. I had no idea a human body could be so limp and heavy.

Fortunately the trail to Fremont saddle was all down hill. I plodded stumblingly onward. I was more exhausted from the Humphreys ascent than I had realized. Just west of the saddle I stumbled and went down. I doubted that I could ever get George onto my shoulders again. As I lay panting in the snow he regained consciousness. His eyes roved blankly around until they fell upon me. "What happened?" His voice was quite calm. I told him what I had been forced to do. He

LANDMARK IN UTAH!

Who can identify this picture?

Spence Air Photo

PRIZE CONTEST ANNOUNCEMENT . . .

For the landmark contest this month Desert Magazine presents a photograph taken by Robert E. Spence while flying over a mountainous section of Utah.

This is a place well known to many travelers, and a book might be written about the operations being carried on here. In order that some of the more important details of this project may be known to all Desert Magazine readers a cash prize of $5.00 will be paid for the best story of not over 500 words. The manuscript should give the location, ownership and accessibility of the landmark—and as much detail regarding its history and present activity as can be included in 500 words.

Entries must reach the Desert Magazine office not later than March 20, and the winning story will be published in the May issue of this magazine. Envelopes should be addressed to "Landmark Contest," Desert Magazine, El Centro, California.

Looking east from the summit of Agassiz peak. Fremont peak at the right. Fremont saddle to the left of the peak where the road crosses the shoulder of the mountain. Note in the far distance some of the hundreds of small scoriaceous cones which are the result of comparatively recent volcanic activity—long after the great mountain itself was extinct. Our ascent of Agassiz from Fremont saddle followed diagonally across the snow-covered slopes shown here in the right foreground.

smiled wanly and rubbed his jaw. He was entirely rational now and apologized for his lack of control, said he didn't remember much of what had happened. He tried to get to his feet but was suddenly nauseated and fell back on one arm. A few moments later I helped him up. He staggered on a few steps then slumped down. He was breathing very hard. "I simply can't make it," he gasped. "I'm just too tired and weak."

I tried carrying him again but I was good for only a couple of hundred feet. I was becoming almost frantic at the thought of the approaching darkness. At this elevation and with no warmth George in his weakness would undoubtedly freeze to death before morning. I had to get him back to the car. For a moment I felt myself in the grip of mild panic. What could I do? I might hurry on back to the car, drive down to the ranger station in Flagstaff for help. But that would require fully two hours. Lying alone in the snow that long would finish George.

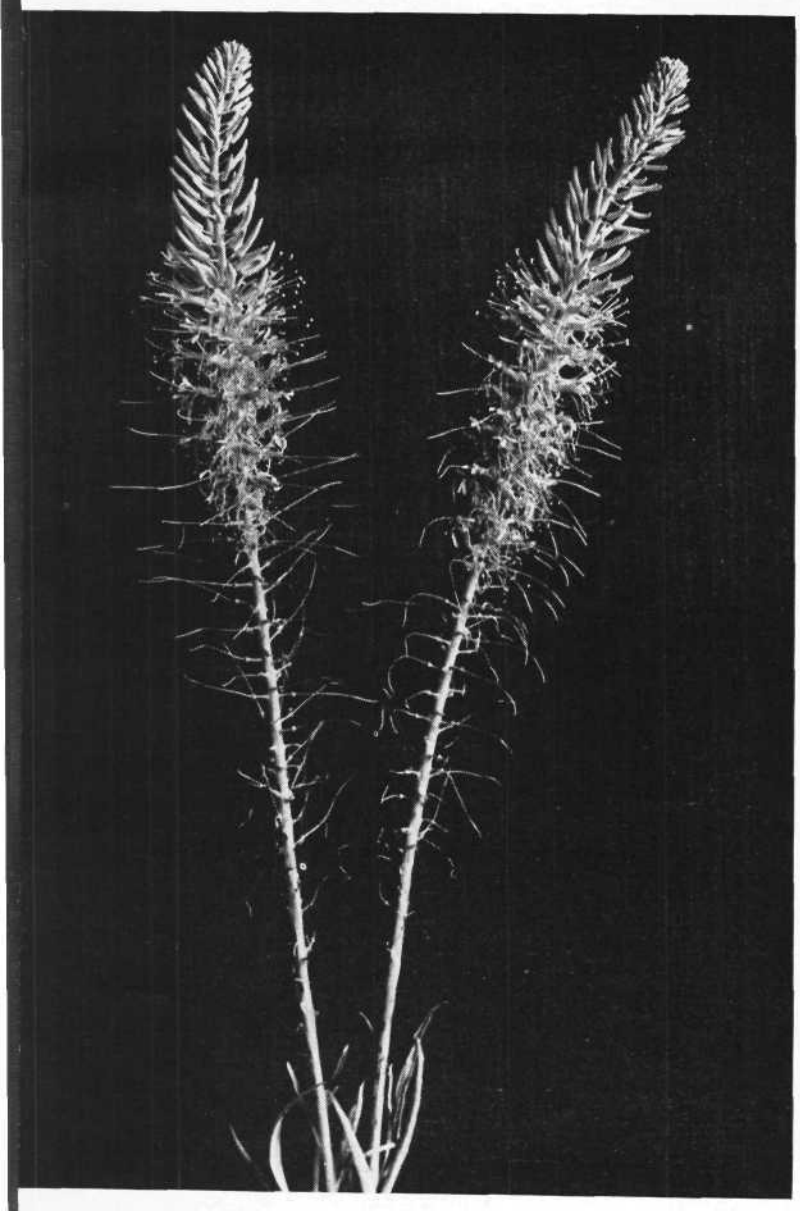
Suddenly a thought occurred to me. Taking off my jacket I put it around George. Seeing that he was entirely rational I explained my plan. He was entirely cooperative and agreed that it was the best and probably the only solution. I left him as comfortable as possible and hurried down to the nearest edge of the forest. With my hunting knife I laboriously hacked down two young pine trees each about six feet high. After stripping off the branches I swung them to my shoulder and hurried back to George.

I laid the two poles down side by side and tied the two small ends together. I then removed my canvas jacket from George and zipped it around the two poles about two feet from the larger ends. With the aid of a length of strong string and George's belt I fastened the two heavy ends to my hips. With George seated on the canvas jacket stretched between the pine poles and leaning against my back for support I dragged him travois-like across the snow.

Fortunately for both of us the idea worked. After many rests we reached the car at 8:30 that night. Although suffering from extreme exhaustion George had regained control of himself and seemed in no danger. I took him to a hotel in Flagstaff that night where in a warm bed he dropped off to sleep and did not awake until 12 the next day.

I cite this experience as a warning to prospective hikers who through lack of experience or knowledge of their own powers of physical endurance may attempt difficult climbs without first properly conditioning themselves. Some persons whose endurance seems endless in lower altitudes may be so affected by higher elevations as to be rendered almost helpless. Such a person was George Clary. A well-muscled lad whose athletic training had been above the average he had never been in the mountains before—especially at an elevation above 12,000 feet and it so happened that he was not able to acclimate himself quickly.

I do not blame him for what might have been a tragedy. The fault was mine—an error in judgment, of ignoring the fact that my hiking companion was inexperienced and untried. That is why we "had an adventure."



Stanleya pinnata.

Golden Plumes for the Desert Flower Parade

By MARY BEAL

WHEN Spring puts on its annual Pageant of the Desert Flowers, tall yellow plumes wave proudly above the legions of the rank and file—like standards carried by troops marching in review.

These conspicuous flower stalks belong to a plant known botanically as *Stanleya pinnata* (named for Lord Edward Stanley). But to those who do not care to remember scientific names it is Desert Plume.

Between blooming seasons the shrub attracts little attention. It is just a common bush a few feet high—a part of the general landscape. But with the approach of warm weather it perks up and dons fresh herbage of a pale bluish green.

The long bushy branches of the stout base put forth pinnate leaves 3 to 8 inches long, the lower one long-petioled and usually cleft into one long lanceolate lobe and two or more pairs of smaller lobes. The upper leaves are short-stemmed and less deeply cleft or not at all. This rejuvenation is advance notice that the flowering season is at hand. Then the plant burgeons out into long wands of feathery blossoms. Often a dozen or more tall flower-stalks lift their golden plumes to a height of 5 or 6 feet.

The individual flowers are commonly less than an inch across, centered by six long-protruding stamens which give the raceme its fluffy plumose appearance. The four bright-yellow petals have oval or oblong blades spreading out from a long claw above the greenish-yellow sepals, which are long and narrow. The slender pods are 1½ to 3½ inches long, spreading horizontally and usually curving downward.

This showy perennial brightens mesas, mountain plains and washes of Inyo and Mojave deserts, extending to the east as far as Texas and Nebraska. Sometimes acres and acres of it are seen, giving the landscape a breath-taking radiance.

There are a few other members of the Stanleya genus, less frequently found, which I list below:

STANLEYA ELATA

Panamint Plume is the everyday name of this Stanleya. It is not a shrub but a shorter-lived perennial. The lance-ovate leaves are thick and leathery, 4 to 10 inches long, entirely or with only a few small basal lobes and are mostly massed in a dense cluster at the base. The tall flower stalks shoot up 2 to 6 feet, the upper part a plumose raceme of small pale-yellow flowers, the crimped petals narrow and less noticeable than the sepals, which resemble petals. The thread-like pods are 3 or 4 inches long. This species is restricted to the ranges at the northern border of the Mojave desert, favoring especially the Panamint mountains. The Indians of that area use it for greens, which usage has inspired the name Pahute Cabbage. A flourishing young elata plant does look good enough to eat, fully as much so as choice spinach or chard, but I'm told it must be properly prepared to be edible, boiled in two waters to remove disturbing elements.

STANLEYA ARCTUATA

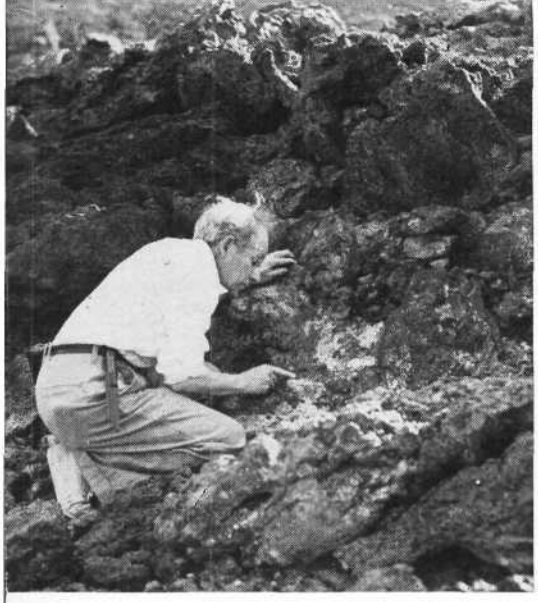
The light-green stems, 1½ to 3½ feet tall are smooth and shining, turning straw color as they age. The thick leaves are 1½ to 2½ inches long, rather short-stemmed, the yellow petals broadly elliptic and the pods 1½ to 2 inches long, strongly curved bow-fashion. Dry plains and valleys harbor this species from Nevada and California to New Mexico and Wyoming.

STANLEYA CANESCENS

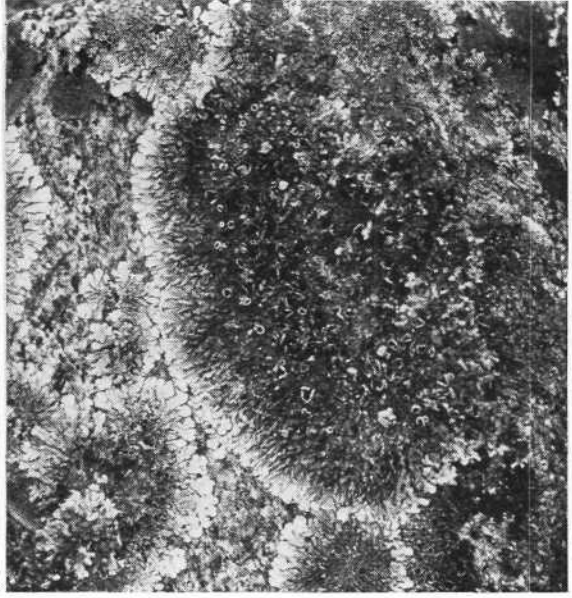
This species also has light-green stems 1½ to 3½ feet tall but they are finely and minutely hairy. The greyish leaves are likewise hairy, 2 to 3 inches long, the lower one with oblong lateral lobes and a large oval end lobe, the upper leaves oblanceolate and entire. The yellow petals are linear-oblong and the curving pods 2 or 3 inches long. Found on dry ground in Arizona and Utah.

STANLEYA ALBESCENS

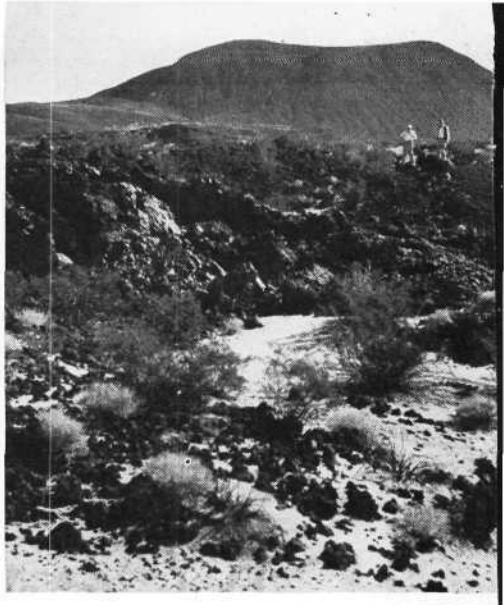
Also growing in Arizona and Utah and extending into New Mexico and Colorado, this Stanleya prefers the habitat of river banks and draws, growing 1 to 3 feet high, has larger leaves, 4 to 6 inches long, pinnately cleft into oblong lobes, the terminal one larger. The pale petals are broadly oval, the claws hairy, and the pods are about 2 inches long.



Slim's "sulphur" at the bottom of Pisgah crater. The author is pointing to a colony of Candelariella lichens.



Parmelia conspersa. This beautiful lichen, colored like a Luna moth, light green, one of common species.



Pisgah crater, in the background, is 17 miles east of Newberry on the Mojave desert. Lava in foreground.

The Lichens

--a case of peonage

Every desert visitor has seen lichens—pronounced liken, as in like. They occur as pretty oddly-patterned splotches of color on desert and mountain rocks everywhere. Scientists generally agree they are plants rather than minerals—but their ancestry goes so far back there is still a great deal of mystery attached to them. In his role as "nature detective" J. D. Laudermilk has studied them both in the field and under the microscope at Pomona college—and has written a very readable story for those interested in the strange things found on the desert landscape.

By J. D. LAUDERMILK

MY PROSPECTOR friend Jim was sure there was a deposit of sulphur at the bottom of Pisgah crater on California's Mojave desert. He even went so far as to make a rough sketch showing where the mineral was located.

He apologized for not bringing samples. It was a long hot hike across the lava-flow from Lavic station he explained and he was just too "tawr'd" to climb down inside the cinder cone. But he was sure it was sulphur because it was the right color.

I was not only skeptical but downright impatient with this identification of a mineral made at a distance of 200 yards. Sometimes it's hard enough to do at 14 inches under a microscope. Pisgah was the wrong kind of volcano to have minerals like sulphur or other sublimates. If by any remote chance sulphur had been there as Slim said someone would have reported it a long time ago. This volcano is an old played-out cinder-cone that rises humped up from her surrounding lava-flow like a prehistoric pig in a petrified hog-wallow.

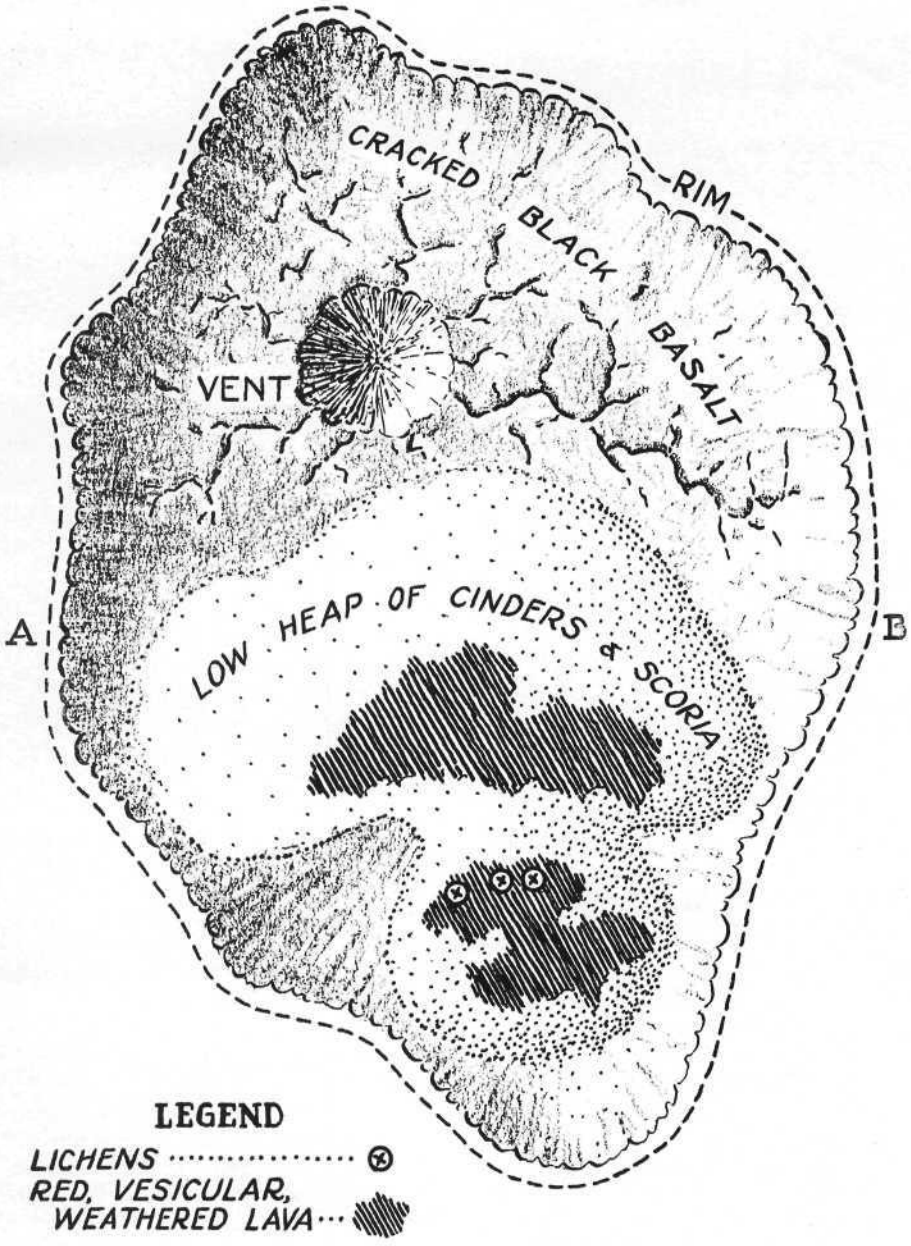
This sulphur business bothered me a lot. It was exactly like hearing a yarn about a haunted house. Even if the narrator has neither seen nor heard spooks he *has* had an interesting experience of *some* kind. In cases like this, the proposition is likely to become a sort of obsession. Finally, the only thing left to do is to go see for yourself. This is exactly what I did in the case of Slim's "sulphur."

It was early afternoon in the fore part of July when I visited Pisgah for the first time. The crater is a pocket-size volcano conveniently located in the hot part of the desert about 17 miles east of Newberry station on the Santa Fe railway in San Bernardino county. On this afternoon the lava-flow was as hot as only *aa* and *pahoehoe* lava can get at this time of year, perhaps 150 degrees in the shade. A recent and freakish cloudburst had not helped, and by the time I had scuffled my way to the top of the cinder-cone I was "tawr'd" myself. My temper was in rags. Fortunately I was alone. In the great pit below me the rocks *did* show some yellow. Making a splash of color against the dull red background of weathered lava, was Slim's "sulphur." Although I could understand his reason for not climbing down into the pond of hot air at the bottom of the crater, I went Slim one better and rattled my way through the clinkers toward the stuff, whatever it might turn out to be.

By the time I had reached the cause of all this trouble, there didn't seem to be much of it. It occurred as scattered patches of dry, crinkly, yellow, orange and green crusts that stuck so tightly to the surface of the lava that it was hard to scrape off a sample. You don't perspire under these conditions, you dry up—and the disposition suffers a lot of damage. However, I had enough energy and a couple of lemons left so that I could climb out again and eventually get back to my laboratory in Claremont.

Right from the start I knew that the stuff was some sort of lichen, but that was as far as my appreciation of this interesting group of rock-growing desert-dwellers went at the time. Like many another rock-ologist, I had seen these curious spots of color smeared over the rocks in many places and had passed them up or knocked them off without a second thought. Since I had brought back a sample, I decided that it was worth the trouble of examination.

After I had crushed a sample in a drop of water and looked at it under the microscope I began to see things that brought back memories of the days when I had been "all out" for biology. The whole thing was made up of clusters of tiny green spheres wrapped up in a tangle of filaments coated with a yellow pigment. The filaments gripped the spheres in a relentless grasp like that of a taxpayer and his last greenback. But I'll come back to



Floor plan of Pisgah crater, from G. B. Gaylord's map. Distance from A to B is about 1,000 *feet.*

the subject of Slim's "sulphur" later on since this is a good place to talk about lichens in general.

Practically everything about this curious group of dry granular crusts that frequently coat the rocks in many parts of our desert has furnished material for much scientific ire and whisker-pulling among lichenologists. Although these are definite, classifiable plants, every species of lichen is the joint product of an alga and a microscopical fungus growing in more or less friendly cooperation.

Both partners in the lichen firm have rather shady pasts and the business is not conducted along perfectly ethical lines. A little peonage, scientifically called *helotism,* enters into the proposition: that is, the algae do all the hard work and the fungi practically nothing but cash in on most of the proceeds in the way of mineral matter and products of the algae's growth. This two-party aspect of the case has been the cause of a lot of trouble. Some experts consider only the fungus to be important and say that the name of the lichen species refers only to that member, while others hold both partners to be equally responsible and say that the name refers to the whole firm or *consortium.*

Another remarkable thing about the lichens is the fact that the fungi that occur in these plants are unlike any other species. It has been supposed by many authorities that this condition has come about from ages of dependence upon the alga for "visible means of support." Whatever their present condition may be, all fungi have descended from a long line of ancestors whose petrified remains date back even to ages when the jungles of giant bullrush and tree-ferns furnished the raw material for the coal beds of today.

The fungi were old even in those days and their origin is most mysterious. Some authorities think that the algae themselves were the original stock and consider the fungi to be the degenerate descendants of this old and aristocratic family. Other students of the subject make an even more astounding proposal and present strong evidence to show that the fungi, plants today, mind you, are off-shoots of the most primitive form of animal life, the *protozoa,* and never had a green ancestor in their whole family tree. This is an accepted theory in spite of its fantastic implications.

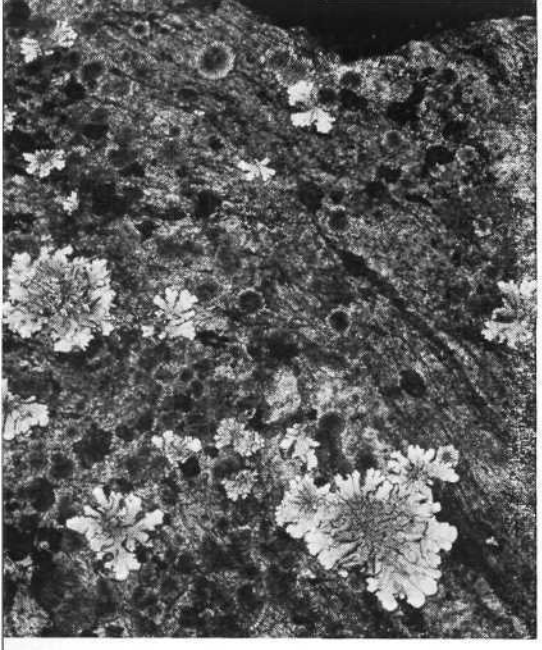
The algal partners, the white-collar slaves of the consortium, have a clean record; they are simply unfortunate in being mixed up with a bad outfit, the fungi. By scientific coaxing, the algae can be induced to leave the company and go into business for themselves. When this takes place, the fungus promptly starves.

Like the fungi, the algae are also a tremendously old and interesting family. Except for the fact that they contain chlorophyl, the green coloring substance found in all plants that utilize the energy of the sun for compounding food material like starch and sugar from carbon dioxide and water, some of the lower types might very easily be mistaken for simple, one-celled animals. One common type of microscopic alga—known by the almost unpronounceable name of *Chalymydomonas,* and a cause of the green color of stagnant ponds and puddles—is an egg-shaped organism which swims by means of a tail like that of a tadpole. It not only goes about as it pleases but also has an eye, an actual light-sensitive, optical organ with a lens and other parts like any other eye. This organ is supposed to direct the alga toward the light. That any plant should be able to see by means of an eye takes a lot of believing but appears to be true just the same.

There are a great many species of algae. One very common type is *Pleurococcus,* the cause of the green stain on the north side of trees and rocks in moist places. It occurs not only in moist places but also in cracks in rocks in even the dryest parts of the desert. Near Yermo, California, this alga forms a green stain just at the groundline on many of the Indian artifacts that are scattered over the hills a few miles to the east. Neither *Pleurococcus* nor any other of the higher algae have eye-spots.

All the algae that occur in lichens are common types, *Pleurococcus* itself is one; *Rivularia* and *Nostoc,* types that properly should be growing in running water, are others.

By the time I had absorbed enough of these preliminary details about the algae and fungi that go to make up a lichen, I was up to the ears in the subject, trying to



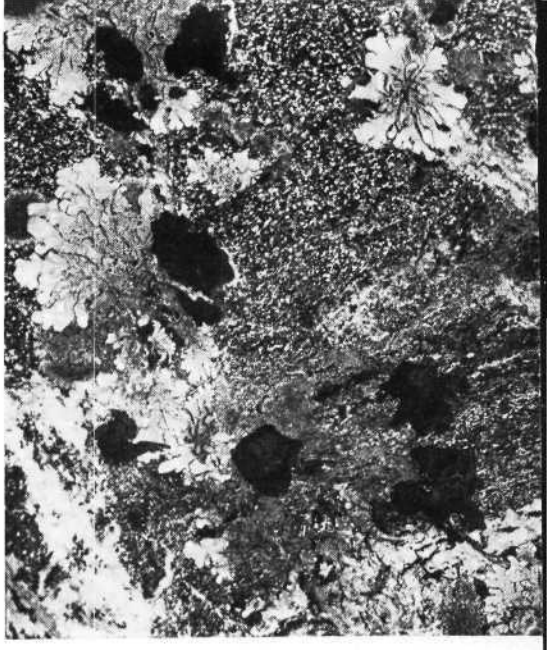
Parmelia (large) and Rinodina, small and black in color.

identify the common species that occur locally in Southern California. Lichenology is perhaps one of the most fascinatingly difficult branches of botany. Keys and descriptions help, but familiarity with their anatomical makeup is necessary unless you know someone who already has a lichen collection. I started from scratch and bought a book on the subject and it was a job, much tougher than mineralogy.

The reproduction of lichens is as fantastic as everything else about them. There are four different ways of managing this necessary function if the firm intends to get anywhere. About the most important is by means of *soredia*. These are tiny clumps of the algae twisted inside a tuft of the fungus filaments. They get carried away by the wind and if one happens to fall on a suitable surface under proper weather conditions, the alga and fungus both start growing and make a new plant. A second way is by *fragmentation*. In this case, small pieces of some size get blown away and take the same chances as the *soredia*. The third way is by *rejuvenation*. Here one simply abandons the old folks in the center or settled part of the plant and "moves out to Kansas," as it were. This is a heartless and realistic method, but dead certain to succeed. Finally, and most chancy, but a shotgun system when it works, is propagation by means of *spores*. These can very well be considered the fruit of the fungus. In many species, when everything is just right, the fungus bestirs itself and produces millions of tiny dust-like particles. When these are ripe they are blown about by the wind. If a spore has the good luck to land on a surface where some alga such as *Pleurococcus* has already taken out a homestead, the *spore* germinates, its web starts taking in territory and a new lichen is the result. If no algae are present the spore is simply out of luck.

Lichens are well adapted to lead a hard life. Some paleontologists have even suggested that they may have been among the first forms of life on the land and that they may be the last—in the old age of our planet—since they are able to stand extreme variations in the temperature and moisture content of their surroundings. It is an interesting fact that the ultimate living organisms found by Admiral Byrd on his way to the Pole were lichens which he found on Mt. Nansen at a point 85 degrees and 27 minutes South, wherever exposed rock surfaces gave them a foothold. Some forms of this weird organism will stand a temperature of 40° below without much trouble and are able to take on carbon dioxide at that temperature, but 60° below will kill others inside an hour.

It is possible that lichens are the only form of life on the planet Mars. Astronomers have proved that the planet has polar caps, possibly of solid carbon dioxide (dry ice) and ice. These are known to melt at the beginning of the Martian spring. It is absolutely certain that when this takes place, blue-green stretches develop rapidly on the reddish desert surface of the planet and wax and wane with the seasons. Although they would have to stand a temperature range of from 40° below to 60° above zero every 24 hours even in the Martian tropics, this rough treatment might not be too much for a lichen that had had a billion years in which to become acclimated.

