

THE

Desert

M A G A Z I N E



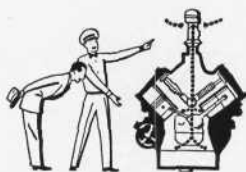
FEBRUARY, 1946

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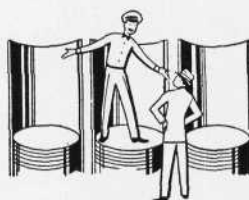
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UNION OIL COMPANY

THE DESERT MAGAZINE

DESERT Close-Ups

• One of next month's features for DESERT will be the story of Eddie Main, prospector, who sums up his philosophy this way: "It isn't greediness for wealth that keeps a prospector going . . . it's the fun of living, the friends you make, and the freedom that goes with it." Eddie lives a stone's throw from Senator Charlie Brown's general store at Shoshone, California—and it was there in the Mojave desert that author F. Conrad, a Riverside engineer, first met Eddie while investigating property for the Kaiser company.

• Most people, who have heard of Hopi Indians at all, associate them with snakes because of the annual ceremonial prayer for rain in which their snake "brothers" feature. But Hopis also will tell you that "Eagles are Hopis, just like snakes are Hopis." For the next issue, Dama Langley has recorded what one of the Eagle Men told her of this saga of ancient Hopi days.

• Although Margaret Carrick looks at her neighbors' sumptuous gardens with full appreciation, she confesses, "I see even more sheer beauty in a rainwashed, sun-bleached stick which God has created and the winds have bent and curved into a thing of grace which cannot be duplicated." That's why her flower arrangements are called "weeds" by others. Some of them will be published in DESERT next month; one group appeared in the December, 1944, issue.

DESERT CALENDAR

Jan. 31-Feb. 3—Tucson livestock show, including 16 classes in horse division. World's championship quarter horse speed trials at Rillito race track, Jan. 27 and Feb. 3. Stake races, same dates and Feb. 10.

Feb. 1-Mar. 31—Two-month open season on Javelina (peccary or wild pig) in Arizona. Strict regulations on use of rifles and bows.

Feb. 16—Mineral show and field trip, sponsored by Desert Gem and Mineral Society, Blythe, California.

Feb. 22-24—La Fiesta de los Vaqueros and 21st annual rodeo, Tucson, Arizona. For information write Sheriff Ed Echols, Chamber of Commerce, Tucson.

Feb. 23-24—Sierra Club trip to Hidden Springs from Box Canyon (9½ miles from Mecca, California). Desert Steve Ragsdale, Desert Center, will be host and leader.

Feb. 28-Mar. 2—International Desert Cavalcade, Calexico, California. Historical pageant and fiesta.

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FEBRUARY, 1946

Number 4

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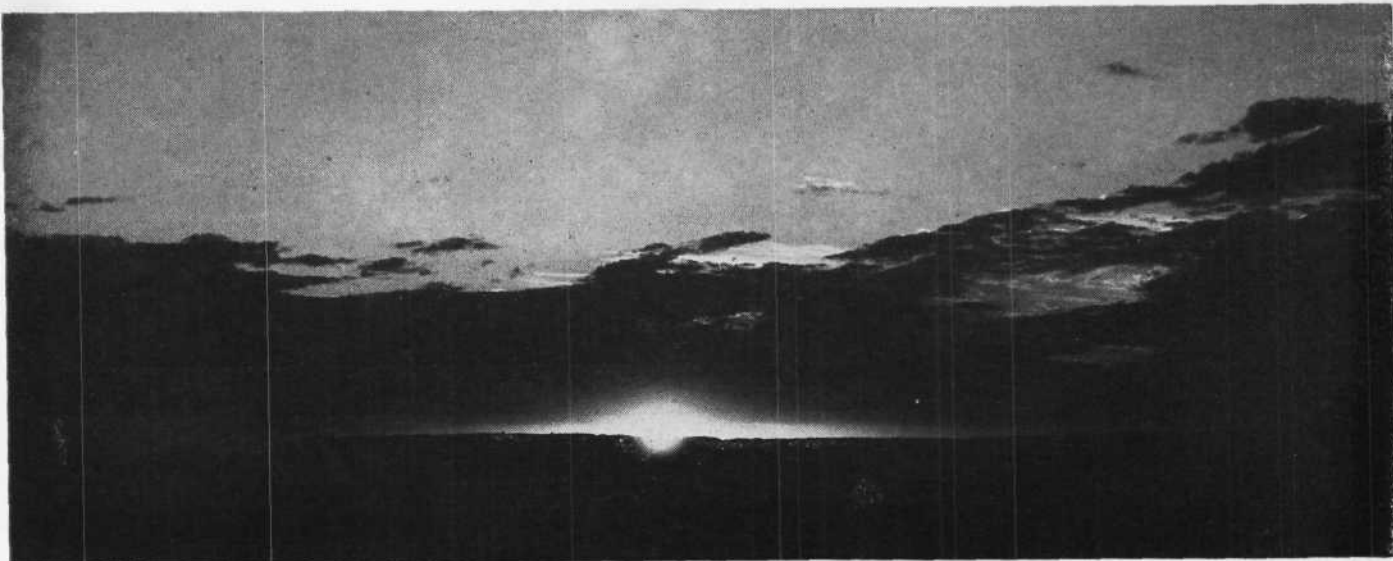
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PEDRO'S WAYBILL

By HELEN L. VOGEL
Mecca, California

"Señor, I tell you thees 'cause you have geev
Me water when I almost now have die.
Thees gol' I foun'. See—now you weel
believe?
For us a thousan' dreams thees rocks weel buy.

"Señor, from here, thees spring where is the
skull—
We go eento the sun to thees smoke tree.
Weeth back to sun we turn an' see a hull
Of Spanish galleon once so proud at sea.
She's stuck, thees ship, at doorway of a gorge.
Go thru, my fren', eento a leetle vale
Where are the palms an' by the stream a forge
Part cover by the san'. Thees ees the trail.

"Ahora—leeft the eyes to mountain top,
Where evening sunrays kees the alta peak.
There look an' wen the yellow sun have stop,
Ees there, my fren', ees there the gol' we seek."

PALM SPRINGS

By GRACE PARSONS HARMON
Los Angeles, California

Like a maid sophisticated, red hibiscus in her
hair,
Palm Springs gazes at the mountains with her
desert-mystic air;
Smoothly stream-lined, smartly contoured, richly
born of artist's dreams,
Under moon or winter sunshine, her rare vivid
beauty gleams:—
So alluring, tantalizing, with her desert-mystic
air,
Is this sultry, red-lipped mistress, with hibiscus
in her hair!

DESERT SARAH

By CECILE BONHAM
Glendale, California

The desert is a woman Nature tries
With years of loneliness and reprimand,
It scourges her with whips of chiseled sand
And brands her from a forge of burning skies.
Her years are numberless, but Sarah-wise
She brings to birth a clawing, sharp-toothed
band
As drab as she. They over-run the land
And lie in wait to clutch and terrorize.
Yet, woman-like, she feels the urge of spring,
And all her latent dreams are then expressed
In one great rush of evanescent art;
Cerise and gold, and purple lupine wing
Are pinned in clusters on her ancient breast
To feed the starving beauty in her heart.

Desert Hour

By DOROTHY HUMES
Los Angeles, California

The sun, a molten ball, drops down a sky
Clear-washed in topaz. Gleaming bars of cloud
In chrome and apricot and saffron dye
Retlect along a sand-ridge where a crowd
Of sulphur-blossoms clings and importunes
The arid land for life. They light the sea
Of billowing, wind-rippled yellow dunes
That surges on in lone immensity.

A traveler meditates in wonderment,
Bronze features gilded by the aureate sun.
His spirit knows the hush of still content
As amber earth and sky merge into one;
Pervading Peace, in this transcendent hour,
Unfolds within his heart—a golden flower.

NOT FORGOTTEN

By GRACE PARSONS HARMON
Los Angeles, California

I can't believe the desert is "the land that God
forgot"—
I think, that day, when Earth was done, He sat
Him down and thought,
"I've filled the world so full of things—hills,
people, plants and such—
There's something everywhere I look, I've made
so very much,
I'll have to leave a special place, a place where
folks can go,
Where they can gauge the ways of Earth, and,
wise in Silence—know!"
That's why He left the desert land all clean and
wide and free,
And spread His peace above it there for all
Eternity!

ENCHANTED MOUNTAIN

By CECILE J. RANSOME
Banning, California

San Jacinto mountain rises,
Steeply, from the desert floor;
Like a huge enchanted lighthouse
Doomed to guard an arid shore.

While the murky waves of dust-winds
Dim the foothills, far below,
Thunder clouds upon the summit
Flash weird signals to and fro;

Some day, when we are much wiser,
Taught to harness Nature's powers,
San Jacinto will be guarding
Waves of sunlit grain and flowers.

THE LOST MISSION

By HELEN L. VOGEL
Mecca, California

Oh legion are the tales of mission lost
Within dark windings of the desert's heart.
Found twice, perhaps, with men's lives as the
cost

When that kept secret they willed to impart.
'Tis there, they say, white domed and thick wall
built,

To hold the earth as man may never stay,
With golden treasure packed in dobe silt
And jewels laid safely in a hidden tray.
The altar must be carved, inlaid with gold
And tiled the floor while niches in the wall
Mark stations of the cross, revered and old
That temblors of mere earth can not make fall.
Deep hidden in some desert canyon-wild,
Its pathway masked by chaparral, mesquite,
The padres built and none have yet defiled
This sacred place now trod by spirit feet.
I like to feel that little spot of earth
Untouched by time, stands perfect in its place,
The mission waiting for who gave it birth,
The grace of peace warm as a smiling face.
And oft at dusk I like to think the bells
Are lightly stroked by loving, tender hand,
That desert wind the gentle music knells
To spread in benediction on the land.

UNDERSTANDING

By LELA M. WILLHITE
Fresno, California

Give me a shack that's built on sand,
A drifting, shifting desert dune;
A great white moon for all my might,
And the lone coyote's wailing tune.

The cactus and the honey-mesquite
To supply my drink and shade,
A diggings to pan close by a creek
With a vein that will make the grade;

Give me winds on my desert claim—
Shifting, drifting winds that blow
Away the mist so I may see and understand
The things that only humble men may know.

CREED OF THE DESERT

By JUNE LEMERT PAXTON
Yucca Valley, California

The evening shadows stretch long arms
To pull the night-shades low,
Lest lingering twilight, with her charms,
Should let her light still show.

Crater of the Setting Sun



Sunset Crater, a great mound of black cinders 1000 feet high, is about 16 miles northeast of Flagstaff, Arizona. It is the most recent addition to the San Francisco Peaks volcanic field, having appeared in the course of an eruption about 885 A. D.

Like a page out of Dante's *Inferno* was the strange volcanic world that Joyce Muench found herself in when she climbed to the crest of Sunset Crater in northern Arizona. Here is a crater only about 1060 years old—so young geologically that the forces of erosion have not yet had time to cut and mar the smoothness of its oval outline. It is located in the

midst of one of the most interesting and accessible geological areas of the Southwest. But when your postwar trip takes you there you'd better pack an extra pair of heavy shoes—the fine ash and cinder of the slopes are like thousands of tiny needle-points, and the twisted jagged lava flows will cut your shoes to ribbons if you walk farther than a dude-tourist.

By JOYCE ROCKWOOD MUENCH
Photographs by Josef Muench

IT TOOK us exactly 45 minutes to climb the trail to the crest of Sunset crater. Forty-five minutes of slipping back at each step about one third of the distance we took. For the whole 1000 foot slope is made up of loose cinders that seem almost fluid when you step on them. Our shoes soon were full of the fine ash, and when I slipped once and put out my hands to break the fall I discovered that the surface was sharp, a thousand tiny needle-

points trying to pierce the flesh. But with every step our view was widened and our curiosity about the crater mounted. What a fire it must have been, we told ourselves, to have left such a pile of cinders! Since there were no signs of erosion this must have happened just yesterday!

I was amazed, in this strange world that looked like a page out of my old copy of Dante's *Inferno*, to find flowers. First we saw lovely fragile evening primroses

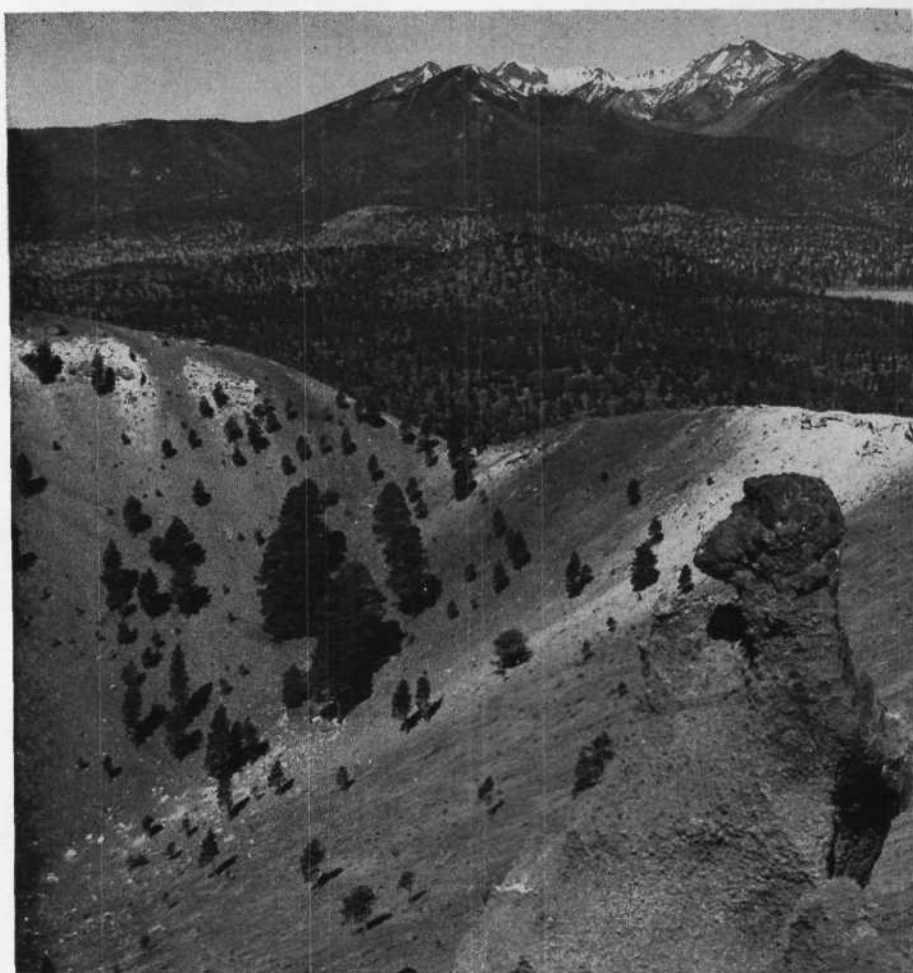
spreading their fragrant petals only an inch or two above the black cinders. Farther up, on a level spot which had not been visible from our starting point, were a few pine trees, and in their shelter a whole group of bright Pentstemons nodded casually in the breeze. Down below we caught sight of some Apache plume waving triumphantly over the black earth.

Sunset Crater national monument lies about 16 miles from Flagstaff, Arizona, in

the San Francisco Mountain volcanic field. Here, in very recent times, there has been intense volcanic activity. There are more than 200 cinder cones, one of the most interesting and the most recent being Sunset crater itself. Coming upon it over the cinder-paved road that leads from U. S. Highway 89, it appears as a great reddish-black mound with a crest of yellow and red that makes it look as though the sun were forever setting just beyond it and burnishing its upper edge. At its base are two lava flows, one caught among a circle of smaller cones and the other stretching off out of sight in the irregular terrain. They speak almost more eloquently than the crater itself of the forces that worked here. As though caught in the very act of flowing away, they have a fascination that is mingled with dread. The black landscape looks as though it never again could support life, but upon closer inspection, life has managed to take hold in places.

When we gained the top, we sat down to catch our breath and take stock of the view that lay spread out in every direction. From the crest we surveyed an immense area, some sections of it undeniably beautiful, and some very strange. To the west rise the sublime peaks of the San Francisco mountains that dominate the whole region and are to be seen from the air for 100 miles. Its mighty peaks are always snow-capped, and in winter their snow fields reach glacier proportions. Humphreys at 12,794 feet above sea level is the highest point in Arizona. The other principle peaks are Agassiz and Fremont. The Hopi Indians believe that the Katchina people dwell there on the snowy summits, which they call *Nuva-tekia-ovi*, Place of the Snows.

To the south we could see the Tonto Rim, from here only a series of undulating hills, feathered in green. Out to the east is New Mexico, land of color. Then our



Sunset Crater with San Francisco Peaks in background. The peak represents a far older page in geological history, but they were formed in almost the same way. Crater is 400 feet deep and quarter of a mile across. Pine trees have rooted in the cinder even on the steep slopes. Hot mineral springs are along the rim.

eyes moved to the Painted Desert, with Navajo mountain a mere line on the north-eastern horizon, looking black and mysterious. It is here that the Navajo war god is buried. The circle was complete as we

glanced over the Grand Canyon country and then back to the San Francisco peaks. But our attention now was absorbed by the wonders close at hand. I quite frankly had expected this, my first crater, to show a gaping hole that would go down, presumably, into the very bowels of the earth. What I actually saw was a sink 400 feet deep that ended in a smooth bed of cinders and out of which about 50 sturdy pine trees grew, with never a chance to glimpse the outside world. If trees can think, what a strange idea these must have of what the world looks like—unless the talkative birds that come even here, keep them better informed. Perhaps an occasional wildcat finds his way here, for several days before our visit one had been seen out on the Bonito lava flow, northeast of the crater.

The rim to the east is 150 feet higher than its western edge. This is explained

Growing in the dunes of cinder that surround Sunset Crater, this little pine has had a hard struggle to achieve maturity. The cinder forms a mulch which holds moisture for vegetation.



in terms of the westerly wind which must have been blowing at the time of the eruption, causing the cinders and ash to fall in this direction and, adding to the tumbled rocks, build up one side of it. The crest is 8000 feet above sea level and the sunset effect, which we had noted from below, comes from sulphur crystals, limonite and gypsum. When it was very hot here, these elements were oxidized and their bright colors still decorate the rim of the crater.

Looking down the outside slopes of the crater we could see great dunes of cinder in graceful sweeps. Like black sand, they registered every whim of the passing winds, and some recent tire marks were visible where some foolish motorist had tried to see how far the car would go up a slope. Along the lower edge of one of the dunes that lay spread out below us, was the Bonito lava flow, looking like a stream which might at any moment escape from the enchantment that holds it and go flowing away. Some people that we met the next day, expected it to do that very thing because they asked us where they could see the lava in motion.

"We were told that we could see the Bonito lava flow."