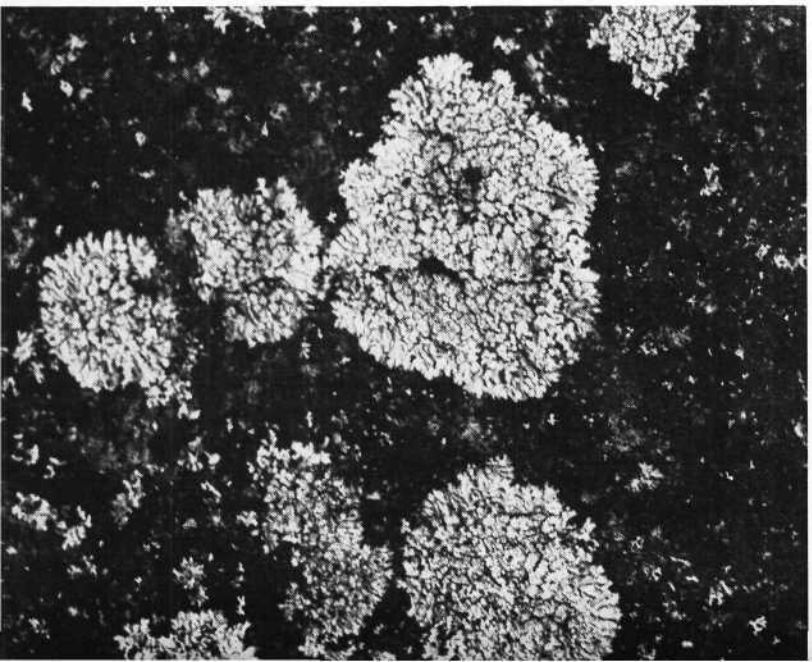


Parmelia, large and light green, and Umbilicaria, brown.

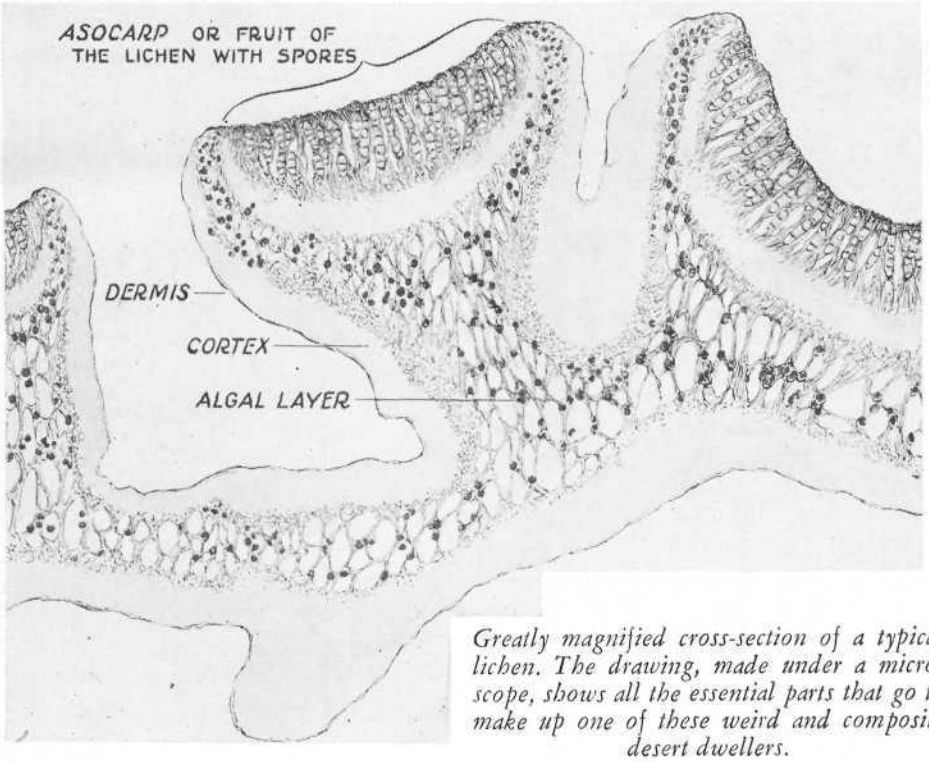
The colors of our common lichens are nearly always striking—or at any rate interesting. The color is greatly influenced by the degree of moisture prevailing at the time. In the rainy season the colors are always brighter. The greenish types owe their colors, in most cases, to the natural green of the algae showing through the web of the fungus. The brilliant orange, yellow and red colors are the result of highly colored pigments associated with the fungi. In some cases the black and brown colors are due to salts of iron and manganese which may practically incrust the plant. In other black species the color is due to a black vegetable coloring substance.

Frequently, a lichen that is not particularly striking itself becomes so when grow-

Physcia stellaris, a little blue-grey lichen that decorates rocks wherever a trace of moisture is available.



Rhizocarpan geographicum growing on the ground. This yellow-green lichen adds brightness to the landscape.



Greatly magnified cross-section of a typical lichen. The drawing, made under a microscope, shows all the essential parts that go to make up one of these weird and composite desert dwellers.

ing on a contrasting background. This is true of many of the species growing in the lava beds. Against a red or black lava, as in some places in Pisgah crater and especially on the walls of Odessa canyon, near Calico, the rocks look as if they had oozed melted gold or sulphur. Wherever they occur, the lichens are performing their most important work of rock erosion, turning the hardest rock into soil through the action of the acids they secrete.

How the lichens eat rock is strikingly shown both on the red vesicular lava in Pisgah crater and on the granite buttes near Victorville. At these places the rock beneath the lichen has been so softened by the acids that a knife blade will cut it almost as easily as it would soap or wax.

The collection of lichens can be made into a fascinating hobby, but there is one big drawback besides the difficulty of their identification: few species have any common names and the plants are subject to much reclassification by lichenologists. Since some species grade into others in a way that is confusing even to experts, it is hard to keep certain kinds permanently placed. Many species leave no room for doubt, others are all that anyone can want as raw material for an argument. Slim's "sulphur" is a good example. I never have been able to decide whether this is *Candelariella vitellina* or *C. aurella.* It had earmarks that made it eligible for either identification. I gave up the matter temporarily. Today its label simply gives the date of collection, the locality, its surroundings and name of the collector. I intend to leave it this way until someone more confident than myself comes along to attach a new label. Even then, any alterations in the title will not be considered permanent but "subject to change without notice."

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BOULDER DAM AREA OPEN TO VISITORS

Boulder Dam national recreational area is open to visitors as usual according to information given by the national park service. While Boulder dam itself is under restrictions made necessary by the national emergency and enforced by the bureau of reclamation, the recreational area around Lake Mead is still open to fishing, camping, hiking and other vacation use.

Pierce Ferry, Overton, and Hemenway Wash will continue to welcome visitors who want out-of-door lakeside recreation in the bracing, dry air of the Arizona-Nevada desert. The regular boat trips into the western portion of the Grand Canyon are running on schedule and the only restriction on Lake Mead prohibits all boats from approaching or entering the Black canyon in which Boulder dam is situated. Also, the bureau of reclamation has discontinued escorted trips into the dam and powerhouse. Travel continues on the road from Kingman, Arizona, to Boulder City, Nevada, across Boulder dam. No stopping is permitted on the dam and all travel across it is under armed escort.

The Boulder Dam national recreational area is administered by the national park service. Boating, swimming, fishing, and hiking are popular activities. Public campgrounds are maintained and lodge and motor camps are available.

Extra Prizes to Photographers

A year ago Desert Magazine conducted a special contest for desert photographs suitable for cover pictures on our monthly issues. The contest was so successful we are announcing another contest this year—with an increase in the prize money.

For the winning cover picture submitted on or before April 1 we will pay $15.00, for second prize $10.00, and for third winner $5.00.

The contest is limited to desert pictures, and may include a wide range of subjects. We are especially interested in close-ups of desert wildlife—animals, reptiles, birds and shrubs. Human interest pictures will also be favored—Indians, prospectors, campers, etc. Any subject that belongs essentially to the desert will be acceptable. Following are the requirements:

1—Contest is open to both amateur and professional photographers, with no restriction as to residence.

2—Prints should be approximately 9x12 inches, glossy **black** and **white,** unmounted, with strong contrast. We prefer pictures so composed that the Desert Magazine masthead lettering may be imposed on the photograph without trespassing on the main subject. Neutral shades should be avoided as far as possible in the upper three inches of the picture. We prefer dark shades at the top on which we can impose lettering in light-colored inks, or light background on which we can print dark inks, to secure the needed contrasts. We are seeking pictures only—do not send in prints carrying printing or lettering of any kind.

3—There is no limit as to the number of pictures submitted by a contestant. Prints must reach the Desert Magazine office by April 1, 1942.

4—Judges will be selected from the editorial staff of the magazine, and winners will be announced and prize checks sent out within 10 days. The Desert Magazine reserves the right to buy non-winning pictures submitted in the contest at $3.00 each. Non-winning pictures will be returned only if postage accompanies the entry.

This contest is independent of our regular monthly photographic competition for amateurs. In order that entries in the cover contest may not be confused with pictures in the regular monthly contest, they should be clearly marked: COVER CONTEST, DESERT MAGAZINE, EL CENTRO, CALIFORNIA.

A shovel is more useful than a prospector's pick when rock-hunting on the Mojave desert at Kramer Hills.

Digging for Petrified Roots

There is much difference of opinion among the experts as to the true origin of the so-called petrified palm root found occasionally on the desert—but it looks the part, and makes attractive specimens, and is a popular item with the rockhounds. Here is a very accessible field where small specimens may be found—with larger ones beneath the surface for those who will substitute a shovel for their prospector's pick.

By MORA M. BROWN

A TALL weathered man stood in front of the general store at Kramer Hills on the Mojave desert.

"Are you lost?" he asked as our car stopped beside him.

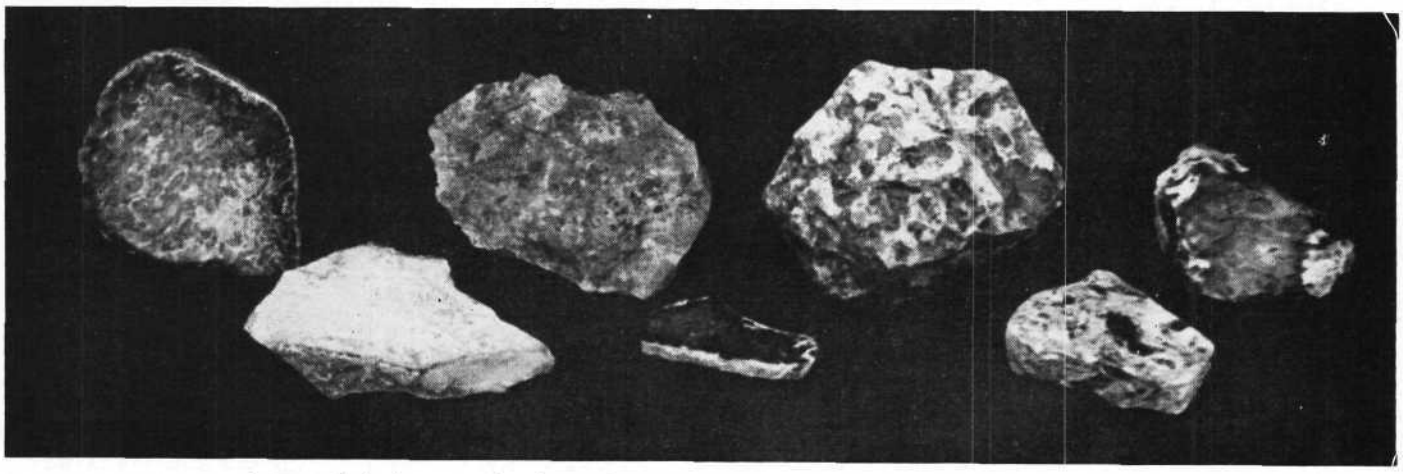
"No," I answered. Then I saw the name J. B. Ross on a sign projecting from the small frame building. "Are you Mr. Ross?"

"Yes, that's my name. Folks generally do not come here unless they have lost their way."

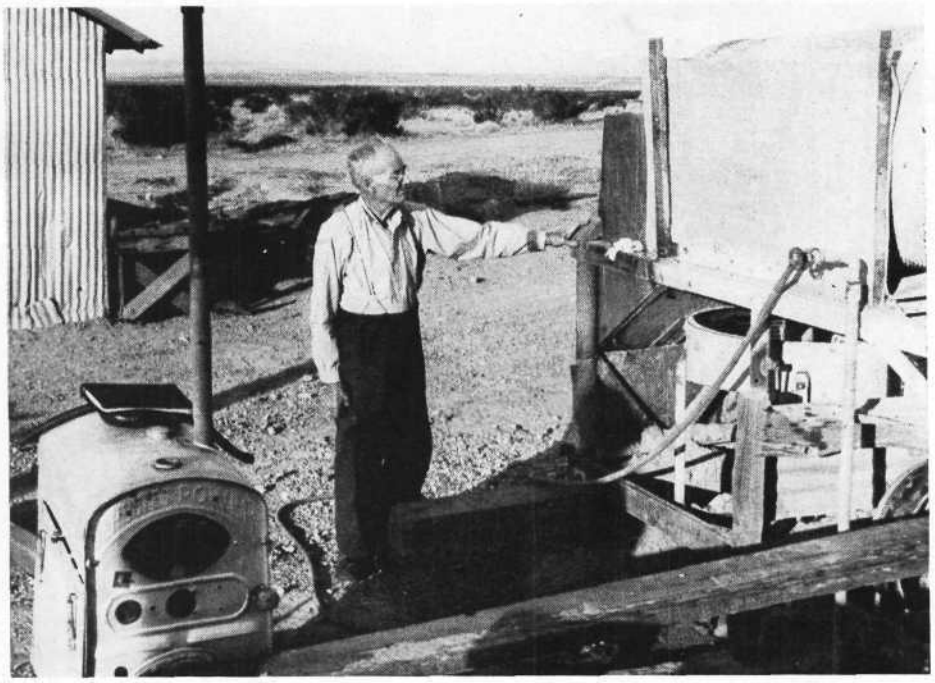
Which was not so strange when you know that Kramer Hills is practically a ghost town, that the shelves and counters of the general store long have been empty, and that it was sheer good fortune which brought Mr. Ross—whose home is in San Bernardino, California—to the front of his store when we stopped before him. He was there for a tryst with memory. We were on our way to look for rocks.

This sleeping town was not our destination. It was a short side-trip taken because we had been told that once there was a gold mill here. We had not been told, however, that we would find empty stores and empty houses, a corrugated-iron workshop from which came sounds of hammering, and a small gold mill in operation.

It was early November, comfortably warm, an ideal desert day. On a Saturday afternoon, with Mabel and Jack Philbrick of Arlington, we went from Riverside on Highway 395 to hunt for petrified palm root and for good specimens of the jasper-chalcedony-opal combinations which Na-



Jasper, chalcedony, opal and petrified palm root are found in the Kramer Hills area.



J. B. Ross explains the workings of the bowl mill at old ghost town of Kramer Hills.

ture has planted in the Kramer Hills section of the Mojave desert. Above the San Bernardino mountains cirrus clouds drew blurred white lines across a hazy sky. Sunflowers bloomed in Cajon pass. The trees wore half a crop of yellow leaves. The dried stalks of yucca pointed toward the sky.

Beyond Adelanto the highway met and paralleled a power-line, and almost at once began a long succession of dips and humps, as if dizzied by the contact. But its direction was as straight as an arrow, shooting toward a low ridge to the north. The Joshua trees thinned. There were but few creosote bushes. Mostly the ground held the dry remains of springtime growth. Twenty-two miles north of Adelanto we saw a small white sign marked "Kramer Hills" and, having both time and curiosity, we turned east on the good dirt road. It was 3.8 miles to the old gold camp where we met Mr. Ross.

It was about 15 years ago, he told us, that he opened his store at Kramer Hills. There was a small gold boom then. But that was not the beginning of the town. Up the pole line half a mile or so, maybe, we had noticed a corrugated-iron building and a wooden tower—well, 50 years ago Kramer Hills began up there. We'd see plenty of signs if we'd look. The old town started fine, but the gold was not in veins and ledges. It lay in "spots." From the rich areas it was hauled to the mill and the gold washed out. At first the pockets yielded better than a thousand dollars to the ton, but it wasn't long until the rich areas had all been worked, and the town died. Its second life began a bit to the south. It was then Mr. Ross opened his store. The gold here was found in spots, too, but the areas were small, the yield moderate. The ever-vital water had to be piped from so far that it was a constant problem. It was not long until the town went "ghost" again.

"Then," said Mr. Ross, "came the bowl mill. Ever see a bowl mill?"

"We never even heard of one."

So he climbed into our car and took us down to the mill. We turned east just beyond his store, passed several deserted houses and the workshop, then dipped down a short hill, and there it was—outdoors.

We had hardly stopped before a car came racing from the workshop, and an excited young man jumped out. When he saw that we were guided by a local citizen, he told us to look around as much as we liked. Had we been alone we would have been less welcome, for this is private property.

The bowl mill extends out from a low hill on top of which are iron bars. The gold-bearing earth is dumped through these to screen out the largest rocks. Then, by a belt-and-bucket system, it is carried to a series of revolving screens which separate out the remaining rocks. Eventually the gold-bearing earth reaches the bowl. The bowl is made of rubber. It looks like a black bath tub circled with very deep corrugations. Powered with gasoline, washed by water hauled seven miles, this bowl whirls the gold particles into the corrugations, while the water carries off the worthless dirt. Sixty percent of the water is recovered to use again. The bowl is capable of handling 35 tons a day. The yield is two dollars to the ton.

"Nope," Mr. Ross mused, stooping over to pick up specimens from a rock pile at his feet, "there's nothing wrong with Kramer Hills, got just about every mineral here there is—only sparingly—and if we just had water . . ." There was iron in one rock that he held, cinnabar in another. With water, his tone implied, Kramer Hills would have more lifetimes than a cat.

When we returned to the store he pointed eastward. "See that peak beyond that row of mountains? It's Telescope, 150 miles away."

Shadows were long when we rejoined the highway. The western hills looked like cobalt-blue slabs standing one behind another. Clouds were fixing up for a grand sunset parade.

Continuing north the highway swung to the right around a hill, then curved back to cross under the power line. In a series of curves we passed under it four times, and, because we knew that landmarks were scarce, we began at the last under-crossing to count towers. The first one to the north we called "one." Just beyond the tenth tower we turned east on a dirt road which led us into the rock fields we were seeking. On our speedometer the distance from the first tower to the tenth was 1.3 miles.

That dirt road twists every way, including up and down, but there are neither rocks nor high centers. At 1.6 miles from the main highway we stopped. A ridge of rock crossed the road just ahead. Here on a flattened hill we spent the night. All about us were the rocks we had come to find. A little farther east a line of wooden poles carried wires into the north.

It was sunset. All about us was salt bush colored by frost to every autumn shade from salmon pink to rust. The white stalks of desert candle were pale rose in sunset's light. The clouds were flame color and reached clear across the sky. One Joshua tree made a silhouette against the west.

It was a perfect desert night. The clouds disappeared and left a half-grown moon. The sky was so full of stars it was hard to recognize even the constellations I knew best. I gave up finally, tucked my head into my bag, and went to sleep. Sunrise was the beginning of another glorious day.

We spent it hunting. Jack Philbrick and Amon hunted and dug for palm root in the vicinity of the cars. In an area no larger than a town lot they gathered on the surface of the ground several pounds of palm root. We were surprised at this. We had been told that no longer would we find specimens without digging. These were not large pieces—thick slabs from two to four inches square. But by digging they found a few rocks too large to handle without breaking.

Mabel and I went farther afield to see what lay upon the other hills. To the east of the cars we found specimens of red jasper marked with black in patterns suitable for cabochons. We found stones which

contained jasper, chalcedony and opal. We found dendritic petrified palm root. In a hole someone had dug we saw a great rose-colored boulder in which petrified roots were easily traced. We had the feeling that the person who found that would be back with the equipment to lift it. We hunted to the pole line and there were countless rocks beyond.

To the west of the cars, in a hollow, we found specimens of yellow dendritic jasper. The dendrites were small and vine-like. The hunting now is not so easy as it once was, but it is still a large field, and you can find good specimens both above and below ground, depending on what you want, and how hard you are willing to work to get it. There is also rock which will fluoresce.

This field is easily accessible, near the highway, and is fine hiking country.

For us it was a good trip. We found some nice specimens, had grand weather, and good companions. It still would have been an enjoyable desert outing even if we had been less successful in finding specimens.

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CLOSED AREA AT LAKE HAVASU IS DEFINED

Clarifying the "closed area" restrictions around Lake Havasu in the Colorado river, from which Los Angeles receives an important part of its water supply, S. A. McWilliams, construction engineer on the project, has issued the following regulations:

1.—Lake Havasu is closed to all boats from Hayden's Camp, north of the intake pumping plant, for one mile up the Bill Williams river. Boats or persons trespassing in this area may be fired upon.

2.—The river is closed to all boats and fishing from the Dam to the No. 1 guard station (below the No. 1 trailer camp). Trespassers in this area may be fired upon by the guards or the soldiers.

3.—Everyone must stay out of the hills overlooking the dam and camp areas. It is imperative that this ruling be followed. Anyone violating this may be fired upon by the guards or soldiers guarding this area.

The above regulations do not directly affect the Needles landing or the area about it, which is still open to fishing.

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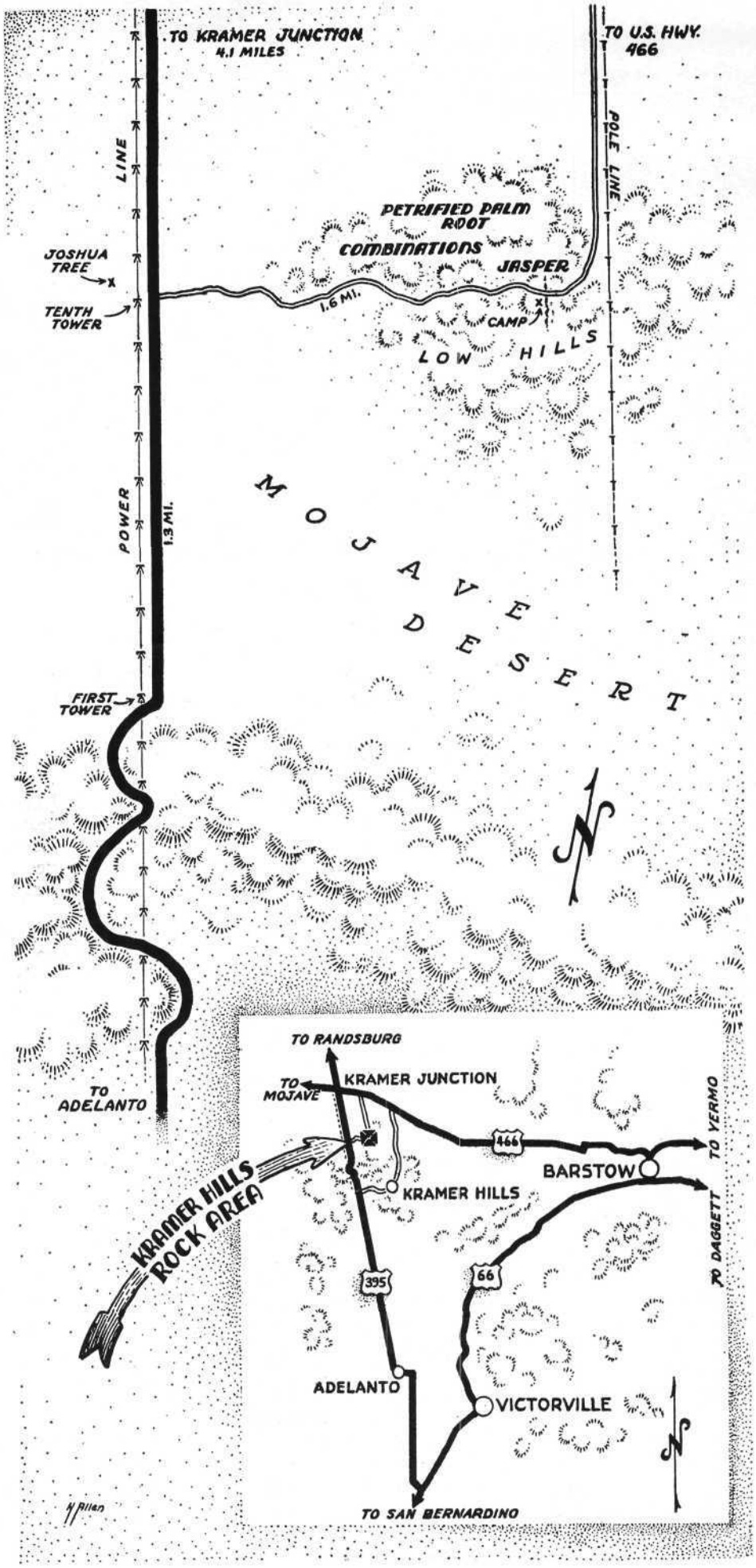
ZUÑI THOUGHT METEOR WAS ENEMY BOMB

When a small meteor fell near Zuñi village in New Mexico on January 29, the Indians thought it a bomb from an airplane. They remained away from the spot for a week, waiting for it to explode. When nothing happened, an examination disclosed an 18-inch dust-filled hole of undetermined depth.



George Frederick put smoke trees in most of his paintings—so his friends call him Smokey.

Art Without Glamour

By JOHN W. HILTON

BACK in the pre-neon era at Palm Springs there was just as much color and glamour as there is now. The only difference is that in those days the color was supplied by the natural environment, and by the natives—while today it is created by gadgets and imported talent.

Not the least colorful of the many "characters" who trudged along the dusty roads in early Palm Springs was my old friend Smoke Tree George Frederick.

George used to swagger about town in the brightest checkered shirt and biggest sombrero he could find. He attended the Indian dances before it became a fad—and would come away singing their chants and stamping the ground like a born Cahuilla. Folks around the Village—it was spelled with a small "v" in those days—liked George because in addition to his cheerful disposition and his decorative value, he could paint.

Mostly, he painted scenes around the Springs, with an occasional portrait of a white neighbor or an Indian friend. His canvases included palm canyons, sand dunes, cowboys, burros—and even a sun bather when he could find one. Most of his pictures had smoke trees in them—hence his nickname. Friends finally shortened it to "Smokey" and so it remains to this day.

Smokey was one of the first persons I met in the desert. But even then, the neon lights and streamlined cowboys had become annoying to him, and he was threatening to leave for a place with more elbow room. He made my shop his headquarters, and was one of the first to encourage my blundering efforts at art.

I am sure George Frederick was the original pioneer in the painting of smoke trees. He has been followed by a parade of others—some of them very good and other dabblers who paint them "too pretty for words."

He never attempted to glorify these native trees of the desert. He felt they were beautiful enough as they were.

In 1934 he married the western writer Allan Yantis, daughter of a Texas pioneer family, and they came to spend their honeymoon on the desert. He stopped at my place to introduce the bride, and as a result of that visit they pitched their tent in our backyard and began displaying his paintings in my shop.

My own paintings had not reached the selling stage, so the first art gallery I arranged was to show the pictures of George Frederick, Leo Cotton, Charlie Safford and other artists who made my roadside shop a port of call.

When George said he intended to spend the winter painting he meant just that. I have never seen anyone work so hard or so continuously at painting as he did that winter. Never a day passed but that he was out somewhere sketching—and always there were smoke trees in his landscape.

George knew his fundamentals and was merciless in his criticism of my efforts. He often admonished me never to paint as he did, but as he told me. I'll always be grateful to Smokey for his help.

Gradually, I learned much of his life's story. He was born in Lee county, Iowa, in 1889, but moved with his parents to Europe at the age of three. As a young man he attended the Royal Academy of Art at Munich where he had an opportunity to learn the sound basis of art.

He returned to the United States in 1911. His greatest desire was to come West—to the land he had been reading about all his life in the western magazines. He wanted to punch cattle.

Eventually his opportunity arrived—but he soon discovered that the life of a cowhand was not as glamorous as the fiction writers had pictured it.

But he had an opportunity to study the color and character of the West, and he turned again to painting. It was his greatest ambition to recreate the range and its people on canvas as a permanent record of what the West was before the coming of modernism and the dudes.

He doesn't look for the "pretty" things in the desert or its people when choosing a subject. Glamour is out. He seeks only the genuine. And when he finds a subject, he goes to work with feverish enthusiasm.

It was my privilege to watch him paint a portrait of an old Indian friend, Joe Reyes. I have never seen anything to compare with the exhibition George and Joe unwittingly staged. The energy of the artist was surpassed only by the superb patience of the model. Joe's family wanted to polish him up somewhat for the picture. I could tell by the gleam of mischief in the eyes of his daughter that she was scheming some way to comb his hair and put a clean shirt on him.

I passed along my hunch to Smokey and he quickly put an end to that clean shirt business by going to work at once. He did not stop until a life-size study of the Indian had been completed. The portrait, in my opinion, surpassed some that he had spent months on.

When he had finished, there was about as much paint on his clothes as on the canvas, and he was drenched with perspiration, but a true portrait of Joe Reyes was the result. It has been shown in many galleries over the country and acclaimed everywhere as a superb example of character painting.

Smokey has had a difficult time keeping beyond the ever-encroaching demon of civilization. He wants none of it, and is ever on the move to find the frontier where the West is still wild. His studio is now out on the Arizona desert near Superstition mountain—where he will remain until civilized folks begin crowding him again.