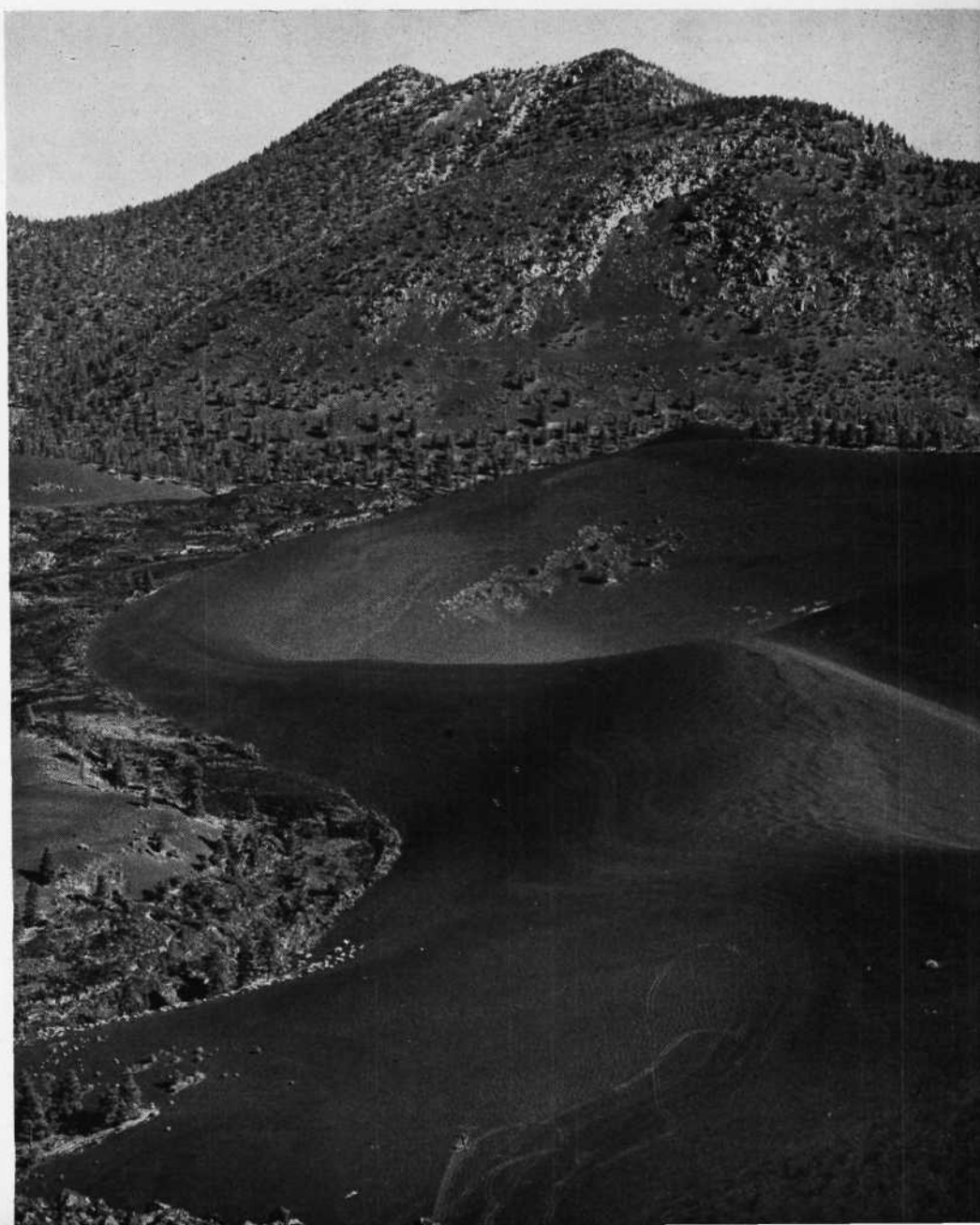
We had to tell them that they were approximately 1060 years too late to see it flowing. For which they should have been grateful instead of so manifestly disappointed.

Back in that distant period that geologists call the Tertiary, this whole great plateau of central and northern Arizona was a plain at about sea level. The many fossils of marine animals that have been found here indicate that even before the time of which we speak, there was a great sea here. Toward the end of the Tertiary period extensive lava flows developed. From cracks in the earth, out of the limestone and underlying rock, came basalt in a very liquid form. It flowed out over the gently sloping surface. In some places cones were built up with the outpouring of cinders and more viscous lava. After a time, the activity stopped and the forces of nature started to wear down the new and porous surface. It is known that in the past 1000 years there has been practically no erosion on the top layer of lava, so that a great space of time must have gone by,

Great sweeping cinder dunes seen from slopes of Sunset Crater. Along lower edge, some of the frozen rivers of lava seem to be still in motion. Cinders can be seen even on hills in background, with trees pushing up through them.



View from Sunset Crater with black cinder dunes in middle foreground. Some of the mountains in the distance are about 100 miles away. Photo taken on infrared film, 1 sec at f:32 with light red (R10) filter.



for the first lava has been deeply eroded. It would be only a guess to say that 50,000 years passed before another crop of lava came up from the earth. It was different in some respects from the first, being less fluid, more acid and with larger fragments. Some of this is recognized as andesite, dacite and latite. Now the rocks piled up, building whole mountains. The San Francisco peaks, Kendrick peak, Elden mountain and O'Leary peak, to mention a few of the high summits, were created. They were not, as has happened elsewhere, made by pushing up whole sections of rock formations, but were piled there in what must have been a time of indescribable tumult. The imagination seems limited indeed when it tries to picture what a day in that age must have been. But, of course, it was far too long ago for any human to have been alive, anywhere. So we can consider it calmly in terms of "changes" without having to consider the "damage" that occurs now when an eruption takes place almost anywhere in the populated world.

Quiet again descended upon the land, which must have looked raw and torn for thousands of years before erosion could carve out new canyons and wear off the sharp edges and prepare the earth for vegetation.

It was during the Pleistocene age that the third period of activity occurred and has continued almost until today. Some thousand years ago Sunset crater was created in the course of an eruption. The material exuded was basalt and as in the first period, it came out from numerous cracks and openings, mostly from the earlier lava sheets. It ran down valleys that had been covered once, then eroded and now were covered again by many feet of lava. At some of the vents, like Sunset, the flowing liquid was followed by tremendous explosions of material from the interior, and of cinders and ash. The ash spread out over some 800 square miles. Since that time all but about 100 square miles of it has been eroded away.

We can believe that there was a tremendous amount of noise and fierce shocks like that of an earthquake that were felt for great distances. As the clinkers and cinders fell back to earth, cones were formed around some of the vents. Part of the lava was compact and came out as bombs. We saw some of these as well as others that were long and irregular. The liquid lava contained a great volume of steam and so it is porous, being full of these steam holes.

In this barren region where low red mesas form the horizon and sandy washes carry the season's rainfall in the direction of the Little Colorado river, there are now only a few Navajo Indians living. They have their homes within reach of the water. A few white men's ranches huddle close

to the slopes of the San Francisco peaks. Yet in the years between 1000 and 1200 A. D. there were as many as 4000 souls in this small area! Strangely enough, it was the eruption that made life possible. The mulch of ashes which fell, kept the moisture from flowing away as it had done previously, and until overintensive cultivation and the succession of seasons had washed it off again, it made possible the first land rush in America. Today the interesting remnants of houses left by these people are being studied to complete the expanding picture of their life and times.

The lava flows that we saw from the crest deserve a word. Before Sunset came into being, the earlier lava flows had upset the original pattern of drainage by blocking its passage with cones and layers of cooled lava. So the water had to cut its way around through new paths and one of these goes through what is called Bonito park. It wound around a crater and then worked its way northeast down to the Little Colorado river. It is known by its Hopi name of Kan-a-a wash. Ruins of early pit houses have been found in the upper part of the wash in the terraces, under layers of yellow ash and lava. It was across this wash that one of the new fissures developed. It extended about four miles and from it came a vast amount of material, enough, in fact, to build the cone of Sunset (which now covers part of the fissure) and to supply the two lava flows, and then build some fumeroles and cover the earth for miles around with the black basaltic sand or ash. The Kan-a-a flow went down the wash for about seven miles. Finding space it spread out into a lake a mile wide in one place, and at another point it drops off into a frozen falls. That this flow occurred early in the eruption is shown by the fact that it is covered deeply with ash.

On the other or northwestern side of the crater, the flow that is called the Bonito found itself blocked by the cone of Sunset and it spread out fanwise into a basin that was encircled by other small cones. In this inter-conal basin it piled up into a lake. It was half formed before the crater stopped spouting and so over much of it is a covering of black sand and larger lapilli and some scoria.

These flows are weird looking. They seem incredible under the blue Arizona sky. Twisted, like tortured things, they are so sharp-edged that they would cut shoes to ribbons if you insisted upon walking for any distance over them. Standing and staring at them one must conclude that this lifeless period is only a hiatus in nature and though it may take 50,000 or 100,000 or a million years, things will grow here again in profusion and water will find an easier path through it. The cones will wear down

to gently sloping plains. That is, of course, until there is another eruption.

There are other things of interest within the 3000 acres of the monument. The ice caves near the base of the crater afford a cool spot on the warmest of days. They are the result of the mass of lava cooling unevenly. The top cooled while below the lava still was molten, and it flowed away in places, leaving caves under the crust. There always is snow on the floor and ice clinging to the ceilings of the caves. They have not been fully explored, and except to the very adventurous, they are forbidding rather than inviting after the first glimpse with a flashlight.

The squeeze-ups or anosmas on the Bonito lava flow are unique in their form. They have occurred where lava was in a plastic condition and was squeezed up through harder lava. The sides of the basalt tongue show the groovings that correspond to the walls of the fissure. Like clay, it pushed plates over plates before it finally hardened. One squeeze-up is over 120 feet wide and can be traced to the northwest end where there is an amazing mass of lava. It tumbles and radiates in many directions. This is the "mother of the squeeze-ups."

All about are the small fumeroles or spatter cones. They often occur in a line and were the final spurts of activity along some weak spot in the earth's crust. We noticed one of them that a hopeful miner had excavated, without finding anything for his labors.

By an ingenious method of measuring the tree rings and dating timber from that, it has been possible to give an approximate date for the eruption of Sunset crater. From timbers and bits of charcoal found in the pit houses that were built by the prehistoric dwellers, 885 A. D. has been fixed as the probable date. The fresh surface of the lava attests to the fact that it was only a day ago, geologically, and yet it has seen a civilization rise and fall. Now a new race of people come and stand at the base of the crater. They come, not to live here, but only to ponder on its sudden birth and its strange, weird beauty.

On May 26, 1930, the proclamation of President Hoover made this area a national monument. Fittingly enough, it offers no hospitable camp grounds and no custodian lives in a neat house tucked around the corner of a fumerole. It impresses the mind more in its loneliness. Leaving it I looked up as the sunset again touched its rim and the lower portion of its black slopes were quickly fading into night. The flaming rim of the crater caused an involuntary shudder that was partly admiration and partly fearful expectation. Had the cone suddenly flowered into a shower of ashes and burning red lava, it could not have looked more portentous.



"We spent most of the day getting our car out of that icy stream."

Wood for Indian Bows

For years, Randall Henderson has been prowling the Southern California desert in quest of springs and waterholes where native palm trees grow. Some of these palm oases are quite accessible—others are found in terrain so rough they are comparatively unknown. This month the writer describes a canyon where Indians came in prehistoric days to cut desert willow for their bows—and where today palms grow beside a stream that cascades down over almost vertical rock walls.

By RANDALL HENDERSON

THERE are chill winter days on the desert when it is no great hardship to become mired in the sand—days when the warming exercise of shoveling and pushing and carrying rocks and cutting brush is a welcome diversion. Well, perhaps not exactly welcome, but at least not painful.

But to be bogged down in an icy stream on one of those days—that is something else.

I have in my memory a picture of such an experience. It was midwinter in 1939. A cattleman had told Arles Adams and

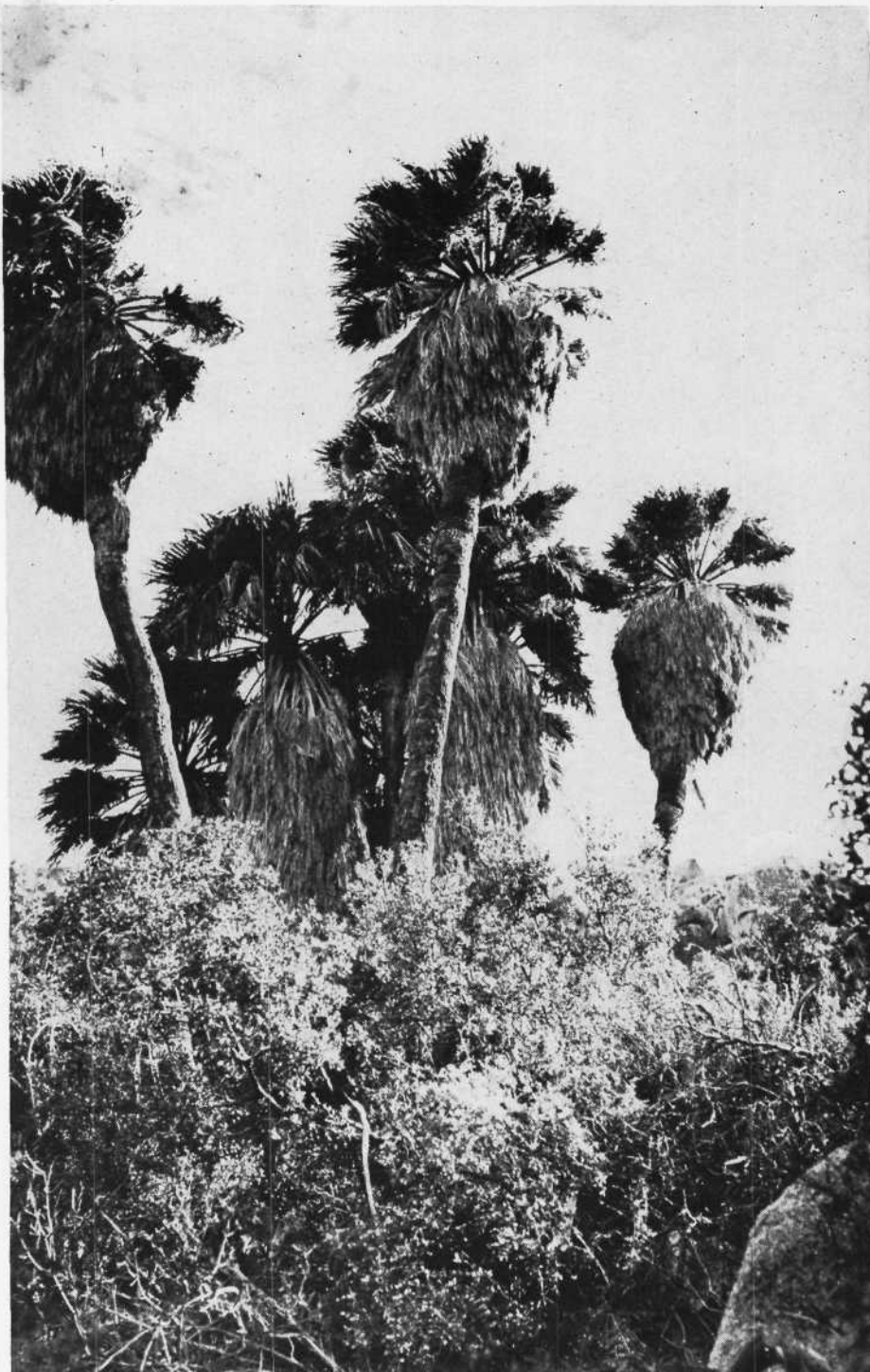
me that if we would drive out from El Centro over the Imperial highway to a little hill called Egg mountain, and there follow a wash which leads back into the Inkopah mountains, we would find a native palm oasis.

To keep your geography clear, Imperial highway is a projected road which someday—if the Imperial highway association is successful in a crusade it has been carrying on for many years—will provide the Southern California coastal area with a new and rather direct route into the Colorado desert. A section of the road crossing

the southern edge of Los Angeles and into Riverside county is now paved. But the desert sector, following approximately the route of the old Butterfield stage road, is still just a crooked trail that isn't even passable in places.

But in 1939 Arles and I had a Model A Ford that would travel the desert regardless of roads. So we headed for the unnamed canyon to look for the palms. Egg mountain is not a very imposing landmark—just a low rounded hill. But we knew where it was located, and we had no difficulty in finding the sandy wash that extended back into the mountain range which is the dividing line between the Southern California desert and the coastal plains along the Pacific ocean. The range at this point is called Inkopah mountains.

At its entrance, the arroyo is wide and covered with a heavy growth of mesquite trees. But there was a trail through the mesquite forest. As we continued along the floor of the arroyo the hills began to close in on both sides and the sand became heav-



Two distinct generations of palms are seen in this picture—the scarred veterans whose skirts of dry fronds were burned in ancient fires, and a younger generation of mature trees having frond skirts that reach to the ground.

ier. Then we encountered water—a sheet flow that came down from the canyon beyond and spread over the floor of the wash and eventually disappeared beneath the sand.

Every motorist knows that wet sand makes better traction for the car than dry sand. We continued along the small stream nearly three miles, the canyon becoming narrower as we climbed. I was at the wheel and was congratulating myself on our good luck in finding water in this canyon—

until suddenly I turned a bend and there just ahead was a great barrier of boulders. In the meantime, as the canyon narrowed the water had become deeper, and when I tried to swing the car around sharply to head back down stream I lost momentum—and there we mired. The swift current cut the sand from around the wheels and we were down to the running boards.

Arles and I spent most of the day getting the car out of that stream. We finally solved the dilemma by bringing in flat

rocks and jacking up the car and building a rock platform under the wheels. In fact, we virtually had to pave the entire floor of the stream with rocks, for the canyon was so narrow it was impossible to swing around without much backing and cramping.

We would wade around in the icy water until our toes were numb, and then climb up on the bank and thaw out by a fire. Fortunately, there was plenty of deadwood.

Late in the afternoon, with the car out on solid ground again, we hiked far enough up the canyon to glimpse some of the fine *Washingtonia* palms ahead. But the fun of exploring the canyon its full length would have to be postponed to a future day.

Far up on a steep slope beyond where we turned back, I saw a little cluster of palms with a great split rock on the ridge above them. Since none of the maps gave a name to this canyon, I identified it in my field notes as Cleft Rock canyon.

Sometime later, talking with Robert Crawford, San Diego county ranger for the Vallecitos desert area, he told me one of the old Indians still living in the mountains of San Diego county referred to this as Bow Willow canyon. At an earlier period the Indians came here to cut wood for their bows from the desert willow (*Chilopsis linearis*), which grows abundantly in the arroyo below the rocks.

And so, as far as I am concerned, it is Bow Willow canyon—a most appropriate name. Edmund C. Jaeger tells me the so-called desert willow is not a true willow, but a catalpa. However, in every respect except its pinkish white blossoms, the tree reminds one of willow, and probably the common name by which it is known will remain popular.

Arles and I had often discussed a return trip to the canyon, but it was not until last November that we had the opportunity to go again. Peggy and Russell Hubbard of Los Angeles were the leaders of the Sierra club camping trip in that area, and they invited us to have Thanksgiving dinner with them in camp. We did not arrive until two days later—but a big portion of their Thanksgiving turkey, cooked ahead of time and taken on the trip, was still in the roaster, and I can assure you that turkey and sage dressing lose none of their flavor when served on a camp table among mesquite trees.

We found less water in Bow Willow canyon on this trip, and parked our car on moist sand near the spot where we had spent hours getting it out of the frigid water seven years ago.

A tributary canyon comes in from the south at this point, and as we could see palm fronds far up between the narrow walls of this side canyon, we divided forces and Arles explored the tributary while I continued up the main canyon.

I found two grown palms about 300

yards beyond the point where our car was parked. Then I tramped a half mile before seeing more of them. There is a fair trail in the lower canyon, made by cattle who in dry seasons sometimes have to go some distance up the gorge to reach the receding water supply.

The canyon rose steeply and by the time I reached the next palm trees I was finding it necessary to detour around great blocks of granite lodged in the bottom of the creek. Then, for a distance of 1½ miles palms were scattered along at intervals—many of them vigorous young trees, others mature and skirted with dead fronds to their bases. Occasionally there was a much older palm that had been burned in fires perhaps 50 or 100 years ago.