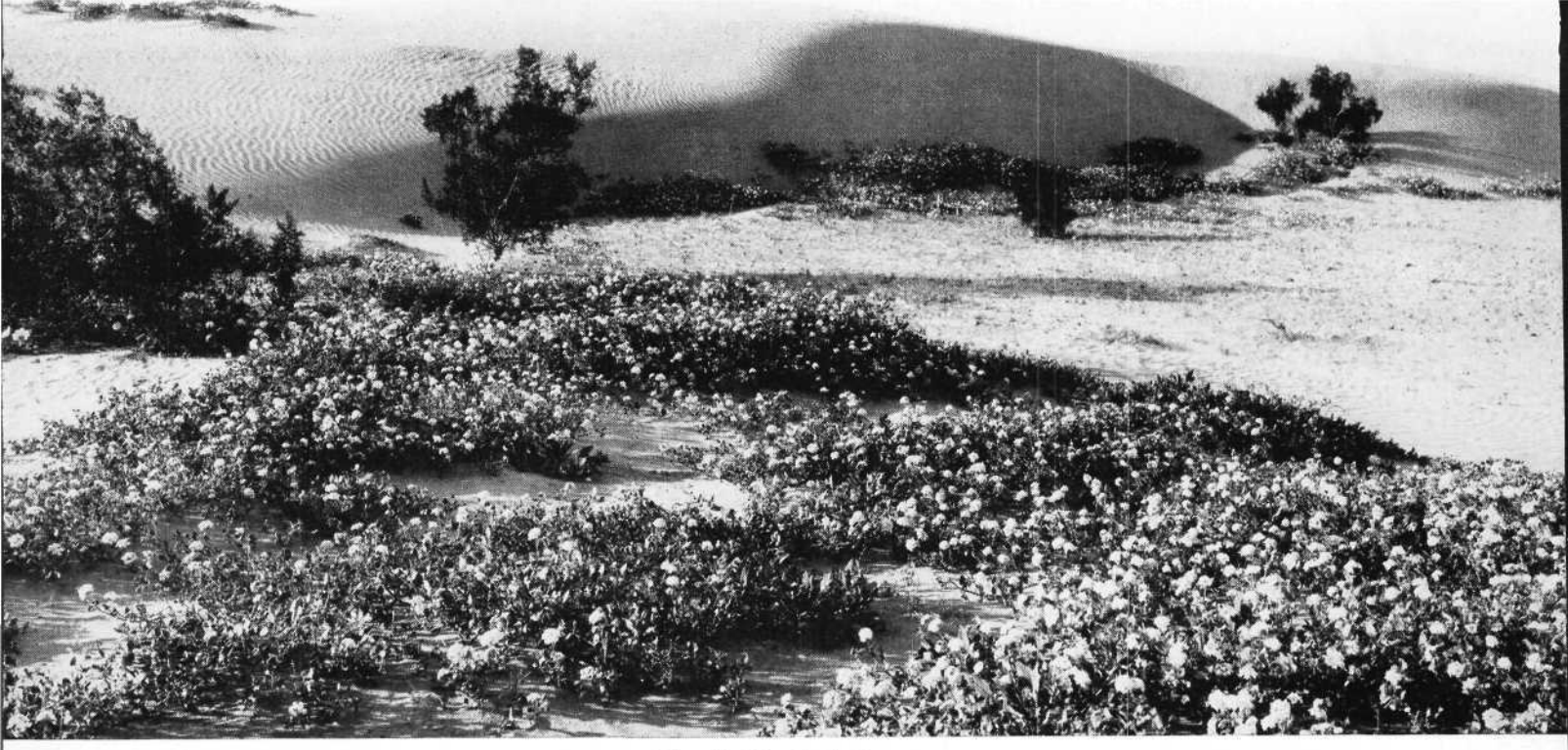


Photo by Hetzel, El Centro.

TO A DESERT TOWN

By Myrtle M. Pepper
Los Angeles, California

I like a street of little houses,
Squat and old and low.
A pygmy sort of village, never
Trying to preen or grow.
A little street, a little town,
A tiny haven where—
Dreamers live in castles
Built of stars and good clean air!

• • •

DREAMS

By Raymond Gayle
Wells, Nevada

In my dreams I'm in the Westland
Once again I smell the sage.
On old Ned I roam the wasteland—
Every mile an open page—
'Cross the endless desert brushland
Where the purple mountains rest—
In my dreams I'm in the Westland,
In the land I love the best.

In my dreams I hear the coyotes
Crying sadly in the night.
Miles away I see the mustangs
Running swiftly out of sight.
Laughing cowboys ride the rangeland
Roping steers and branding calves—
In my dreams I'm in the Westland,
In the land I love the best.

• • •

GIFT OF THE DESERT

By Louisa Sprenger Ames
Mecca, California

I found Love in the desert,
And my dwarfed soul grew apace,
For the glory of the desert
Was in my beloved's face.

Love murmured in the sagebrush,
It hummed in the whirr of wings,
It whispered in the night wind,
In the language of desert things.

The low stars bent and told me
That Love was in the land,
Then God came near and gently
Dropped Peace in my outstretched hand.

Oh, I've found Love in the desert,
And my soul has grown apace,
For the glory of the desert
Is in my beloved's face.

A Sonnet to the Desert in Bloom

By Alberta Lee McCown
Twentynine Palms, California

Dreary and drab the scene of sand and sage—
Alone, thirst-crazed, I trudge the endless road
Which snakes its long length on, my pace to gauge.
Each step a weary task, I shift my load
And plod along the way that I must go.
With eyes cast down to cheat the sun's red glare—
All thought shriveled, ebb of the spirit low—
Heedless, I see no beauty anywhere.
When there, with glad surprise, beyond me lies
A flash of light, a dash of paint. Close to
The ground color abounds in dormant dyes
Caught quickening in blossoms of brilliant hue.
Forthwith, the way grows short; my step grows light;
And I am humbled by Divine foresight.

• • •

SELAH

By William Caruthers
Ontario, California

You take your towns and tailored trees,
Your pampered plants, machine-made breeze.
Give me the feel of desert wind;
Give me a trail where mountains blend
With sky that's blue and brush that's brown
And far as hell from your crazy town.

You take the sham of fettered life—
The sorry mess of futile strife.
Give me my stars and blanket roll
I'll dream the dreams that rest my soul.
In hidden hills where canyons wind,
I'll laugh at fools I've left behind.

CREED OF THE DESERT

By June LeMert Paxton
Yucca Valley, California

The twilight's darkening shadows change
Tall shrubs into a gypsy camp;
But the phantom array, will soon fade away
When full moon arrives with her lamp.

DESERT MAGIC

By Mary Perdew
Santa Ana, California

The drab old desert slips away to hide,
When spring comes dancing, flings her flower cloak wide;
And hills are deep in lupines' purple mist;
The valleys bright with poppy gold, sunkist.
No hint of grey or brown, the landscape shows:
In brilliant rainbow tints the desert glows.

• • •

R. F. D.

By Nell Harding
Brawley, California

Old fellow, you love the Desert
Its still nights and long, tiresome days;
You have lived out your years in peace
Far from the men and their ways.
For you there's music in night winds,
There's beauty in cactus and sand;
For you the whirling dust devils
Give color and life to this land.
But that's no whirlwind out yonder,
You're watching it too, so you know.
It follows each curve in the road
And it takes the dips kind of slow—
You're Desert bred and proud of it;
But the Desert recedes today—
Old fellow, I know you are glad
That's the U. S. mail on the way.

• • •

CATHEDRAL CANYON

Near Palm Springs, California
By Genevra Ostermann
Seattle, Washington

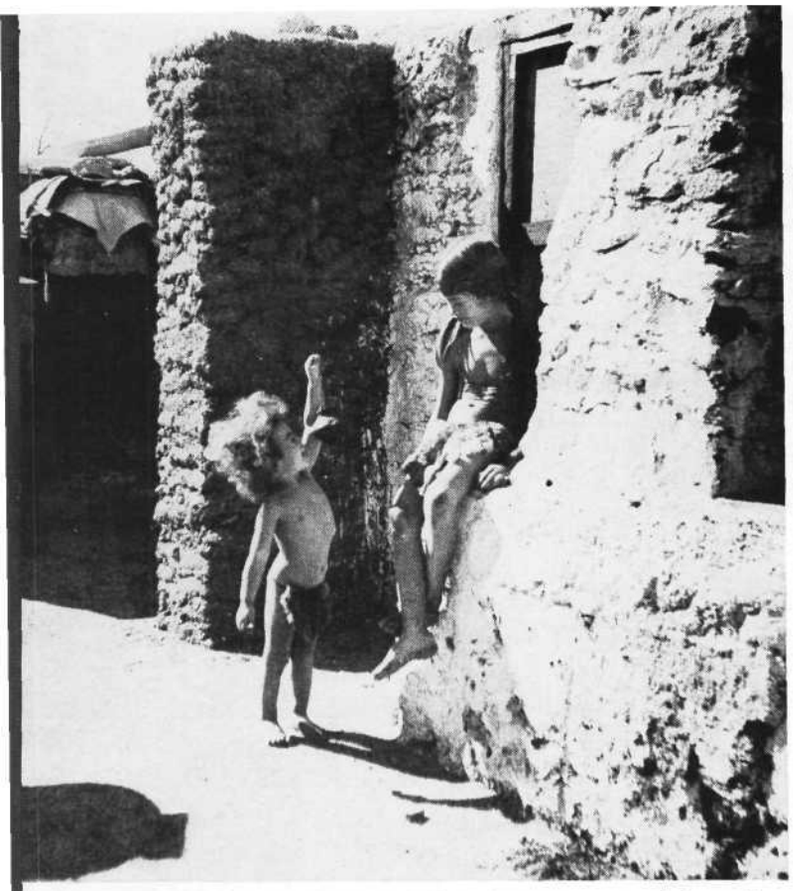
Through rock hewn portal enter in,
Ascend the steps by nature laid;
Bow down the knee to honor Him
By whom these granite walls were made.

No stained glass windows need there be
For sunshine floods the golden aisle.
The colors of the rocks we see
More clearly for this roofless style.

The altars with flowers are spread
With cups of gold and bits of blue;
For music, songs of birds instead,
And soughing winds that wander through.

A font of solid stone is filled
With living water crystal clear,
Then over rocky falls 'tis spilled
In rivulets to disappear.

Not Gothic old, nor Renaissance
Nor classic style it does appear;
No creed, no cult, but those perchance
Who wander in may worship here.



In a sunny nook in the shelter of Yaquitepec's adobe walls Rudyard proudly shows Rider a little clay olla he has helped make.

Little things that you and I take for granted have tremendous importance in the lives of Tanya and Marshal South and their children. This is true because in their remote desert home on the top of Ghost mountain where they carry on a glorious experiment in primitive living, they cannot run down to the store and buy the little luxuries and necessities of life. They have to improvise and make things for themselves. You will have a better understanding of what primitive living really means when you read Marshal's story this month.

Desert Refuge

By MARSHAL SOUTH

THE lizards are coming out again on Ghost mountain. For quite a period—all through the severe weather—they have been holed up in snug crevices and in deep runways beneath boulders. Now, tempted by increasing warm days, they are returning to their regular beats. A cheerful note. We have a happy, busy lizard population around Yaquitepec. Their jewelled scales as they scurry to and fro seem to give an added glitter to the sunlight. Each year their brief winter absence gives us a sense of real loss.

But the lizards have no taste for snow. And Ghost mountain has had its share of the white, driving flakes this season. Even Rider and Rudyard—that pair of enthusiastic wishers for "ice"—got almost enough of chill blasts and frozen cistern surfaces. But they had a grand time snowballing each other; wild, hilarious romps outside, spaced by breathless dashes indoors to warm their bare feet.

Snow does not last long on Ghost mountain. Usually a few brief hours and it is gone. But while it is here the grim rocks and the cactus tangled ridges are a breath-taking fairyland of glittering beauty.

Victoria, I think, got the greatest thrill from the storms. To her it was a first experience and a tremendously puzzling thing. She could not keep away from the window, running to peer out, then trotting back to tug at us with insistent fingers until we too should come to look. Over and over again. "Snow" we told her. And she stared at us, a deep wonderment in her blue eyes. "No," she repeated softly, "No." She reached her little hand towards the flakes, whirling like a cloud of fluttering white moths just outside the window pane. "No." This miracle held her in awed silence; even her big Christmas dolly was forgotten for a while. How fresh and wonderful is the world when one is young. Which reflection leads one to remember sorrowfully that it is not the world or the everlasting miracles of life which change their freshness. It is only that with the years we grow calloused. We burrow deep under a self-made shell of trivialities and falsity and inhibitions.

But spells of cold weather are ideal for dipping candles. There is something about a candle, the soft friendly glow that makes night shadows assume their real character of cheerfulness. Shadows are temperamental things. They were never intended to be grim. The harsh glare of civilized electric light has made hatchet-faced villains of them; sinister, merciless, soulless things that haunt the dark corners of a mechanical age. But the shadows of firelight and candlelight are man's friends. The candlelight shadows that weave joyous tapestries and chase each other in and out of archways and across the whitewashed walls of Yaquitepec are a happy breed. They play pranks with the roving white-footed mice; luring them on with promise of concealment, then impishly whisking aside to reveal the startled, bright-eyed explorer in the very midst of his cautious investigation of cake box or flour bin. Inquisitive shadows. They perch in rows along the roof beams watching us like attentive little gnomes, very still and well behaved. Then, suddenly, as the desert wind chuckles through a crack, they are gone, tumbling over each other in a frantic rush for safety.

It is impossible to regard our candlelight desert shadows as anything else than friends. Victoria tries to catch them, toddling determinedly through the darker reaches beyond the long table and snatching with eager fingers. She has had no luck so far. But she comes back each time with a whimsical, screwed-up grin and a determined hunch of her little shoulders that says as plainly as words, "Never you mind. You just wait."

Candles, in their aristocracy, should be made of beeswax. There is nothing so clearly glowing and so vital as a beeswax candle. But not always is our supply of beeswax equal to the demand. Then we substitute paraffine, with a moderate mixture of tallow, which does well enough. Candles are a cold weather item anyway. With the approach of summer all the Yaquitepec candles are hustled into the cellar. Any that are forgotten are not long-lived as candles; they wilt into pools of grease.

Dipping candles is a job that takes patience. But it is lots of fun and well spiced with a flavor of old-time romance. Perched in the window seat the other day, plowing through his school reader, Rider was wildly excited by the picture and story of candle dipping in early Colonial days. Exactly the same method that we ourselves use. The orderly rows of cotton wicks hung on little wooden rods; the kettle of hot wax. Each rod of wicks dipped quickly down into the hot wax and withdrawn, to be set aside on a rack or across chair backs for the hanging dips to cool while the next rod of wicks is dipped. Then, when all rods have been dipped, back again to the first. And so on, over and over, till the candles are thick enough. For gay effect, after all the dips are done and are hanging plump and firm and white, we generally dip them once or twice more in another kettle of

wax that has been colored red or blue or green. A colored candle doesn't burn any better, but it looks festive. Life is the better for cheery little touches of color.

A little while back we made ourselves a new chandelier—a word which today, with its modern version of a glittering cluster of electric bulbs, it is hard sometimes to remember simply means "candle holder." Ours, however, hold no commission from modernity. We simply took a hefty limb of desert mesquite and hewed it with an axe until the top side was flat, and the log, everywhere, was cut away so as to show the warm, rich, brown and yellow tints of the inner wood. Then, in the flat side we bored five holes, candle diameter, and about an inch and a quarter deep, at equal distances along its length; cutting around each, with a chisel, a shallow trough to catch the wax gutterings. With a short length of old iron chain attached to each end of the log, by which to swing it from the ceiling beams, and with a hasty coat of oil to bring out the fine, rich grain of the mesquite wood, our chandelier was complete. Not a large one. But the ceilings of Yaquitepec are low, anyhow; and the room is not wide. When the curtains are drawn against the gathering desert evening shadows our mesquite log chandelier with its five wavering-flamed candles, standing steadfast like a line of George Washington's soldiers, gives light and cheer enough.

Candles! There is a romance to candles. And there is something else to their soft, mellow light that is worth remembering. Candle light, like old fashioned lamplight, is a *natural* light, the same as firelight. Some of these days when you have been listening to the enthusiastic remarks of some of our proponents of modern lighting you might do well to go out and stand on a street corner and count the passers by—old men to mere infants—who are wearing glasses. Then, you may like to remember that the desert Indians—all primitive American Indians—had marvelous eyesight. And it may give you food for thought to reflect on the fact that the only artificial light these primitives knew was the light of torch and of campfire.

Many of our Ghost mountain juniper trees these days are rusty brown and yellow with clustering myriads of flower cones; tiny things about the size of an extra plump grain of wheat. And when one brushes past the trees the bloom-dust whirls out in stifling clouds. These little cones, though, have other uses. For a long while Rider and I, tramping over the rocky slopes on fuel gathering expeditions, were puzzled by the neat little collections of green juniper bouquets we would come across in the most unexpected places. Sometimes these little tufts of twigs and leaves, surprisingly regular in size and all clipped in orderly manner from the trees, were piled beneath squaw-tea bushes, sometimes in the shelter of chollas, sometimes in clefts between boulders.

We knew that it was the work of pack rats, because the old patriarch, who for years has made his home in the box back of our discarded car, had covered the whole floor of his quarters with the green bunches. But the reason for it all was a mystery. Rider's joking explanation that all the pack rats were putting up Christmas decorations soon failed to satisfy. For the accumulation of piles of greenery persisted long after even the most ignorant rat must have known that Santa Claus had gone back to his home at the North Pole.

Then, by accident, we discovered the truth. The busy pack rats were eating the juniper flower-cones. Nimbly they would climb the branches and nip off a cone-laden tuft, just as we would pick a bunch of grapes. Then they would race to a place of safety and leisurely proceed to nibble off every cone, abandoning the stripped bunch and returning for another. Thus the little heaps of plucked branch tufts grew. We had known, of course, of the fondness of desert animals for the mature juniper berries—relished by many besides the antelope squirrels and the coyotes—but this was our first introduction to flower-cone harvesting.

The tiny cones are not bad eating, if one can forgive a distinct turpentine flavor. Their chief human disadvantage is that it takes a huge quantity of them to make a man-sized meal—in which bulk the turpentine might produce unpleasant results. The little rodents that feast upon them, however, have the benefit of more equal proportion. For its animal children the desert is, in many respects, a land of plenty; even if it is also a region of eternal strife, where life depends for its existence, on unceasing vigilance.

• • •

Forecast for Desert Wildflowers . . .

On a basis of reports received from botanists in widely separate areas of the desert Southwest, the wildflower display this season promises to be more colorful than normal, although not everywhere as gorgeous as the exceptional showing last year. Following are the regional forecasts:

Colorado Desert in California . . .

Verbena already is in blossom around the dunes in Coachella, Imperial and Borrego valleys. Loco weed, always an early blossoming species, is seen along the roadsides, and in the sheltered canyons encelia and chuparosa are in color. Rains were spotted during the fall and winter season and flowers will appear accordingly. Borrego and Coachella valleys and along the western rim of the Cahuilla basin promise a display above normal. The mesas and around Salton sea will be average. Barring cold weather or sandstorms flowers should reach their peak in mid-March.

Eva Wilson of El Centro reported that fairy dusters already are in blossom in one locality on the Colorado desert where they grow—north of Ogilby along the Blythe and Black mesa roads.

Joshua Tree National Monument . . .

James E. Cole, superintendent of Joshua Tree national monument reports that old-timers predict a fine wildflower year for the Twentynine Palms area. They believe with some more rain and warm weather "this spring may bring one of those rare desert wildflower displays."

Mojave Desert of California . . .

Bright prospects for wildflowers were in sight for the central Mojave desert region according to Mary Beal of Daggett in a February 1 report. Patches of green one to six inches high all over this area were expected to come into bloom some time in March, if warm weather and more rain occurred during February. The main displays however come usually in April.

Casa Grande National Monument . . .

The wildflower display adjacent to Arizona's Casa Grande national monument is expected to be less spectacular than last year. Natt Dodge, park naturalist, bases this prediction on the December and January rainfall which has been less than the unusual amount of last year for the same months. As early as February first, nevertheless, the small yellow mustard and desert marigolds were starting to bloom. The desert poppies were expected to bloom by the middle of February and should last well into April. Desert mallows, blue lupines and yellow fiddleneck should appear during the last week in February and continue throughout March.

Boulder Dam Recreational Area . . .

The forecast made by Robert H. Rose, naturalist at Boulder Dam national recreational area, Boulder City, Nevada, indicates that an unusual blooming season may be ahead. Rainfall record ending December 31, 1941, shows almost twice the normal amount of moisture. If this moisture which is stored underground is supplemented with average spring rainfall it should result in perhaps one of the most profuse and beautiful displays of wildflowers ever seen in this locality. Mr. Rose further points out that best displays seem to occur every other year. "While the display for the spring of 1941 was quite beautiful, it was not as fine as that which occurred in the spring of 1940. Thus, if there is anything to the observation that the display is generally better every other year, we would be due for a wonderful display again this coming spring."

Oasis at Vallecito

By ARTHUR WOODWARD

By air line it is just 100 miles from Yuma to Vallecito, but when the first emigrants came west over the Southern California desert it was 100 miles of grim weary travel with only a few holes along the way where an uncertain supply of brackish water might be found. There isn't much of a road to Vallecito even today, and it offers little attraction to the luxury-loving traveler — but when Kearny's army and later the Birch and Butterfield stages came this way during the middle of the last century it was a haven of rest. Here is the story of this famous old stage station, and of its reconstruction by civic-minded Americans.

OVERLAND TO THE PACIFIC.

The San Antonio and San Diego Mail Line.

THIS LINE which has been in successful operation since July, 1857, is ticketing PASSENGERS through to San Diego, and also to all intermediate stations. Passengers and Express matter forwarded in NEW COACHES drawn by six mules over the entire length of our Line, excepting the Colorado Desert of 100 miles, which we cross on mule back. Passengers GUARANTEED in their tickets to ride in Coaches, excepting the 100 miles, above stated.

PASSENGERS TICKETED TO AND FROM SAN ANTONIO AND

Fort Clark,	Fort Bliss,	Tucson,
Fort Hudson,	El Paso,	Arizona,
Fort Lancaster,	Fort Fillmore,	Fort Yuma,
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The Coaches of our Line leave semi-monthly from each end, on the 8th and 24th of each month, at 6 o'clock, A. M.

An armed escort travels through the Indian country with each mail train, for the protection of the mails and passengers.

Passengers are provided with provisions during the trip except where the Coach stops at Public Houses along the Line, at which each Passenger will pay for his own meal.

Each Passenger is allowed thirty pounds of personal baggage, exclusive of blankets and arms.

Passengers coming to San Antonio can take the line of mail steamers from New Orleans twice a week to Indianola; from the latter place there is a daily line of four horse mail coaches direct to this place.

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FARE ON THIS LINE AS FOLLOWS, INCLUDING RATIONS:

San Antonio to San Diego,	$200	San Antonio to El Paso,	$100
" " Tucson,	150	Intermediate stations 15c. per mile.	

Extra baggage, *when carried*, 40 cents per pound to El Paso, and $1 per pound to San Diego.

Passengers can obtain all necessary outfits in San Antonio.

For further information, and for the purchase of tickets, apply at the office of the Company in this city, or address I. C. WOODS, Superintendent of the line, care of American Coal Company, 50 Exchange Place, New York.

G. H. GIDDINGS,
R. E. DOYLE,
Proprietors.

It cost $200 to travel by stage from San Antonio, Texas, to San Diego, when the old stage line was in operation. This copy of an old advertising poster reprinted through the courtesy of Harry Oliver's Old West Trading post at San Juan Capistrano, California.

TWO half-naked Diegueño Indians squatted beside the warm sulphurated waters of El Ojo Grande in the arrowweed thickets at Vallecito, washing the long yellowish yucca fibers used in making mats, in the mineralized pool. Suddenly they froze like rabbits when a hawk whistles overhead, and in an instant like brown ghosts were gone among the green leaves. A few moments later the advance guard of Stephen Watts Kearny's ragged troopers of the First United States Dragoons paused beside the pile of abandoned fibers.

"Looks like we had company," drawled one of the men. His eyes ranged the heavy thickets as he slipped a fresh cap upon the nipple of his Hall's breach loading carbine.

"Had is right," grunted one of his companions sliding from his scrawny mule to finger the wet fibrous mass. "Betcha we never see them squaws again. Wish they had left us some grub instead of this grass string. That mule meat we *buscared* yesterday didn't stick to my ribs long enough."

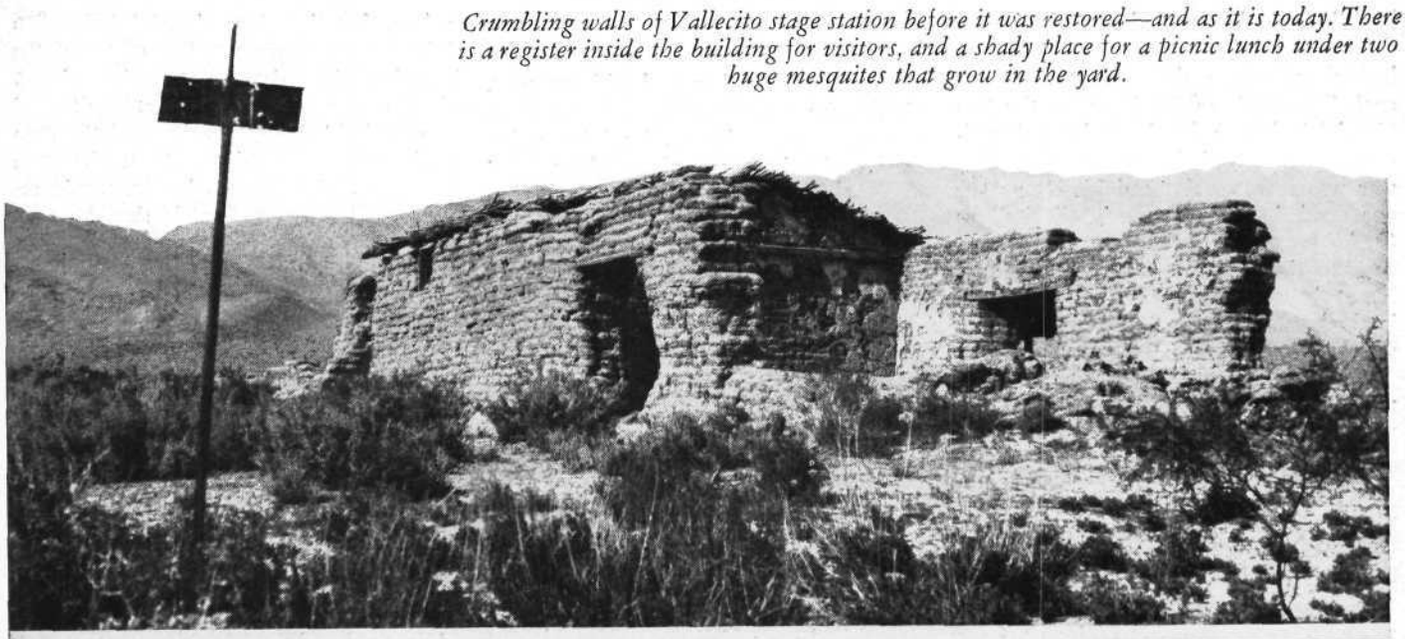
"We'd better be gettin' somethin' purty quick or none of us will be able to swing a saber at a greaser. I hear the gineral only had a few boiled beans last night with nary a smidgin' of grease. That saw bones had the best of it. He had some potted meat and brandy. Then he ate pinole with Kit Carson and afterward guzzled some tea and grub with Captain Moore. Hope the gineral decides to camp here a few days. Our mules are plum tuckered out and I could do with a little rest myself. This is the best place we've struck since we left the Geely."

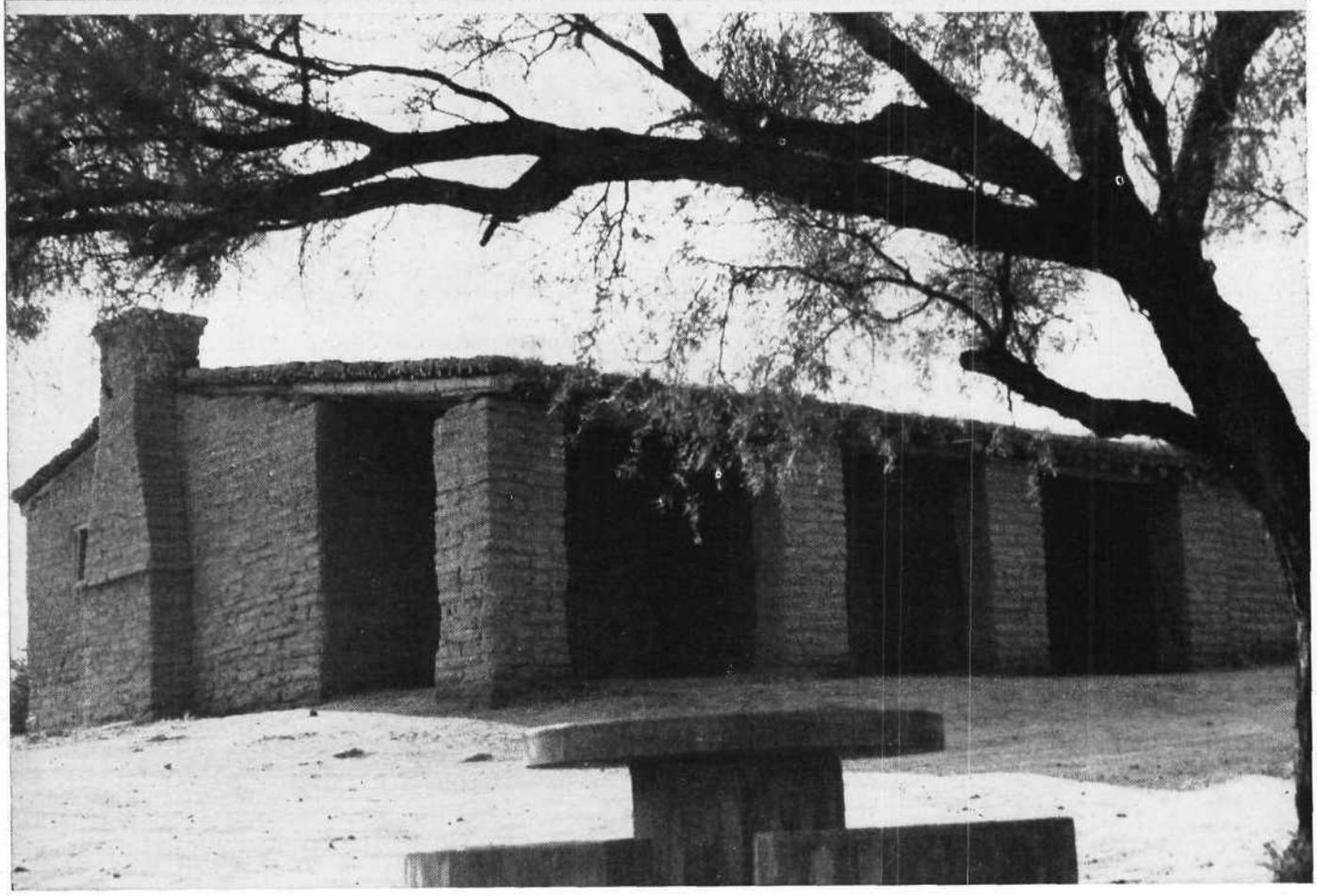
The tattered dragoon voiced the sentiment of hundreds of other travelers who were to follow that long hard road across the Colorado desert. He was one of the first of Kearny's Army of the West to arrive at the little oasis that spreads like a ragged green handkerchief carelessly dropped in the barren hills on the edge of the desert in San Diego county—the little valley that is known as Vallecito, the oasis of romance.

The dust powdered leather jacket soldiers of Don Pedro Fages, the Spanish soldier, are said to have been the first Europeans to experience the hospitality of the lonely valley in 1782. Perhaps they gave it the name Vallecito, I do not know.

Before the coming of the Spaniards the Yahano Indians, known today as the Diegueños, made that green haven their home. Their brush huts crouched beside the salt grass sward. Yahano trails led

Crumbling walls of Vallecito stage station before it was restored—and as it is today. There is a register inside the building for visitors, and a shady place for a picnic lunch under two huge mesquites that grow in the yard.





down to Vallecito from the high peaks of Cuyamaca where the rancherias of Jamatagune, Guatay, Matarague, Cuyamac and Huacupin harbored some of the most independent bands of the Yahanos.

Here in Vallecito the Indians were safe from Spanish soldiers. After the first *entrada,* this trail across the desert was seemingly little used. Although the Diegueño at Santa Ysabel were missionized, their brethren on the slopes of Cuyamaca and the desert beyond remained free. It was not until the days of the Mexican war that the loneliness of Vallecito was shattered. But even then the Indians did not desert their desert homes. The ashes of their dead rested in pottery ollas not far from the springs of Vallecito. In 1862 twenty of the band lived there and in 1874 Father Ubach counted 100 Diegueño in their huts beside the warm waters. John Audubon, Jr., encountered the Indians there in 1849 and has left for us the earliest known sketch of any habitation, red or white at Vallecito.

General Kearny lined his ragged men up for a final inspection at Vallecito upon the last day of November, 1846. Then the weary half-starved soldiers, some without shoes, their trousers in tatters, swung into the saddle and rode up the valley with a cold northwest wind biting through campaign scarred garments. The Indians crept from their hiding places and watched them go.

The first wheeled vehicles to blaze a road through the sands of Carrizo wash were those of Lt. Col. Philip St. George Cooke commanding the famous Mormon

battalion. Cooke camped at Vallecito on the 18th or 19th of January, 1847. Kearny had already been defeated at San Pascual. The battle of La Mesa on the San Gabriel had been fought and the American forces occupied Los Angeles. The war was over. Cooke and his men were not needed. Vallecito or "Bajiocito" as Cooke termed the place was a welcome oasis to the trail weary men and beasts. Here they ate the last of their flour, hooked up their wagons and rolled up the valley.

Four miles from the springs they were halted by the boulder studded hillside of Vallecito hill. Until Everett Campbell constructed a new road with an easier grade along the hillside a few hundred yards south of the old road, that stretch of trail was a bugaboo to civilian and army teamsters alike.

The next American soldiers to pass that way were more dragoons under Lt. Cave Couts, marching out of Mexico. They went into camp at Vallecito December 3, 1848, and remained in the restful oasis until December 23. Then they too moved on.

After Couts came the gold-seekers. Into California by the hundred and the thousand poured the first horde of '49ers.

When Lt. Couts retraced his steps through the valley and camped once more on the edge of the salt grass cienega, Sept. 20, 1849, with a combined command of infantry and dragoons as an escort for Whipple's boundary survey, Vallecito was lonely no longer.

The place was thronged with campers. Gold seekers, many of them almost destitute, were everywhere, all rejoicing that the long hard trip was almost done. They were in California at last and Vallecito, desolate as it might seem to a city dweller, was a patch of heaven to those desert weary men and women.

It was in October of '49 that John Woodhouse Audubon, the youngest son of John James Audubon, the famous naturalist, who had left his father's house beside the Hudson on Manhattan island to seek adventure in the west, camped at Vallecito. His gifted pencil has left us many contemporary impressions of '49. The view of the Indian huts in this article is the only one I have ever found that depicts Vallecito in those golden days.

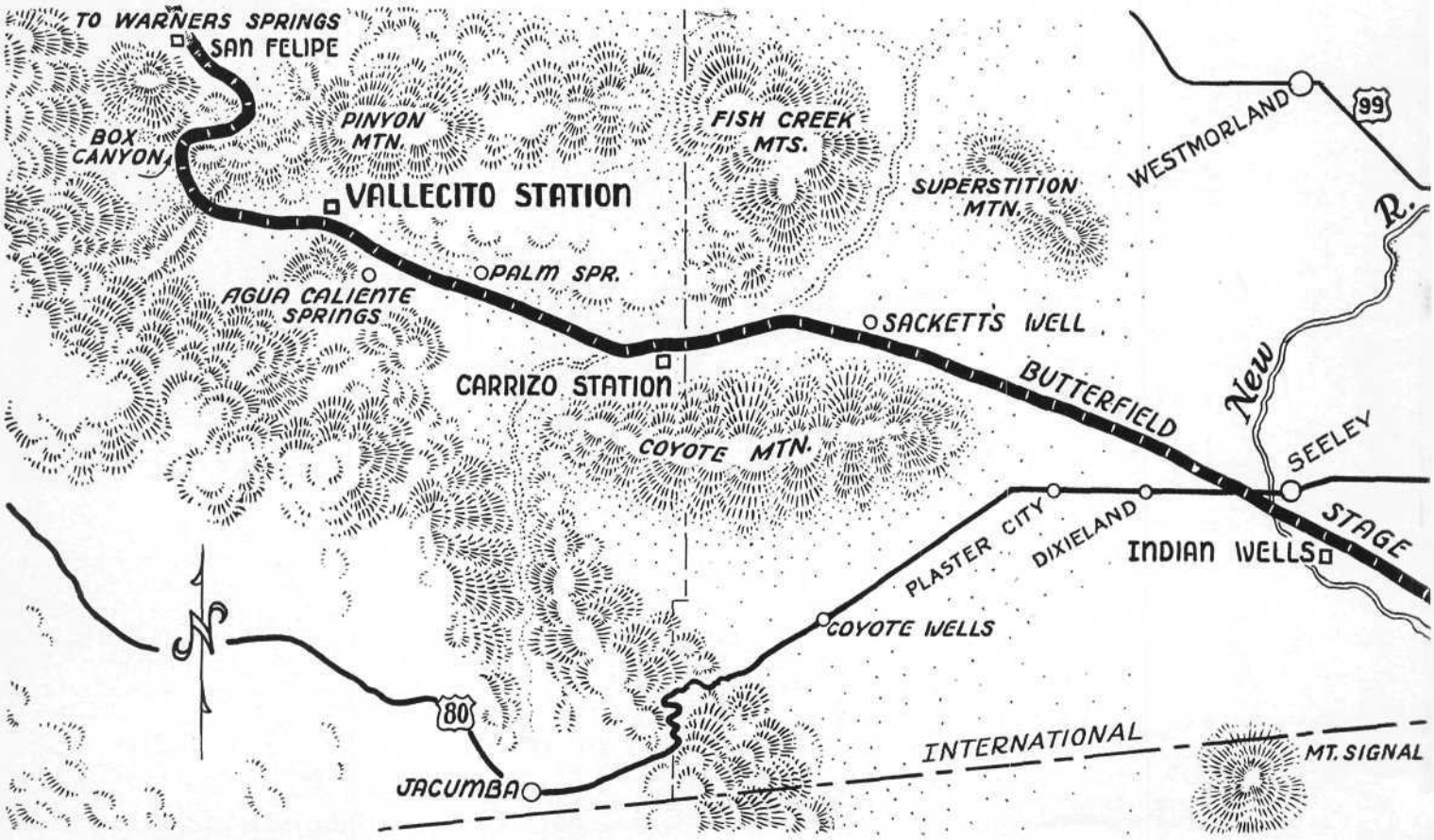
The immigrants rolled through Vallecito, toiled over Vallecito hill, and four miles beyond that point, wormed a tortuous way through Box canyon, that narrow defile where Cooke wrote, "with axes we pounded, broke, split and hewed the rocks to increase the opening. . . ." Box canyon today is just about as it was, but a new road now winds over the hills to the west.

To the army goes the honor of having maintained the first permanent camp at Vallecito. October 29, 1850, Companies D, H, and I, of the 2nd Infantry under command of Bvt. Major Samuel P. Heintzelman left their barracks at Mission San Diego to establish a military post at the mouth of the Gila river. On November 3 the troops went into camp at 'Vallecita.' It was decided that a portion of the men under Capt. Davidson, Lieut. Thomas Sweeney and Capt. Hardcastle, would remain at Vallecito and establish a depot of supplies for a wagon train route to that place from San Diego.

Lieut. Sweeney, a lively fighting Irishman who had lost his right arm in the Mexican campaign chafed at the inactivity. Vallecito might be a touch of green heaven to the dust covered and starving immigrants who ate up the rapidly dwindling supplies of the small military detachment, but to Sweeney:

"This is rather an unpleasant place—it is warm in the day and very cold at night. We are all in good health, thank God."

Owing to lack of supplies and the inability to furnish Fort Yuma with provisions rapidly enough by sea and river vessels, Heintzelman was forced to abandon the Colorado river station, and in June, 1851, he left the river and fell back to Santa Ysabel. The problem of relaying supplies across the desert route was again considered and on January 17, 1852, a train of 30 wagons rolled out of San Diego to establish a sub-depot at Vallecito. By April the desert watering place was well established as a military center and it is quite possible the first permanent sod building was erected at



Vallecito at this time. This structure was later occupied by Lassator and incorporated into the larger stage station during the days of the Overland Mail.

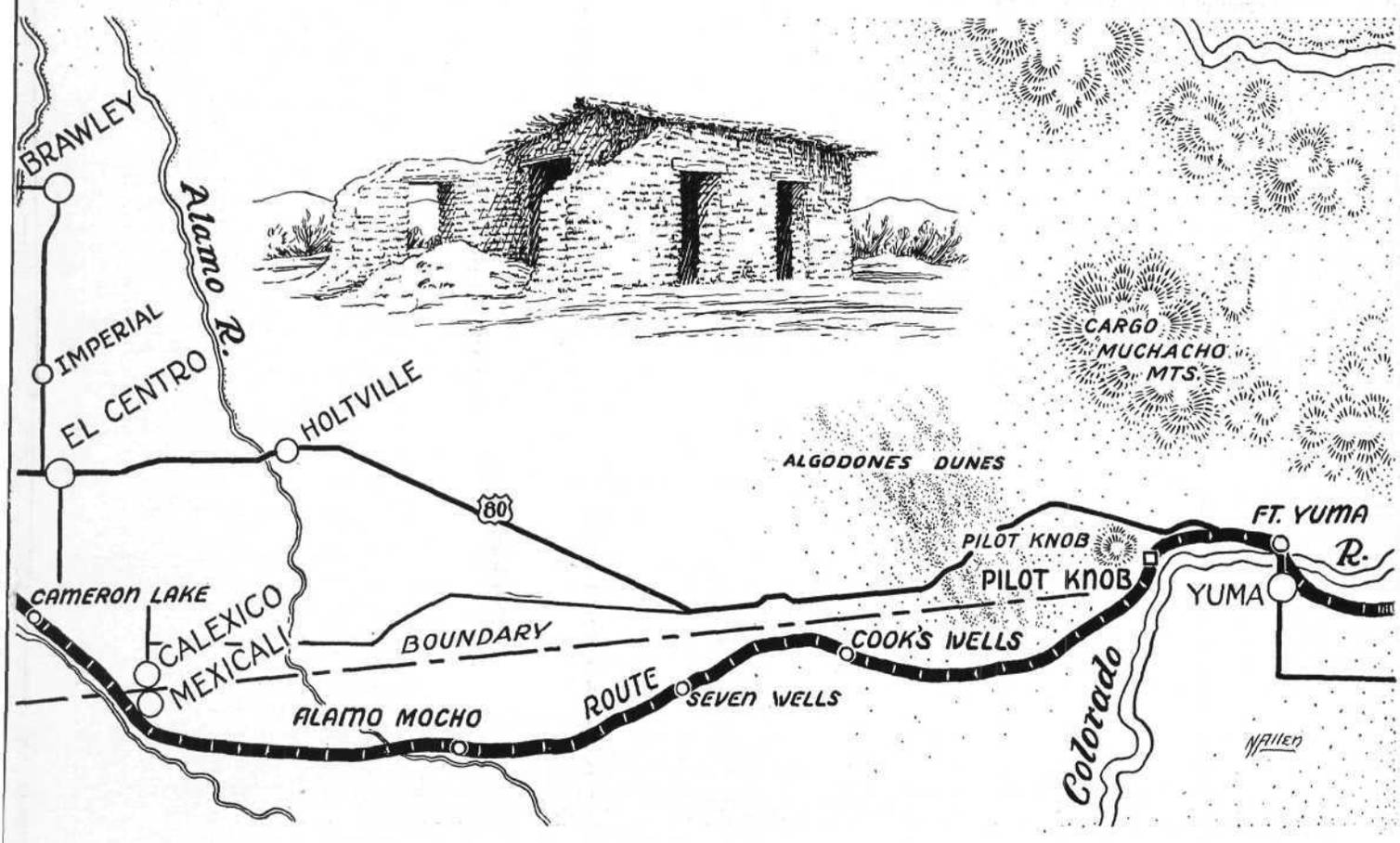
In June, 1852, Sergeant Richard Kerren with a detail of 24 men was sent to garrison the depot—to patrol the road and detain or capture any deserters who attempted to escape from Fort Yuma to the coast. Shortly afterward Lieut. F. E. Patterson with a detachment of men from the First artillery and a six-pound field piece relieved Kerren and his men. To anyone who has ever visited Vallecito, the idea of defending the place with a six-pounder seems just a bit absurd. However, there may have been some artillery practice just to break the monotony for I have been told that a cannon ball was found a year or so ago in the naked hills just east of the Vallecito camp ground.

In June, 1852, the military depot was temporarily abandoned and the troops moved to Jacumba. However, in August more soldiers came under Captain H. W. Brown. This enterprising gentleman had all the comforts of home. His quarters boasted a shower bath! At this time a band of 30 Indians were held prisoner at Vallecito, accused of having stolen and killed immigrant stock on the desert. The culprits denied the charge but they were sent to Santa Ysabel for punishment by their chief Capitan Tomas.

Marble headstone on the grave of John Hart still stands in the brush near Vallecito stage station. Vandals were using it as a target until San Diego county named Robert Crawford as custodian of the restored stage station.

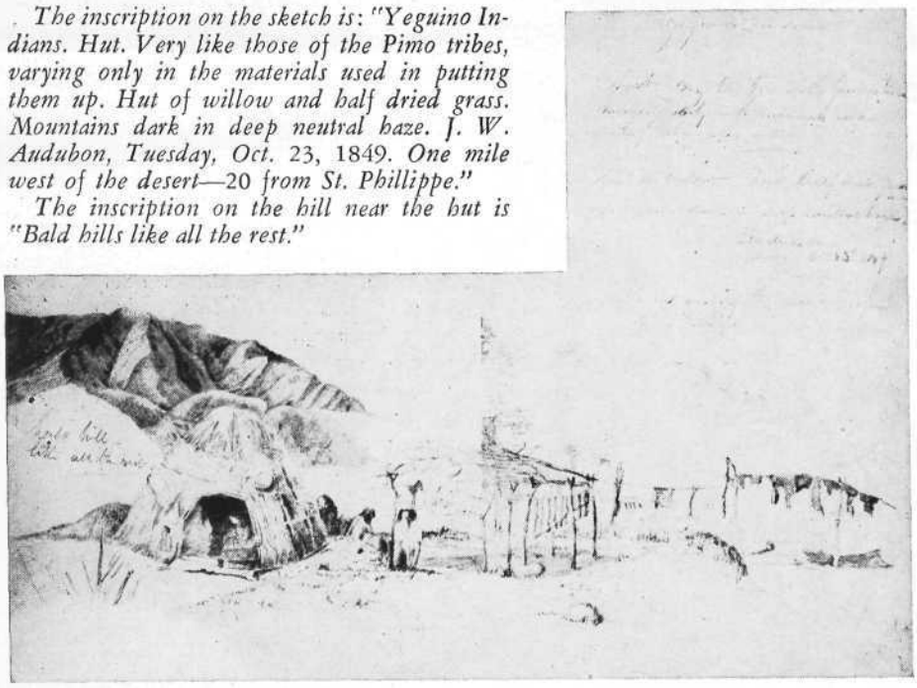
One pleasant afternoon in early September, 1857, a lone traveler, J. C. Wood, formerly of New York, camped at Vallecito. He was the advance agent for James E. Birch, the successful bidder for the mail contract between San Antonio, Texas, and San Diego, California. Wood endeavored to get an Indian guide to take him across the hills to San Diego. Failing in this he pushed on alone. On this trip Wood selected Vallecito as one of the stations for the Jackass Mail and thenceforth the Little Valley was to become famous in its role as a stage station. The next year, Birch being dead, the Butterfield Overland Mail took over the route, and the sandy rocky road echoed to the rattle and squeak of mail coaches. A station house of sod was built on a knoll beside the salt grass swamp from which the house itself was constructed. A barn crammed with hay for the horses stood not far from the house.

About this time one of the most interesting residents of Vallecito came down from his home in Green valley, high on the side of Cuyamaca to live beside the desert highway. This man was James R. Lassitor or Lassiter. He was to be associated with Vallecito until the latter part of 1863, two years after the Butterfield



The inscription on the sketch is: "Yeguino Indians. Hut. Very like those of the Pimo tribes, varying only in the materials used in putting them up. Hut of willow and half dried grass. Mountains dark in deep neutral haze. J. W. Audubon, Tuesday, Oct. 23, 1849. One mile west of the desert—20 from St. Phillippe."

The inscription on the hill near the hut is "Bald hills like all the rest."



This sketch of a Digueño Indian camp at Vallecito was made by John Woodhouse Audubon when he stopped here on his way to the Pacific coast October 23, 1849.

ceased to operate over the southern route.

Sometime during the middle 1850's Lassator married the widow of an emigrant who died enroute to California. Her name was Mrs. Mulkins. Her son John Mulkins lived in Vallecito several years after the murder of James Lassator.

Lassator was at one time a supervisor of San Diego county. In 1863 he went to the gold fields of Arizona. Late in that year, he started for Vallecito in company with Frank Gardiner of Philadelphia. They had $4000 in gold gleaned from the mines along the Hassayampa. They failed to reach the desert oasis and young John Mulkins, then only 17 or 18, went in search of his stepfather.

The bones of the two murdered men were found in a mesquite grove near a slough at Texas hill on the Gila river, 18 miles below Martin's ranch and only 90 miles above Fort Yuma. Among the rifled effects were papers and other belongings that identified the skeletons. The gold was gone.

After Lassator passed out of the picture a John Hart seems to have taken up his residence in the old sod house. He died there March 16, 1867, and his bullet splashed white marble tombstone yet stands on a sun baked knoll a short distance east of the stage station. Later in the same year, December 13, his widow Jane Fillen Hart married John C. Wilson, familiarly known as "Red" Wilson who had been one of the stage drivers along that route.

Thus through the years Vallecito seems to have been occupied by one tenant after another. However it was not until James E. Mason, who had been one of the carriers of the Jackass Mail, and who later was on a survey party in the Vallecito region about 1879, took out a patent for a homestead of 160 acres of land which included Vallecito, that the lonely valley had a legal owner. Mason acquired title to Vallecito November 1, 1884. At this time Charles Ayers, who was married to a soft spoken little Mexican woman, lived at Vallecito.

Ayers deserted his wife and Mason married her. Later, she died and her grave is not far from the site of Mason's house a few rods north of the old road near the head of the grade on Vallecito hill. In 1886 Mason sold Vallecito to M. S. Root of Pala, California. Root defaulted in his payments and the tract went to C. F. Holland in 1887. Holland, a resident of Los Angeles, gave the land upon which the ruins of the stage station stood to the county of San Diego. Mason died at Glendale, California, May 6, 1929. His ashes, preserved in an urn, were being held by Holland, to be placed in a monument to be erected in Mason's memory at Vallecito.

The years dealt harshly with the abandoned sod station at Vallecito. Bit by bit the walls crumbled and the roof caved in. Cattle wandered in and out of the old building and it was well on the way to becoming just another mound of rain washed ruins.

In 1934, Dr. and Mrs. Louis Strahlmann of San Diego became interested in restoring Vallecito. They began collecting all the pertinent data possible in the way of old photographs and records that concerned Vallecito. Mr. Holland was interested in preserving the old landmark and he donated four acres of ground to the county of San Diego. Later he increased this gift to six acres to include the cemetery near the station. An SERA grant of $1800 was obtained from the state to provide money to pay the workmen. From neighboring CCC camps came the pine timbers necessary for the rafters.

John S. Siebert, architect of San Diego contributed his services while Malcolm Rogers of the San Diego museum acted as consultant on the archaeological problem involved in making excavations before actual construction began. The original roof tree of the station, bearing bullet marks said to have been made in an altercation between two immigrants who killed each other in a fracas over a card game, had been rescued from destruction by Everett Campbell, a cattleman at Vallecito, and was replaced in the new structure.

By May, 1935, the building was practically finished and today the sod station at Vallecito lives again. It is an entirely new building. "All new," said Mrs. Strahlmann in a letter to the writer in May, 1936, "with the exception of one remaining room, this has the original roof. It was regrettable, we all admitted that, but Mr. Rogers and Mr. Siebert, the architect, felt it would be utterly impossible to try to build around those crumbling walls. They were in a dreadful state. . . The house is a perfect picture of the past. In spite of the fact that it is new, it is amazingly beautiful and the charm is bringing tourists by the hundreds."

Robert Crawford, who has a cattle ranch at the head of Canebreak canyon, above Carrizo creek, is on full time duty as custodian at the restored station, and visitors there will find him a courteous source of information regarding the surrounding area.

In spite of the changes that have taken place in the station itself, the natural setting is virtually untouched. The sandy road is unimproved. The desert hills surrounding the oasis are unchanged since the dawn of time. Visitors find their way in a trickling stream to the camp grounds under the mesquites but they are few compared to the hundreds of immigrants and soldiers who once passed along that lonesome sandy trace to enjoy a brief respite from the monotony of the weary desert trek.

The Indians have long since abandoned the valley. No more will the leather springed mail coaches swing to a jouncing stop at the station door, permitting the travel stiffened passengers to alight and rub the stage coach "twitches and starts" from their cramped bodies. Those days are gone, but the lover of the desert places who camps on the salt grass sward beside the cienega will re-live all these scenes again as his camp fire flickers in the dusk and he hears the wind in the mesquites under the stars of Vallecito skies.

Winter Fair in the Heart of the Desert . . .

WHILE many annual civic events in more exposed areas are being cancelled this year, California's Imperial Valley Midwinter Fair will open its gates as usual to welcome the throngs who come here annually to witness the miracle of production which results when Colorado river water is applied to an arid desert.

The fair is to be held March 7 to 15 at Imperial on the Colorado desert of Southern California.

Secretary-Manager Dorman Stewart and his associates not only are planning a fair as usual, but they have added elaborate improvements to the 40-acre fairgrounds and have announced many new departments in the exhibit halls.

In addition to a colorful array of winter-grown fruits, vegetables and other products of the farms, they are offering substantial prizes for exhibits of the metallic and non-metallic minerals found in the desert that surrounds the cultivated area of Imperial Valley, a department for antiques and heirlooms and a division of art in which desert paintings always predominate.

Other attractions include a horse show March 14 and 15, a livestock show that will this year for the first time include a baby beef exhibit, apiary and dairy products, and competitive displays from the various farming communities within the Imperial area.

When it is realized that all of these products come from a below-sea-level desert basin which was regarded by early westbound American pioneers as one of the most fearsome regions to be encountered in the long trek across the Great American desert the miracle that has been accomplished during the 41-year interval since Colorado river water first was diverted to these lands, becomes all the more amazing.

The fertility which has brought fame to Imperial Valley as the "winter garden of America" is due to the deposits of silt and other sedimentary matter brought down from the watershed of the Colorado river in Wyoming, Utah, Colorado, New Mexico and Arizona, over a period probably extending back hundreds of thousands of years. Inch by inch these sediments have been filled in after their long trip through the Grand Canyon, until today the soil in some parts of the Imperial basin is 1000 feet in depth. Carrying both humus and a high content of beneficial mineral matter, this soil merely waited for the coming of American engineers who would apply the one missing element—water.

Visitors to Imperial Valley during the Midwinter fair session have an opportunity not only to see the finest products of a reclaimed desert region, but to enjoy interesting sidetrips into the surrounding desert where wildflowers will be in blossom, where many kinds of semi-precious gem stones and minerals are found and where scenic canyons, ancient fossil beds prehistoric Indian campsites and unusual geological formations hold interest for both Nature students and those who like to explore the desert for the pleasure and health that comes from tramping in the outdoors.

March is generally regarded as one of the ideal months for desert travel, and this year the promise of a fine wildflower display is an added inducement for a trip to Imperial Valley.

LETTERS

Desert Has Its Tragedies . . .

Los Angeles, California

Dear Mr. Henderson:

In the January issue of Desert is a letter protesting your publication of the "'Willie Boy' rehash." I am one of those who enjoyed that article, not of course for the sheer beauty of the story, but for the historical aspect in a locality with which I am familiar. Cheap fiction of a comparable nature would certainly be objectionable, but when existent facts and photographs are sufficient to form the complete story of such an episode, it should be given ample space in the pages of Desert be it tragedy or otherwise. We all should realize by this time that the desert is not immune to tragedy. For those who find such reading distasteful I suggest that they quietly turn the pages to something more pleasant in which your magazine abounds.

Herewith is my renewal subscription and a sincere request to keep freedom of the press for Desert Magazine in order that it may continue to be of interest to all and fulfill its obligation to publish everything of fact pertaining to the desert.

L. B. HENRY

First Aid for Sick Tires . . .

Ocotillo, California

Dear Mr. Henderson:

Bill Tudor from Lethbridge made us a desert visit at Ocotillo before going into the Canadian army. He left us a bit of information that may be of use to desert rats, as well as city mice, now that rubber is scarce and high.

A spare tire on a trailer had never been used, and the tube became porous with age. Bill said that the Canadian remedy is to put about a tablespoon full of gasoline into the tube and then inflate it. The gasoline softens the rubber and closes the pores. He says the cure is permanent, but advises care in not using too much gasoline, lest it rot a hole in one place.

THORWALD SIEGFRIED

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Graveyard at Calico . . .

Los Angeles, California

Dear Mr. Henderson:

I recently noticed the Desert Landmark photo in the December issue of your excellent publication. The picture is of course the little burying ground at Calico.

The appearance of this picture has brought out in me a resentment that has been smouldering for a long time, and here's where I get it off my chest.

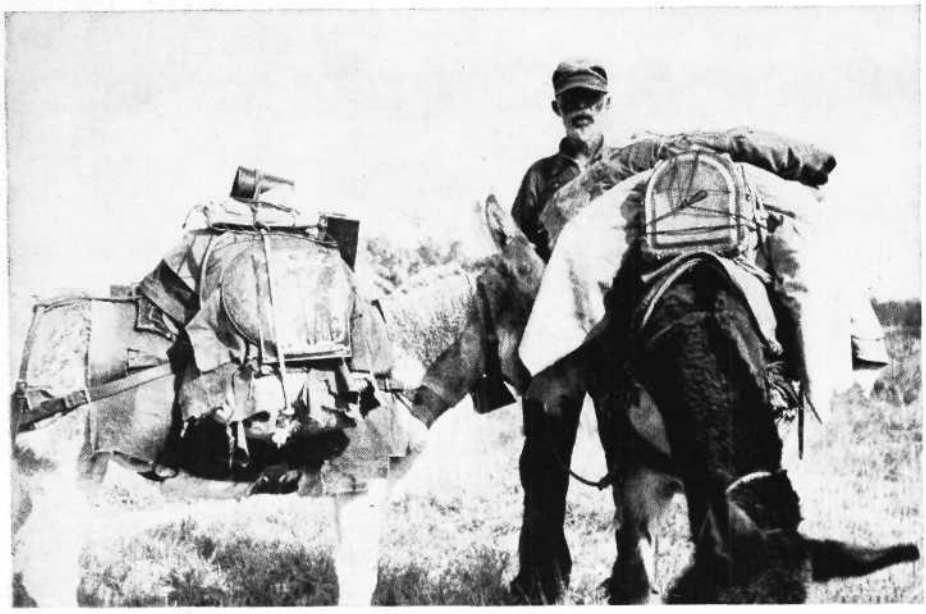
This little graveyard is pointed out to the traveler on the Calico road by a sign that designates it sacrilegiously as "Boot Hill Cemetery." Why do I call it a sacrilege? A few moments looking this place over as the meager enough resting place of those who gave their lives in building the West will bring one thing forcibly to attention. That thing is the very high percentage of graves are of little tads from infancy to eight or nine years of age. Bandits indeed! Foul desperadoes whose greatest haul was a grimy handful of cookies snitched from the kitchen.

And they call it "Boot Hill Cemetery!"

I am not entering this in the Landmark contest. On the contrary I would like to kick in five dollars for a fund for fencing this graveyard and putting up a suitable marker to the memory of those true Americans who rest there. No, I am not selling fancy fencing or gravestones. I just hate to see witless tourists tramping over the remains of youngsters who once meant as much to their parents as mine do to me.

Please accept my congratulations on the continued excellence of Desert Magazine.