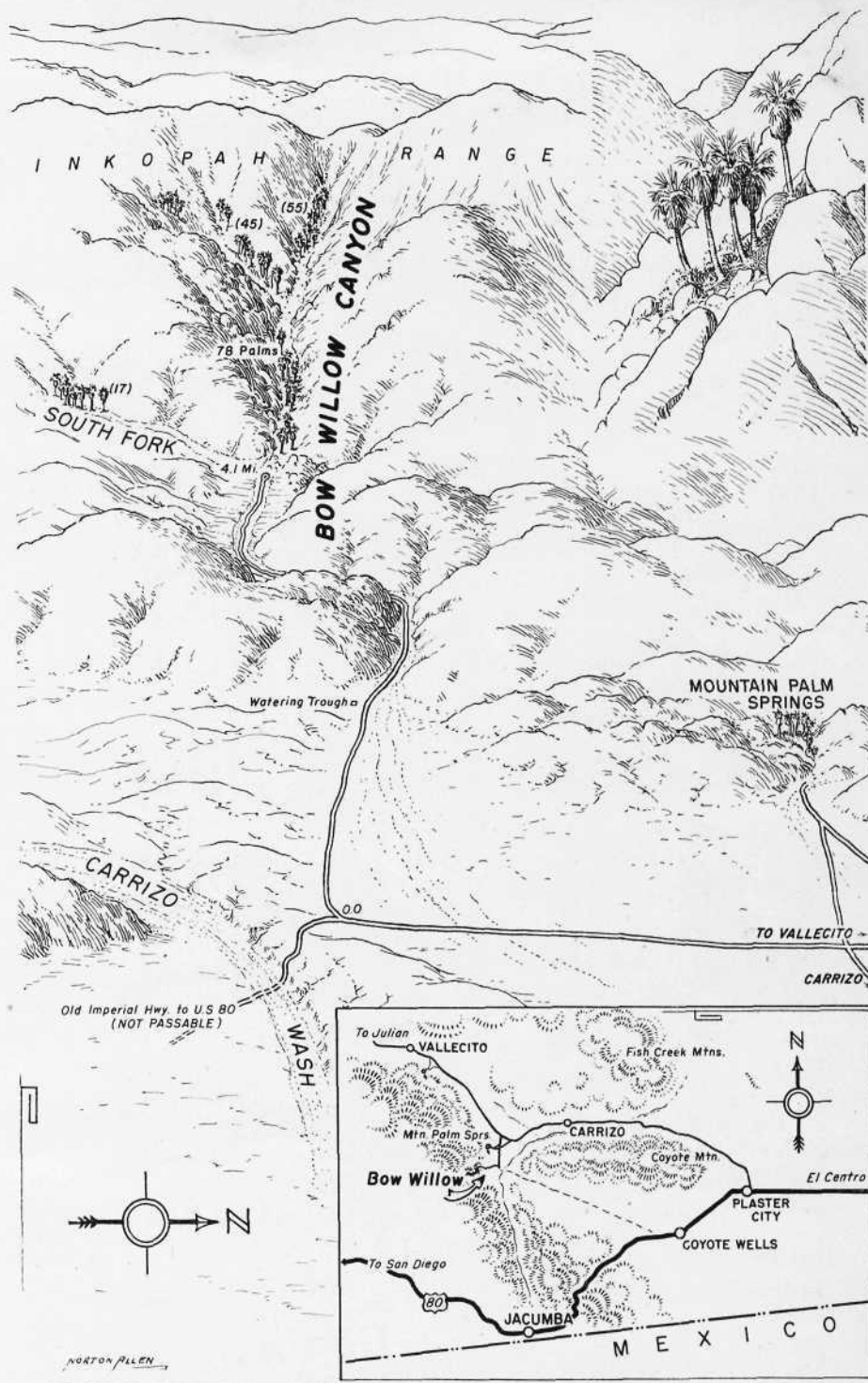
Once I knelt beside the stream for a drink and there a few inches from my eyes was a tiny bar of sparkling yellow mica—the most realistic exhibit of fool's gold I have ever seen.

Two miles from the car, the canyon divided into two prongs, with palms high up toward the ridge where the canyons ended, in both of them.

I took the left fork, finding many Washingtonias along the way, and eventually climbed the mountain slope for a close-up view of the tiny cluster of trees I had seen from the distance seven years before. Evidently there had been a spring here at one time, and water was still close, although none came to the surface. There were 17 palms here, grouped so close it was hard to count them.

Nature has done a very orderly job of perpetuating this little palm oasis. There were four generations of trees, with age separations as distinct as one would find in any human family. The older generation—the great grandparents—were dead. One tree was lying on the ground and there were two crownless trunks that had not yet fallen over. The next generation—the grandparents—were four veteran trees, burned and scarred and bent with age—still green at the top, but obviously with not many years to live. The next generation consisted of four fine full-skirted trees in the prime of life, perhaps 75 years of age. And at their base were six young palms not over ten feet high, reaching out for the sunlight that would give them strength and growth to bear seed and perpetuate the little hermit family to which they belonged. Nature's plan for an orderly and balanced universe is not always as apparent as in this remote little palm oasis.

I returned to the bottom of the canyon and followed the creek up nearly to its source, until I was satisfied there were no more palms in this prong of the canyon. Then I worked up over a ridge and down to the headwaters of the other fork. Here I found a fine stream of water cascading down over a series of falls. The tragedy of the moment was that the sun had gone be-



low the horizon and there no longer were the shadows necessary to get good pictures of the cascades.

It was dusk when I reached the car, and Arles was waiting. He had found 17 palms in the south tributary, and a limited supply of water. The tabulation of Washingtonias in Bow Willow and its tributaries is as follows:

Main canyon, to the forks—78 palms.

Left prong, including sidehill oasis—45 palms.

Right prong, the cascade tributary—55 palms.

South tributary—17 palms. Total 195 trees.

Bow Willow is within the area of the Anza Desert state park. However, there are some privately owned sections in this part of the state playground, and since Bow Willow is not plotted accurately on any of the maps available, I cannot be sure that all the palms are within the park. Regardless of their park status, however, they are well protected by a terrain so rugged as to be closed for the most part to livestock and to all except the rock-climbing members of the human family. The elevation of the highest palms is 2600 feet, and the



Looking down from about 2000 feet to the floor of the desert.



On the ridge above the sidehill oasis is a great cleft rock.

ascent of the two prongs involves considerable hand-and-toe climbing.

For the information of those who may be interested, the old Butterfield road between Plaster City and Agua Caliente is practically impassable, due to heavy sand. This is only a temporary condition, resulting from heavy rains last August. Light rains this winter will pack the sand—but those who have been over the route well know that at best it is not a boulevard.

Even in the jalopy with big tires, we were stuck several times, and on the return trip down Carrizo wash we spent an hour getting out of one sand pocket. When the sand in an arroyo is so soft one cannot travel downstream with over-sized tires, then it is no place for a stock model automobile.

Until such time as the California park commission can provide adequate ranger service for Anza park, probably it is fortunate that such scenic palm oases as those in Bow Willow are virtually inaccessible. As part of the park system, these palms belong to you and me. It is good to know Mother Nature is guarding them so well.

Sez Hard Rock Shorty of Death Valley



At the Inferno store the salesman for the Komfort Kooler was demonstrating the fine points of his air-conditioning device. "There should be one of these Koolers in every cabin in Death Valley," he was saying. "The old days when you sweltered through 120-degree summer weather are gone forever.

"And now, are there any questions you want to ask about the Komfort Kooler?" the salesman asked when he had finished his demonstration.

"Well, I ain't got no questions," said Hard Rock Shorty from his perch on the counter. "But I'm tellin' yu, we ain't got no use for them new fangled things. We've tried 'em, and they ain't no good.

"Ol' Pisgah Bill got a notion once that he wanted to rig up a contraption for coolin' his shack. That wuz in the old days when Bill was in the chicken business.

"He lugged in a lot o' pipe from that ol' Blue Buzzard mine up in the Panamints, and ran a line out to that ammonia spring in Eight Ball crick. Bill spent a lot o' time laying that pipe under the floor and around the walls. Then he turned on the ammonia, and it seemed to be workin' pretty good. Except one night he took off his shoes before goin' to bed. He got his toes frostbit, and there wasn't no snow to rub on 'em.

"But Bill had forgot about havin' an incubator full o' duck eggs over in one corner of the room. An' two weeks later when them eggs hatched out they wuz all penguins."

Desert Refuge

By MARSHAL SOUTH

CHRISTMAS is over and the Book of Record has turned another page. The weary old Chief of 1945 has surrendered his staff of office to his successor. The new Chief, lusty in his youth, sits in council. The hearths are new swept and new fires kind'ed. Upon the house tops and upon the tops of the mountains the scouts and the new watchers take their places, scanning the horizon. What will the New Year hold?

Our cheerful youngsters, together with the packrats and the jackrabbits and the sociable family of spotted skunks in the attic—and all the rest of the carefree desert family—are not unduly concerned about the future. The memories of Christmas and of Santa Claus are still too vivid with them. And though Rider, as befits his mature age of almost 12, belongs to the "initiates," a fellow-keeper of the Great Secret, that fact, and his consequent deeper knowledge of the old Saint's private affairs, does nothing to spoil his enjoyment of the season. Perhaps it adds to it. Sometimes we think so—catching often a quizzical twinkle in his eye. Secrets do give one a feeling of importance.

This Christmas makes the second one which the youngsters have spent away from their beloved Yaquitepec. And, as in Utah, they indulged in some needless pre-Christmas worry as to whether the old Saint would know where to find them when he came to the little Ghost Mountain home and found it empty. However they now are satisfied that he is a pretty good "locater" for he dropped around to our present abode of exile with no trouble at all.

Of all the controversial issues which have arisen during the years that Marshal South has written of his and his family's primitive life in the desert, probably the most insistent one is this: What are you going to do with your children? This month Marshal sketches his plan for their future.

Nor was old Santa alone in his skill. All up and down the friendship trails which radiate through the desert to all parts and sections of this great land, a host of grand and loving friends sent in their gifts and greetings and heartfelt wishes.

There is an inquisitive wasp drumming around my ear. Now it is only occasionally that we see a lone wasp. Once they were here in great numbers. Industrious fellows, building their multiple-cell nests in every handy spot—on overhead beams, from the tops of outside window frames, from the inside slope of out-house roofs. Like grotesque upside-down bouquets these nests were, hanging by their single slender stalk from their supports and with the bright colors of the always busy wasps further heightening the flower effect. Paper-nest wasps, these. Their nests are constructed of an ingeniously fabricated paper, hand-made—or rather mouth-made—from vegetable materials.

Having experimented a little with paper making ourselves we were willing to grant to the wasps high honors for their ability. But when, in the fall, they began to move into our sleeping quarters, our high regard for them began to warp a little. What it was that attracted them I don't know. Maybe it was some peculiarly delightful aroma in the waterproofing substance in a big piece of tarpaulin with which we covered our blankets. Whatever the cause, they formed the daily habit of congregation around our outside beds. And in the evening, when we retired, we always would have to dislodge two or three hundred of them from snug berths in the deep folds of the canvas. Some-

Even in their temporary refuge, Santa found the Souths.



times they managed to get through crevices in the under-tucking and penetrated to the bed itself. Where, on more than one occasion, being lain on, they became annoyed and retaliated by jabbing their red-hot daggers into us. This was bad enough. But when the victim happened to be Victoria it was worse. Victoria can yell loudly and continuously. On occasions when she and the wasps had arguments we lost hours of sleep.

There is a good little heating stove in our present refuge. On chilly days it dispenses a comfortable warmth. But the children miss the great roaring fires of dry mescal butts which cheered the winter days on Ghost Mountain. Moreover, this heater, being a unit of the march of progress has to have its wood cut for it. It must be just so. A piece a little too long is haughtily rejected. And whoever happens to have the job of keeping the fire burning must go out into the chilly darkness and cut the offending piece of fuel shorter.

I remember once listening in while an "eminent person" was humorously discussing a great, open fireplace which he had seen in some ancient dwelling. He opined that the man who had built it had been too lazy to cut fuel. Of course all his hearers laughed. But it was one of those laughs which come out of the windy depths of nothing. For I doubt that any of them ever had to rub shoulders with natural living. If they had, they never would have laughed. It is true that the reason for making a fireplace ample may be to avoid the cutting of fuel. And the underlying reason may be "laziness." Yet it is a peculiar sort of laziness. It is the "laziness" of intelligence; the laziness which is the driving force of all labor-saving progress. It is the same laziness which impels a man to put the weight of a load upon wheels instead of dragging it by sheer brute strength along the ground.

It is the "laziness" of primitive intelligence. Which, in its beginnings, is a marvelous thing. When it goes for a certain length of time along its path and becomes "civilized" and set into patterns then it often becomes changed from intelligence into foolishness. As witness the complicated and stupid things which almost every "educated" and "developed" person does every day of his life. Just because it is custom. Just because everyone else does them that way. Just because it is the fashion. When one pauses to reflect, sometimes, on the amount of human energy—and tears—expended in order to make the Laws of Nature conform to the Notions of Man, one does not wonder why the old Greeks thought that the gods, on their perch in the heavens, were continually in roars of laughter at sight of the human comedy below them.

And this thought, in a way, brings me to a discussion of the question, often asked by friends and acquaintances: "What are you going to do with your children?"

It is a personal question. And it is one which I hotly resent or else deeply appreciate—according to the motive and the disposition of the questioner. For, after all, despite the customs of an era in which everyone seems to think that he has been especially appointed by Divine Providence to act as his brother's keeper, it is nobody's business—except mine and my children's. Provided always that we do not go out of our way to infringe upon the rights of others. Something which we have no intention of doing. "Peace," said that great Mexican, Benito Juarez, "is respect for the rights of others." An immortal sentence. This would be a world much pleasanter to live in if it were taken more to heart.

But to return to the immediate question—a question which, at the moment, I feel disposed to answer in part—what do I intend, or plan, for my children's future? Did I, in the first place, go to the desert in a huff, there to glower and snarl and crunch bones among the peaks—there to raise a breed of be-feathered, painted savages? Or did I run out on civilization because I was incapable of measuring up to its intellect—bringing forth, in my wild retreat, descendants who will be ignorant, timid weaklings? Was there "method in my madness" or was it all just an accident? In short, to be definite, and to frame the

question in the agonized words of some of my questioners: "Why, oh why, did you do it?"

And to that definite question I shall make an equally definite answer. *I did it to break the mould.* I did it, and am doing it, with the deliberate intention not only of freeing myself from the shackles of a system of existence which is drugged and paralyzed with error and convention, but to give opportunity to several other souls to grow up in an atmosphere and an environment in which they would not be afraid to think for themselves. In which they could face, clear eyed and clear brained the fundamental realities of life.

A mould is a terrible thing. Whether it be human thought or melted iron, the moment you pour it into a mould you kill its individuality. The pot which the Zuñi Indian makes by hand, singly, is a thing of soul and beauty. Let a commercial organization get hold of that pot and make a plaster mould of it and start to turn out cast moulded pots from it, in wholesale numbers—even though they be cast of the same clay as that from which the original was fashioned—and you get things not of soul and beauty but of soulless, uninteresting mediocrity . . . I had almost said of horror. The life, the individuality, everything worthwhile in the original pot is gone.

So also with human beings. The moment civilization is firmly established it begins to cast them in moulds, to crush them, to hedge them around, to prohibit their individual thinking. Their ways are ordered for them. Their thinking is done for them. They are afraid to accept any idea that is at variance with the mob. They are victims of the mould. And it is a mould more difficult to break than any mould made of steel.

But, in the case of my "desert experiment"—as some have called it—I have broken the mould. For myself absolutely. For my children almost definitely. I say "almost" because there are two of them still who have not yet had enough years of freedom to enable their mental outlook to stand alone. Rudyard and Victoria are young. If they were dragged back now into the "factory" it might be that their early training would not be strong enough quite to resist the corroding influence of the "acid." Rider, however, is free. For though in later years he may perhaps elect to associate himself with civilization it will have no power over his free thought. Neither now nor then will he accept any condition or statement without challenge—without subjecting it to personal analysis. Names to him mean nothing. But truth means everything.

And do I have plans for the future? Yes, very definite plans. They go forward slowly, but definitely, from day to day. Those plans aim at the establishment of a center of handicraft, art, publishing and industry. Yes, a family center, if you will. Or if you choose, call it a clan center. A cooperative, personal body as self-supporting as were the ancient monasteries (which, in their day were the guardians of most of the worthwhile things of their age). Food will be raised. All necessities needed will be products of home handicraft. It is my hope that in this my children will find outlet for the immediate home use of their several talents. And that when they become old enough they will marry and settle at home.

This is the hope. There is no compulsion. The world is wide. If they have other plans they are free to follow them. But at present, from the interest they show in printing, art work, mechanics, agricultural study and philosophy, the outlook is bright.

MAN

*So mighty are we? Nay, not so!
Whate'er our destiny we know
That right still rules, and all we do
Is measured carefully and true.
Man is a small, defenseless thing,
Save as he does God's will.
When all his destiny will bring
But good his soul to fill.*

—Tanya South

Bernard Johnson, 45 years ago, envisioned a profitable date-growing industry for the American desert, and when others were skeptical, he hitch-hiked his way to Algeria in North Africa and brought back the initial planting of Deglet Noor offshoots which became the parent planting for California's highly-productive gardens. Johnson was not the first to bring Old World offshoots to the United States, but to him more than any other should go the credit for launching date-growing as a commercial industry.

He Brought African Dates to Coachella

By ROY W. NIXON

EARLY in the spring of 1901 a freight train brought to Coachella valley, California, a young man who was destined to play an important part in shaping the future of this area. Although he had learned to travel without money, Bernard G. Johnson was no ordinary hobo.

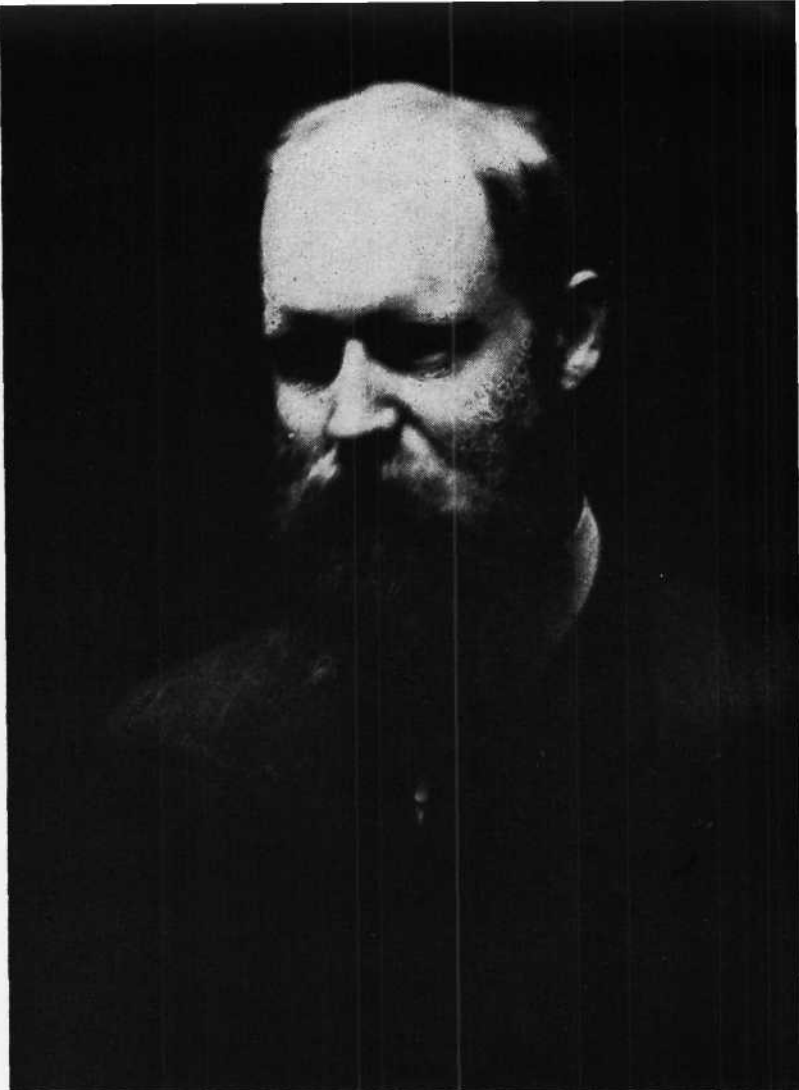
He had left his home in Schleswig-Holstein, Germany, because of compulsory military service. He had been inducted into the army and had served several months, but found it so disagreeable he bribed a doctor to get him a medical discharge, then got out of the country to avoid any further complications.

Before coming to the United States by way of Canada he had traveled in Europe and had acquired a familiarity with the date growing areas of North Africa. This apparently had something to do with his trek to the Colorado desert, then a remote and seldom-sought corner of United States.

Almost the first thing the newcomer did when he left the freight cars at the little station of Woodspur, now the town of Coachella, was to apply for a job with a well driller who was operating a rig near the railroad. Johnson, a broad-shouldered six-footer, of powerful physique, was a welcome addition to the crew. Although a bit awkward in his movements, often bumping his head against the crossbeams of the well rig, he did his work well, slept in a bedroll under nearby mesquite without complaint, and gained the respect of other members of the crew, who were slightly awed by his reserve and his occasional comments about travel in the Old World.

From the very first Johnson seems to have had an objective. He told the workmen he believed dates could be grown in this region. It may not have been entirely by accident that he worked most of his first year on a well rig, for it was only a few years earlier that the existence of an artesian water supply in Coachella valley had been demonstrated and it is altogether probable that he wanted to satisfy himself about the water resources of the locality.

Johnson took up a desert claim about three miles southeast of Mecca. He planned to develop this land, but without funds he saw that it would be years before he could accomplish much. His ideas about the future had begun to take shape. He was im-



As Bernhard Gustav Claassen he bribed his way out of the German Army. As Bernard Johnson he became the daddy of the date industry in California.

patient to carry them out, so he began to explore the possibility of obtaining land already developed that might be used for his purpose. This later proved to be a fortunate turn of events, for when the Colorado river broke away from the engineers in 1905 and filled the Salton basin it covered much of Johnson's claim.