F. J. SCHAEFER



Desert goes in quest of the "Lost Arch Diggings."

On the Trail with Desert . . .

Moapa, Nevada

Dear Mr. Henderson:

My February '41 issue of Desert Magazine is somewhere out on the Mojave on the back of a burro whose owner is seeking the "Lost Arch Diggings." I showed that copy to an old prospector friend of mine. He read John D. Mitchell's story of the "Lost Arch" and explained, "Why dang my hide! I walked over that ground 30 years ago. I know where that red hill is."

And so he loaded up his burros, and stuck Desert under the pack rope. The picture was taken just before he pulled out.

Desert Rats read Desert and argue about various articles and yarns. They may not agree with our particular version or memory of the place and every detail of the story—but they are always close enough that we know they are authentic. Many times there is certain information we do not possess, and it clears up the yarn or refreshes our memories when we read it in Desert.

I would give my arm to be out there on the trail following those jacks with him.

BRADLEY STUART

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From the Blackout Zone . . .

Honolulu, T. H.

Gentlemen:

Though the blackout prevails each night, and much reading has to be sacrificed, still such fine things as Desert Magazine must be read. So please renew my subscription.

VIRGINIA MATTHIESEN

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History Is History . . .

Los Angeles, California

Kind Sir:

I have noticed in Desert a letter objecting to the Willie Boy story. I do not see any reason for this fuss. That story is no worse than the Oatman story, or any other desert tragedy, to which they did not object.

If they want you to report stories just to suit them, then how about the other subscribers.

You are writing desert history, and I know history is not always pleasant reading. But just the same history is history, and we have got to accept it even if we don't like it. I trust you will not change the policy of Desert, or be influenced by those who do not like to read history.

I wish to take this means to compliment you for the historical work you are doing. I think the February issue is a masterpiece of literature.

M. R. HARRISON

Wild Horses in Death Valley . . .

Los Angeles, California

Dear Mr. Henderson:

I am writing to tell you a little story; not a wild story, but a story about wild horses. In October, Mr. MacMillan, also a member of the Sierra club, and I decided to climb Telescope peak in the Panamint range near Death Valley.

We left our car at the end of the road at Mahogany Flat and proceeded up the trail along the east side of Mount Baldy. On the divide between Mount Baldy and Telescope peak, we heard a strange noise. Looking in the direction from which the sound came, I saw two horses galloping toward us. When they had come within 150 or 200 yards they stopped.

One, evidently a stallion, with head and tail high, was rearing and stamping the ground and snorting angrily, making a great noise. There was no shelter near, not even a large rock, so we stood quietly and watched. He kept this up several minutes with the mare standing by. Then they ran away a short distance, circling back to repeat the performance.

They were beautiful healthy animals, unusually active and alert and very graceful.

For 15 minutes we watched the performance, then started on our way up the trail. We had gone about a quarter of a mile before we looked back. The horses were standing where we had stood, watching us go. They seemed as curious about us as the proverbial cat.

As we traveled farther along the ridge, we saw a herd of wild burros, 12 or 14. They too staged an interesting performance for us, not quite so active as the horses. This being the first time I had seen wild horses in their native habitat, this entertainment made the trip especially enjoyable.

DR. MARKO J. PETINAK

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Another Desert Recruit . . .

Mountain View, California

Dear Mr. Henderson:

You win! Through the courtesy of your ardent booster and subscriber, Mr. Art W. Brown, of Mountain View, who has been loaning us his copies of Desert Magazine, we have at last succumbed to its very interesting and fascinating reading.

Your magazine is like the desert itself; it gets into you, becomes a part of you and you just can't get along without it.

We are enclosing $2.50 to cover a year's subscription and please allow us to congratulate you on a good job, well done.

MR. and MRS. DELMER V. LOGAN

Nature's "Beauty Clay Bath" . . .

Yermo, California

Dear friend Randall:

Here is news from Cronese that may interest you. Last winter Cronese dry lake filled to the brim. The lake inundated the old highway that was abandoned in 1932, for the first time since I became acquainted with this desert area in 1909. Some of the old road still remains under water despite summer evaporation and winds. Two summer rainstorms have brought floods down the Mojave and spilled additional water in the lake.

So it seems we are to have a wet lake for a change—at least through the present year. Many travelers stop to investigate—uncertain whether the lake is real, or a mirage.

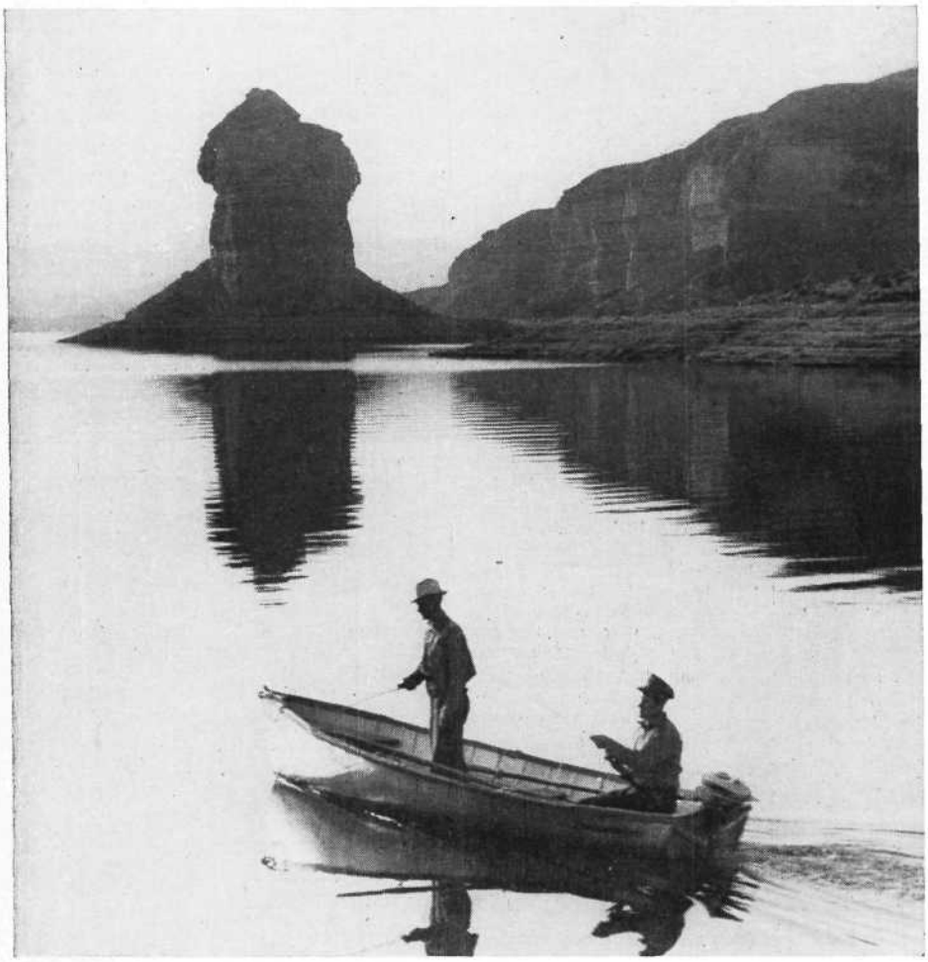
Wild ducks are nesting along the shores and bullfrogs can be heard constantly. There are perch, bullheads and mosquito fish in the water, brought down with the floods. Because of the mosquito fish we are not troubled with mosquitoes. I have not tried fishing but doubt if they will bite due to the cloudiness of the water which has bentonite in suspension, washed in from the volcanic hills south of Caves canyon.

On the west there is a bathing beach with a good road leading to it. The water is warm and the bentonite adds to its attractiveness because bentonite is nothing more nor less than high grade "beauty clay."

ELMO PROCTOR

THE CAMPANILE

Winner of Desert Magazine's January Landmark contest is Hugh (Shorty) McNab of Carson City, Nevada, who has prospected the Nevada hills nearly 30 years, and used this rock formation as a guide long before the waters of Lake Mead backed up around it. Today the formation is known as the Campanile and it is one of the scenic points observed by motorboat visitors who take the Lake Mead trip. Shorty's winning story is published on this page.



By HUGH McNAB

REFERRING to the Landmark picture in your January issue, I first saw this huge rock when I was prospecting up the Colorado river many years ago—long before they started work on Boulder dam. We camped across the Colorado river and it was a good landmark to go by while we worked that area.

I never heard any name for it in those days, but I understand it is now called the Campanile by the boatmen and tourists who take the motorboat trip up Lake Mead.

It is about 27 miles up the lake by boat from the landing at Hemenway Wash, and is within the boundaries of the Boulder Dam national recreational area.

The formation in that area is sandstone mixed with clay and silt. This basin was eroded by wind and water, and this pillar-like formation has a hard sandstone capping which gave it greater protection than the surrounding formation.

I doubt if any accurate measurements ever have been taken but I would estimate the diameter at from 175 to 200 feet and the height above the present water line as nearly double that.

Visitors riding up the lake will see it near the shoreline on the right side.

Considerable placer gold washing was done along the Colorado in this region in the old days before the bars were submerged by Lake Mead. Reports of rich sands here brought large numbers of miners at various times, but not a great deal of gold was taken out.

As far as I know the Arizona shore of the lake at the point where the Campanile is located cannot be reached by road, and the only access to this formation is by boat or burro.

DESERT CLIMATE BEST FOR GUAYULE PLANT

It will take a million acres of the Southwest's agricultural land to produce 20 percent of the U. S. rubber needs by growing guayule (rubber plant); and it can be done.

It is possible largely because of research done over the past 30 years, it is said by Dr. L. M. Pultz, head of the University of Arizona department of botany.

The land, mostly new land because taking other crops out of production is not warranted, lies between Southwestern Texas and Southern California—the climate more favorable in the central and western portions of the area, according to Dr. G. E. P. Smith, head of the university's department of irrigating engineering.

The best strains of guayule, grown under favorable conditions, at the end of five years have yielded 20 to 22 percent rubber, Dr. Pultz said.

Production would be in the neighborhood of two thousand pounds per acre, best growing conditions prevailing.

Since the entire guayule plant is destroyed in harvesting, only one-quarter of the million acres would be producing each year—250,000 tons per year, Dr. Pultz said.

Guayule produces its rubber through a growth period followed by a semi-dormant stage each year. Under best conditions the plant does its growing in the spring and early summer, and stores rubber during the fall. The alternation of growth and rubber storage produces a large plant with high rubber content.

Dr. Smith believes that at least one-half of the planting should be done in Arizona, at Continental south of Tucson in the southern section of the state: at Marana and Eloy, near and west of Tucson; in the Wellton (near Yuma), Antelope, Lechuguilla and Mohawk valleys; and on the Gila river Indian reservation.

Summer Arizona rains would not retard the rubber storage activity of the plant, it is believed.

Guayule was first grown, and produced rubber successfully, on Arizona farm land near Continental 20 years ago. The plantings were made by W. B. McCallum, now successful in its production at Salinas, California, where he has produced 5,000 tons of dry rubber per year.

He domesticated the plant, a native to limestone soils and elevations of 3,000 to 7,000 feet with a yearly rainfall of from 10 to 15 inches. Seeds would not germinate, less than one in 100 cuttings would root. Seventy-five percent of seedlings failed. Rigid regulation of soils and watering, and strict restraint in the use of fertilizers eventually developed plants which root with ease. Seeds are sown from February to April, plants being set out in the following January.

DESERT QUIZ

Desert Magazine's monthly Quiz is designed for two groups of readers, (1) those who have traveled the Southwest enough to become familiar with its people and geography and history and nature lore, and (2) those who are still in the tenderfoot class, but would like to learn more about this fascinating American desert. The questions include the fields of geography, botany, mineralogy, history, Indians, and general lore of the desert country. If you answer 10 of them correctly you know more about this region than the average person. A score of 15 is attained by only the best of the "desert rats," and more than 15 puts you in that super class of Sand Dune Sages. The answers are on page 32.

1—Indians whose tribal home is along the Colorado river near Needles are—
Hualpai..... Chemehuevi..... Mojave..... Pahute.....

2—Showlow is the name of a town on—
Highway 60..... Highway 80..... Highway 66..... Highway 93.....

3—"Stope" is a word commonly used in—
Surveying..... Yachting..... Archaeology..... Mining.....

4—Of the four states which meet at a common corner known as the "Four Corners" the northeastern one is— Utah..... Colorado..... New Mexico..... Texas.....

5—Fiddleneck is the common name of a—
Flower..... Desert bird..... Tree..... Reptile.....

6—The army officer who actually negotiated the surrender of Geronimo was—
Lieut. Emory..... Lieut. Beale..... Capt. Cooke..... Lieut. Gatewood.....

7—Most conspicuous member of the cactus family along Highway 80 between Yuma and Tucson is— Saguaro..... Cholla..... Pipe Organ..... Prickly Pear.....

8—Hotevilla is the name of a town on the reservation of the—
Apaches..... Hopis..... Yumas..... Cahuillas.....

9—When chalcedony is clear red in color and translucent it is called—
Flint..... Onyx..... Jasper..... Carnelian.....

10—Blossoms of the most common species of night-blooming cereus found native in Arizona is— Red..... White..... Orange..... Blue.....

11—Stalactites in the Carlsbad caverns of New Mexico generally are of—
Calcite..... Gypsum..... Quartz..... Limestone.....

12—"The Gap" is the name of an Indian trading post 41 miles from—
Canyon de Chelly..... Navajo Bridge..... Acoma mesa..... Taos.....

13—Tallest of the eight native trees of the Southwest desert is—
Joshua..... Ironwood..... Palm..... Smoke tree.....

14—Buffalo are to be seen on the open range in—
Hidden Forest, Nevada..... Zion canyon, Utah.....
Chaco canyon, New Mexico..... House Rock valley, Arizona.....

15—Dr. Elwood Mead in whose honor Lake Mead was named was a—
U. S. army engineer..... Chief of the national park service.....
Secretary of interior..... U. S. reclamation commissioner.....

16—Piki is the name of an Indian— Food.... ....Shelter.....
Ceremonial wand..... Weapon for hunting.....

17—If you wanted to visit the home of John Wetherill, guide on the first expedition to Rainbow bridge, you would go to— Kayenta, Arizona.....
Chinlee, Arizona..... Tuba City, Arizona..... Blanding, Utah.....

18—Traveling from Barstow, California, to Williams, Arizona, on Highway 66, the most important stream you would cross is the— Colorado river.....
Escalante creek..... San Juan river..... Virgin river.....

19—Leader of the Pueblo Indian revolt in 1680 was—
Mangus Coloradas..... Irateba..... Cochise..... Popé.....

20—Fort Huachuca is near— Las Cruces, New Mexico.....
Carson City, Nevada..... Cedar City, Utah..... Nogales, Arizona.....

Mines and Mining . .

Washington, D. C. . . .

America's pennies and nickels must do their bit for national defense. The United States mint has declared that the one percent of a penny that used to be tin won't be any more. Likewise the nation will use a new "nickel less" nickel. As a result, it is hoped that 50 tons of tin can be saved in a year for war production as well as an approximate 500 tons of nickel. The penny will be 95 percent copper and 5 percent zinc, and the nickel will be half silver and half copper.

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San Francisco, California . . .

Nevada now leads Oregon and California in the production of several metals, principally copper, zinc and lead. In these three metals the state showed a large production increase during the past year. The gain is acknowledged in a report by Charles W. Merrill of the United States bureau of mines. Copper production advanced to $18,441,950 from $17,730,604 in 1940; zinc increased to $2,223,760 from $1,490,958, and lead jumped to $1,162,880 from $794,900. In the three states the combined metal production declined to $94,694,184 from $95,506,738 in 1940 principally because of California's lowered gold output.

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Tucson, Arizona . . .

The United States bureau of mines has recommended the purchase of milling-grade manganese ore and the erection of six concentrating plants in Arizona, New Mexico, Utah, Montana, Arkansas. The bureau is said to be making plans for next year's strategic mineral explorations west of the Mississippi river. It was while making preparations for this work and it was while on a visit to Arizona that Charles F. Jackson, bureau chief, announced the recommendations.

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Sacramento, California . . .

A series of articles, available to the public, has been prepared by the state division of mines. The papers deal with properties, occurrences, preparation, uses, tests, and markets in addition to other factors in the development of mineral properties. Aluminum, antimony, asbestos, barium, bentonite, beryl, bismuth, borates, cadmium, chromite, cobalt, copper, fluorspar, gold, iodine, iron, lead, manganese, magnesium, mica, molybdenum, nickel, platinum, quartz, quicksilver, silver, tin, titantium, tungsten, zinc and zirconium all are included in the studies.

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Safford, Arizona . . .

Further development of the Aravaipa mine located near the old Aravaipa postoffice in western Graham county, Arizona, and dating back to its discovery in 1872 by Col. W. C. Bridwell, is foreseen. The Athletic Mining and Smelting company of Fort Smith, Arkansas, has taken over the property. Terms of the transfer provide that operations shall start shortly, it is reported. Ore values in which the smelting company is interested include zinc and lead. The mine has operated intermittently since its discovery.

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Phoenix, Arizona . . .

Small mine owners of Arizona have been warned to be on the lookout for subversive movements and to report suspicious happenings. The Arizona Small Mine Operators association has advised its members to be alert in an effort to forestall possible activity by enemy agents.

Salt Lake City, Utah . . .

Despite the fact that 10 of 16 vital defense metals already are produced commercially in Utah, Arthur L. Crawford holds out hope for the development of additional fields, suggesting that prospectors look for beryl, magnesium, tungsten. He dismisses the probability of finding nickel, chromium and tin. Research also will probably pave the way to the development of metals now known to exist, he said.

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Lovelock, Nevada . . .

Forty tons of antimony ore made up of shipments from several Nevada properties composed the fourth carload shipped from Lovelock in the past 18 months. The ore was shipped to the Texas Mining and Smelting company at Laredo, Texas. Mines contributing to the car were the Sam Watkins and the McKinnon, located north of Elko, the Hutton mine in Bloddy canyon near Winnemucca, DeLongchamps near Lovelock, C. W. Larkin of Dixie Valley, and Whelon and Shay of Hawthorne.

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Winnemucca, Nevada . . .

A new open-pit quicksilver mine is being developed in Humboldt county, already fourth largest quicksilver producing county in the United States. Four caterpillars are engaged in excavating and removing overburden from a wide area preparatory to operations at the Silver Cloud property, 45 miles northeast of Battle Mountain. Operating the property is the Ely Securities company with W. A. Frisbee serving as manager.

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New York City . . .

Industrial use of silver is accelerating at such a rate that a distinct shortage problem may soon confront the nation, according to Handy and Harmon, noted silver bullion dealers. They declared that the United States treasury is purchasing heavily and that a 95 percent increase by Canadian and American arts and industries has been observed.

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Winnemucca, Nevada . . .

Before February 15 the International Smelting and Refining company plans to start work on its contemplated 350 to 400-ton flotation mill in Copper canyon, to bring about a revival of mining interest in the Battle Mountain district.

DESERT QUIZ ANSWERS

Questions on page 31.

1—Mojave.
2—Highway 60.
3—Mining.
4—Colorado.
5—Flower.
6—Lieut. Gatewood.
7—Saguaro.
8—Hopis.
9—Carnelian.
10—White.
11—Limestone.
12—Navajo bridge.
13—Palm.
14—House Rock valley.
15—U. S. reclamation commissioner.
16—Food.
17—Kayenta, Arizona.
18—Colorado.
19—Popé.
20—Nogales, Arizona.

HERE AND THERE
. . . on the Desert

ARIZONA

Huge Contract at Huachuca . . .

NOGALES—Contracts totalling $11,000,000 have been awarded for construction of additional quarters and administration facilities at Fort Huachuca. The enlarged fort is to house a triangular division of Negro troops, facilities being planned for 18,000 men. The fort now has accommodations for 7,000.

Where Horses are Wild . . .

PARKER — Johnny Gephart contracted with the federal Indian agency to buy as many wild horses as he could catch on the Colorado river Indian reservation. There are many wild animals on the range, but the catching wasn't so easy. At the end of two months he had corralled nine animals. They were taken to Imperial Valley, California, to be broken as riding ponies.

Sources of Navajo Money . . .

FORT DEFIANCE—Total income for the Navajo Indians during 1940 was $4,027,530. This amounted to $81.88 per capita and $546.85 per family. Livestock was the largest single source of income, amounting to $1,773,240. Returns from agriculture amounted to $584,350, and rugs were third, netting $348,350. For their silver work the Navajo received $83,270, and from piñon nuts $14,350. Their indebtedness to the traders was $561,170 of which $370,500 was carried on account and $190,670 was secured by pawned goods. Twenty-one percent of all purchases from traders was on credit.

And They are All Good Names . . .

AVONDALE — Most of this town's troubles arise from the fact that it has too many names. The postoffice, farming community and school are known as Avondale. But the postoffice is located in the heart of a shopping district known as Coldwater. The Southern Pacific calls its local station Litchfield, while the bus stop is designated as Brookside. To cap the climax the federal migratory labor camp which houses more than 400 families is named Agua Fria, Spanish for Coldwater. The chamber of commerce is going to try to do something about it.

Student of the Navajo . . .

WINDOW ROCK—Clyde Kluckhohn of Harvard university department of anthropology recently arrived here to resume his study of the Navajo. Dr. Kluckhohn has been making frequent trips to the Navajo country for the past 17 years. He plans to spend this season at the Ramah and Two Wells sector improving his knowledge of the language and studying winter conditions in the hogans.

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Officials of the Navajo Indian reservation have acquired two auto-giro planes for travel in the rough terrain where neither automobiles nor fast-landing planes are practicable.

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Charles A. Mitten, publisher of the Mesa Journal-Tribune, has been elected president of the Arizona Newspapers association.

Fred Neff, who lived alone and raised goats in the hills near Salome, died of heart attack early in January. Neff's interesting life story appeared in the Desert Magazine issue of June, 1941.

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Papago Indians on the reservation at Sells have invested $7500 in national defense bonds.

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Victor E. True, Phoenix businessman, was installed as new president of The Dons, at ceremonies recently held in Hotel Westward Ho.

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CALIFORNIA

De Dici to Direct Pageant . . .

CALEXICO—Third annual presentation of Desert Cavalcade, scheduled for April 10, will be directed by Ben de Dici, provided he can secure a release from Fox West Coast theaters, his employers. De Dici was one of the original sponsors of the pageant, and played the role of Juan Bautista de Anza since the program was inaugurated in 1940.

But It's Still a Desert . . .

BLYTHE—Palo Verde valley's average annual rainfall is three inches. In 1940 the total was 3.80 inches, and in 1941 it jumped to 8.58 inches—the wettest in 30 years according to O. W. Malmgren, who keeps the local weather records. Rain fell every month except June.

T'was the Wrong War . . .

PALM SPRINGS—"Big Jim" Maynard, who prospects when he is not on duty as a policeman, entered an old mine shaft and in a pile of debris saw a newspaper with the headlines "Invasion of Cuba and Puerto Rico by United States Troops Begins Today." That's funny, thought the big cop, who had been out of touch with war news for several days. Then he looked at the date on the paper—May 30, 1898.

Jackrabbit Homesteaders . . .

TWENTYNINE PALMS—Ten U. S. land office surveyors in charge of Roger F. Wilson have established camp a mile from the Twentynine Palms oasis to remain here two months setting corner stakes for five-acre-tracts leased by the government under the Five-Acre homestead law. Applications for several hundred of these homesite claims have been pending for many months. Several owners are planning to build desert cabins as soon as the surveyors establish their property lines. Regulations permitting lessees to buy their tracts after installing certain improvements are expected to be issued by the land office at a later date.

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Plans have been made for the holding of the annual Pea Festival in Calipatria, Imperial Valley, in connection with the annual pea harvest. Dates are February 20-21.

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William L. Odett and son, Lamont, former publishers of the Yuma Sun, recently purchased the Holtville Tribune from Lowell Jessen. Jessen is now publishing the Daily Journal at Turlock, California.

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Travel to and across the Mojave desert totalled 700,000 more in 1941 than 1940 according to figures announced at Barstow.

Press dispatches from Washington indicate that Furnace Creek Inn, Death Valley, property of the Pacific Coast Borax company, may be sold to the national park service.

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Ben Herring has been named secretary of El Centro chamber of commerce, filling the position formerly held by Robert Hays.

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Reported to be the largest real estate deal in the history of Twentynine Palms, Silas S. Stanley has announced the purchase of the holdings of Southwest Subdividers, Ltd., of Los Angeles. Transaction includes 256 business and residential lots and considerable desert acreage.

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Riverside county's Fair and Date Festival, held annually in February at Indio, was cancelled this year owing to defense curtailment on many items normally exhibited at the fair.

NEVADA

Lights Out on the Comstock . . .

VIRGINIA CITY—For the first time in many years the street lights in Virginia City were turned off in a recent blackout test. Visitors commenting on the fact that street lights in the old mining town burned day and night, were told that there was no central switch and it was cheaper to keep them going than to hire a man to make the rounds and turn them on and off twice a day.

More Gold for Goldfield . . .

GOLDFIELD—Roulette wheels may be turning again, in more polished surroundings than in the old days, if plans of Benjamin Brodsky for revival of this old gold camp as a recreational center are carried out. Brodsky has interested a group of Los Angeles men in a project to revive the town, secure a permit for horse-racing, and develop a desert resort here. As a first step in the program the Goldfield hotel has been purchased and is to be reopened with Hollywood operators and entertainers in charge.

Rush for Nevada Lands . . .

CARSON CITY—"There have been more claims filed for land in Nevada during the last year than in the preceding 25 or 30 years," asserts Wayne McLeod, state surveyor general. Thousands of acres of state land have been taken up, much of it in the past three months. McLeod attributes the land rush to new industries brought to the state by the war program.

It's a Fighting Family . . .

WINNEMUCCA—A hundred years ago Chief Winnemucca of the Pahute Indians was at war with the whites. Recently, Stanley Winnemucca, one of his descendants, went to the recruiting station at Reno and told the officers he wanted "a crack at the Japs," and was accepted for the service.

Rabbit Bush Makes Headlines . . .

LAS VEGAS—Lowly rabbit bush, regarded by desert dwellers as an unmitigated pest, may yet acquire a useful place in the scheme of things. Congressman James G. Scrugham of Nevada, has introduced a bill calling for an investigation of the plant as a possible source of rubber. On millions of acres in the West rabbit bush is the predominating shrub.

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During 1941 a total of 376,404 visitors took the elevator down into the interior of Boulder dam, according to figures released by the reclamation bureau.

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Rainfall at Boulder City totalled 10.52 inches in 1941, 4.74 inches above the average for the previous 10 years. Maximum temperature was 108 degrees, and minimum 28 degrees.

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Charles A. Shea, managing director in the construction of Boulder dam, died at San Francisco January 25 at the age of 58.

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Highway construction work in Nevada is to be limited during the coming year to the needs of defense industries, according to State Highway Engineer Robert A. Allen.

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According to Nathan B. Fruchter of the U. S. hatcheries in Las Vegas, 62,000 fingerling trout are to be released in the Colorado river this season.

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NEW MEXICO

Less Dancing, More Fighting . . .

GALLUP—Navajo Indians have been asked by their leaders to hold fewer ceremonials and sings during the period of the war, and to cooperate with the government in furnishing men for the armed services. "When our boys return victorious we will hold the biggest war dance in the history of the tribe," Tribal Chairman J. C. Morgan told the Indians.

Pueblos Select Governors . . .

GALLUP—Seven of the Pueblo Indian tribes have announced the results of their elections for the coming year. Governors named for 1942 are as follows: Cochiti, Luis Ortiz; Acoma, Antonio M. Torribio; Laguna, John C. Carricino; Picuris, Juan Jose Martinez; San Felipe, Don Sanchez; Santo Domingo, Tomasito Tenorio; Santa Ana, Jose Rey Leon.

Use for Piñon Shells . . .

ALBUQUERQUE—That the shells of piñon nuts may find a place in the war emergency program was indicated recently when a consignment of piñon shells was sent to

Washington to be tested for use as charcoal in gas masks. George Luck, director of the OPM office here, said that cocoanut shells which formerly were used for filter purposes in masks are likely to become unprocurable. It is estimated that 2,000,000 pounds of piñon shell charcoal may be made available if the tests are satisfactory.

For the Good of the Range . . .

LAGUNA PUEBLO — Laguna Indians recently combed 225,000 acres of their range and rounded up all the old and inferior horses to be found. This was part of their program for conserving range resources during the national emergency. An auction sale was held at Quirk shipping point and a majority of the animals went to an Albuquerque rendering concern.

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Oscar M. Love of the Albuquerque National Trust and Savings bank, has been elected president of the New Mexico reclamation association.

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Average New Mexico visitor from out of state remains nine days and spends $5.50 a day, according to figures compiled by Tourist Bureau Director Joe Bursey.

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Federal OPM has been asked to allot 80,000 pounds of wool yarn for New Mexico wool weavers during the present year.

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The old Circle Diamond ranch of 3,000 square miles near Picacho has been sold to J. P. White Jr., H. H. McGee, S. P. Johnson and the White family corporate interests of Roswell.

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Uncas Noche, 55, Mescalero reservation interpreter and son of the old Apache war chief Noche, died here recently. He had been blind since he was 19, and was one of the first Apaches to accept the Christian religion.

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Indian traders in the Gallup area are concerned over the encouragement being given by the federal government to cooperative trading posts, which they regard as unfair competition.

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UTAH

Peace in Rival Camps . . .

SALT LAKE CITY—That the old feudin' days between the cattle and sheep men are over, was the conclusion of a writer who was present at the recent session of the American National Livestock association, major cattle producers' organization, and found a number of sheep men among the attendants. As a matter of fact many of the range operators in the West now run both cattle and sheep.

Utah Prepares for Tourists . . .

SALT LAKE CITY—"Travel strengthens America. It builds the nation's health, wealth and unity." This is the wartime slogan of the United States Travel bureau. And because of the policy of the federal government to encourage travel during the national emergency, the Utah department of publicity is planning to make a strong bid for motor tourists this season. H. J. Plumhof of the department said that although visitors to Utah from far distant points may be somewhat reduced in number, he was looking forward to an ever increasing number of travelers from nearby states during the coming season. "Like the Londoner and his cherished institution, the British weekend, our citizens will continue to have their morale-building and traditional "two weeks off" with the blessing of the federal government and the encouragement of this department," Mr. Plumhof said.

New Home for Elk Herd . . .

VERNAL—Sixty head of elk will be trapped at Mt. Nebo and released in the Uinta area north of Vernal, if plans of the Utah fish and game commission are carried out. It is expected the strangers will eventually find their way to the native herd of elk in the region of Greendale. It is reported that an open season allowing the shooting of 10 elk will be announced later, the hunt being designed primarily to determine the condition of the native herd at Greendale.

Bee On the Beekeepers . . .

SALT LAKE CITY—Bee keepers in annual session here were told that greater honey production is needed, both for the honey and to supply 4,000,000 pounds of beeswax called for by defense industries. The extent to which the bees will be able to increase their harvest depends partly on the flowering of alfalfa, clover and other nectar-bearing plants—but also on the removal of apiaries to points where bees may work to best advantage.

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Cancellation of Utah's oldest and most picturesque celebration—Peach Days—is being urged by the commissioners of Box Elder county for the duration of the war.

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Suggestion that the federal government buy the entire domestic output of wool this season was offered at a recent meeting of the Utah Wool Grower's association.

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Frank S. Beckwith of the Delta Chronicle was elected president of the Utah State Press association at its annual meeting here the latter part of January.

BOOKS OF YESTERDAY AND TODAY

—a monthly review of the best literature of the desert Southwest, past and present.

LIFE AMONG THE ADOBE WALLS OF THE SOUTHWEST

For too long Americans have thought of their history as beginning with Columbus and the European settlement. With recent discoveries in the Southwest, our history has been pushed back to ten and twenty thousand years—a respectable age for anyone's history.

The first scientific accounts were of no interest to the layman. Even most of the popular works failed to give him more than a vague idea of the early civilizations. A book which comes very close to presenting the feel of those remote times and a very real sense of the life that went on within the now ruined walls was published in January this year by Hastings House, New York.

THE PUEBLOS, A CAMERA CHRONICLE was photographed and written by Laura Gilpin. This small volume of remarkable photographs and interpretative text is a compilation of 20 years' research and study in Arizona, New Mexico and Colorado. A brief historical outline is followed by chapters of picture and text on the early Basketmakers, the various periods of Pueblo civilizations, and the modern Indians of the Rio Grande area, Zuñi and the Hopi mesas.

Over 70 photographs in sepia; 124 pages 7x9½. Bound in blue cloth, decorated in silver. Map. $3.00. —Lucile Harris

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THERE'S ARTISTRY IN NATIVE AMERICAN COSTUMES

Native ceremonial costume is the medium through which Virginia More Roediger interprets the native culture of the Pueblo Indians. She begins with a survey of Pueblo history, presenting their beliefs, characteristics, trends in progress and changes of geographical location along with the significance of each.

It is in the religious dance ceremonials of the Pueblos that Miss Roediger finds dramatic costume reaching its greatest perfection. The fibers, skins, feathers and the colors and decorations used, all have their interpretations somewhere in the Indian's conception of the world, the gods and their relationship to man. The masked and painted impersonators present their prayer-dramas according to the season and through the year the varied costumes reflect not only the daily life of the people but their folklore, habits and ideals as well.

There is much variety in the costumes used but the symbolism is recognizable. "The materials from which costumes are made vary with the geographical conditions under which a people live and with the degree of that people's cultural development," Miss Roediger explains.

To illustrate, there are 40 reproductions from the author's paintings and 25 black and white dance figures. Detailed studies are made of parts of costumes.

CEREMONIAL COSTUMES OF THE PUEBLO INDIANS should prove as valuable and as interesting to the layman as to the historian and the scientist. It is a book to enrich the reader's appreciation and understanding of one of the most important examples of native culture still existent. What to the average person seems only a spectacle of carnival hue here takes on a deeper meaning, depicting the drama of the gods and the full significance of Pueblo life.

University of California Press, Berkeley, 251 pp, 1941. $15.00. —Marie Lomas

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SHE FINDS THE OUTDOORS A FASCINATING CLASSROOM

New trails are constantly beckoning to the true nature lover, inviting him to explore their mysteries and to discover along the way, not only the beauty of living things but the importance of space and time in the Universe itself. Ruth Wheeler has followed many of these trails, both old and new, including the countless unmarked paths that lured the explorers and later the prospectors irresistibly onward. With camera and with pen she has caught and interpreted what she found along the way.

WE FOLLOW THE WESTERN TRAIL is a compilation of Mrs. Wheeler's experiences along by-ways so fascinating that the reader is immediately drawn away from the economic swirl of today, into the mood and the feeling of wilderness life as it has been going on since time began. It is an accurate guide to the trails themselves, but more than that, it is a guide to an understanding and an awareness of nature so often missed by the casual observer.

Bird life is the primary interest of the author. With courageous determination she penetrated desert and marsh, explored dark caves and climbed icy cliffs in order to bring back the accurate stories and pictures of cedar waxwings, gulls, turnstones, sandpipers, quail, killdeer and sandhill cranes. But deer, bear, foxes, coyotes and kangaroo rats are not neglected.

To sum it all up, Mrs. Wheeler says, "The feel of nature is not simply adding to our store of names, forms and families." Instead, she suggests, doesn't it mean "quiet hours to explore trails with the purpose of coming back to our task stronger, purer and clearer-minded, washed and cleansed in mind and soul?"

Macmillan Co., New York. 1941, 160 pp. 28 photographic illustrations by H. D. and Ruth Wheeler. Index. $2.00.

—Marie Lomas

A BOY AND A BURRO IN A LAND OF ROMANCE

"Ah, Slowpoke, if we could go to the fiesta!" It is Pedro's wish which he confides to his inquisitive little donkey but stronger even than this desire is Pedro's great ambition to become an artist and paint the mysterious brown desert and the reddish hills and the tall mountains of New Mexico. For Pedro is a little boy of Santa Fe, a descendant of the Conquistadors, proud of his heritage and yet aware of the color and romance of the Southwest today.

How the Spanish boy realizes his hopes and dreams that have been stirred by his love for his desert home is the story of PEDRO OF SANTA FE *told by Frances Cavanah and illustrated by Leonard Weisgard.* Real names of buildings, streets and historic spots bring the scenes into clear, vivid focus, making Pedro's Santa Fe the Santa Fe that any young visitor may see and experience on a pilgrimage to this second oldest city in the country.

So ingeniously has the author woven the action in and out through the realistic background of the story that there are no tedious passages of factual material to bore juvenile readers. And yet, it is all there, the brightness, the pageantry, the individuality to give the impression that this could only happen in old Santa Fe. Whether Pedro is carving a miniature donkey from piñon, working out a daring plan that popped into his head or running on a mysterious errand, there are chili peppers, tamales, and tortillas to whet his appetite, there are bright blue doors of adobe houses, narrow winding streets, the distant Sangre de Cristo mountains with their vivid colors to remind him of the paints he hoped to buy some day. Even the Navajo Indians arrive for the fiesta and the De Vargas Pageant for they hope to sell much of their handmade pottery and turquoise ornaments from their sidewalk market place.

Pedro's day might well be anyone's day in the Southwest and therein lies the irresistible charm of his story.

David McKay Co., Philadelphia, 1941, 36 pages. $1.00. —Marie Lomas

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MYSTERY IN NEW MEXICO

All kinds of people lived in the little New Mexican art center of Santa Maria. Ordinarily you would know all about your neighbors and friends in such a community, but it took three murders to bring up the pasts of the town's leading residents.

Frances Crane, in THE TURQUOISE SHOP, published late in 1941 by J. B. Lippincott company, New York, has plotted an exciting mystery story against a colorful New Mexico background. The characters themselves rival the plot in interest—they are deftly drawn and include a fascinating array of humans. 313 pages. $2.00.

THE TRANSFIGURATION

Paul Von Klieben, internationally famous portrait artist, has achieved something new and different in his recently completed *painting of The Transfiguration.* It is housed in an adobe Chapel especially erected for showing the painting at Knott's Berry Place on Highway No. 39 just two miles from Buena Park, California. Admission is free and visitors describe it as a truly worthy work of art that should be seen.

Ghost Town News a "weakly" newspaper is printed there on an old hand press of Civil war days and is given away with a copy of the 32-page bi-monthly magazine at 10 cents a copy or fifty cents for the annual subscription. Just one of the many attractions at this famous eating place where a half million chicken dinners are served yearly. Send for a copy and learn about Western Ghost Towns—and new California achievements.

Going East! • Land of Romance, Scenic Beauty as You Travel the Historic,

This map and trip guide is designed to guide motorists along the colorful historic Southern Route between El Paso and San Diego. Many of the points of interest are illustrated. Others are designated by numbers on the map with corresponding numbers in the text matter which briefly describe the point. Other places of interest are noted in the copy.

EL PASO—a city whose history is rich with such names as Cabeza de Vaca, Juan de Onate and Coronado.

No. 1. WHITE SANDS NATIONAL MONUMENT — almost 500 square miles of dazzling white gypsum, wind-blown into fantastic dune formations, some over 100 feet in height.

LAS CRUCES—about three miles south of here is the town of Mesilla, where is found the "Billy the Kid" Museum, which contains many authentic relics of the famed desperado who roamed the southwestern country.

LORDSBURG — here the road branches. Be sure you stay on U. S. 80 to Douglas for the low altitude, all-paved, scenic route.

DOUGLAS — social and trading area of one of the largest agricultural areas in the Southwest, the Sulphur Springs Valley. Douglas with her ideal all-year climate, located in the land of sunshine, romance and scenic wonder, boasts of fine stores, new beautiful hotels, modern apartment houses, comfortable motor courts and, near Douglas, some of the finest Guest Ranches in the West.

Douglas is the gateway to the quaint Mexican city of Agua Prieta. With a population of 2,500, its picturesque shops, history filled streets, its language, traditions and customs, Agua Prieta is one of the most fascinating towns you will see.

No. 2. CHIRICAHUA NATIONAL MONUMENT—here Nature has fashioned a weird and silent community through the erosive agency of water and wind. Sometimes called Rhyolite Park or Wonderland of Rocks, this monument is easily reached from Douglas.

While in Douglas be sure to see the Douglas Smelters and the COMPANY of MARY NOVITIATE, the only novitiate of the International Institution of the Company of Mary, in the United States. With Douglas as your headquarters be sure to visit:

GERONIMO MONUMENT
SKELETON CANYON
CAVE CREEK CANYON
CRYSTAL CAVE

and many other points of interest. Full information service available at the Chamber of Commerce and Mines on G Avenue, in Douglas. Located right on U. S. Highway 80.

Balanced Rock — Chiricahua National Monument

BISBEE—one of the really interesting towns in America. Bisbee homes cling to the slopes of two long narrow canyons, terraced tier upon tier. Proud to be known as one of the richest copper districts in the United States, Bisbee takes pride, too, in her colorful history. Be sure to see:

SACRAMENTO PIT — located in Bisbee, is one of the largest mines of its kind in the world. More than 20,000,000 tons of copper ore have been taken from this mine.

Other points of interest in Bisbee:

COCHISE CO. COURT HOUSE
MINER'S MONUMENT
OLD CUSTOMHOUSE
DIVIDE MONUMENT
FORT HUACHUCA

Informaion service available at the Chamber of Commerce, in the Copper Queen Hotel.

TOMBSTONE—The town too tough to die. One of the most famous mining towns in the West, at the height of its glory it was a city of equal importance with San Francisco. During the early days of the camp, law and order were practically unknown. Some of the most notorious gun battles of the West were fought in Tombstone—the Earp-Clanton fight at the O. K. CORRAL was one of the most historic.

Steeped in history and legend are such places as:

Stalactites in Colossal Cave

SHEEP'S HEAD
CRYSTAL PALACE SALOON
BIRD CAGE THEATER
ORIENTAL BAR
LUCKY CUSS MINE
MILLION DOLLAR STOPE
SCHIEFFLEN MONUMENT

No. 3. BOOT HILL GRAVEYARD—Burial place of men who died with their boots on. Many of the graves are marked in a way that tells the whole story. Such as:

JOHN HEATH
taken from
county jail &
LYNCHED
By Bisbee Mob
in TOMBSTONE
Feb. 22nd, 1884.

More detailed information can be obtained at Boot Hill Motel, a modern auto court at the west end of town.

An outstanding attraction is the Rose Tree Inn, location of LADY BANKSIA, world's largest rose tree with a colorful history of its own. A lunch or dinner served under the rose arbor, 50x60 feet in area, is a thrill not soon to be forgotten.

No. 4. SAGUARO NATIONAL MONUMENT—over 160,000 acres set aside in 1933 by the government in order to preserve the Saguaro.

TUCSON — "The Old Pueblo." Around Tucson has revolved much of the history of the frontier and of early Arizona. There is much to see around Tucson:

GOVERNOR'S CORNER
THE WISHING SHRINE
UNIVERSITY OF ARIZONA
YAQUI INDIAN VILLAGE

No. 5. MISSION SAN XAVIER del BAC—Located nine miles south of Tucson, this mission is conceded to be the most beautiful structure in the Southwest. Established in 1700.

CASA GRANDE—located in the fastest growing agricultural area in the United States, Casa Grande gets its name from the Casa Grande ruins to the northeast. Modern, progressive, with fine schools and churches historic as well as picturesque, the people here like to say that Casa Grande is the place where "East meets West and likes it!"

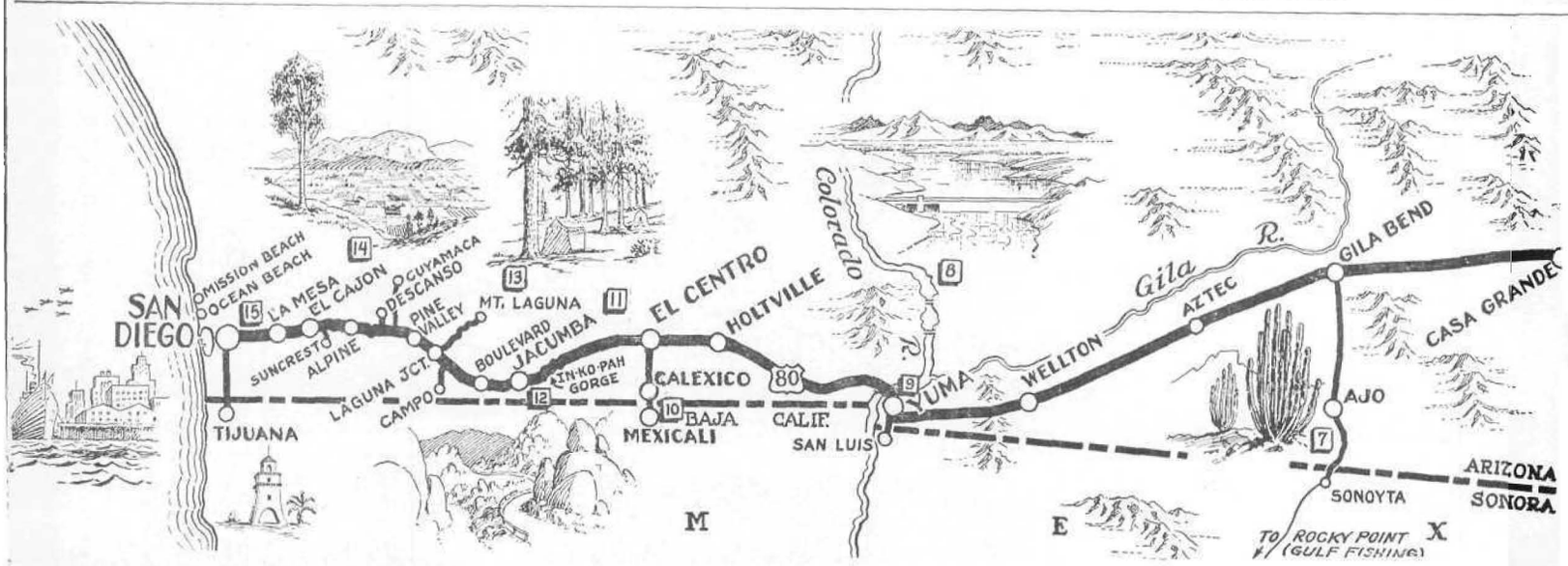
No. 6. CASA GRANDE NATIONAL MONUMENT—a relic of a prehistoric race. Four stories high this building has excited much interest. Considered by many to be the best preserved and most interesting prehistoric structure in Arizona.

GILA BEND—Gateway to the finest winter fishing and hunting grounds in America. Deep sea fishing 140 miles south in Mexico. See:

OLD MARCOS DE NIZA TRAIL
VOLCANOES AND CRATERS
GILLESPIE DAM

and many other interesting sights

No. 7. ORGAN PIPE NATIONAL MONUMENT — This cactus is so named because its branches resemble the pipes of the pipe organ. It grows as much as 20 feet tall and is one of the uncommon species of the cactus family.



and Contrast -- Yours to Enjoy Sunny SOUTHERN ROUTE • *Going West!*

AZTEC—Right from here one goes to AGUA CALIENTE HOT SPRINGS. To the south can be found more Indian writings. Full information can be obtained from H. P. Johnson, at the Aztec Post Office.

YUMA—Arizona's "Gretna Green" Where many movie stars come to get married. Center of exceptionally rich irrigated area containing 100,000 acres of Colorado River land.

Yuma's colorful history is reflected in many of her interesting and picturesque buildings. Starting out as a Spanish trading center at the junction of two Spanish trailways, "El Camino del Diablo" and "El Camino de los Padres."

No. 8. IMPERIAL AND LAGUNA DAMS—Both of these dams are of the Indian weir type of construction. Boating and other sports are enjoyed in the lakes that have formed behind the dams.

No. 9. TERRITORIAL PRISON—Historic landmark on main highway to Yuma, where in early territorial days the badmen of the territory were incarcerated.

Prominent among other points of Interest are:

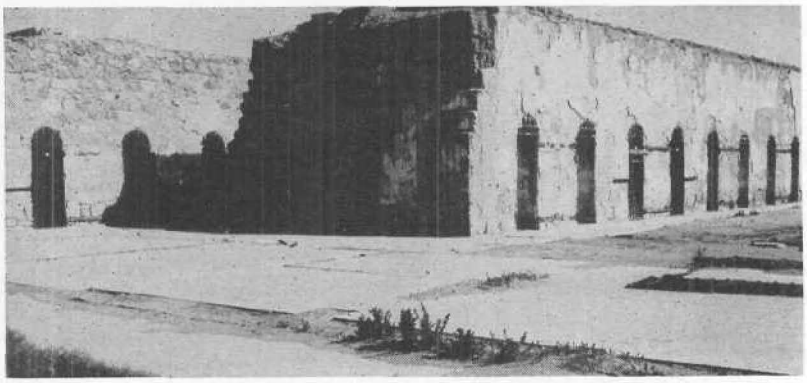
TERRITORIAL PRISON MUSEUM
QUECHAN INDIAN RESERVATION
COCOPAH INDIAN RESERVATION
LAGUNA DAM
GILA PROJECT CONSTRUCTION
IMPERIAL DAM
FAMOUS PALM CANYON

To the south, in the Gulf of California, easily reached from Yuma, can be had some of the finest fishing in the country.

GORDON'S—Be sure to stop at the station with the windmills. More than a hundred different things to see at this unique desert oasis.

HOLTVILLE—Holtville occupies an enviable position midway between San Diego and Tucson. Holtville enjoys one day trip access to more than 30 points of outstanding scenic, educational and historical interest, including sand dunes, Aztec writings more than 25,000 years old, largest low grade gold ore mine in the world, Salton Sea and innumerable other attractions. Just beyond the Highline canal five miles east of Holtville are 130,000 acres of high mesa land. Construction of the All-American canal has made irrigation of this fertile area practical, and this area will eventually be open to homesteading.

EL CENTRO—geographically the center of the Southern California desert, El Centro is the logical stopover for all trips to the desert. Through the centuries El Centro and the Imperial Valley, has been a land of romance and fascination, of wonder and progress.



Old Prison at Fort Yuma

Using El Centro as a base you can make daily trips to:

YUHA FOSSIL BEDS
PETRIFIED FOREST AREA
GOLD FIELDS IN EASTERN IMPERIAL COUNTY

The following are of special interest:

No. 10. MEXICALI, in OLD MEXICO—Capital city of Baja California. Home of the Governor and his staff. A city of 15,000 population, with all the atmosphere and charm of Old Mexico. Gateway to Mexico is never closed.

No. 11. ANZA DESERT STATE PARK—Rock strata, brilliantly hued and many varieties of interesting and colorful desert flora are to be found in this painted desert. An easy one day trip from El Centro.

No. 12. JACUMBA — Population about 400. Baths in mineral water from Jacumba's hot springs are said to have a curative effect for some ailments.

MOUNTAIN EMPIRE DISTRICT — For the next 40 miles U. S. Highway 80 rolls through a succession of mountain passes, and deep, green valleys, reaching its peak elevation at Laguna Junction.

Indian reservations are located near Manzanita, Campo and Alpine. Points of interest in the area include: a feldspar mine and mill at Campo, which produces material for surfacing the nation's glossy bathroom fixtures; Morena Lake; the Eleventh Cavalry cantonment at Campo; gold mines in operation near Pine Valley; the 6220-foot high Laguna recreation area; Cuyamaca Lake, and peaceful Descanso valley.

No. 13. Motorists will find overnight accommodations in rental cabins and cottages at Bankhead Springs, Boulevard, Manzanita, Oak Knoll, Campo, Laguna Junction, Laguna Mountain recreation area, Cuyamaca, Pine Valley, Guatay, Descanso and Alpine. Hotel dining rooms are at Morena Lodge; Pine Valley Cabin; Cuyamaca Lake Resort; Hulburd Grove Guest Ranch, and Descanso Tavern; The Willows, and Ye Alpine Tavern. Saddle horses may be rented at Pine Valley and Hulburd Grove Guest Ranch.

ALPINE—Alpine homes vary from attractive cottages, to pretentious estates.

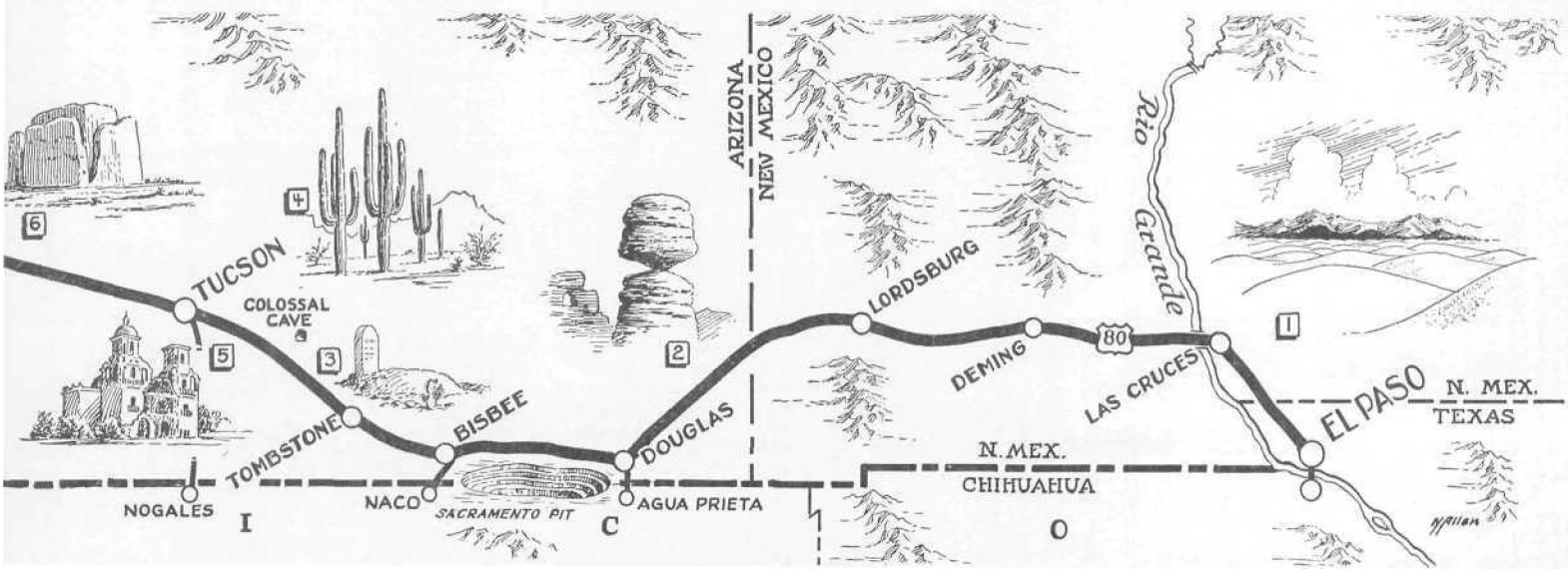
Coming down from the mountains a widespreading vista of a huge valley checkerboarded with productive ranches and orange groves begins to unroll. Roadside business communities along this stretch are Flinn Springs, with its noted picnic grounds; Johnstown, with restaurants and service station, and Glenview, trading point for surrounding ranches.

EL CAJON—El Cajon is an incorporated city of about 2,000 population, located 16.3 miles from San Diego. The city has excellent accommodations for tourists, and automotive service is expert and reliable.

LA MESA—is a city of beautiful hillside homes and is the scene of a famous annual flower show. A wonderful view of the surrounding country may be obtained from nearby Mount Helix. Annual Easter services are held at sunrise beneath a huge Cross here.

SAN DIEGO—U. S. Highway 80 enters San Diego over El Cajon boulevard, a seven mile stretch teeming with well regulated traffic and business. On the boulevard are located numerous motor courts with rates ranging from $1.50 to $3.00 per day.

No. 15. All of San Diego's many points of historical and scenic interest can be reached quickly and easily from here. Outstanding points of interest are Old Town, birthplace of the city; the beaches; a harbor from which Navy vessels are continually arriving and departing on mysterious missions; Balboa Park; a world famous zoo, and the gigantic airplane factories engaged in tremendous defense and export production.



REACH AGREEMENT ON PARK . . .

Final agreement between the California State park commission and supervisors of San Diego county, has been reached as to the exact area to be included in Anza State desert park in Southern California. The park commission agreed to exclude 22,000 acres which the San Diego county officials assert has agricultural possibilities. In return for this concession San Diego county withdrew its objection to the inclusion of approximately 200,000 acres in the Vallecito and Carrizo areas.

Prizes to Amateur Photographers

Each month the Desert Magazine offers cash awards of $5.00 and $3.00 for first and second place winners in an amateur photographic contest. The staff also reserves the right to buy any non-winning pictures.

Pictures submitted in the contest are limited to desert subjects, but there is no restriction as to the residence of the photographer. Subjects may include Indian pictures, plant and animal life of the desert, rock formations—in fact everything that belongs essentially to the desert country.

Following are the rules governing the photographic contest:

1—Pictures submitted in the March contest must be received at the Desert Magazine office by March 20.

2—Not more than four prints may be submitted by one person in one month.

3—Winners will be required to furnish either good glossy enlargements or the original negatives if requested.

4—Prints must be in black and white, 3¼x5½ or larger, and must be on glossy paper.

Pictures will be returned only when stamped envelopes or photo-mailers are enclosed.

For non-prize-winning pictures accepted for publication $1.00 will be paid for each print.

Winners of the March contest will be announced and the pictures published in the May number of the magazine. Address all entries to:

Contest Editor, Desert Magazine, El Centro, California.

Sez Hard Rock Shorty of Death Valley

By LON GARRISON

"Rain?" asked Hard Rock Shorty. "Sure. It rains sometimes. Ain't rained lately though like it did when I first come here. Rained so hard it took 14 years for the clouds to gather up enough water to rain again. All the little gullies around here run water clean up to your ears an' there was so much water around some folks took to drinkin' it. One or two even took a bath."

Hard Rock sighed in dismay over the corruption of past years when water was so plentiful it was wasted.

"Yup — so wet the flowers bloomed three-four times straight. Frawgs ever' place croakin' an honkin' away an' the skeeters like to run off with the little kids.

"One spell it rained a week straight an' we ate up all the grub in town. Starvation was starin' us straight in the face. Nothin' to eat an' no way to get out.

"But about then Bullseye Bill's shack down by the blacksmith shop opened up as a rest'runt but he didn't serve nothin' but oysters. Oyster stew—oysters baked—oysters fried—oysters ever' way yuh c'd think of. Real good too. We figgered Bill must o' had 15-20 cases o' canned oysters he was gettin' rid of at a profit the way they held out.

"One mornin' early though we found out that wasn't it at all. We catched Bill comin' in with a bucket an' a butterfly net an' it didn't take long to find out about them oysters. Hot weather, rain, an' all, things growed pretty fast, an' Bill was strainin' them whoppin' big tadpoles out o' the puddles. He'd bleach 'em out an' serve us nice fresh tadpoles with catchup! We didn't none o' us figger we was that hungry an' we throwed Bill in the closest crick to catch a few pollywogs for his own lunch. But durn 'im —he c'd swim an' he ain't been back since."

Gems and Minerals

This department of the Desert Magazine is reserved as a clearing house for gem and mineral collectors and their societies. Members of the "rock-hound' fraternity are invited to send in news of their field trips, exhibits, rare finds, or other information which will be of interest to collectors.

—ARTHUR L. EATON, Editor—

SEARLES LAKE CLUB HUNTS DESERT DIAMONDS

Searles Lake gem and mineral society celebrated its second birthday with a combination meeting and dinner party at the Coffee Shop patio in Trona, California, January 7. Mr. and Mrs. J. W. Bradley, president and secretary-treasurer of Mojave mineralogical society were guests.

Officers were installed at the banquet: Mrs. Ann Pipkin, president; J. P. Lonsdale, vice-president; Joe Damore, secretary-treasurer; Harvey Eastman, Henri Withington, Chet Edwards, Clarence Schlaudt, George Pipkin, board of directors.