Meanwhile, Johnson made the acquaintance of R. Holtby Meyers, then secretary of the Mecca Land company. He confided his growing conviction that there were possibilities for date culture in Coachella valley, which he found similar to some of the date-growing oases on the edge of the Sahara desert south of the Atlas mountains in North Africa. He told of his plan to go to Algeria and buy offshoots direct from the natives in order to start a commercial date garden. He explained that only in this way could uniform plantings of good varieties be obtained, as palms grown from seeds are extremely variable and only a small percentage are likely to produce fruit of good quality. But he had no suitable place on which to plant the offshoots. He suggested to Meyers that it would be much to the advantage of the Mecca Land company to have this date planting on land adjacent to their holdings.

Listening to Johnson's proposal, Meyers began to share his enthusiasm. The result was that the company gave ten acres outright on which Johnson was to establish his date garden. The company also agreed to furnish water until a well could be drilled.

Johnson immediately left to get his date offshoots. He had only \$300—all that was left after an option taken by Meyers on his desert claim enabled him to pay off his debts. Meyers protested that this small amount would not finance an importa-



Johnson in the midst of his 1912 importation of date offshoots near Yuma, Arizona. The offshoots were first closely planted and later when well-rooted, transplanted to a permanent garden with wider spacing.

tion, but Johnson is said to have laughed and replied that it wouldn't cost him anything to travel and that in Algeria he would live with the natives and learn about date culture while he was getting his offshoots. Apparently he did just that—hoboed by train across the United States, worked his way on a steamer across the Atlantic, spent a few weeks in Paris brushing up on his knowledge of French and finally arrived in Algiers in June. This is attested by a letter written to the U.S. Department of Agriculture from Algiers on June 30, 1903, in which he announced that he was on his way to Biskra to buy offshoots. On September 3 of the same year he was back in New York City and wrote again to the Department reporting that he had brought 129 offshoots, of which 87 were Deglet Noor and the others divided among the varieties Rhars, Areshty, Iteema, Hamraya and Horra.

Holby Meyers was notified of the arrival of the importation by a telegram from Johnson stating that the offshoots were being held for transportation charges and that \$175 would be needed to get them to Mecca. Meyers wired back the money. A few weeks later the offshoots were planted on the ten acres given to Johnson by the Mecca Land company about two miles east of Mecca.

If ever date offshoots received individual and constant attention, these did. Johnson lived alone in a little shack among them. He made daily measurement of their growth. Day and night he kept a watchful eye over them. Once he fired his shotgun at a burro that happened to find its way into the planting.

Visitors were likely to find him with a shovel irrigating—usually barefooted, often bareheaded. The long reddish beard that he began to cultivate soon after he came to Coachella valley made him look much older than he was. Strangers found him reticent, difficult to approach and likely to display his violent temper with slight provocation. Like many frontier characters his speech was blunt and he was lacking in social polish. Yet the few who came to know him report many long and interesting conversations about his travels in the date countries of the Old World.

Johnson's formal education had been limited to the lower schools in Germany, but he was a prodigious reader and took notes on all he read. Soon after his first importation he bought Encyclopaedia Britannica and gave evidence as time went on of

having acquired much of its contents. About once every six months he spent a few days in the Los Angeles city library checking up on his reading. People who met him during his later years in Coachella valley were impressed by his learning.

Many people have been under the false impression that Johnson was in the employ of the U.S. Department of Agriculture when he made his early importations of date offshoots. The only official government connection he ever had was for one year beginning in the spring of 1904 when he was temporarily placed in charge of the experiment station started by the U.S. Department of Agriculture in cooperation with the University of California on land leased from the Mecca Land company adjoining his garden on the east.

He had one diversion during these early years in Coachella valley. After the formation of the Salton sea he built a catamaran sailboat and was said to be expert in its manipulation. His companion on some occasions was Bruce Drummond, in charge of the experiment station at Mecca and also the first superintendent of the U. S. Date Garden at Indio after its establishment in 1907. According to Drummond, sometimes when they were a mile or two offshore, Johnson without warning and without removing his clothes would plunge into the water and swim away for a while. Drummond, who knew nothing about sailing, was left alone to handle the boat, much to his discomfiture and to Johnson's amusement, particularly on a windy day.

Johnson made another small importation of date offshoots in 1908, of which detailed records seem to have been lost; although several people in Coachella valley obtained some of the offshoots and the Arizona experiment station at Yuma reported the receipt of 26 offshoots representing 15 varieties in fine condition. In making this importation he tried the experiment of shipping the offshoots across the United States in refrigerated cars. The method seemed to have merit for shipments during hot weather and it was used later in his first large importation.

About 1911 Johnson received news of his father's death. Property to the value of more than \$12,000 was left to him. This made necessary a trip to Germany to settle the estate. Also it gave him for the first time funds with which to make a large importation of date offshoots. He brought 3000, nearly all Deglet Noors, from Algeria to Coachella valley in June, 1912.

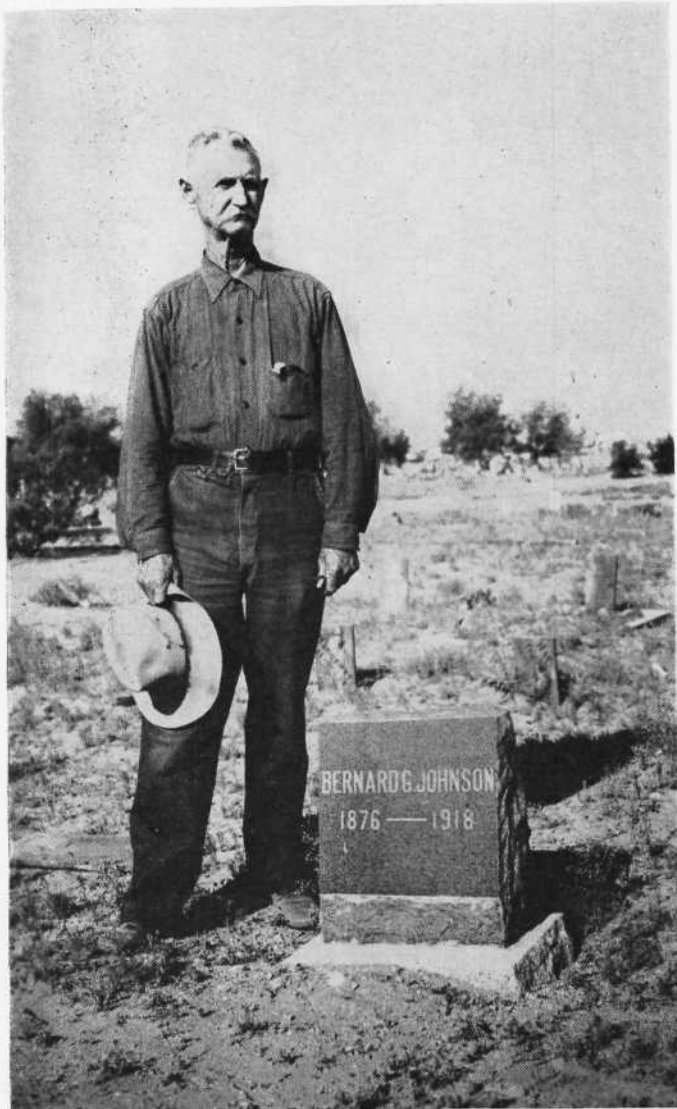
He expected to sell most of these offshoots in Coachella

valley and they were all unloaded at Thermal. But sales were slow. As yet there was no interest in commercial date culture. Impatient to get them planted, Johnson reloaded the offshoots in freight cars and shipped them to Yuma, where he recently had bought a 40-acre tract four miles southwest of town.

In making this planting at Yuma Johnson ran into difficulties. Somehow, in his brusque impetuous way he antagonized the Reclamation official in charge of water distribution and was told that he would be unable to get water for his offshoots. At his wits end, he got on the train and went to Indio, where with tears in his eyes he explained his predicament to Bruce Drummond. Drummond assured him that there must be some misunderstanding as water could not be withheld from his property. Taking along a few boxes of dates as peace offerings, he returned to Yuma with Johnson to help straighten out the matter. A few days later water was being supplied on schedule.

Apparently Johnson had no intention of growing the Deglet Noor variety for fruit in Yuma valley, but he thought there might be advantages there in growing offshoots. He conceived the idea of a permanent nursery. Offshoots would be grown for three or four years, then the young palm with all its second generation offshoots, except one that was well-rooted, would be dug and sold for commercial planting. The remaining offshoot would be left until it in turn had reached the desired size and the process continued indefinitely. The large nursery palms supplied in this way would begin fruit production two years

John S. Yates stands beside the grave of his former employer at Yuma, Arizona.



Oldest known date palm in United States. It grew from seed planted near the site of the first California mission established in 1769.

earlier than offshoots. Many of the early commercial Deglet Noor plantings in Coachella valley were begun with these so-called "Yuma palms" from the nursery Johnson started.

Johnson's personal peculiarities as a date grower soon became known around Yuma. John S. Yates, his foreman during the later years at Yuma, says that when Johnson made the rounds of his nursery, if he saw an offshoot or young palm that was not making satisfactory growth, he would beat his fists together in a frenzied manner and burst into loud and very strong language that could be heard half a mile away. In case he had trouble shutting off a headgate, he would sometimes jump into the irrigation ditch, waist-deep in water, to find the source of the trouble.

Meanwhile, in Coachella valley a few pioneer settlers became interested in the possibilities of commercial date culture and eight of them organized the Coachella Valley Date Growers association in January, 1913. The most active member of the group was W. L. Paul, president and general manager. Paul had become well acquainted with Bernard Johnson and had been impressed by the importation made in 1912. Largely due to Paul's efforts sufficient interest was aroused and enough new



The oldest commercial date garden in the United States, located about two miles east of Mecca, California. Except for one or two replants, all palms shown in this picture were imported as offshoots from Algeria in 1903. Those in the foreground are Deglet Noors. The palms are stunted in growth as a result of lack of water and neglect since Johnson's time. The shack in which Johnson lived is part of the house in the background. Dr. C. C. Bishop of Los Angeles recently purchased the property and is beginning a program of improvement.

members secured to make it possible for the association to send Johnson to Algeria in 1913 and for two succeeding years. The offshoots imported were: 2000 in 1913, 5170 in 1914 and 3000 in 1915, nearly all of the Deglet Noor variety. The testimony of those who handled these offshoots is that they came through in excellent condition. They furnished most of the planting material that has made Coachella valley the New World home of the Deglet Noor variety.

The 1915 importation was Johnson's last. He had planned another trip to Algeria, but under war conditions the French refused to give him a passport. They had learned of his German birth and were suspicious because in coming to America he had changed his name. Few of the old-timers in the Colorado desert are aware of this even now, although the facts were made known in Johnson's will after his death. His real name was Bernhard Gustav Claassen. When he came to America he Anglicized his mother's maiden name of Janzen to Johnson and under this name took out citizenship papers.

Johnson's closest associates never heard him express any sympathy for the German cause, and later when the United States entered the war, there was never any reason to suspect his loyalty to his adopted country. He invested in war bonds and gave generously to the various charitable and service organizations.

Johnson's correspondence shows that his ambition to make further importations of offshoots never abated. Although the

French restricted further export of offshoots from Algeria, he thought he could manage to get them out somehow. He endeavored to enlist the help of influential people in this connection.

His letters reveal characteristic self-confidence, persistence and bluntness. One peculiarity is unique. He used different colors of ink to bring out varied emphasis and feeling—red for the highlights, with sometimes brown, green, or other shades to contrast with the background of black.

When the entrance of the United States into the war convinced Johnson that further importations from the Old World would be impossible for the duration, he became interested in Mexico. He had made a short visit to Yucatan in the winter of 1915. In April and May of 1918 he made a trip through those parts of western Mexico and Lower California where some few seedling dates have been grown since the days of the early missions. He found much to interest him in this region and stated on his return that he planned to go back. But it was not to be.

Early on the morning of October 9, 1918, a neighbor called at the house and found his body, not yet cold, lying on the floor near the door. He died as he had lived—alone. The coroner's inquest returned a verdict of "death from unknown causes." The Yuma paper suggested that he was a victim of flu, as he was suffering from a bad cold the week before when he returned from a trip to Phoenix and the epidemic was just getting underway in Arizona.



Picking Coachella valley dates today, the worker using a picking belt for support while selecting the ripe fruit on the stem. When filled, the bucket is lowered to the ground with a rope. The sacks are placed on the fruit stems during the maturing season to protect the fruit from rain.

To appreciate Bernard Johnson one must keep in mind his pioneer background. He was a strong character—a man of few inhibitions—not given to restraint in passion or feeling. He did not make friends readily. Some people mistrusted him. Yet despite his obvious faults, the few who were most closely associated with him, liked him. They respected his courage, his dauntless enthusiasm and his ability to get things done. In the words of John S. Yates, "You could always count on Bernard Johnson."

Bernard Johnson did not plant the first date palms in the United States. He was not the first to see possibilities for date culture in the Colorado desert, and he was not the first to import date offshoots from the Old World.

The padres introduced the date palm to the Western Hemisphere by means of the seeds they planted around many of their missions. The oldest known date palm in the United States is one of these that was planted near the site of the first mission founded at San Diego in 1769.

Soon after the Civil War the fruiting of a few seedling date palms in the interior valley of California and southern Arizona began to attract some attention and cause occasional comment by interested persons. In the Pacific Rural Press for September 29, 1888, appears this little item, prophetic of the future: "Dr. Kimball of Haywards recently visited the desert region of California near the Southern Pacific line and east of the San Jacinto mountains and became convinced that where water was sufficient the region contained many locations suitable for the date."

The first successful importation of date offshoots from the Old World was a small one arranged through correspondence by the U.S. Department of Agriculture in 1890. All these palms

later turned out to be inferior sorts, probably seedlings. Seven of them still survive near Phoenix, Arizona, on property formerly occupied by the Grand Avenue State experiment station. Two of them are growing in Coachella valley—one in the Holtby Meyers garden, formerly the Mecca experiment station, and the other in the Ted C. Buck garden near Indio. Both palms were moved to their present locations a good many years after they were imported.

It was not until the U. S. Department of Agriculture sent Dr. Walter T. Swingle to North Africa that any of the better, named commercial varieties of dates were secured. After a small trial shipment in 1899, Swingle in 1900 made an experimental importation of date offshoots of the Deglet Noor and Rhars varieties which were planted near Tempe, Arizona, in cooperation with the University of Arizona. The history of this importation and those of the several other plant explorers who followed later have been recorded in various publications.

When all has been said, the fact still remains that to Bernard G. Johnson must be given a large share of the credit for the establishment of a commercial date industry in the United States. He was the first pioneer settler in the Colorado desert to become seriously interested in date culture. Of his own initiative and without government connections he went to the Old World for his offshoots. The vision which he first saw when he came to Coachella valley remained undimmed to the time of his death. With indefatigable energy and persistence he labored to make his dreams come true. He personally made more importations of date offshoots than any other one man and but for his timely appearance in the Colorado desert, date culture in the United States might still be in its infancy.



Henry Chee Dodge as Scout and interpreter at Ft. Defiance. Photo made about 1885. Courtesy Laboratory of Anthropology at Santa Fe, New Mexico.

WANDER into a group of Navajo at a trading post; listen to the talk at the Place of Dipping Sheep, or sit with them beside their hogan campfires, and before a dozen sentences have been spoken the name of Henry Chee Dodge will creep into the conversation.

Last war chief of his people, first de-

fender of their rights in every encounter with a floundering government desire to regiment the 54,000 Navajo, this man stands forth as their undisputed leader.

On Indian Day, September 28, 1945, the Indian Council Fire gave its annual Indian Achievement award to the 85 year old Chee Dodge. This honor is granted by

Honored by his tribesmen, respected by his white neighbors, Chee Dodge is the venerable elder statesman of the Navajo. And although in his eighties he is still active in behalf of more education and higher economic standards for his people.

Chief of the Navajo

By DAMA LANGLEY

the organization to the Indian who has done the most outstanding work toward improvement or advancement of his race. The medal was given to Chee Dodge in recognition of his leadership and example since he was appointed interpreter at Ft. Defiance in 1884.

With the editor of *Desert*, I visited Chee Dodge at his home on the reservation a few years ago. I asked him about his schooling, and if both his parents were Navajo.

"It has been said that I am not a Navajo. That is not true. All of my mother's people were Navajo. In 1860 when my people disobeyed Washington, soldiers were sent to the Canyon de Chelly to punish us. With Capt. Henry Dodge came Juan Casonisis, a Mexican interpreter. This man wanted my mother for his wife. Capt. Dodge gave him permission to marry her and she lived where the soldiers were. After Capt. Dodge's death I was born and my father gave me the name of his honored captain. Kit Carson ordered the Navajo to meet him at the Place of Many Reeds and my mother took me and went. My father had been killed. We went to Ft. Sumner with our people. I was small when we came back to our land but I remember the destruction we found. Right then I decided that fighting the white people was not the way for Navajo to gain a place for themselves."

He has always been in favor of any white program which he thought would help the Navajo. He has looked out for the rights of his own race while advising them to get all the education possible. He was the first chairman of the Tribal Council when it was organized, and is now in that position.

Chee Dodge was unable to attend the presentation, but his speech of acceptance, read by Dr. Beatty, Director of Indian Education and long time friend of the venerable Navajo, was an impressive plea for more education and living space for his tribesmen.

"The Greatest of All Indian Needs is Education"

By HENRY CHEE DODGE

Text of the address delivered on behalf of Henry Chee Dodge in response to the Indian Achievement award given him by the Council Fire in September, 1945.

ON BEHALF of my people, the Navajo, and for myself I want to express our appreciation to the Indian Council Fire for awarding me its Indian Achievement Medal this year. I feel this is a great honor to my people rather than to me individually. Without their character, their ability to advance over handicaps, their energy and their resourcefulness, I could not have done as much as I have for them. Working with, and for the Navajo has been like tilling fertile soil.

I am an old man. In my time I have seen much of the history of my people. As a boy I was rounded up with the Navajo by American soldiers, taken for the 'Big Walk' to Bosque Redondo (Fort Sumner) and imprisoned for almost four years. Then we signed a treaty with the United States and were told that if we would behave we could have our land back, could have a teacher for every thirty children, and many other things.

The government then put us on our reservation which was like putting us in a little corral. As the Navajo increased the corral was made a little bigger, but never big enough that there was land for the Navajo as they grew up. If we could get half or all that was promised us in the treaty we would be happy.

I believe that if the future for the Indians is to be better than the past, the Indians should have something to say about who is to be Secretary of the Interior, Commissioner of Indian Affairs and the reservation superintendents. The Indian should be given more land. Indian held lands must be made more productive by means of irrigation and improved land use. Our farmers should have thirty or forty acres of irrigated land for a family instead of just ten or fifteen. Our stockmen should have better stock and more range. The government should teach us to be better farmers and stockmen.

The greatest of all Indian needs is education. We need boarding schools with a hospital at each with doctors and nurses. At one time we opposed having our children forced into schools. Now most Navajo favor compulsory education. There is not room enough on the reservations for all the Indians. They want to do something for themselves now but most of them don't know how. Education is our greatest need. Now is the time for the friends of the Indians to get after congress for sufficient appropriations for Indian education, and other real needs such as hospitals, land, and livestock.

Thousands of our young men and women are coming back from the war. They need a lot of help in getting readjusted. They want jobs and work, not relief and dole. This is a challenge to all of us. Every Indian who has served in the armed forces (fighting for the freedom of the world) should be given full citizenship with the right to vote. This we do not have

in New Mexico and Arizona and one or two other states.

Some months ago the Navajo Council decided that a group of Navajo leaders must go to Washington this fall to present our problems to the officials there. I am recovering from an operation and must save my strength for that trip . . .

I humbly accept the honor you have given the Navajo and me.

Henry Chee Dodge.



Desert Signpost to Water

By MARY BEAL

WHEREVER you find Guatamote flourishing in abundance you may be sure that water is within easy reach. If not in plain sight it should be obtainable not far below the surface, for these evergreen shrubs fare best in moist soils, especially about springs, intermittent stream channels and flood plains. Classed in botanical literature as water indicators, they really merit the title of "Signpost to Water."

Baccharis is the scientific label of the genus but you perhaps know the clan by the common names, such as Guatamote, Water Wally, Water Motie or Seepwillow. Most of the species are of importance in erosion control especially along stream channels and gullies, where their prolific growth often forms sizable thickets, the deep extensive root system serving efficiently as a soil-binder. The plants rarely have any forage value because they are unpalatable to livestock. "Only the stomach of a jackass can tolerate it as food," according to one Soil Conservation report. Some of the species have acquired a reputation for medicinal value in various ailments from chills to toothache and eye troubles, and some yield an important supply of nectar and pollen for bees. The resourceful Indians found varied other uses for the plants. The long straight stems were used for building storehouses and a short length of stem made a good paintbrush, when sharpened, for decorating pottery.

The tiny rayless flowers form small close heads, disposed in panicles, the tubular staminate and thread-like pistillate on different bushes. Baccharis belongs to the Aster tribe of the Sunflower family, a country cousin of the showy Goldenrod and those cultivated garden favorites, the Asters. There are several species inhabiting the Southwest, the most widely distributed being

Baccharis glutinosa

Seepwillow, Guatamote, Water Wally or Water Motie are the everyday names for this very common Baccharis, a willow shrub 3 to 10 feet high, with many slender wand-like stems, light brownish except the green young growth at the very leafy ends, tasseled from March into fall by close flat-topped clusters of small cream-colored flower-heads, the tiny flowers darkening with age. The herbage is markedly gummy-resinous, the lustrous bright-green leaves 1 to 5½ inches long, lanceolate and tapering at both ends, more or less toothed except the uppermost. The small seed is tipped by a rather scanty pappus of slightly roughened white bristles. The desert domain of the Seepwillow reaches from western Texas to Southern California and Mexico, extending into southern Nevada and southwestern Utah, from low elevations to 5000 feet. When not forming thickets of pure stands, it often associates with other watercourse shrubs — mesquites and desert willow. Closely related to the Seepwillow is

Baccharis viminea

Commonly called Mule Fat, because, unlike most of its close kin, its foliage is palatable and nourishing, often browsed

by livestock. It has similar willow-like leaves, but not sticky and usually untoothed. The flattish flower clusters tip short lateral branchlets as well as the apex of the main branches. Commonest in coastal and central California but not infrequent along ditches, stream banks and bottomlands in the desert in the Colorado and Mojave deserts, western Arizona, southwestern Utah and Nevada, blooming from spring to late summer.

Baccharis emoryi

A handsome shrub, the Emory Baccharis, 4 to 8 feet high, especially attractive in the fruiting stage when the pistillate bushes are all glistening white, mantled with the copious long silky pappus, its silvery sheen conspicuous for many weeks, decorative enough for ornamental planting. The staminate bush, however, is not in the garden class, lacking the silken pappus that adorns the seed-bearing shrub. Branching loosely from the base, the main woody stems are light-tan color, darkening in age to dark grey, sharply angled and grooved. The glutinous leaves are 1 to over 3 inches long, linear to oblanceolate, blunt at the apex and usually tapering to a petiole, the smaller ones entire and the lower with a few broad short teeth.

The tiny flowers are whitish or creamy,

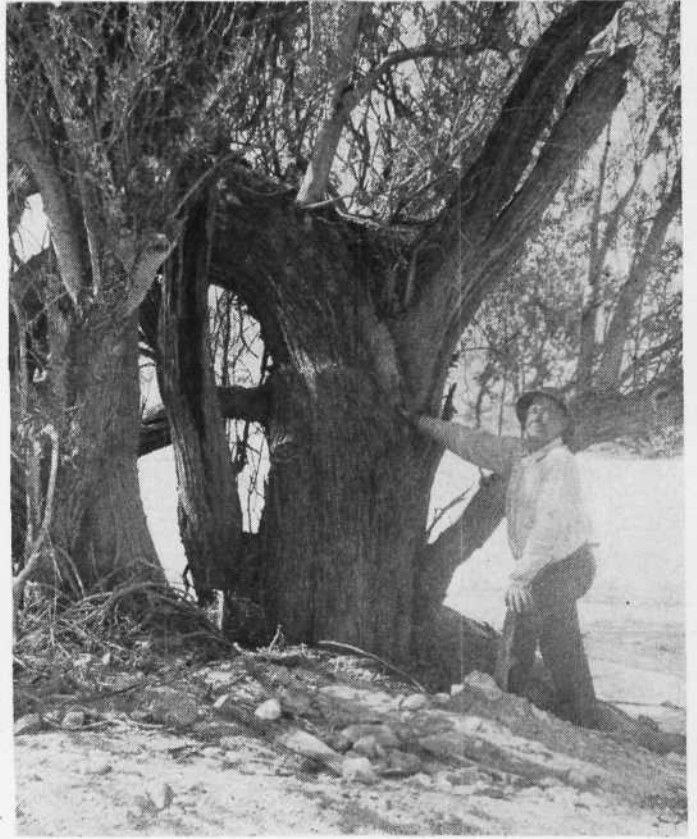
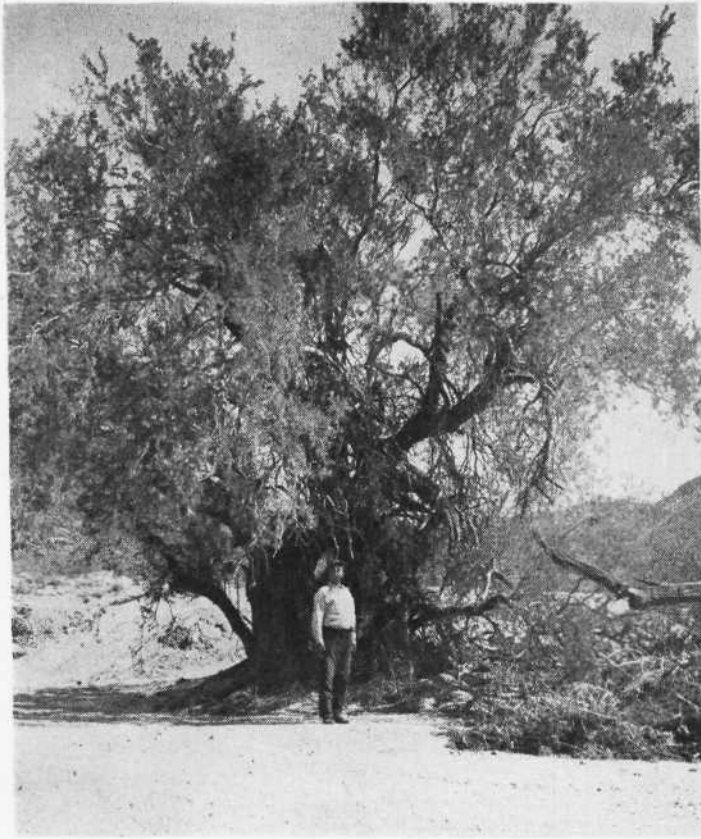
the heads in small clusters forming a large, rather open panicle. Quite common along water courses and flood plains, less frequent on dry open ridges of the Colorado desert and Arizona, extending to the Mojave desert, Nevada, Utah, New Mexico and Texas, blooming from late summer to late fall.

Baccharis sarothroides

Rosinbrush or Desert Broom, as most folks call it, puts on such a lavish display of glistening luxuriance that it has been given a place among garden ornamentals. A much-branched shrub from 3 to 10 feet high and as broad or broader, its old blackish stems put forth many slender bright-green branches with only a few short-lived leaves, the herbage resinous. The creamy or tawny flower-heads tip innumerable wiry peduncles, arranged in dense broom-like panicles, blooming from August throughout the fall, sometimes until February. The abundant soft silky pappus covers the bush with a lustrous fluffy white mantle, sometimes with a brownish tinge. Most frequently found in sandy washes but occurs on bottom lands and on gravelly flats and hillsides up to 5000 feet, from southwestern New Mexico through southern Arizona to the Colorado and southern Mojave deserts and Mexico.



The Emory Baccharis, shrubby relative of Asters and Goldenrod, frequents water courses in the desert Southwest, blooms from late summer to late fall. Photo by the author.



John Webb and the Ironwood that two men cannot reach around.

Giant Ironwood of the Palens

John Hilton went into the Palen mountains of Southern California to see the granddaddy of the ironwood trees—and found an old mine dump with specimen material that will interest the rockhounds. Here is a mapped trip into an area that was virtually inaccessible until General Patton's desert army graded a new road there in the early days of the war.

By JOHN HILTON

IT WAS some years ago that my friend John Webb first told me about the "largest ironwood tree in the world" and the other wonders of the Palen Pass area. I found it almost impossible to believe that an ironwood could be so big that two men couldn't reach around the trunk. If anyone but John had been telling it, I probably would have passed it off as another desert tall tale. John is a good story teller but he loves the desert too much and has spent too many years in it to misrepresent anything about it.

He asked me to go with him on a trip

into the Palen country. In those days it was no light undertaking, for the roads were sandy and rough and water is scarce in the area. As we talked about our proposed trip John voiced the desire of many another desert man for a vehicle that would really pull sand and get over the desert with a minimum of trouble. His dream car was something with high enough wheels to clear the rocks and enough power and traction to pull him over the sandy spots. Our trip still was in the planning stage when the news of Pearl Harbor put an end to such excursions.

Then the end of the war came and one day John Webb and his wife Lena came to a stop in front of my place in the very auto they had been dreaming of. It was a four-wheel-drive army command car and they were as pleased as children with a new toy. This time there was no excuse for avoiding the Palen country. They had the transportation, and furthermore, General Patton had graded a road right up to their gypsum property, past the giant ironwood tree and close to collecting areas for manganese ore, chrysocolla and quartz crystals. We weren't long in making a date.

Our first stop was at Desert Center to say hello to Mrs. Ragsdale and Stanley. In the old days John used to make it a point to check in at Ragsdales' and tell them how long he expected to be up in the pass. If he didn't show up at the end of that time, Desert Steve in the spirit of true desert neighborliness, would go out and bring him in. Mrs. Ragsdale never had seen the giant ironwood but she said that there were more and larger ironwood trees in the Palen area than anywhere else on the desert.

We planned a circle trip to go in from the west side of the Palens, visit the Webbs' gypsum property and then go out on the army road to Highway 60. Sand is beginning to drift across the road in the west



Mr. and Mrs. John Webb at the well that once saved John's life.

side of the Palens. Last summer's cloud-bursts cut it in several places. The command car did nobly, however, and we had no trouble except in one place where we had to roll boulders into a deep cut in the road to get across. This road probably will become impassable in a few years if it is not kept up. But the road on the east side of the Palens will be good for a long time for it follows the general drainage of the country.

We were traveling along the flats near the base of the Palens when John stopped the car. "Right along here," he said, "is where I lost one of the finest horses that I ever owned." Then he told me the story

of the bug that kills livestock and the well that saved his life.

It was in June 1907 on a very hot day that Webb's horse happened to eat the wrong stem of galletta grass. It seems that in certain years in the early summer, there is an insect that appears on this grass. Mexicans call it *Chamapocha* or something like that. I have been unable to find the correct spelling, scientific name or even a good description of the insect. But I have heard several stories of livestock being killed by the pest. It is usually found on galletta grass.

The horse ate one of these bugs and it soon was apparent that it was too sick to

travel. Webb was taking a couple of men up to the mine to help with the assessment work. This left the three of them stranded four miles from possible water on an extremely hot day. John knew that there was water in the old Packard well about four miles ahead so he pointed out the hill where the well was and divided the water with his partners. They were to go on to the well and if the horse got better John would follow.

The horse didn't get better. He gave it some of his precious water. The water didn't help and the horse died.

Four miles ordinarily isn't much of a hike. But without water and over drift sand and rock in a temperature of 120 degrees it was tough going. His mouth began to dry and his tongue swelled. The dazzling sun burned his eyes. It took all the will power he had to keep on his course toward the hill in the distance. He said that every rustle in the brush sounded like running water to him before he finally saw his companions coming back his way.

He put forth one last effort and stumbled up to them, only to find that the tenderfeet had gone to the well, drank all they could hold and started back, leaving the canteens behind them. He told them the least they could do was to see that he kept on the trail if he lost his head from the thirst and that he didn't drink too much at first when he did reach the well. The men lost their jobs as soon as he got them back to civilization. The Webbs have spent much time and money keeping Packard well in shape. They're rather sentimental about it.

The gypsum would not interest a mineral collector as it is the massive type used in plaster manufacture. We found the Webb cabin surrounded by barbed wire and trenches. Some desert battalion had made a last stand here in a sham battle during the desert training. Along the road one quarter mile west of the cabin we found a few rather interesting cubes of hematite that had replaced iron pyrite. A search of the hills nearby might produce more.

We stayed at the cabin that night and the next day went out the other side of the pass and down Palen wash. There, just about a hundred yards east of the army road was the giant ironwood tree that we had come to see. At first I was frankly a bit disappointed. I think that had I been driving alone down that road I probably would never have noticed that this tree was so much bigger than its fellows. It sets down in a wash (as most ironwoods do) and as we approached it, was really not very impressive. But when we got up to it and saw the massive trunk that must weigh many tons, I was more than willing to concede that it was at least twice as large as any ironwood I ever had encountered.

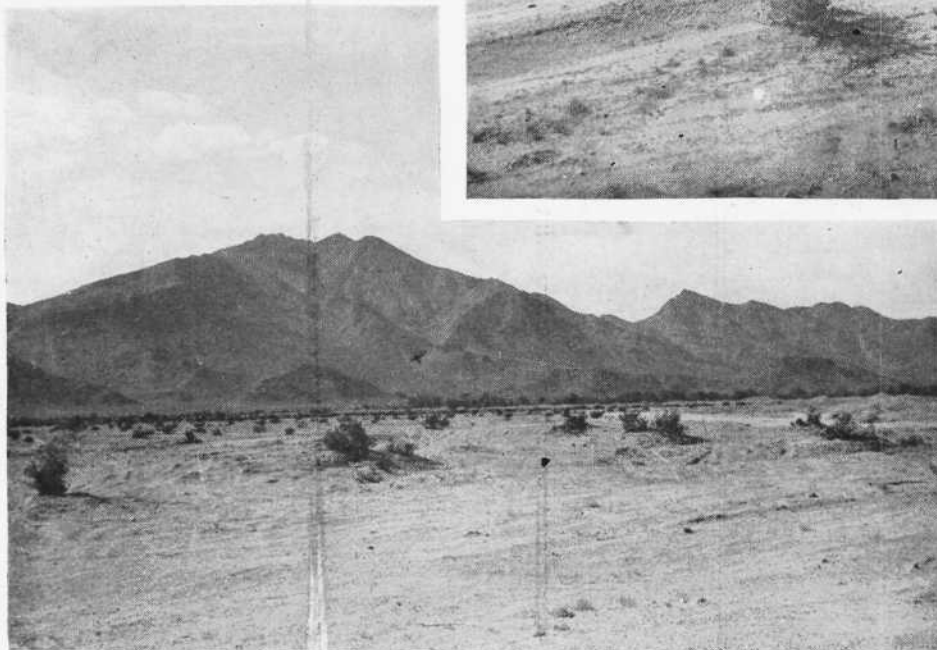
John told several stories of how this

tree formerly was a well known landmark on the old trail from San Diego to Parker. It was a regular stopping point and until recent years there was a rock fireplace near it. He also told about his friend Gus Adams who stopped to eat his lunch under the shade. It was a hot day and Gus tied his burro and mule to a limb of the tree and decided to take a little siesta. He was awakened by a roaring noise in time to realize that a cloudburst in the pass above

Cross marks the old Lightfoot mine dump where Hilton found chrysocolla and crystals.



The Webbs and their "dream car" in Palen pass.



had produced a flash flood that was headed his way like an express train.

There was no time to get himself and his stock up the bank of the wash so Gus grabbed the animals' tie ropes and climbed into the big ironwood just in time. The water was deep enough to take the animals off their feet but with him holding their heads up by the ropes, they were able to keep right side up and save themselves and his packs.

Signs of desert warfare were all about us as we went on down the wash. Barbed wire entanglements and dugouts were everywhere. The army even had marked the road with numbered signs at regular distances which aided us in making a map. At the turn-off to the Black Jack mine there is one of the army's old "Combat Area" signs. This is the most important point on the map to locate, as everything else hinges on it.

To the east two and two tenths miles is the Black Jack manganese mine where fine samples of Psilomelane manganese ore is available on the dump. The mineral is almost pure and occurs in botroidal mas-

ses of jet black, some with a high luster and others with a velvety finish. On the flats below the mine float pieces of the mineral still can be found. This and several other manganese properties nearby were worked during the war but now are abandoned.

The mine is visible at the base of a small lone hill directly east of the warning sign on the main road.

Around this area as in the Chuckawalla geode field, there are some practice land mines left. They are harmless unless tampered with.

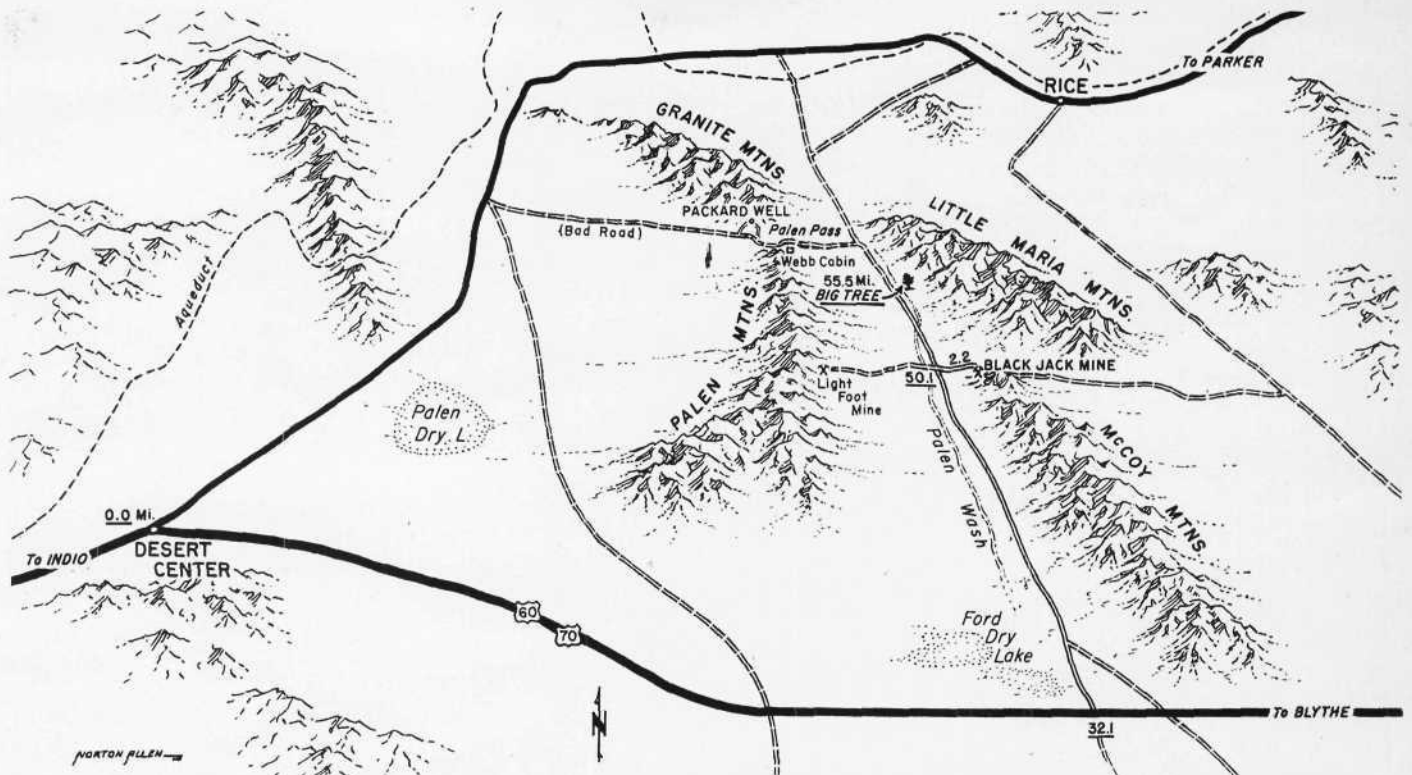
We drove back to the turn-off and went west on a series of combat trails that I do not recommend for anything except a four wheel drive conveyance, to a point on the side of the Palen mountains. It would be impossible to map the trail to this spot but it is not much of a hike and the row of prospect holes where I found my specimens is visible from the road. We detoured around trenches, barbed wire and dug-outs to get there but it was well worth the trouble.