Searles was host to Sequoia mineral society over the weekend of January 24-25. The Trona group sponsored a 49'er party and mineral display January 24.

Vernon Carr and Chester D. Smith, Inyo-Kern members of the Searles society, guided the January field trip to the upper end of Indian Wells valley in search of "desert diamonds." The group also visited pot holes along Owens river, a cinder mountain north of Little Lake, Devil's Kitchen and an obsidian hill west of Coso.

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THEY LOOK LIKE STONE CANNONBALLS

Recent explorations in the old Tumco mining district, in Imperial county, California, have brought to light several dozen badly worn flint balls, once used in the ball mines for the purpose of grinding the gold ore. These balls are true flint, of the type often brought from Greenland to this country in the early days, via either Norway or Denmark. Many of the more modern mills now use steel balls in their grinding, but, as some refineries penalize the owner of the ore for any metal ground off and left in the concentrate, other mills even now use hard silica pebbles. Since 1914, many mills use quartz pebbles from the beaches of San Diego county, California.

COLLECTORS VICTIMS OF DISHONEST PRACTICE

Complaints of dishonesty or at least rank carelessness on the part of some dealers and professional gem cutters, have been reported recently. The story is usually about the same. The individual sent several good samples to a dealer, a prospective purchaser. He neither bought nor returned them.

Or, a large piece of gem material was sent to a gem cutter to make a ring set—and nothing but the set was returned. It seems that some few use this means of increasing their own collection or stock in trade without cost to themselves. A majority of dealers have too high a standard of ethics to resort to this kind of petty pilfering—but they suffer even more from the practice than do the collectors since it creates distrust in the entire fraternity of professional lapidarists.

One suggested method of combating this evil is that members of gem societies report their experiences at open meetings of their organization, giving the names of concerns which have taken advantage of them.

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QUARTZ CRYSTALS FOUND IN HILLS NEAR QUARTZSITE

Imperial Valley gem and mineral society, shut off like all other earth science organizations from long expeditions by the shortage of tires, is fortunate in having many good sites close at home. On the January 10-11 trip to Quartzsite, Arizona, 20 members, in seven cars, went seeking quartz crystals. The little hills in that neighborhood produce many good crystals among the surface rubble, without going deeper. However, George Egling, instructor in geology at Central junior college, excavated several dozen large crystals from the side of one hill. Also found on the same trip were chlorite, limonite crystals, pseudomorph after pyrite, and chalcedony roses.

AMONG THE ROCK HUNTERS

Twenty-eight Imperial Valley gem and mineral society members enjoyed a field trip and barbecue in Sidewinder hills along the Colorado river January 31-February 1. This district reached by paved highway 80, is one of the most prolific fields in the country, furnishing specimens ranging from petrified iron wood and arrow heads to agate that any rockhound would declare came from Montana. The Colorado river and its tributaries have been excellent rock collectors in past ages.

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Mr. and Mrs. Wendell Stewart have returned from their trip to Mexico, Texas and Arizona, bringing back mineral specimens and rough and polished opals. Stewart is engaged at present in a lecture tour through Southern California.

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Primitive man hurled rocks at his enemies. Civilized man extracts metals from rocks and hurls bullets and bombs. W. Scott Lewis remarks that there is a lot more work involved and not much net gain.

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No official announcement can be made regarding the California federation convention until after the board of directors meeting, but "it is very doubtful," says President Woodhouse, "that we will have a convention this year. Transportation by car will become increasingly difficult and with heavy new taxes there will not be a great deal of money to spend for rocks. It is far wiser to postpone the convention than to have one that is ill attended, for it is just as expensive to put on a poor one as a good one."

• • •

Mr. and Mrs. W. Finch White, Jr., rockhounds of Roswell, New Mexico, sent out birth announcements for their new daughter, classifying her as a newly found precious mineral, giving name, time of discovery, weight, length, color, composition, hardness and even specific gravity—("about that of water").

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Long Beach mineralogical society has scheduled a raffle for each meeting during 1942. Auction and grab bags also augment the treasury. No field trips are planned, due to tire situation.

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Mrs. W. A. Gale of Trona displayed her mineral specimens at the January 21 meeting of Searles Lake gem and mineral society.

• • •

Now that field tripping into districts with bad roads is curtailed by rubber shortage, it would seem wise to trade specimens more extensively, either individually, or by groups. In this manner rocks from all over the country could be obtained for the price of postage plus, of course, equally good specimens.

• • •

Lelah Miller showed kodachrome slides of scenes in Monument valley, Arizona Indian reservations, and Mammoth lake district of California, at the February 5 session of East Bay mineral society, Oakland. The February 19 meeting was devoted to swapping. East Bay will continue "business as usual" in spite of war conditions, believing that normal procedure bolsters morale. Its meeting place, the auditorium of Lincoln school, is equipped for blackouts. The group plans another mineral display in the near future.

• • •

Harry L. Aleson entertained Orange Belt mineralogical society February 5, with a talk entitled "Up the Colorado with color camera and transit." The group chose Blue cut, in Cajon pass, for the February 15 field trip.

Harry Stein was elected to serve out the term of C. H. Chittenden, treasurer Santa Monica gemological society. Chittenden and his son joined the navy. A farewell party was held January 10 honoring the Chittendens and Dale Myers. Santa Monica club has discontinued field trips for the present.

• • •

Los Angeles mineralogical society has changed its meeting time and place to third Sundays at Clark hotel. Dr. Phillip Fix of Occidental college addressed the January meeting on rocks and rock forming minerals. The group met at Oak Grove, 14 miles north of Warner Hot Springs January 25 to search for garnets and jade.

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David B. Scott talked on "The geology and mineral deposits of the Searles Lake basin" at the January 9 meeting of Pacific mineral society. Scott, a mining engineer, and western sales representative of American Potash and Chemical corporation, is president of mineralogical society of Southern California.

• • •

Sequoia mineral society held its fifth annual birthday dinner, February 7. The main event of the evening was the big drawing of prizes, one of which was a gift subscription to Desert Magazine.

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Officers of Stockton gem and mineral club for 1942 are: W. G. Clark, president; Felice Stevans, vice-president; M. W. Brain, secretary-treasurer. During February this society maintained an exhibit in Haggin memorial museum, Stockton. The display, occupying an entire wing of the building, consisted of gem and mineral specimens, both rough and finished, an attractive fluorescent exhibit and a demonstration of cutting and polishing. The museum, open daily except Mondays, welcomed all interested persons.

Edith McLeod, Klamath Falls, Oregon, has organized and is teaching free evening classes in beginning mineralogy. The project is sponsored by Klamath mineral club. Advanced work will be given if enrollment and interest warrant.

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R. E. Lamberson demonstrated for East Bay mineral society how he, when a miner and prospector in the Panamint valley over 30 years ago, used portable hand operated grinding and polishing equipment. This apparatus is serviceable in districts where electric power is lacking. Lamberson also described how people of Ceylon work sapphires by primitive means. Last year Sam Payson displayed at Imperial Valley gem and mineral society turquoise specimens which he polished by "hand power" in Alaska about 20 years ago. He used a woolen sock fastened to a board to impart the final luster to his stones.

• • •

R. A. Crippen has been made a life member of Orange Belt mineralogical society for service to the society in the mineralogical field.

• • •

Francis J. Sperisen, Edward G. Petherick and George L. Green were voted life memberships by Northern California mineral society. William B. Pitts was awarded an honorary membership.

Cogitations . . .

Of a Rockhound

By LOUISE EATON

• Our Uncle Sam has took over lotsa good rock pickin' places to use for bomb targets, an' rockhouns has to hunt sumwhere eltse f'r agates an' sutch. Maybe the bombs'll stir up new speciments. Anyhow rockhouns 'd be willin' to give up all their fields an' everything to help win the war pronto.

• • •

• If fokes has to be evacuated from cityz, there's no place better'n the desert to put um. Chooz sum good desert well, an' establish as large a camp as could be supplied with water. It would be good f'r lots uv us to strip away unnecessities an' learn what things really counts an' what don't. There's a tranquillity in the desert that sokes into soulz, an' enybody is a better citizen iff he spendz a while in the quietude of its living silence.

Mineralogical society of Utah, Salt Lake City, announces the following officers: Junius J. Hayes, president; Dr. Olivia McHugh, first vice-president, in charge of programs; W. T. Rogers, second vice-president, in charge of field trips; Augustus Reeves, secretary; Lillian Lockerbie, treasurer; Mark Pendleton, historian. The news bulletin of the society, volume two, number two, contains much worthwhile information, a record of the year's field trips and club doings, also a design for a building to house the society, and its collection of ores and minerals. Substantial offers of material and labor as well as a site for the project have been made to the society, all without cost. May their dreams for a home be realized.

• • •

San Fernando valley mineral society has changed its meeting place to Burbank as its president, Peyton Randolph, lives in that city, and is on 24-hour call during the present emergency. January field trip was to Gem mountain for petrified wood, cinnabar, opal, jasper and geodes. Roy Martindale addressed the San Fernando group on petrography at the February meeting.

• • •

W. Scott Lewis, Hollywood, California, would like to see organized a Nature Study Foundation in the United States for the purpose of arousing a wider interest in nature and the great outdoors. Publications of the organization would be couched in every day, not ultra-scientific, language. Mr. Lewis contends that children who are taught to love birds, trees, minerals and sunsets, will not become criminals.

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Mojave mineralogical society, J. W. Bradley, president, has applied for membership in the California federation of mineralogical societies.

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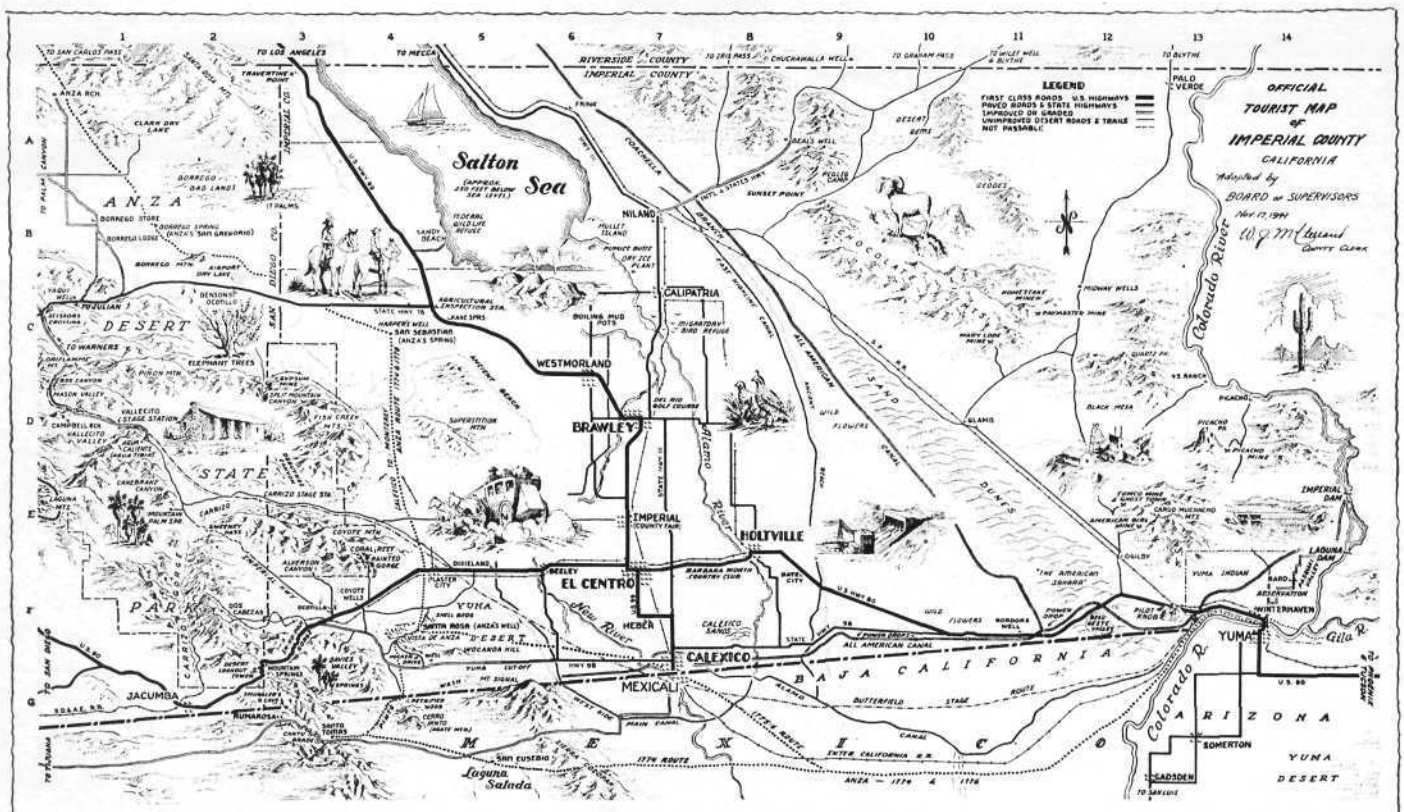
MANY USES FOUND FOR BERYLLIUM AS ALLOY

Beryllium, as beryl or emerald, has been known from ancient times, but beryllium, as a metal usable in a thousand ways, is just coming into its own. A few years ago beryllium was known as a grey white metal, and looked upon by most persons merely as a curio for collectors and chemists. Now it is rushing headlong into defense and industry. Its oxide is the coating used in ultra violet lights, and in finishing the magical mirror in television sets. Experiments have shown that copper, for instance, with the addition of only two percent beryllium, may be made harder than most steel. Beryllium is light, even lighter than aluminum. Add these characteristics to modern methods of manufacturing and production, and the future of this remarkable metal is almost beyond the scope of the imagination.



SHARE this part of AMERICA

This year, more than ever you'll need release from the pressure of this man made world of trouble, danger and strife. Plan now to spend a day, a week, a month or longer amid friendliness, peace and beauty — with the people of California's . . .

IMPERIAL VALLEY

SCENIC DESERT WONDERLAND

SHARE the courage — strength — beauty, to be found on this virile western frontier . . . so rich in historical background, pioneer traditions and scenic splendor.

TRY a circle tour of the Imperial Valley — land of cool, crisp nights and balmy days of sunshine — now and during the coming spring is the ideal time for your visit.

FROM the Salton Sea to the sand dunes of "The American Sahara" — from the thundering Colorado River to the Anza Desert State Park — through its mining districts, old ghost towns, gem fields, fossil beds and wild game areas . . . past its boiling mud pots and along historic trails of the Spaniards and old stage coaches — across its mountains and through its scenic canyons —you'll find your trip to the Imperial Valley a delightful one of exploration and relaxation . . . there are literally hundreds of attractions for the visitor.

A SCENIC MAP OF THE IMPERIAL VALLEY will guide you on your trip. Large reproductions of the one above (18x26½ inches) are available free. Just drop a note to B. A. Harrigan, secretary, Imperial County Board of Trade, Court House, El Centro, California . . . the map and more detailed information will be sent you.

IMPERIAL COUNTY BOARD OF TRADE

Desert Place Names

For the historical data contained in this department the Desert Magazine is indebted to the research work done by the late Will C. Barnes, author of "Arizona Place Names;" to Betty Toulouse of New Mexico, Hugh F. O'Neil of Utah, and Marie Lomas for Nevada.

ARIZONA

● MONUMENT canyon, Apache county. Rises at the east end of Defiance plateau near line of New Mexico. Runs northwest about 18 miles, joins Canyon de Chelly in T. 5 N., R. 8 W., Navajo Indian reservation. There are many monument-like formations of sandstone in this canyon, hence the name. Called by Navajo "The flow of the Fluted Rock." Not to be confused with Monument valley in Navajo county near Utah line.

● RAWHIDE mountain, Pinal county. At south end of Mescal range, on boundary between Graham and Pinal counties. "After an old Mexican goat herder who wore rawhide 'teguas' (Sp. shoes, sandals) and lived like a miser. Slept on a rawhide."

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CALIFORNIA

● JAYHAWKER canyon, Inyo county. Among the tumbled peaks of Death Valley's Panamint mountains is this canyon which was so named in 1936 when national monument employees discovered the spring seeping from the canyon side. Scratched on a rock near it were names and dates and unintelligible Indian signs. One, "W. B. R., 1849," may have been made by W. B. Rude of the Jayhawkers. There is also a "rier" which may be the last part of the name Brier; the Brier family followed the Jayhawkers into the valley in 1849. The name of a man in Dr. French's party of 1860 was also found, and a few other names not yet identified.

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NEW MEXICO

● ANTON CHICO, Guadalupe county. The name is a shortened and popular expression for the old Spanish name of the city, the English translation of which is "The Avocation of Our Lord and the Blood of Christ." The name designated a tract of land on the Pecos river which, on Jan. 24, 1822, Don Salvador Tapia and 16 others named in a petition filed with the Tribunal of Independence as land they desired for their homes and farms. The town today is a small Mexican community and the slang name "Anton Chico" is still used, the long original name having been forgotten.

● MANUELITO, McKinley county. Little more than a trading post and postoffice, as it was in 1882 when S. E. Aldrich, of early soldiering reknown, and J. W. Bennett opened the first trading post in the New Mexico Navajo Indian reservation on the new railroad line and named it for "Chief" Manuelito, a prominent Navajo and leader of several famous Indian raiding parties, the activities of which now take up several pages in New Mexico history.

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NEVADA

● SCHURZ, Mineral county. Town named for Carl Schurz, secretary of interior under President Hayes. Agency and trading post for the Walker Lake Indian reservation. Pahute predominate among the three or four hundred Indians here, making their livelihood stock raising.

● TOIYABE, a range running through northwestern Nye and southeastern Lander counties; also a peak, approx. alt. 6002. From Pahute corruption of Toyavi, meaning mountain.

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UTAH

● MILFORD, Beaver county. The early settlers and ore seekers (settled 1870) forded Beaver river at a stamp mill that stood near the town site; hence the name. Originally a supply center for miners at Frisco and New house. When ore production fell off in the eighties, Milford lost heavily. Agriculture and railroading gradually superseded the early business.

● SPRINGVILLE, Utah county. So named because of a large spring near the townsite. First called Hobble Creek for a nearby stream which was so named by a group of traders who, while camped near the creek, lost a pair of hobbles from their bell horse. Alt. 4,515; Pop. 3,748. Settled 1850.

By RANDALL HENDERSON

WE'VE all seen meteors streak across the sky but it was a new experience for me when I heard the one which fell somewhere in the desert region on January 25. I was awakened from sleep by a dazzling flash of light as the meteor approached the earth and opened my eyes just in time to look through the window and see it explode somewhere off toward the southern horizon. Three minutes later there was a roar that was like nothing I had ever heard before—something between the rumble of an approaching earthquake and the intonation of a gigantic explosion.

I doubt if the rockhounds will ever find any of this meteor. I could give them a fairly accurate compass bearing on the point of the explosion. But if there is anything left of the meteor it probably is mired in the swamps of the Colorado river delta, or perhaps submerged in the Gulf of California. Anyway, that was the approximate location of the last dying spark of light.

* * *

I am glad to note that my former neighbors in Calexico, California, are planning to hold their colorful Desert Cavalcade again this year. There have been good reasons for the cancellation of some of the community entertainment projects along the Pacific coast where there are problems of exposure and traffic congestion to be considered. But these problems are not serious in the desert inland.

The British have learned from bitter experience that outdoor entertainment and recreation are good tonic for war nerves. While the army is devoting much attention to entertainment for the men in the service, occasional relaxation is good for civilians also.

By reason of its international theme, the Calexico pageant will have added significance this year. The dates are April 9-10-11.

* * *

While the tire restrictions continue in effect there will be fewer field trips for the rock collectors who like to go out in the desert and search for geodes and petrified wood and chalcedony. However, the government plays no favorites—it is going to be just as tough for me as it is for you.

There's one consolation—the rocks will still be there when the Japs have been taught their lesson and the war is over. Only an infinitesimal fraction of Mother Nature's mineral wealth lies on the surface of the ground. The rest is carefully stored away, to be uncovered as the weather elements expose them. After a few months' recess, the visible supply will be more plentiful than now.

And perhaps the recess will be good for the collectors also. It will give them an opportunity to cut and polish some of the rough stones that have been accumulating in the garage and cluttering up the wife's front room.

* * *

I have made several trips out over the desert recently to see how many green sprouts are breaking through the surface on the sand dunes. That is the way we forecast the wildflowering season a couple of months ahead of time.

It is not an infallible method, however. Freezing temperatures late in February or hot winds in early March may change the whole aspect of things. But generally those little sprouts are a reliable guide because frigid temperatures and hot winds at that season are rare.

The above applies to the annuals. The hardy perennials that live on through winter and summer year after year generally are too tough to be bothered by wind storms and passing changes of temperature.

Take my old friend the Beavertail cactus, for instance. He is a battle-scarred veteran of many campaigns. The rodents nibble at his pads. The sun pours its withering heat on his bald head. The sandstorms try to cut his feet out from under him. But he asks no quarter and gives none. He grows where he pleases—in the rocks, in clay and alkali, on barren hilltops and the malpai mesas. It makes no difference. He goes serenely along, and at the proper time sends forth great clusters of beautiful cerise blossoms with satin petals of exquisite shading.

If you haven't made the acquaintance of Beavertail I would recommend that you make friends with him. You will learn a lot about human nature from this lowly cactus of the desert. But do not try to become too intimate with him. He resents fondling—as you will learn if you rub your hand over those innocent looking pads.

* * *

Some of my newspaper friends over on the Arizona side of the Colorado river are debating the question of whether they are Arizonans or Arizonians. There seems to be no final authority to settle the question—and I am not going to horn in on an Arizona argument if I can help it. But I hope the Arizonans win. I rather agree with Lewis Allison of the Mesa Journal-Tribune.

"I've always used the term 'Arizonan,' " he said, "but if you ask me for the reason, the only one I can give with any degree of assurance is that 'Arizonian' sounds too much like 'Oklahomian.' "

THE HOSPITALITY OF THE OLD WEST AWAITS YOU HERE

WILLIAMS . . .

"Gateway to Grand Canyon" is located on the main line of the Santa Fe Railroad and nestled in beautiful Kaibab National Forest — the center of scenic attractions. A delightful overnight stop or for a full summer's vacation.

BISBEE . . .

The newcomer will be intrigued with Bisbee. His to enjoy are unlimited outdoor activities and abundant recreational facilities. Three of the copper mines in the country are here; the famous Sacramento Pit and Fort Huachuca.

TUCSON . . .

Tucson has a colorful background, of which its natives are proud, and which offers a wide field of exploration for visiting amateur archaeologists and historians. Antedating Jamestown and Plymouth, it was America's first walled city. Before the erection of the wall in 1776, the Papago Indians living at the base of Sentinel Peak gave the pueblo its name. They called it Styooksome, which historians interpret as meaning "at the foot of the black hill;" this was distorted to Tooksome by the Mexicans, and from this we get our present pronunciation of Too-sahn.

COTTONWOOD . . .

In the heart of the beautiful Verde Valley on alternate U. S. Highway 89. Best all year around climate in the U. S. Here you will find one of the most active and progressive communities in the state. A geographical center of the state, in the Valley of Enchantment. Population 1800, elevation 3218, schools, churches, civic auditorium costing $40,000.00, all forms of amusement. Surrounding us you will find a wealth of Arizona's scenic wonders. Among them are: Tuzigoot Ruins, Montezuma Castle National Monument, Montezuma Well, Oak Creek Canyon and many others. Visit us soon.

TOMBSTONE . . .

The town too tough to die. Arizona's most unique tourist town. See the Bird Cage theater, the world's largest rose tree, Boot Hill Graveyard, Sheep's Head, Crystal Palace and Bob Hatch's Saloons, the Toughout mine, Lucky Cuss mine. See the Oriental Saloon, Tombstone Epitaph and the most dramatic spot in all the West —where Wyatt Earp saved the life of Johnny-Behind-the-Deuce.

CAMP VERDE . . .

The oldest town in the Verde Valley, it is the scene of the first military barracks in this section and some of the old adobe buildings still remain an interesting relic of Indian Warfare. Living here on the Apache Reservation, are hundreds of the real old time Apaches. Five miles away is Montezuma Castle National Monument, best preserved cliff dwelling in the U. S. Twelve miles northeast is Montezuma Well, an extinct geyser, half a mile across and 150 feet down to water, a crystalline pool fed by subterranean water. Contrasting sharply against all the relics of an ancient race to be found here, are some of the finest homes and guest ranches to be found in Arizona.

HOLBROOK . . .

Holbrook, county seat of Navajo county, is headquarters for trips to the world-famed Petrified Forest and the Painted Desert, in addition to being the gateway to the best hunting and fishing country in Arizona. Many interesting sidetrips can be made from Holbrook, into the heart of the Navajo, Hopi, and Apache Indian country and into the beautiful White Mountains; world-famed Meteor Crater is about 60 miles west; countless other points of scenic, historic and cultural interest are easily available from Holbrook.

FLAGSTAFF . . .

Beautiful Oak Creek Canyon will thrill you . . . ancient Cliff Dwellings, the Painted Desert, the Petrified Trees are here . . . the towering San Francisco Peaks, whose craggy arms reach skyward 13,000 feet, will awe you, and, spectacle of all the world's sublime spectacles, the GRAND CANYON of ARIZONA . . . no mere words of ours will suffice! 7000 Indians will thrill you in July with their weird ceremonials and dancing. Lowell Observatory, The Museum of Northern Arizona, The State Teacher's College are all open to you. Theaters, modern courts, fine hotels are here aplenty. Welcome Stranger!

WICKENBURG . . .

The legend of the Hassayampa:
There's a legend centuries old, By the Spaniards told, Of a sparkling stream that lies under Arizona skies. Hassayampa is its name, And the title to its fame, is a wondrous quality known today from sea to sea. Those who drink its waters bright, Red man, white man, boor or knight, Girls or women, boys or men, Never tell the truth again.

DOUGLAS . . .

Douglas is a friendly city, typical of the West. Her people extend a sincere and cordial invitation to everyone to visit them and to enjoy with them the many scenic and climatic advantages with which they are so abundantly showered.

WILLCOX . . .

Located on State Highway 86, the only all year, snow clear, high gear highway across Arizona. Ideally situated within short driving distances of Cochise Stronghold, only 16 miles away; Western gateway to the Wonderland of Rocks, only 40 miles away. Great Cattle country, from here there is shipped annually more home grown cattle than from any other place in the U. S. Spend a day or two at Willcox; see all the scenic and historic wonders that surround us.

KINGMAN . . .

Mohave County varies from desert to thick forest on the Hualpai Range. The Joshua Forest, northwest of Kingman, is worthy of a short side trip for any traveler. Pipe Springs National Monument in the northeastern part of the county has great historical significance. A large part of the Hualpai Indian Reservation, that of the most secluded tribe in Arizona, is in Mohave County. Back in the reservation is thick forest and the beauty of the Grand Canyon, on whose South Rim the Hualpai live. Mountains and plateaus, cliffs and canyon, mines and miners, ranchers, prospectors—all of these are part of Mohave County.

THE HOTEL BEALE in Kingman is the center of activity. A picture of Mohave County life can be obtained as cowboys, miners and western business men make the Beale their headquarters. Fountain & coffee shop, lounge, popular prices at the Hotel Beale.

C K Evans
Rt 4-Box 531
Riverside, Calif

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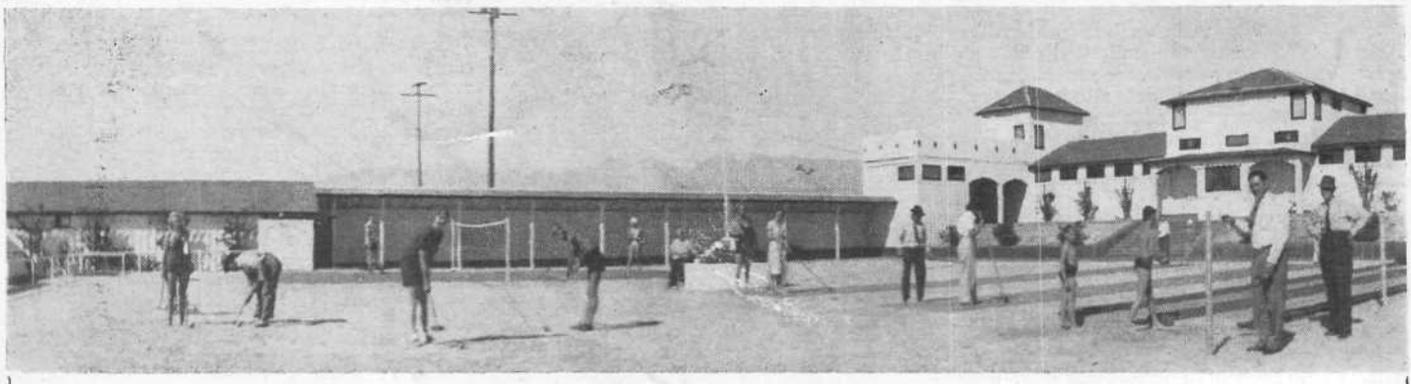
LOTS $250.00 UP

Desert Hot Springs

TERMS 10% CASH BALANCE IN 36 MO.



THE LARGEST AND BEST EQUIPPED HOT MINERAL WATER BATH HOUSE ON THE DESERT
Open to the public every day under scientific management. Ladies' and Men's Department.

THIS FAST GROWING COMMUNITY

has a population sufficient to justify all kinds of business.

SEE IT AND YOU WILL AGREE

DESERT HOT SPRINGS CABIN SITES TRACT . . .

differs from any subdivision heretofore laid out anywhere in the West. In principle, this is not merely a subdivision. This property carries with it features for the benefit of mankind, and it is almost impossible to describe the numerous advantages that it possesses.

Dsert Hot Springs was placed on the market in January, 1940. Since that time, about five hundred lots have been sold and about one hundred homes are erected.

THERE MUST BE A REASON! Sure, you can look the country over and you will not find another spot where you have access to a high grade of hot curative mineral water such as we have at Desert Hot Springs.