Small quartz crystals and quartz groups began showing up at the base of the hills,

and masses of bright pink porphyry that will take a polish. These old diggings were known as the Lightfoot mine and I understand a great deal of stock was sold in the property. It is a good looking ore but in eccentric deposits that probably would be quite unpredictable. To a mineral collector, however, the dumps are interesting and well worth the climb. Chrysocolla and a little malachite run through the quartz along with a red iron stain. Here and there are pockets of quartz crystals and where these contain copper stains one can obtain very good specimens. These pockets of copper stained crystals are in large chunks of quartz, however, and it takes patience and skill to trim them out without injury.

This is an interesting field trip for desert minded folks. Except for the side trip to the Lightfoot mine, the road is well graded all the way and in good condition. I do not recommend the road in from the west side of the Palens, however, nor the road to Packard well, for ordinary cars. Water should be carried for the entire trip. If visitors will take their copies of Desert magazine along, they should have no trouble finding the spots I describe (with due allowance for speedometer variations). I mention this because several people were unable to find the geodes in the Chuckawalla mountains due to this cause.

This trip is into a rugged little-traveled part of the Colorado desert. This is John Webb's country—and my only regret is that all those who go there cannot have John Webb along to spin yarns about his days in this region.



Capture the Rainbow

IN 1946

... take the thrilling trip on mule back down Rainbow Trail 'mid colorful scenes so vivid no artist could portray ... to the most spectacular of all national monuments ... RAINBOW BRIDGE. Rest at picturesque RAINBOW LODGE, backed by the breathtaking span of Navajo Mountain ... where comfortable lodging, excellent food and hospitality are, as before, directed by Bill and Mrs. Wilson.

WRITE BILL WILSON, TONALEA, ARIZONA, FOR RATES AND A BROCHURE DESCRIBING "THE RAINBOW."

UTAH CONSTRUCTION COMPANY LOW BIDDER ON DAVIS DAM

Contract for the construction of Davis dam in Pyramid canyon of the Colorado river between Boulder City and Needles, was to be let January 15, according to announcement of the Reclamation Bureau. This will be the sixth dam in the lower Colorado, the others, in the order of their construction being: Laguna dam, for diversion of Yuma irrigation water; Boulder dam, for storage and power development; Imperial dam, for diversion of water to Imperial Irrigation district and to Arizona; Metropolitan dam, for storage and diversion of water for Los Angeles metropolitan water district; Parker Indian dam, for diversion to Colorado River Indian reservation.

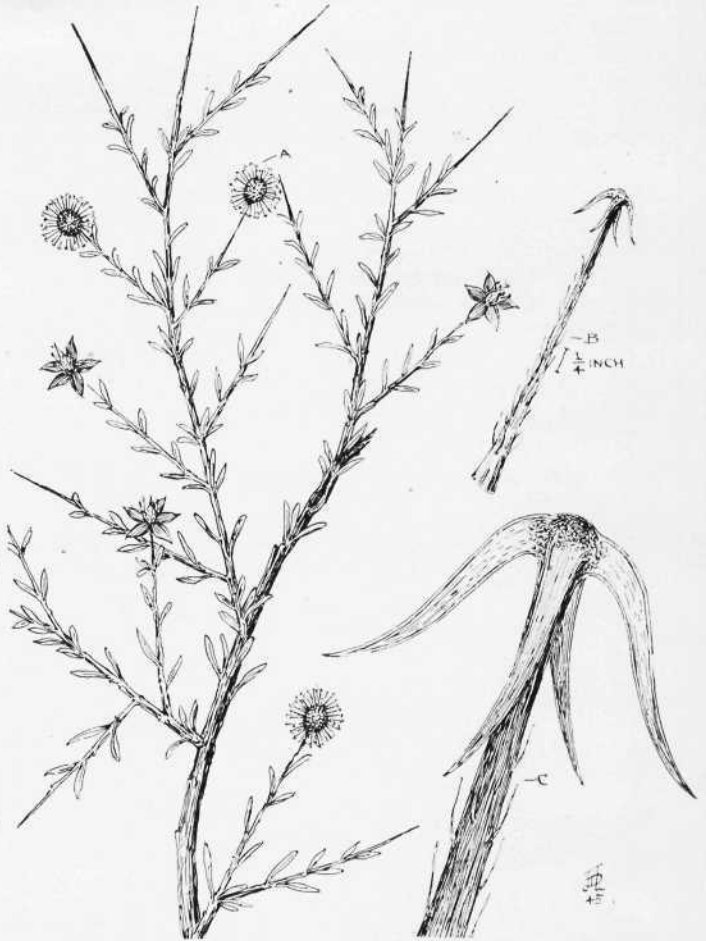
Utah Construction of San Francisco was low bidder for the initial work on Davis dam when proposals were opened December 21. Utah's bid was \$21,462,505 exclusive of materials to be furnished by the Reclamation Bureau. The cost of the Davis dam project is estimated at about \$77,000,000 completed.

A graded road now connects Davis dam-site with Kingman, Arizona, 34 miles to the east. State Highway Engineer Robert A. Allen has announced that Nevada is preparing plans for a paved road to the site from a point near Searchlight on Highway 95. Needles chamber of commerce is seeking state and federal aid for a third road to be constructed to Davis dam from that point.

The current deficiency bill approved by congress carries \$5,900,000 for the starting of work on the Davis project.



Devil's claw (*Martynia altheaefolia*). A—Side view. B—From the front. C—From above. Specimen from near Tucson.



White ratany (*Krameria Grayi*). A—Fruit with barbs. B—Single spine moderately enlarged. C—Tip of spine showing barbs.

There's a Reason for Those Barbs and Snares

Nature has devised many ingenious ways of perpetuating plant species through the dispersal of seeds over wide areas. There are hitch-hikers and paratroopers in the seed world. There are some that rely on barbs and snares, and others on catapult and explosion. Glamorous color and flavor and scent are the devices of many trees and plants. And it all adds up to an interesting study, as you will realize when you have read Jerry Laudermilk's story.

By JERRY LAUDERMILK
Art work by the author

OUT TRAMPING the Arizona desert one afternoon I discovered that a grotesque object had attached itself to my boot. I tried to kick it off, but it clung tenaciously. Then I examined it more closely. Two sharp pointed prongs branched from a structure shaped like the body of a fat moth. The points had embedded themselves so securely in the leather it required some force to pry them loose.

This was my introduction to the thing Arizonans call devil's claw. Its scientific name is *Martynia parviflora*, a plant in a class by itself.

I had been exploring a silent, mesquite-shaded flat where the sorcery of smoke-blackened rocks and sherds of pottery evoked the presence of long vanished Old People who had lived along the Hassayampa river ages before the white men came. In that place of half obliterated irri-

gation ditches and other evidence of past industry, Martynias had dropped their claw-armed fruit upon the sand. It is possible that, like the modern Pima who use the black fibers from Martynia pods to weave designs in their basketry, the Old People too had found a use for this fantastic plant and encouraged its growth around their dwellings. Now, although the ancient folk had disappeared, Martynia had survived through the efficiency of its seeding mechanism.

More deliberate examination showed that this thing of claws and tough woody fiber actually was a natural snare, set as if purposely to grasp the hooves of passing animals. Two curved prongs almost as elastic as steel springs curved up and inward and then tapered to hoops sharp as needles.

Nature gave Martynia those claws for good purpose. Their function is seed dis-

persal. When that horned pod attached itself to my boot, it was doing exactly what it was intended to do—attach itself to any moving object that might pass that way, and as it hitch-hiked its way over the landscape its seed falling from the pod would be distributed far and wide.

In the plant world there are at least a dozen principal schemes of seed dispersal, each having several modifications. Some are furnished with strong hooked claws like *Martynia*. Others have an armament of barbed spines, very efficient tools that become entangled in hair, feathers or cloth, or stick in the paws of animals. Common examples of this fraternity are Spanish needles or beggar ticks (*Bidens*), fox-tail grass (*Hordeum*) and ratany (*Kra-*

meria). Some seeds are enclosed in sepals with tiny hooks like those of hoarhound (*Marrubium vulgare*), tick trefoil (*Desmodium*) and several others.

One very successful device is the parachute popular with the Compositae or Sunflower family. Here little tufts of down support the seed as it drifts before the wind. Seeds with parachutes are extremely abundant: thistles (*Cirsium* of numerous species) and groundsel (*Senecio*) are familiar examples. Some seeds ride upon the air by means of thin membranous wings using the principle of the glider. Maple (*Acer*) and ash (*Fraxinus*) are in this class.

Another popular mode of seed dispersal is for the plant to hurl them by means of

a sling. Spring mechanisms of elastic fibers are brought into action as the seed capsule dries. When the tension reaches a certain limit the capsule splits with considerable force and in some cases throws the seed several yards away from the parent plant. Common examples are California poppy (*Eschscholtzia californica*), some species of lupine (*Lupinus*) and wood sorrel (*Oxalis*). Other plants hurl their seeds like projectiles shot from a catapult which in these cases consists of the springy branches of the dry plant itself. Plants using this type of artillery are yucca (*Yucca*), mesquite (*Agave*) and white sage (*Salvia apiana*). With the wind poppy (*Papaver heterophyllum*), the idea seems to have been perfection of a sort of salt cellar to spread the seeds when thrown out so that as they scatter there will not be too great a concentration in any single space.

Related to this last group are the stow-away seeds that ride in the hair of passing animals. These are regular vegetable hoboes that capitalize on their nuisance value. An outstanding member is tree tobacco (*Nicotiana glauca*).

Some seeds creep or hop over the ground either propelled by the wind or from moisture variations in the atmosphere. Seeds creeping from hygroscopic change have long bristles or awns which twist and untwist as the air varies from wet to dry. Two good examples are squirreltail (*Hordeum jubatum*) and wild oats (*Avena fatua*). A few species have seeds whose awns are furnished with ratchets that provide an action on the order of an automatic screw-driver so that when the heavy end of the seed is on the ground movements of the awn drive it deeper and deeper into the soil. Seeds of filaree (*Erodium*) and mountain mahogany (*Cercocarpus*) are especially well adapted to this means of self planting.

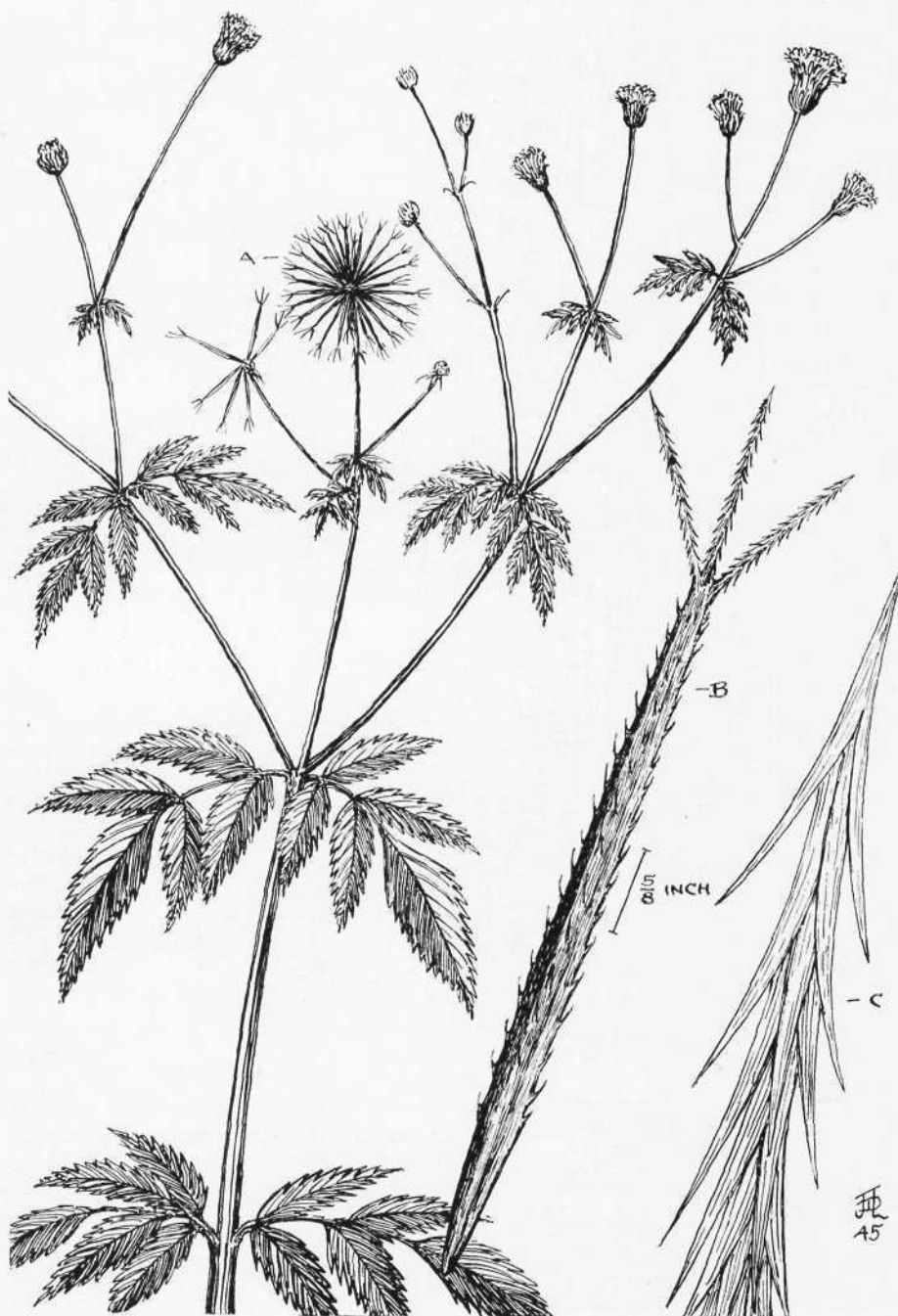
In this synopsis of seed dispersal I have barely skimmed the surface. It is a vast and complex subject. Man often is quite proud of his inventive genius, and properly so, but he still is just a novice in this field when you consider the intricate mechanisms Nature has set up to insure the propagation of species and maintain balance in her world.

In many instances, Nature has produced the first models of things which man later regarded as important human inventions.

For example the hypodermic needle had been in existence for millions of years as the stinging hairs of the common nettle before it ever occurred to a human to invent one. Now let's consider the fine points of such seeds as are built to ride upon passing animals.

Martynia parviflora and related species are all rather bold herbs that grow on the Jimsonweed order. That is, they seem to demand their rights in any surroundings. A newcomer to the desert who meets one of the family for the first time generally

Spanish needles (*Bidens pilosa*). A—Fruiting head bristling with spiny seeds. B—Single seed moderately enlarged. C—Tip of barbed spine greatly enlarged.

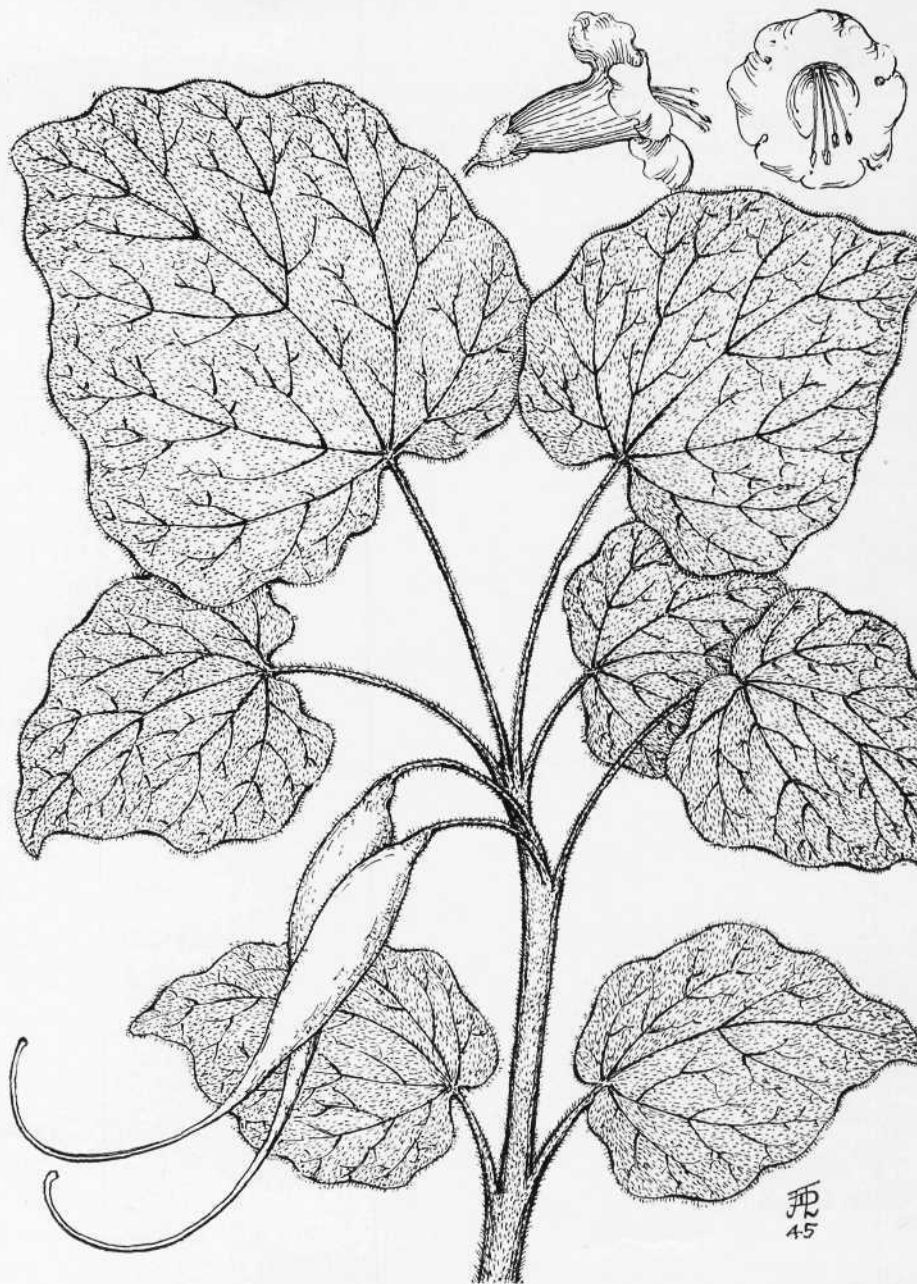


feels that he is in the presence of a plant of strong character. In the spring the showy white, purplish or copper colored flowers and the big leaves make the plants striking objects. The crowning event comes in the autumn when the ripe seed pods drop off. It is then that many a tenderfoot like myself has found one clamped to his boot heel.

The average pod is nine or ten inches long from the base of the pod to the tips of the prongs and may weigh as much as an ounce. When they drop to the ground they have a curious way of rolling over on their backs with claws extended upward like giant insects with mandibles ready to grab anything that comes their way. The reason for the claws-up position is that several mechanical refinements are present in the pod's construction. The center of gravity is at the thickest part of the pod which is shaped like a short, fat cigar. But this by itself wouldn't insure the claws turning upward in the only efficient position. The fact that the things roll over claws up is due to some elegant features of the claws themselves. When the pod splits in drying the claws begin to curl inwards. As they harden they seldom curl equally so that when viewed from the front they form a sort of warped figure 3 with the tips of the claws well back over the stem end of the pod. The drawing shows this construction better than a description. Due to this unequal bend in the prongs it is impossible to make a pod balance stably on the claw tips. It tumbles over like a mechanical toy built to do just that. The upward extended prongs now make a perfectly adjusted snare which is always set. Pressure downward between the prongs spreads them open. Since they are extremely elastic they clutch with a firm grip anything big enough to crowd them apart. The hard tips of the prongs bend around into efficiently made hooks which baffle any attempt to escape. Nothing could be more perfectly designed to grab, clutch and hang on.

Now, when the prongs have fastened to the hoof of any passing beast it generally will walk on for a few strides before attempting to rid itself of the passenger. At each step the pod opens a little and a few seeds fall out. The theory of this apparatus is apparent at once—that is, to plant a few seeds about a stride apart with the chance that somewhere along the line a new *Martynia* colony will be established. The next seed to be considered also relies upon animal transportation but is designed along entirely different lines.

Sometimes, growing near irrigation ditches or on damp ground around tanks, you will see thick stands of a cool-looking plant with small, rather insignificant yellow flower heads and leaves resembling those of some varieties of marigold. This plant is Spanish needles (*Bidens*, of several species). Any attempt to crowd



Branch of *Martynia* plant (*M. parviflora*) with mature but unripe fruit, and two views of the blossom. This is the most common species near Wickenburg, Arizona.

through a clump of the growth results in a plentiful decoration of the clothing with small, dark brown or blackish objects nearly an inch long. These are the seeds of the plant. Look at one closely and you see that it is actually a miniature, barbed, two, three or four-bladed spear. The adaptation is obvious, to snag and cling to hair, feathers or cloth.

If you are one of those inquisitive persons who carry a pocket magnifier even a brief examination will show you that the minute barbs couldn't have been more efficiently arranged to fulfill their function. Here again are more fine points. The small, button-shaped knob from which the needles grow nose down, is called the receptacle. Certain features about this object make it as interesting as the needles themselves. The pedicel is elastic with the

peculiar lively quality that an archer calls "brilliant" when he refers to a good bow. The action here is neat. Any contact with the bristly array of seeds drives the barbed spear head into hair or cloth with a kind of springy snap that jerks them from the receptacle far more efficiently than would a simple push or brushing motion. The barbs become entangled at once and the only remedy is to pick them off one by one and unconsciously carry out the plant's purpose in attaching the seeds to your clothing.

Seeds show many modifications of the barbed spear motive in their design. The next type shows the final touch of elegance in reduction of barbs to an efficient minimum.

A common plant in certain parts of the desert is white ratany (*Krameria Grayi*),

a low, tangled, thorny shrub with a felt of silky hair clothing the younger growth. The small purplish flowers are rather graceful but our concern right now is in the spines that cover the fruit. This is an almost spherical pod about the size of a large pea. A dense covering of silky hair makes a silver wrapper for the fruit and radiating from all sides is an efficient armament of black spines. Separately each spine is too weak to be much of a threat, but any attempt at familiarity is promptly rebuffed with a hundred stabs in the fingers. Contact with cloth or hair is a different matter. The fruit sticks as if glued. This results from the construction of the bristles. They

end in what looks like microscopic knobs. But in addition to a terminal knob each bristle has from three to five tiny barbs around the end and pointing downward somewhat as the ribs of an umbrella point toward the handle. Unlike Spanish needles, which have to be picked from the clothing, *Krameria* seeds can be scraped off but the result is the same in both cases, dispersal of seeds.

While these mechanisms are, of course, adaptations for perpetuation of the species, many plants offer payment for transportation. These display attractive fruit as a bid for patronage. Color and perfume seem to be used almost consciously in an appeal

to animal senses. Generally, such fruit looks its best only when the seeds are fully ripened. Until that time the plant hides the young fruit under the strategic color, green.

The giant cactus or saguaro (*Cereus giganteus*) conceals its food appeal until its seeds have matured. For weeks the green fig-like berries are unobtrusive knobs. Then, one hot morning in late summer, almost as if on schedule, the great fluted columns deck themselves with red stars. These stars are the opened rinds of the berries which split in sections from top to base and curl back displaying the scarlet and maroon of the pulpy berry inside. Growing high on the stems the fruit is hard for most animals and men to reach, so apparently the saguaro sets a table intended for birds.

Other seeds like those of the California palm (*Washingtonia filifera*) tempt animals with their tasty but thin-pulped fruit which generally grows too high for most animals, but conveniently drops to the ground when ripe. Indians, who made use of the *Washingtonia* palm for food, fiber and shelter, probably were as important as any other agent in the plant's distribution.

While a good many plants which offer attractive fruit are properly considered poisonous, we sometimes forget that man isn't the only patron tempted by the advertising. Such plants as the poke berry (*Phytolacca americana*) and nightshade (*Solanum* sp.) have attractive fruit which is poisonous for humans although grosbeaks and other birds eat the berries with relish.

One of the most remarkable cases of a fruit being deadly for men and monkeys but a treat to other guests is that of the nux vomica tree (*Strychnos nux vomica*) of the East Indies.

It is unsafe to take chances with a strange fruit or berry because it makes a good appearance. There always is the chance that it was intended for another species of consumer. There are a few reliable guides for telling the safe from the unsafe plant. Safe varieties generally have a pleasant taste and flavor and commonly are fragrant. But when the taste is bitter or metallic with a mousy or narcotic under flavor, beware! This fruit was intended for someone else, probably a bird. Bitter, metallic or brassy and rank tastes are those of alkaloids, toxalbumins, saponin and hydrocyanic acid.

The point I want to emphasize in these tales about seed dispersal is that Nature has created definite design for a useful purpose. Survival of species is the obvious goal, but in the great plan of the universe there are other and more subtle factors which man has only begun to understand. A study of Nature's seed dispersal devices is another item that will add interest to your next desert trip.

\$11,700,000 in Post War Projects Are Now Assured for Imperial Valley . . .

These include Additions and Betterments to Imperial Irrigation District's publicly-owned power system to cost\$ 6,200,000

One of the world's most modern sugar factories which will be built at a cost of more than 1,000,000

New Housing Projects 1,740,000

Dehydrating Plants and Mills 555,000

Additions to Ice Plants and New Cold Storage Facilities 415,000

Carbon Dioxide Compressor Plant 250,000

Motels and Auto Courts 250,000

Other Miscellaneous assured Projects 1,290,000

TOTAL\$11,700,000

In addition, other projects are in the making that will total millions of dollars.

IMPERIAL VALLEY IS GROWING — THAT IS WHY IMPERIAL IRRIGATION DISTRICT VOTERS ON DECEMBER 13 APPROVED BY AN 81% MAJORITY THE ISSUANCE OF \$6,200,000 IN REVENUE BONDS TO CARRY OUT A PROGRAM OF EXPANSION FOR THEIR ELECTRICAL SYSTEM.

**DISTRICT POWER IS PACING INDUSTRIAL DEVELOPMENT
IN IMPERIAL VALLEY**



LETTERS...

Daddy of the Joshuas . . .

Banning, California

My Dear Henderson:

On the matter of big trees I am not indorsing the letter in your October issue as a fact, but in the Joshua Tree National monument is a Joshua tree that measures over 11 feet in circumference at the smallest part of the tree between the ground and the limbs, and is over 21 feet in circumference at the base, ground level.

You have to drive eight miles up a wash to get to it, and you would not want to take a car that you would not want scratched a bit. The wash is narrow in places.

Doc Crawford of Morongo Valley was with me and you might have to get him as a guide, if you want to prove that I am a liar.

JIM PIERCE

"Stone's Throw from Tokyo". . .

Okinawa Shima

Dear Desert People:

Desert Magazine surely does help pass the lonely hours here now that the war is over and the excitement has died down.

There isn't any desert here on Okinawa, but I do manage to get out every day for a tramp in the hills. There isn't a great deal to see in the way of rocks, as this place is made up of coral and sandstone. But there are deep canyons and many caves which the Japs used for living quarters.

Just wanted to write you this note thanking you for the swell Desert Magazine.

CHARLES R. WALKER
Warrant Officer, Navy

They Don't Like the Smell of Humans

Anaheim, California

Dear Sir:

I see on the Quiz page in a recent issue of your magazine that rattlesnakes will crawl over a hair rope. Which prompts me to ask you this: In case one wanted to sleep out in the open on the desert what would be the best way to protect one's self from these unwelcome bedfellows?

JOHN M. THOMAS

Friend Thomas: You have the hazard of rattlesnakes on the desert greatly over-rated. Actually, there is about as little likelihood of a rattler crawling into your bedroll at night as there is that a comet will fall on you from the skies. Roll your sleeping bag where the desert is high and dry—and forget about the rattlers.—R.H.



This is the Joshua with a 21-foot circumference — in Joshua Tree National monument.

Hi Jolly Was an Ore Sorter . . .

Mountain Center, California

Dear Mr. Henderson:

The story of Tom Childs of Ten-Mile Wash in the December issue of your Desert Magazine brought back memories of my early life, and of former associates.

I knew Tom and his father very well in 1899 when I was in charge of sorting ore at the old Ajo Copper mines, now known as the New Cornelia. All our drinking water came from Ten-Mile wash, and some of the best mines were owned by Tom Childs Sr.

The famous Arizona congressman and mine promoter, Col. C. C. Bean, was operating the Ajo group and Alfred B. Iles was superintendent. We shipped 45 per cent copper ore to the Hearst Pyretic smelter at Silver City, New Mexico, and I made trips to Silver City to check the sampling of the cars of ore.

The three of us conceived the very processes now so successfully used. This was many years before Gen. Greenway and (my former mining partner) Dr. L. D. Ricketts, obtained possession. Unfortunately, Col. Bean could not secure the neces-

sary money to carry out the installation of an electrolytic plant and we had to depend entirely on the shipping of high grade ores.

One of our sorters was Hi Jolly, the camel boy, who carried mail across the desert and was acquainted with my father in the pioneer days. I have a letter here on this table written by him April 17, 1899, while he was away. His real name was Felipe Tedro. He was a Greek, but raised by a Turkish camel driver.

ELMER E. DUNN

Tough Days in North Dakota . . .

Hebron, N. D.

Gentlemen:

I am in receipt of your letter stating that desert days are here again, when we can put on outing clothes, "Fill 'er up" and head out for the wide open places.

This is a very interesting announcement, and I sure would like to return to your desert again for a vacation. But since you failed to mention where outing clothes may be obtained, I am writing for more particulars. Here we can not even get underclothes or shoes. Also we know that it takes more than a full gas tank to get there. You did not mention where we can get the necessary tires. Our cars are idle for the want of them and we know of no place where they can be obtained. Evidently your writer has no such troubles; hence I write to ask where some of these practical wants may be supplied.

P. S. JUNGERS

Come to Arizona, California, New Mexico, Utah or Nevada, brother. We have 'em down here—not in super-abundance, but enough to get out on the open road occasionally, as the "No Vacancy" signs on the motels and the 300% increase in travel to parks and monuments will testify. Also, we have a lot of sunshine that will help drive away those North Dakota blues.—R.H.

So, Let's Grin and Bear It . . .

Phoenix, Arizona

Dear R. Henderson:

What prompted this letter is the silly argument over the name "Desert Rat." What people seem to forget is that they cannot call someone else a name that they think suits them, and make them like it. If the greenest of tenderfeet think of themselves as "Desert Rats"—they are Desert Rats. There's nothing anyone can do about it. Anything else you call them will be an insult. If your object is to create hard feeling, you will succeed at that only.

GEORGE EATON

P.S.—I've seen you called everything else, R.H., so I thought I would be different.—G.E.

It's an Honored Title . . .

Tonopah, Nevada

Dear Henderson:

I am very much afraid that Mr. Huntuon's proposal, well intentioned as it may be, will never do. Here in this desert country, the title, and it is a title, "Desert Rat" is an honored and respected one. And I might add not easily earned. "Desert dab" might well apply to those who spend a few odd hours on an occasional Sunday "dabbing" about in the hills but to a dyed-in-the-wool old desert prospector, no!

STARLE TERRELL

When Liars Get Together . . .

Hobo Hot Springs, California

Dear Hardrock Shorty:

For the past two years I have been reading the Desert Magazine and have been following your column with interest. Now it has dawned upon me all of a sudden that you are a bumptious old prevaricator. I have always liked the Desert Magazine because I thought everything in it was based on truth and fact, and it grieves me much to realize that I am going to have to give up my Desert Magazine because I find a story in it such as yours.

Have spent my life in the high Sierras, and I have often cast my eyes eastward across your dried-up and lizard-infested territory. Part of my ancestors before me spent their time in the high Sierras, my grandfather having owned and operated one of the first sawmills among these lofty peaks. Mentioning my grandfather reminds me of the first log he ran through his sawmill. This log was extremely tough on his saws, but the boards were beautiful when he got through sawing them, so he decided to build a house with them. Upon trying to drive nails in these boards, however, he discovered that the wood was petrified. (Poor grandfather has not been the same since.)

I have always been a great believer in good stories, but I also stick to the truth. Hoping to see a more truthful line of stories from you in the future, I beg to remain,

HONEST MIKE

Keeping the Records Straight . . .

Chicago, Illinois

Dear Mr. Henderson:

In the latest number of Desert I notice that you have picked up that newspaper story about the "plight" of the Navajos in the San Juan area.

It makes a good story, outside of the fact that it isn't so. There are only about 200 Navajos in that region. Two hospitals on the Ute reservation, to the north, six on the Navajo reservation itself, one at Hopi and one at Zuni are available to them. Indian Service health facilities compare favorably with those of rural communities elsewhere in the United States.

There are no hospitals in that part of the

DESERT QUIZ

Since they can't put you in jail for guessing wrong, Desert Magazine's monthly quiz provides a pleasant evening's entertainment with no hazards attached.

You may even learn something from these questions and answers. If you answer 10 of them correctly you may classify yourself as a fair beginner in the life and lore of the desert country. A score of 15 puts you up near the head of the class. Anything over that rates you a sand dune sage—or a prodigy. Answers are on page 44.

- 1—According to legend the Lost Dutchman mine is located in: The Panamint mountains..... Catalina mountains..... Sangre de Cristo mountains..... Superstition mountains.....
- 2—The setting for Harold Bell Wright's book, *The Winning of Barbara Worth*, was: Death Valley..... Imperial Valley of California..... Salt River valley in Arizona..... The Mojave desert.....
- 3—Desert mistletoe never grows on one of the following trees: Joshua tree..... Ironwood..... Mesquite..... Palo Verde.....
- 4—Haji Ali (Hi Jolly) was a: River captain on the Colorado..... First white man to visit Death valley..... Camelteer for Lieut. Beale..... Chief of the Apache Indians.....
- 5—*Holacanthia emoryi*, the so-called Crucifixion plant of the desert is most often found: Around brackish springs..... On high desert peaks..... In the dunes..... On the floor of desert dry lakes.....
- 6—Chia sage was used by the desert Indians: As food..... To placate their gods..... To poison their arrows..... To make incense at the council fires.....
- 7—Malachite belongs to the: Mica group of minerals..... Iron group..... Copper group..... Aluminum group.....
- 8—The name Kolb is connected with: The exploration of the Grand Canyon..... The discovery of silver at Tombstone..... The mining of borax in California..... The capture of Geronimo.....
- 9—To visit the White Sands national monument you would go to: Utah..... New Mexico..... Texas..... Nevada.....
- 10—Pitahaya fruit comes from: A species of sage..... Cactus..... One of the coniferous trees..... A desert vine.....
- 11—"Chaparral bird" is one of the common names given to the: Roadrunner..... Cactus wren..... Wild turkey..... Desert quail.....
- 12—The Indian ruins known as Montezuma Castle are located in New Mexico..... Utah..... Colorado..... Arizona.....
- 13—A national monument is established by: Act of Congress..... Presidential order..... Secretary of Interior..... Petition of a state legislature.....
- 14—"Slip" is the name of a material used by the Indians in making: Pottery..... Blankets..... Baskets..... Katchinas.....
- 15—The Mohs scale is used in measuring the: Purity of gold..... Age of a tree..... Velocity of a river..... Hardness of minerals.....
- 16—The most widely known character in the "Lincoln County War" was: Wyatt Earp..... Ike Clanton..... Billy the Kid..... Butch Cassidy.....
- 17—According to legend, he who drinks of the water of the Hassayampa river will: Never again tell the truth..... Find a bag of gold at the end of the rainbow..... Have eternal youth..... Never suffer from rheumatism.....
- 18—Boulder dam was erected primarily to: Generate electricity..... Provide irrigation waters for new lands..... Control the flood waters of the Colorado river..... Provide additional water supply for Los Angeles.....
- 19—San Xavier del Bac is a mission at: Nogales..... El Paso..... Santa Fe..... Tucson.....
- 20—A "mucker" generally works at a: Mine..... Sawmill..... Chemical laboratory..... Dude ranch.....

reservation because the "lay of the land" makes road-building exorbitantly expensive, and the population is too small to warrant the outlay.

Might I suggest, when you're tempted to pick up controversial material about Indians, that you check with the Indian Service? We will be glad to give you facts

and figures, whether they are to our credit or not. And you know what newspaper stories are!

I'm writing this personally, as a subscriber, because I don't like to see inaccuracies in one of my favorite magazines.

EDITHA L. WATSON
Office of Indian Affairs

HERE AND THERE... on the Desert

ARIZONA

Navajo Seek Agency Change . . .

WINDOW ROCK—Although the Indian Service disapproved its proposal that the sprawling Navajo Indian reservation be governed by six agencies instead of one central agency as at present, Navajo tribal council late in December immediately renewed its demands. Council contends it is physically impossible for the central agency in Window Rock to keep informed of needs of all the people scattered over the 16,000,000-acre reservation. Indian plan calls for establishment of three agencies in New Mexico and three in Arizona.

"Too much work, not enough money"

FLAGSTAFF—The Navajo blanket, one of the most striking crafts products of the Southwest, has become a war casualty. Reason for its present rarity was succinctly explained by Hostin Ad Citty Yazzi, gnarled patriarch of the tribe: "Young buck go fight, send money home. Old buck go work for white man, on railroad, in mine, on highway, bring big money home. Some squaw work in eating house, for white woman or in trainhouse (passenger depot), make big money. White trader buy wool, pay good price. Navajos have lots of money, no wool. No need to make blanket. Squaw no like make blanket any more, too much work, no much pay for blanket."

Corregidor Hero Comes "Home" . . .

SAFFORD—A twin engined plane roared past the Graham mountains in southeast Arizona in December; it dipped low over old Fort Grant, now site of a state industrial school. From the glassed nose of the pilot's cockpit a tall lean figure looked closely at the speeding scene below. It had been 50 years since as a boy of 12 General Jonathan C. Wainwright had said goodbye to Fort Grant where his father had been stationed as a cavalry officer. But the cottonwoods were turning yellow and orange just as they had on fall days when he played there as a boy. "I could even see the old house in which we used to live . . . It was the third one in that row." . . . On this same flying trip Gen. Wainwright received an honorary degree of Doctor of Laws in brief ceremonies at New Mexico A. & M. college. From this college had come many of the men who made up the 200th Coast Artillery, anti-aircraft, which he commanded in defense of the Philippines.

Electric Power System Approved . . .

PHOENIX—Power to raise underground water for irrigation of a vast area in eastern Yuma county and western Maricopa county was assured in December, when Rural Electrification administration approved a loan to build a system for distributing electric power supplied by U. S. Reclamation bureau through Arizona Power authority. Clark Standiford, Buckeye, president of Ma-Yu Electric cooperative, said enterprise would cover area bounded on east by Buckeye and on west by limits of Gila project.

CALIFORNIA

The Voice of Salton Sink . . .

MECCA—Spurred by the current boom in Coachella valley lands, Ed Ainsworth of the Los Angeles Times and Quay House, formerly of the Pasadena Star-News and more recently a combat correspondent, have launched a new weekly paper, The Desert Barnacle, serving Mecca-Thermal-Coachella area of the Colorado desert. No. 1 issue, dated in mid-December, included contributions by John Hilton and Clyde Forsythe, also cartoons by the latter. Ainsworth and House recently have acquired date ranches in lower Coachella valley where large tracts of land now are being developed preparatory to completion of the All-American canal to this area.

THE HOTEL AT THE PALMS

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THE DESERT INN

A triumphant new season under the winter sun at Palm Springs! America's pioneer desert resort welcomes a distinguished colony to its 35-acre estate . . . secluded bungalows, all sports. Season October to June.

37th season under original
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of Nellie N. Coffman,
Earl Coffman and
George Roberson



PALM SPRINGS, CALIF.

THE DESERT TRADING POST

Classified advertising in this section costs 7 cents a word, \$1.00 minimum per issue

MISCELLANEOUS

MAN'S BUFFALO SKIN OVERCOAT, about size 40, satin lined, good condition, reasonable. Address May Jones, 2412 Belgrave Ave., Huntington Park, Calif.

ATOMIC ENERGY mineral, about thirty days delivery, if order placed now for specimen mounted for optical examination. Three dollars cash. **BAILEY** Basic Research Laboratories, Box 575, Inglewood, Calif.

\$2.00 SPECIALS, Archeological—1 Stone Celt, 1 Flint Celt, 1 Shell Spoon, 2 Pottery Sherds, 3 Arrow Points, \$2.00. **FOSSILS**—2 different Fern Leaf, Types, 3 Blastoid or Crinoid Flower Buds, 2 different Plant Leaf, Types, 3 Crinoid Stems \$2.00. **MINERALS**—9 different colors of Fluorite and other Minerals found in the Kentucky-Illinois district, \$2.00. All three above assortments \$5.00 delivered. **ANCIENT BURIED CITY**, Wickliffe, Kentucky.