In addition to this water, there is no better desert climate on any desert. The elevation of about 1300 feet gives you an unobstructed view of the snow capped mountains surrounding this district. The valley below is an ever changing sight. The City of Palm Springs, 10½ miles distant, is in plain view. Palm Canyon and the Palms-to-Pines Highway are visible. Yet Desert Hot Springs is only 6 miles off U. S. Highway 99 and the main line of the Southern Pacific Railroad; and only 112 miles distant from Los Angeles.

YOU SHOULD INVESTIGATE this thriving community if you are seeking health, relaxation, outdoor sports and exercise. You can find everything you could wish for, even an opportunity to start in any line of business and grow with Desert Hot Springs.

The so-called Desert Cabin Sites are in reality residential lots, 50x130 feet each. Water mains are installed throughout the entire Tract. The water is furnished by the Desert Hot Springs Mutual Water Co., a California Corporation.

Electrical energy is installed throughout the Tract and furnished by the California Electric Power Co. The service is just as complete as in any Metropolitan area.

Where you can buy a lot, build a cabin to your own taste, for a little more than it would cost for an annual vacation. Where you have all modern conveniences—domestic water, electricity, two cafes, stores, lumber yard, weekly newspaper (The Desert Sentinel). (Motels and Trailer Courts in the making.)

SEE DESERT HOT SPRINGS! Judge for yourself. You owe this trip to yourself and your family.

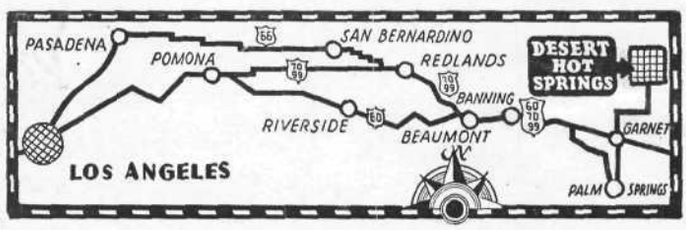
When you come, bring your bathing suits!

Write for further information, maps and descriptive literature on Desert Hot Springs. Also Guest Cards!

ACREAGE . . .

Have any amount of acreage with an abundance of highly mineralized water, ranging from 120°F. to as high as 180°F., suitable for Hotels, Rest Homes or Health Establishments of various kinds.

Something That Cannot Be Had Elsewhere



6 MILES NORTHEAST OF GARNET FROM HY. 99

L. W. COFFEE, Subdivider

347 Douglas Building 257 South Spring Street MUtual 8459

LOS ANGELES, CALIFORNIA

10½ MILES NORTHEAST OF PALM SPRINGS

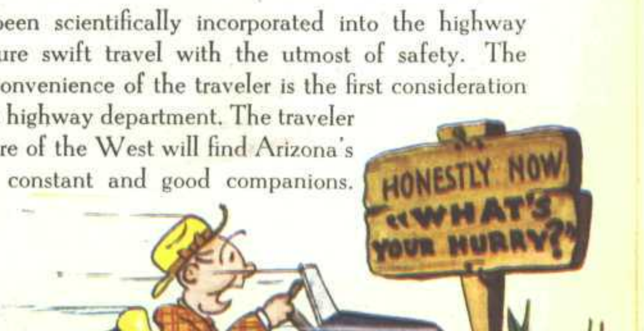
A FRIENDLY GUIDE FOR THE TRAVELER

IN THE LAND OF SUNSHINE AND SCENIC GRANDEUR

The traveler in Arizona will find excellent highways to serve him on his journey through this delightful land of Sunshine and Scenic Grandeur.

The state is crossed east and west by four transcontinental highways — U. S. 60, 66, 70, and 80 — while the Canada to Mexico highway — U. S. 89 — crosses the state north and south. A network of hard-surfaced highways ties all parts of the state together, and so compact and well planned is the Arizona highway system that modern highways lead to the very door of many of the state's famed Scenic Shrines, and others are of easy access.

Arizona's highways are built and maintained to render the greatest amount of service to the traveler. Adequate signing and striping has been scientifically incorporated into the highway system to insure swift travel with the utmost of safety. The comfort and convenience of the traveler is the first consideration of the Arizona highway department. The traveler into this Empire of the West will find Arizona's highways his constant and good companions.



HISTORIC ARIZONA

PRE-HISTORIC

Throughout the innumerable, sun-lit miles that are Arizona, the traveler finds today countless signs of a lost people whose story is told in ancient ruins. Here history that has never been written speaks in silent tongue. Where did they come from? Where did they go? These ancient ones! The archaeologist seeks after them, digging in ruins that were forsaken centuries ago. Whole villages have been discovered in all parts of the state and it is said that major discoveries are to be made. The visitor in Arizona can himself explore into a pre-historic era and conjure about a race of people who lived and flourished here ages ago.

Some of the most interesting and instructive of these pre-historic ruins have been set aside by the U. S. Government as National Monuments, under the supervision of the National Park Service. Here custodians and park rangers tell the story of the ancient people and conduct visitors through ruins that have been carefully excavated and protected.

THE SPANISH CONQUEST

The earliest visitors into this land that is now Arizona were the Conquistadores of Spain. In 1539, a pious Franciscan monk, Fray Marcos de Niza, passed this way and the next year came Coronado with his expedition of Conquest. For three hundred years Spanish exploration and colonization was carried on in Arizona, and today the modern traveler can visit two missions, Tumacacori and San Xavier del Bac, which bespeak the days of Old Spain in this state.

With these Spaniards came the Cross of Christianity and the march of civilization. With them came cattle, horses, sheep, and new agriculture for the Indians.

But these Spaniards, seeking gold and silver, found a hard land and a hard life and only the cloaked friars, the kindly fathers, by precept and by teaching left their mark upon the land we live in today.

Yet the music of Spain and of Mexico can be heard today in the streets and byways of villages and cities of Arizona. Some of the color and enchantment the visitor finds here comes from Old Mexico and Old Spain. Delightful names with the lilt of Castile!

The southern border of Arizona is the northern border of Sonora, one of the Mexico's proud states. Between Arizona and Sonora is a constant passing of people, for pleasure and for trade. The international boundary separates Nogales, Arizona, from Nogales, Sonora, and Douglas, Arizona, from Agua Prieta, Sonora, and yet a few steps across the border and the traveler finds himself in a strange, exotic country, whose color and beauty blends with the color and beauty of Arizona.

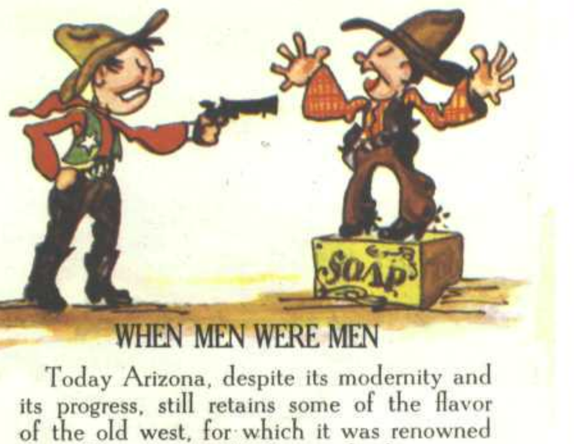
EARLY SETTLERS

Toward the middle of the past century began the western march of American civilization to the new frontier. First came the trappers and hunters like Old Bill Williams and Pauline Weaver. Then came the brave and hardy Mormon pioneers, and the cattleman and the miner.

They not only had to conquer a western wilderness but they had to do so in spite of the dreaded Apache, one of the most fierce and cunning Indians on the North American continent.

They brought the plow that broke the desert and the fertile land on the mesas. They discovered the mineral in our mountains and they built cities. The laws that they made were among the most liberal in the land. They insisted on good schools and they laid the foundation for the future generations who were to come to this Empire of the West.

Today Arizona is still a pioneer land, it is still the frontier. The traveler will not find here a people stifled by tradition or held by the chains of circumstances. Arizona is still a young, growing state and its youth is part of its charm and strength.



WHEN MEN WERE MEN

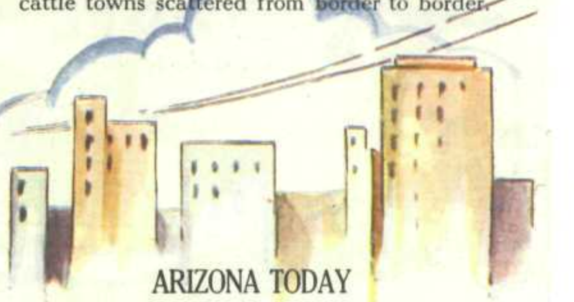
Today Arizona, despite its modernity and its progress, still retains some of the flavor of the old west, for which it was renowned throughout the world during the latter part of the 19th century.

Rich mineral deposits around Tombstone and in other places in Arizona attracted some of the best and some of the worst men who ever lived. Tombstone . . . Charleston . . . Galeyville . . . a few of the most lurid chapters in the story of the west.

These were the days of the desperado and the highwayman . . . of the gambler and his ilk . . . of bad men who lived in a young, rough, boisterous land, where dexterity with a six-gun was the surest kind of insurance and where every man made and enforced his own kind of law — and failing to do so died with his boots on.

Such was the old West. Rowdy . . . hard living . . . dangerous . . . where life was cheap but always exciting. Today Tombstone is a living reminder of that wild, rough-and-tumble chapter in Arizona's history, where the traveler can see bullet-scarred walls and streets which will forever retain the vigorous story of their early life.

Such is another side of this charming land called Arizona. This was the Old West, and that gawdy era will always remain with us in our ghost mining camps and in the cattle towns scattered from border to border.



ARIZONA TODAY

And there is modern Arizona . . . Arizona of today . . . progressive . . . prosperous . . . intelligent. This is the Arizona of modern, up-to-date cities, the Arizona of the great agricultural empire, the Arizona of mountains and desert, where resorts and ranches of charming informality tell of a new way of life . . .

This is the young and vigorous Arizona . . . of fine schools . . . and up-right citizens . . . of mechanical enterprise . . . of great dams that are marvels of engineering . . .

This modern Arizona is hospitable and friendly . . . and the traveler is always welcomed with warm cordiality . . .

ARIZONA Welcomes You

WITH HER MANY

ATTRACTIONS

THE GRAND CANYON OF ARIZONA —National Monument and Park—The world's greatest natural wonder. For two hundred miles the Colorado River flows through this great canyon, appearing a mere thread when viewed from the rim a mile above. No words have been found adequate to describe the breath-taking beauty of this spectacle. Equally impressive from North or South Rims.

NAVAJO National Monument—Eighty miles from Flagstaff, one of the interesting features of the Navajo Indian reservation. Many prehistoric Indian ruins, ancient coves and cliff-dwellings delight the scientist and historian.

CANYON DE CHELLY — National Monument—Near the New Mexico border, may be reached by good roads from Winslow, Holbrook and Gallup, N. M.—Chinlee Indian school is at the neck of the canyon.

WUPATKI—National Monument—Between Flagstaff and Tuba City, the government has set aside 35,865 acres for the preservation of the prehistoric Indian ruins found in this Monument.

SUNSET CRATER — National Monument—A cone-shaped crater of volcanic cinder, near Flagstaff, gray at the base and tapering to a red tip, which reflects the rays of the sun with gorgeous effect.

WALNUT CANYON—National Monument—Many cliff-dwellings make this one of the most interesting points in the state, within easy driving distance of Flagstaff.

PETRIFIED FOREST — National Monument—About 20 miles east of Holbrook, where the Petrified remains of prehistoric trees, some as large as 250 feet in length, blend in gorgeous hues.

MONTEZUMA CASTLE — National Monument—Its history shrouded in the mist of centuries, it is located 54 miles east of Prescott, in the Verde Valley.

TONTO National Monument—Prehistoric cliff-dwellings in an excellent state of preservation, located just east of Roosevelt Dam on the Apache Trail.

SAGUARO National Monument—Near Tucson, where the government has set aside 160,000 acres in order to preserve the Giant Cactus which is typical of Arizona, the bloom of which is the state flower.

CHIRICAHUA National Monument—Nature has fashioned a weird and silent community through the erosive agency of wind and water. Sometimes called Rhyolite Park or Wonderland of Rocks, this monument is located in Southeastern Arizona and may be reached from Douglas, Bisbee or Tombstone.

TUMACACORI MISSION — National Monument—Established in 1690 by the Jesuit priest, Father Kino, the ruins of this structure show the Spanish influence characteristic of all missions built throughout the Southwest, and is a mute tribute to the thorough vandalism of the Apache Indian.

CASA GRANDE RUINS—National Monument—The well-preserved ruins of a four-storied prehistoric community dwelling, with remains of an extensive canal system. The "calendar," and maize found in the walls have excited the scholarly interest and speculation of archaeologists from all parts of the world.

PIPE SPRINGS—National Monument—One of Arizona's historical and picturesque spots. In the early pioneering days this section was the scene of many struggles between settlers and outlaws.

ORGAN PIPE CACTUS — National Monument—South of Ajo and bordering on Mexico. This cactus is so named because its branches resemble the pipes of the pipe organ. It grows as much as 20 feet tall and is one of the uncommon species of the cactus family.

TUZIGOOT National Monument — A pre-Columbian ruin dating about 1300 A. D. two miles east of Clarkdale on the east bank of the Verde River.

RAINBOW BRIDGE—National Monument—Located 190 miles north of Flagstff (in Utah). The bridge is 309 feet high and has a span of 278 feet across Bridge Canyon.

COLOSSAL CAVE—One of the state's wonders, 28 miles from Tucson and reached via U. S. 80 passing through Vail.

TOMBSTONE—One of the most famous mining towns in the West, at the height of its glory it was a city of equal importance with San Francisco. A living reminder of the days of the Old West.

SAN FRANCISCO PEAKS—Near Flagstaff, they tower over the surrounding plateau country at an elevation of 12,600 feet above sea level.

PAINTED DESERT—Here Nature has swung a reckless brush and painted the sands of the mountain sides to gorgeous hues. This famous scenic attraction may be viewed from Highway 66.

HOPI INDIAN VILLAGES—Walpi, Oraibi. Hotevila, Shongopovi, etc., where the annual and world famous snake dance is held late in July and early August. These villages may be reached from Holbrook or Winslow.

GRAND FALLS—Southeast of Cameron on the Little Colorado River. Falls and rapids of great scenic beauty.

COCHISE'S STRONGHOLD — Seven miles from Highway 666, in the heart of the Dragoon Mountains. For many years the hiding place of the great Apache chief.

SACRAMENTO PIT—Located at Bisbee, is one of the largest mines of its kind in the world. More than 20,000,000 tons of copper ore have been taken from this mine.

OAK CREEK CANYON—Located in the eastern part of Yavapai County and the southern part of Coconino County, a favorite resort of the angler. Accounted to be second only in beauty and marvelous coloring to the Grand Canyon. Oak Creek Canyon is traversed by Highway 79 and is a delightful vacation center.

SOUTHWESTERN ARBORETUM —Between Florence Junction and Superior the late William Boyce Thompson founded this wonderland of plant life. Ten thousand varieties of plants from every continent are here assembled.

TONTO NATURAL BRIDGE— A result of limestone formation worn by erosion, 14 miles north of Payson and three miles from the main highway. A scenic wonder which yearly attracts many tourists.

MONTEZUMA WELL—A cup shaped lake, 78 feet below the surrounding terrain, 750 feet in diameter and fed by subterranean waters of which there is no recorded depth.

METEOR CRATER — Regarded as one of Arizona's strangest wonders, formed by the landing of some terrestrial body from the heavens which buried itself deep in the earth's surface. It is 21 miles west of Winslow.

COCONINO CAVERNS—A subterraneous cave of great scenic interest north of Peach Springs on Highway 66. Recently discovered, explorations have not yet disclosed the immensity of this scenic wonder.

DINOSAUR CANYON—Sixty miles north of Flagstaff, flanked by immense rocks on which are found tracks of the dinosaur.

NAVAJO BRIDGE—Seven miles below the historic Lee's Ferry. The bridge floor is 467 feet above the water level of the Colorado River, the span across being 616 feet in length. Highway 89 which crosses the Colorado at this point passes in the very shadow of Echo Cliffs and Vermillion Cliffs and through Houserock Valley from Kaibab Plateau to Cameron.

FORTIFICATION MOUNTAIN—A spectacle of unsurpassed beauty, with flaming red base, black sides and flat top near Boulder Dam. An excellent view may be had from Boulder Dam—Kingman Highway.

BOULDER DAM AND LAKE MEAD— Located 72 miles north of Kingman, the largest of all federal reclamation projects and one of the greatest engineering feats of all time. Boulder Dam is the highest dam in the world, 727 feet high, reservoir 115 miles long, covering 227 square miles with a storage capacity of 30,500,000 acre feet, at a construction cost of $165,000,000. Lake Mead, formed by the Colorado River behind Boulder Dam, is the largest man-made lake in the world. A sport center for the fisherman and the sailing enthusiast.

APACHE TRAIL—Beginning at Apache Junction, 34 miles east of Phoenix, this world famous trail, once the dark and bloody stalking ground of the Apache, winds through gorgeous mountain scenery to Globe.

ROOSEVELT DAM—One of the first Federal reclamation projects, located 79 miles from Phoenix via the Apache Trail. The dam is 273 feet high and forms a lake 25 miles in length. When full the reservoir contains 1,637,000 acre feet of water.

MORMON FLAT DAM—Forming Canyon Lake, 47 miles from Phoenix and second in the Salt River Irrigation Project chain of reservoirs below Roosevelt.

STEWART MOUNTAIN DAM — The last dam constructed, forming Saguaro Lake. The dam is 1260 feet long and 212 feet in height.

COOLIDGE DAM—Its waters are used to irrigate the Casa Grande Valley; it is situated on the Gila River 65 miles from Safford and 26 miles from Globe; height 250 feet; capacity 1,200,000 acre feet; largest multiple dome dam in the world. The highway—U. S. 70—crosses the top of the dam.

ROCKY POINT In Sonora—The Point, 75 miles south of Sonoyta, is a big game fishing port on the Gulf of California, a great winter fishing center for American travelers.

HERMOSILLO AND GUAYMAS — In colorful Sonora, the capital city Hermosillo and the fishing port of Guaymas are south of Nogales, Arizona, and are popular attractions for the western traveler.

MISSION SAN XAVIER DEL BAC— Located nine miles south of Tucson, this mission is conceded to be the most beautiful mission structure in the Southwest. Established in 1700. San Xavier Mission has served the Indians of Southern Arizona down the centuries.

MONUMENT VALLEY—A picturesque valley in northeastern Arizona, full of strange and weird rock formations, one of the most unusual regions in the state.

"LAND OF THE SKY BLUE WATER" —The home of the Havasupai Indians, 40 miles east of Grand Canyon Village, where a tiny Indian reservation is located in a small canyon, a part of Grand Canyon, whose cliffs rise from the canyon floor 3,000 feet high. A creek of sparkling blue water, forming colorful waterfalls of great beauty lends enchantment to this canyon.

WHITE MOUNTAINS OF ARIZONA— Located in eastern Arizona, this mountain range is the trout fishing paradise of the state. Throughout this area are miles of trout streams running through heavy forests.

CORONADO TRAIL—One of the beautiful scenic ways of the West, the Trail crosses the White Mountains and the Blue Range from Springerville to Clifton.

"THE ENCHANTED CIRCLE" — A scenic region consisting of five northern Arizona counties described as the most colorful scenic area in the world.

TERRITORIAL PRISON—Historical landmark at Yuma, where in early territorial days the badmen of the territory were incarcerated.

COAL AND BLUE CANYON—Two beautiful and colorful canyon areas near Tuba City.

SYCAMORE CANYON—A great, wild area south of Williams, noted for its game, an area combining stupendous scenery and remoteness.

BILL WILLIAMS MOUNTAIN—A landmark at Williams which has directed travelers through northern Arizona for many decades.

SUPERSTITION MOUNTAIN — Wild and remote mountainous region 20 miles east of Mesa, where legend has the Lost Dutchman mine, in the search for which a number of people have lost their lives. Scene of annual Dons' Trek.

HASSAYAMPA RIVER—This river, flowing through Wickenburg, has certain properties, according to the pioneer residents of the region, that when a newcomer drinks of it he never tells the truth again. "The Wishing Well" at Wickenburg affords all travelers on Highways 60, 70, 80 and 89 a chance to drink of the Hassayampa.

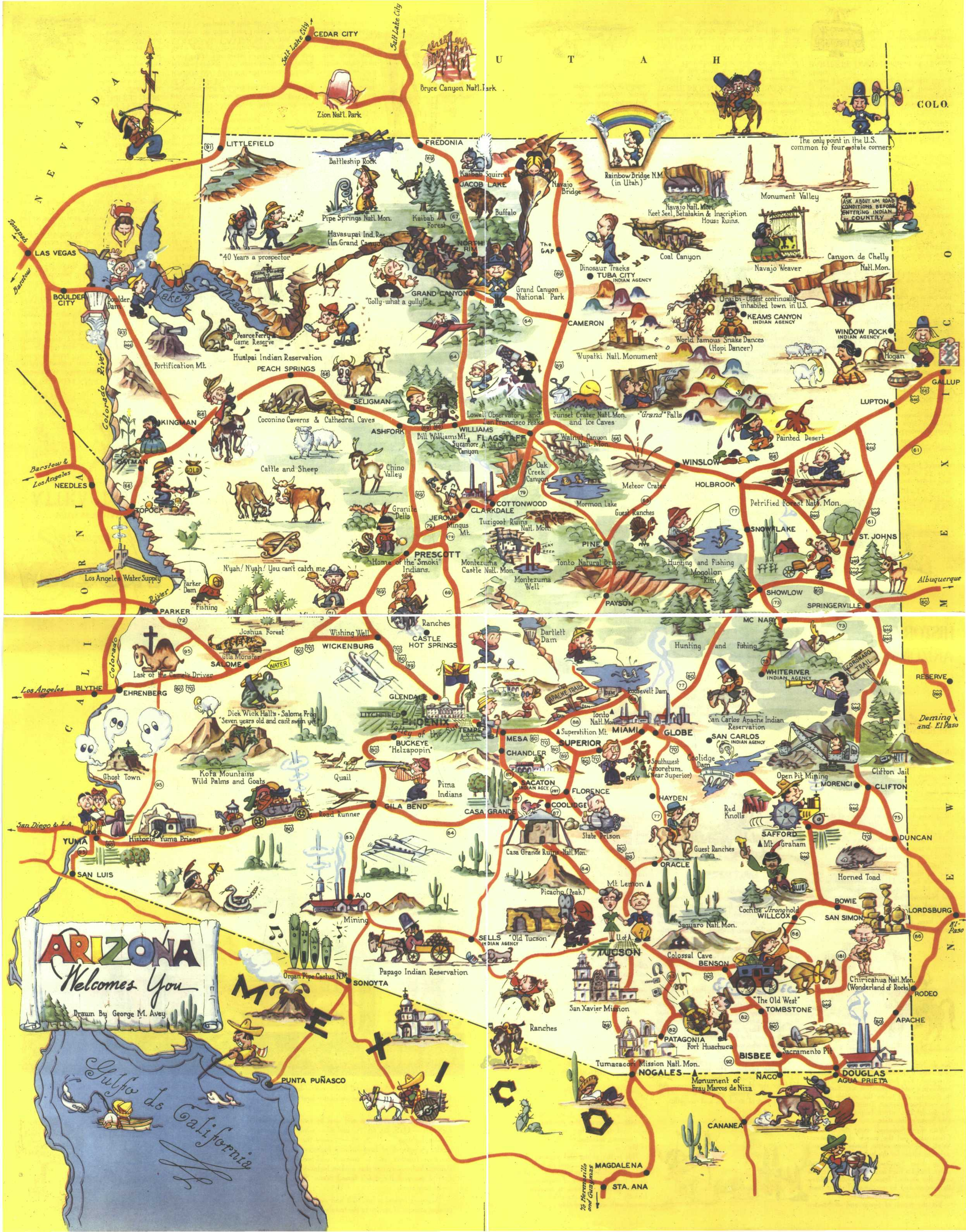
CAVE CREEK—A beautiful canyon region on the eastern slopes of the Chiricahua Mountains.

PICACHO PEAK—A landmark in Pinal county where the only battle of the Civil War was fought in Arizona.

"OLD TUCSON"—Site of the filming of the motion picture "Arizona," in Tucson City Park near Tucson, where the old walled city of Tucson can be seen.

PARKER DAM—Above Parker on the Colorado River, built for the water supply of Los Angeles. Lake Havasu, formed by Parker Dam, is becoming a popular fishing center.

BARTLETT DAM—Northeast of Phoenix on the Verde River, Bartlett Dam is newest addition to the irrigation system of the Salt River Valley.


ARIZONA
Welcomes You
Drawn By George M. Avey
UTAH
NEVADA
COLO.
N. MEX.
CALIFORNIA
MEXICO
Gulfo de California
CEDAR CITY
Salt Lake City
Zion Nat'l. Park
Bryce Canyon Nat'l. Park
LITTLEFIELD
FREDONIA
Battleship Rock
Kaibab Squirrel
JACOB LAKE
Navajo Bridge
Rainbow Bridge N.M. (in Utah)
The only point in the U.S. common to four state corners
Monument Valley
ASK ABOUT UM ROAD CONDITIONS BEFORE ENTERING INDIAN COUNTRY
Navajo Nat'l. Mon. Keet Seel, Betatakin & Inscription House Ruins.
Pipe Springs Nat'l. Mon.
Kaibab Forest
Buffalo
Havasupai Ind. Res. (In Grand Canyon)
NORTH RIM
The GAP
Coal Canyon
Navajo Weaver
Canyon de Chelly Nat'l. Mon.
LAS VEGAS
Tonopah
Barstow
"40 Years a prospector"
Dinosaur Tracks
TUBA CITY INDIAN AGENCY
BOULDER CITY
Boulder Dam
Lake Mead
GRAND CANYON
"Golly - what a gully!"
Grand Canyon National Park
Oraibi - Oldest continually inhabited town in U.S.
KEAMS CANYON INDIAN AGENCY
CAMERON
Pearce Ferry Game Reserve
Hualpai Indian Reservation
World Famous Snake Dances (Hopi Dancer)
WINDOW ROCK INDIAN AGENCY
Hogan
Fortification Mt.
PEACH SPRINGS
Wupatki Nat'l. Monument
GALLUP
Colorado River
SELIGMAN
Coconino Caverns & Cathedral Caves
Lowell Observatory and San Francisco Peaks
Sunset Crater Nat'l. Mon. and Ice Caves
"Grand" Falls
LUPTON
KINGMAN
ASHFORK
WILLIAMS
Bill Williams Mt.
Sycamore Canyon
FLAGSTAFF
Walnut Canyon Nat'l. Mon.
Painted Desert
Barstow & Los Angeles
OATMAN
Cattle and Sheep
Chino Valley
Oak Creek Canyon
WINSLOW
NEEDLES
Meteor Crater
HOLBROOK
TOPOCK
COTTONWOOD
CLARKDALE
Mormon Lake
Guest Ranches
Petrified Forest Nat'l. Mon.
Granite Dells
JEROME
Mingus Mt.
Tuzigoot Ruins Nat'l. Mon.
SNOWFLAKE
ST. JOHNS
PRESCOTT
PINE
Home of the "Smoki" Indians.
Montezuma Castle Nat'l. Mon.
Tonto Natural Bridge
Hunting and Fishing Mogollon Rim
Montezuma Well
N'yah! N'yah! You can't catch me.
Los Angeles Water Supply
Parker Dam
Fishing
PAYSON
SHOWLOW
Albuquerque
PARKER
SPRINGERVILLE
Joshua Forest
Wishing Well
Ranches
CASTLE HOT SPRINGS
Dartlett Dam
MC NARY
Hunting and Fishing
WICKENBURG
Gila Monster
SALOME
WATER
Last of the Camel's Driver
WHITERIVER INDIAN AGENCY
CORONADO TRAIL
RESERVE
Los Angeles
BLYTHE
EHRENBERG
GLENDALE
APACHE TRAIL
Roosevelt Dam
Dick Wick Hall's - Salome Frog "Seven years old and can't swim yet."
LITCHFIELD
PHOENIX
Valley of the Sun
TEMPE
Tonto Nat'l. Mon.
San Carlos Apache Indian Reservation
Deming and El Paso
BUCKEYE "Helzapopin"
MESA
Superstition Mt.
MIAMI
GLOBE
SAN CARLOS INDIAN AGENCY
SUPERIOR
CHANDLER
Southwest Arboretum. (Near Superior)
Coolidge Dam
Ghost Town
Kofa Mountains Wild Palms and Goats
Quail
Pima Indians
RAY
Open Pit Mining
Clifton Jail
MORENCI
CLIFTON
SACATON INDIAN AGCY.
FLORENCE
HAYDEN
Red Knolls
San Diego & L.A.
GILA BEND
COOLIDGE
CASA GRANDE
Road Runner
State Prison
SAFFORD
Mt. Graham
DUNCAN
YUMA
Historic Yuma Prison
Casa Grande Ruins Nat'l. Mon.
Guest Ranches
SAN LUIS
ORACLE
Horned Toad
Mt. Lemon
Picacho (Peak)
AJO
Cochise Stronghold
BOWIE
WILLCOX
SAN SIMON
LORDSBURG
Mining
Saguaro Nat'l. Mon.
SELLS INDIAN AGENCY
"Old Tucson"
U. of A.
TUCSON
El Paso
Colossal Cave
BENSON
Organ Pipe Cactus N.M.
Papago Indian Reservation
SONOYTA
San Xavier Mission
"The Old West"
TOMBSTONE
Chiricahua Nat'l. Mon. (Wonderland of Rocks)
RODEO
Ranches
PATAGONIA
Fort Huachuca
APACHE
BISBEE
Sacramento Pit
Turnacacori Mission Nat'l. Mon.
NOGALES
NACO
DOUGLAS
AGUA PRIETA
PUNTA PUÑASCO
Monument of Fray Marcos de Niza
CANANEA
To Hermosillo and Guaymas
MAGDALENA
STA. ANA