"INCOME OUTDOORS." 400 ways, 25c. 300 "Cash In" Home Ways, 35c. "125 Trapping Tips" 25c. Bryant, Rt. 2, Lawrenceburg, Ky.

DESARTATIONS: The son o' the feller that runs the DesArt Shop in Santa Fe, ast me effen I knowed why a Indian allus walked, an' I sayed I gessed 'twuz becuz he didn't like t' run, an' he sayed No, 'twuz becuz he wuz tired obsidian. Which reminds me, I'm s'posed t' keep remindin' y'u abouten them swellegant enlargifications the DesArt Shop at 329 College St., Santa Fe, N. Mex., air makin' fer desert fotogs at the low rate of 3 fer a buck in 5x7 size, er 3 fer two bucks in 8x10 size, slick er dull, frum yer favorite desert negatives. They also has pert' nigh every kind o' fotografic service y'u might need t' make yer picturgrafts better than y'u kin ryte 'em about. Azever yourn, Art of the Desert.

FOR SALE: Genuine "Crawford" Lapidary outfit complete with motor, sanders, lap wheel and diamond saw. All in one unit. Used very little. L. G. Wirt, Fixit Shop, 29 Palms, Calif.

MAGAZINE SUBSCRIPTIONS: Do your buying by mail with help of our Free Guide. Efficient, safe, economical. Established 1928. Home Subscription Agency, Brookfield, Ill.

WESTERN BOOKPLATES. Novel, individualized. \$1.00 per hundred. Send dime for samples—deductible from order. The Trading Post, R.F.D., Evergreen, Colo.

ARIZONA HIGHWAYS, Deserts, National Geographics, other magazines, bought, sold, traded. John Wesley Davis, 1611 1/2 Donaldson St., Los Angeles 26, Calif.

DESERT SUNSHINE makes healthy poultry. Hampshire Cross pullets ready to lay shipped anywhere 6 for \$15.00. Crating free. Grail Fuller Ranch, Daggett, Calif.

INFORMATION: What do you want to know about the Colorado desert, SW Arizona, SE California? Rocks, minerals, mines, travelways, waterholes, flora, wildlife, etc. Also Colorado River fishing information. An old Desert Rat will give you reliable information. Personal letters \$2.00. Address Desert Rat, Box 356, Winterhaven, Calif.

WE ARE AGAIN RECEIVING real hand-hammered Indian jewelry from the reservation all made by top silversmiths. For our rock customers we have bought another collection of rock, making this one of the largest collections of rocks and minerals in this part of the country. Our collection of rugs, baskets and jewelry is still large despite the shortage. Come in and see us. Daniels Indian Trading Post, 401 W. Foothill Blvd., Fontana, Calif.

PHOTOGRAPHS WANTED: Reasonably priced. Must be sharp, glossy finish. Rodeo, mining, flowers, animals, etc. Not over 5x7. Also 35 mm. negatives in strips of 12 or more. Rogers Studio, P. O. Box 134, San Diego 5, California.

DIAMOND SAW SPECIAL. Brand new 7" Copper blades, equipped with either 5/8" or 3/4" arbor holes, only \$4.50 each. Do not delay order now. Mail orders only. Gaskill, 400 North Muscatel, San Gabriel, Calif.

TEN FINE Indian arrowheads, \$1.00. Catalog. Geo. Holder, Glenwood, Ark.

FOR SALE: New Taylor faceting head \$40.00. Sterett Dial Test Indicator for testing laps, wheels, etc. \$12.50 or will swap for gem quality Turquoise, Fern or Plume Agate. Am equipped to do your diamond sawing or slabbing. W. Pilkington, 1312 Prospect Ave., San Gabriel, Calif.

GOLD PANNING for profit, healthy, fascinating, outdoor occupation. Beginners' big instruction book, blueprints, photograph—\$1.00. Desert Jim, 208 Delmar, Vallejo, Calif.

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For Imperial Valley Farms—

W. E. HANCOCK

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EL CENTRO — — — CALIFORNIA

Will Restore Old Landmark . . .

CALEXICO—A historic landmark, site where C. R. Rockwood in 1901 planted the first crop in Imperial Valley on 13 acres now in the heart of Calexico, will be preserved and restored as result of its purchase by Gorce-Lake post No. 90, American Legion. Post Commander Earl D. Roberts announced in December the Legion had purchased Rockwood lodge and the corner lots at Fifth and Heffernan and would make the property a showplace.

Historic Property Sold . . .

BANNING—Highland Springs resort, between Banning and Beaumont, was reported sold in December for over \$300,000 to Stanley, Elmer and Victor Rosin, owners of several hotel properties. Property has an important place in history of the San Geronio pass. It was here that the first white settler brought his family to establish the first permanent home in the Pass. In the spring of 1853, Dr. Isaac William Smith came here from San Bernardino in search of stray cattle. He liked the country so much that he purchased from Pauline Weaver, who was then living with the Indians, his portion of the San Geronio rancho. Their home later became Smith's station on the stage line through the Pass.

Death Valley Prospector Dies . . .

BISHOP—Jean Pierre Aguerberry, one of the last of the oldtime prospectors of southern Nevada and Death Valley country, died of a heart attack at Tecopa November 21 and was buried in Lone Pine cemetery. "Pete" and the late Shorty Harris first came to the Death Valley region with their burros in the early part of the century, discovering Skidoo gold mine July 4, 1904. He had lived for the past 40 years 10 miles south of Skidoo at his gold mine camp at Harrisburg Flat, coming there from the Basque country on the French side of the Pyrenees. He built the road from the Flat to what is known as Aguerberry Point, one of the scenic spots of eastern California.

Plan Mojave Natural Gas Line . . .

BANNING—State railroad commission in December was to consider application of Southern California Gas company and Southern Counties Gas company for permission to build a natural gas pipeline from Blythe to Santa Fe Springs, near Los Angeles, a distance of 214 miles. This line would connect with another to be constructed from Texas by El Paso Natural Gas company. Construction, if permission is granted, will start before October 1, 1946 and be completed by June 1, 1947. Cost of Southern California link, \$12,140,000; that of Texas-New Mexico-Arizona link, \$25,500,000. Ultimate cost is expected to exceed \$66,000,000.

Riders Will Ride Again . . .

PALM SPRINGS—After a wartime period of semi-activity, the Desert Riders, pioneer equestrian organization of Palm Springs, reorganized in December with election of officers. Frank Bennett is head wrangler, Irving Snyder, assistant wrangler, Karl De Laittre, keeper of the poke, Melba Bennett, trail boss, Harry C. Harper, straw boss. Raymond Cree is membership chairman and Frank Bogart is chairman of food, entertainment and trail clean-up. First project of the season is a campaign to clean up litter and garbage left along trails by thoughtless visitors.

Plan Sea Resort in Desert . . .

EL CENTRO—About 20 Imperial Valley men in December formed the Salton Sea Development committee, with the purpose of establishing a resort along the shores of Salton Sea. County Supervisor B. M. Graham, Brawley, was elected chairman. An executive sub-committee, to investigate various possibilities of the proposed resort, is comprised of Howard Meyer, El Centro, chairman; Glenn Walker, Westmorland; G. G. Bennett, J. E. Brock and Paul A. Jenkins, El Centro.

Rubber-plant Project Extended . . .

INDIO—Word was received in December that house appropriations committee had extended guayule rubber project liquidation date to December 31, 1946. Meanwhile harvesting began on 500 acres of guayule in Moreno valley under direction of J. W. Kyle, director of experiments in the Banning area. Kyle estimated yield would average 500 pounds crude rubber per acre, valued at 30 cents per pound.

Move for Blythe-El Centro Route . . .

BLYTHER—Most positive step yet taken toward a proposed new link between Blythe and El Centro was made during a joint legislative public hearing and a good roads conference at Brawley and Calexico late in December. Discussions by delegates of chambers of commerce and other organizations in the affected area stressed that the present Mecca-Box canyon road is the only surfaced highway now connecting the two valleys; that this road is closed much of the time, and its maintenance is expensive. The proposed route would save more than 100 miles between the two points and would complete the Four-States International highway from Canada to Mexico. The joint legislative interim committee, studying highway conditions and financing in southern counties, inspected the area preliminary to a formal hearing to be held later. Their report will be made to the next regular session of the state legislature.

Fish Come to Fishermen . . .

MECCA—Now the fish are coming to the heart of the desert. No longer need Coachella valley fishermen go as far as the Colorado river to catch fish. Both bass and catfish are declared to be plentiful in the backed up water in newly finished section of Coachella branch of All-American canal.

W. A. Chamberlain of Victorville, whose novelties made of Joshua tree wood from the Mojave desert made him widely known, died December 21. His unique work was described in *Craftsman of the Joshua Forest* (Desert Magazine, July 1938).

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In the restful Borrego Valley at the foot of the San Ysidro and Santa Rosa ranges, is preparing to open December 15th for its 8th season.

An informal American Plan guest ranch with the open hearted hospitality of early California days.

Reservations are being accepted for December and January.

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For Reservations Phone . . .

L. D. Scott, Ocotillo Toll Station
or write

"Scotty," Box 55, Brawley, Calif.

DESERT SOUVENIR

A four-color picture suitable for framing shows the Covered Wagon Train of '68 crossing the desert; now on display at Knott's Berry Place, Highway 39, two miles from Buena Park out of Los Angeles 22 miles. This remarkable oil painting 20x60 feet took over one year to complete. A copy will be mailed you together with the special souvenir edition of our Western Magazine jam-packed with original drawings and pictures and complete description of Ghost Town and Knott's Berry Place. Both will be mailed with current issue of our 36-page magazine for 25 cents postpaid in the U.S.A. Thousands have already viewed this great work of art and acclaim it a wonderful contribution to the history of the West. Admission is without charge whether you stay for the chicken dinner and boysenberry pie or not. Send 25 cents for all three: picture, souvenir and current issue to Ghost Town News, Buena Park, California.

NEVADA

He'd Perfume the Desert . . .

LAS VEGAS—No rose will bloom to blush unseen in this desert air if J. R. Christensen carries out his plan. Representative of Silver Dollar Perfumes, Inc., of Reno, he is investigating possibility of establishing a rose garden in this area for production of attar of roses. He claims Nevada grown roses have the most perfect fragrance of roses in the world.

What's Shaking Nevada? . . .

TONOPAH—What causes those muffled reports and tremors in Nevada still seems to be in doubt. Reports over a period of several months coming from the Hot Creek, Warm Springs, Hawthorne and other districts, have told of hundreds of reports, followed by a series of tremors like those of an earthquake. Some believed they were due to the slipping of a mountain peak along a fault in the Hot Creek or Monitor ranges. Later investigation disclosed that Manhattan gold dredge company was setting off blasts to break up big boulders in path of the dredge. Then it was asserted that explosives, either experimental or some that might have become dangerous from long storage at Hawthorne naval ammunition depot, were being exploded. But prospectors who insist the "shakes" are not due to manmade explosions, hold to the "moving mountain" theory.

"Case of the Live Ghost" . . .

HENDERSON—Somebody's been trying to kid this town, which came into existence during the war production days of Basic Magnesium, Inc. Short time ago papers carried story that it was for sale as surplus, "completely equipped with churches, stores, housing for 1000 families and nine factory buildings." But the 3000 persons still living here didn't know they were living in a "ghost town." Curious, two Las Vegas reporters visited the town, but found anything but a spectral atmosphere. Nor had Fred A. Unsworth, property manager for Defense Plant corporation, heard that his community was about to be sold out from under him. At least, if this is a ghost town, it's the liveliest ghost town ever to be pulled out of a reporter's imagination.

Don't Pull 'em Up . . .

BOULDER CITY—It's mighty cold to patrol a road to keep vandals from destroying all the *Atriplex hymenelytra* in Boulder Dam recreational area—but that's what the national park rangers are having to do. Plant with the long name is desert holly, the silvery little shrub that looks like frosty holly. It is relatively rare; most of it grows in areas where it is protected by law. But rangers suddenly found persons gathering it were not content to prune branch-tips, they were tearing up the entire plant. "It's a shame that the American public has so little regard for beautiful plants," declared Dr. Gordon Baldwin, park service naturalist. "If we allowed everybody to pull up the shrubs there soon would be none left so we have had to put a patrol on the road to protect them."

Tourist "Menace" Alarms Them . . .

BOULDER CITY—Folks around here are really worried. In fact, one of 'em almost fainted when he saw national park service travel report for last November. "Holy petrified cow!" he screamed, "what're gonna do next summer? If they're traveling that way now on patched-up tires and ancient cars wot'll happen when they get tires and new automobiles?" For that month, 24,801 automobiles carried 78,948 passengers to this city on Lake Mead—and that doesn't count passengers who came by plane for a look at the big lake behind Boulder dam. A year ago only 5939 cars with 18,519 passengers checked in at the recreational area.

NEW MEXICO

"Guaranteed Genuine Handmade"

GALLUP—A code of standards for genuine handmade Indian jewelry was adopted by United Indian Traders association at the annual meeting here in December. Association voted to use a substantial portion of its funds to educate the public on the mark of genuineness, which will be applied only where merchandise conforms to standards adopted. Newly elected president of the group is Howard Wilson, Gallup trader.

War Chief Crazyhorse Dies . . .

ZUNI—Joe Crazyhorse, colorful war chief of the Zuni Indians, said to be 90 years old, died in December. He reportedly attained his position by taking the scalp of an enemy. All Zuni was agog when he planted the trophy according to custom on a pole in the village plaza. But he never publicly explained its origin. He was widely known among Indians and whites as an unfailing attendant at the annual Indian Ceremonial at Gallup, where he performed as unofficial clown. On one occasion a few years ago, when he was a patient at Blackrock hospital near Zuni, he took French leave in a nightshirt—and turned up at the Gallup ceremonial still wearing the nightshirt.



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Cattle Empires Sold . . .

SILVER CITY—Sale of Apache Tejo and GOS ranches—historic New Mexico cattle empires—was announced in December. GOS was split three ways, between Herbert S. Estes, Silver City; W. A. Adams, El Paso, and W. L. Laney, Reserve. Apache Tejo holdings, once headquarters of Diamond A ranch, were bought from Gilchrist Cattle company by Harry Wright of Mexico City, Mexican steel man and president of 7XV Cattle company.

UTAH

Young Indians Prefer City . . .

SALT LAKE CITY—Sharply contrasting the traditional and the new, grey-haired sombreroed John Nick and slim ex-Petty Officer Julius Murray, of Uintah-Ouray Indian reservation, in December were choosing a suitable memorial plaque for 97 Indians who fought in World War II. Murray, in trim naval overcoat, examined ultra modern sanded glass memorial plaques, while his red-shirted companion chose frames for sketches of ten famous chiefs to be hung in the tribal office. Modern warriors, whose names will be placed on a plaque, will be headed by Pfc. Harvey Natchees, first Yank into Berlin. Only about half of Uintah-Ouray veterans will return to reservation life, Murray believes. Men with families will return to reservation life, he predicted, but young men who have visited the great cities will not be content with the old ways.

Planes Rescue Sheep Herder . . .

DELTA—George Bethers, 62 year old sheep herder, in December was rescued by searchers in airplanes, after having been lost for five days and nights in the range country of White valley, about 60 miles west of here. He had started out from camp to look for his horses, after a breakfast of two pancakes and an egg. That was his last

food until after his rescue. He had no food, no water and no matches with him, and had to keep moving during the cold nights and days to remain alive. After his horses had returned to camp without him, searchers set out in planes. They could see his trail on the hardpan, where he had wandered in circles. He had tramped over and over one area, about the size of a city block, covering possibly ten miles in that small area. He was still moving when found. Although it was Bethers' first airplane trip, he doesn't know much about it for as soon as he was carried to the plane he fell into a deep sleep. He received treatment at Delta hospital then was taken to his home in Park City to recuperate.

Roundup in Storybook Range . . .

KANAB—An old time roundup conducted in late fall by U. S. grazing service in one of the country's most isolated corners netted more than 1000 white-faced cattle. They had been ranging in the lower area of Paria and Wahweap creeks, in the Ferry swale area and as far south as the Colorado river in Arizona. They were trailed to Kanab, later shipped by truck as feeders. Cattle must rove far to thrive on the scant black brush and grass range. Save

for its inaccessibility this Paria valley range would be a tourist's dream. To the east are white sandstone cliffs like story book palaces. In the west are monoliths like carved totem poles. Through a petrified forest and past vermilion cliffs the collector may obtain mineralized sand running through the entire spectrum.

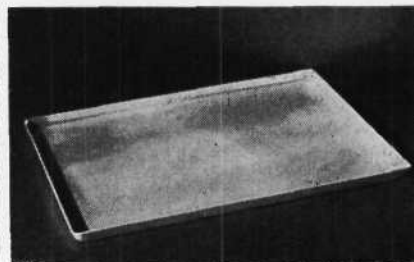
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USE IT in the oven, on the barbeque, over the campfire.

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RAY COLE

Loma Linda

California

FEBRUARY 20 IS THE DEADLINE--

Desert Magazine's photo contest for February is any subject pertaining to water on the desert. There is a wide range of possibilities—lakes, streams, springs, waterholes, natural tanks, cloudbursts. Or, close-ups in which water plays a conspicuous part.

The February contest closes February 20. Prizes are \$10 for first place winner, \$5.00 for second, and \$2.00 each for non-prize winning pictures accepted for publication.

The January issue of Desert carried an advance list of photo contests to be held every month during 1946.

HERE ARE THE RULES

- 1—Prints must be on black and white, 5x7 or larger, printed on glossy paper.
- 2—All entries must be in the Desert Magazine office by the 20th of the contest month.
- 3—Prints will be returned only when return postage is enclosed.
- 4—Contests are open to both amateur and professional photographers. Desert Magazine requires first and full publication rights of prize winning pictures only.
- 5—Time and place of photograph are immaterial except that they must be from the desert Southwest.
- 6—Judges will be selected from Desert's editorial staff, and awards will be made immediately after the close of the contest each month.
- 7—Each photograph submitted should be fully labeled as to subject, time, place. Also as to technical data: shutter, speed, hour of day, etc.

ADDRESS ALL ENTRIES TO PHOTO EDITOR, DESERT MAGAZINE,

THE *Desert* MAGAZINE
EL CENTRO, CALIFORNIA

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Mines and Mining . .

Carson City, Nevada . . .

Senator Pat McCarran of Nevada has served notice on his colleagues in Washington that he will fight further efforts to suspend annual assessment work on mining claims as has been done since 1933. Sen. McCarran bluntly told the senate why, in his opinion, the law requiring \$100 worth of assessment work on every mining claim each year should be enforced. Said he: "I know that Pres. Roosevelt, when he signed the last extension bill, said it would be the last time extension of time would be given. I think it is time to stop the whole procedure. We have men out of employment now and we will have more of them as they come back from the war without employment and seeking employment. Their spurce of employment in years past has been, in many instances, doing the annual assessment work on mining claims. What is going on now is that great areas of the public domain are being held in absentee landlordship by those who have done nothing whatever to develop their claims or to develop the mineral resources of the country in which the claims are located."

Bishop, California . . .

A pilot plant with a capacity of 500 tons daily is to be installed on the holdings of the Cain estate in the old Bodie gold mining camp, according to the statement of W. A. Linfesty, consultant for the Sierra Mines, Inc., which is back of the project.

Salt Lake City, Utah . . .

Asserting that the kalunite plant erected during the war emergency has never been able to produce alumina and alunite on a commercially profitable basis, the Defense Plant corporation has advised Surplus Property Administrator Stewart Symington that the plant should be closed down. It is costing the government \$60,000 a month to keep the plant in operation, it was stated, with no adequate return. Senator James E. Murphy of the Senate's small business committee has insisted that the plant be kept in operation, if for no other reason than to furnish jobs for its staff.

Randsburg, California . . .

Prediction that he will be shipping 100 tons of bentonite a month from his mine on the Trona-Randsburg highway is made by Louis Martinez who has resumed development work on his property after a two-year shut-down. The property was discovered in 1931. Bentonite is used in the manufacture of paper, plaster, soap, medical dressings, and for other purposes.

Goldfield, Nevada . . .

Under lease to the Reorganized Silver King Divide Mining company, the old New York shaft in the Montezuma district 10 miles west of here, has been cleaned out, retimbered and is now producing milling ore from a drift at 150 feet. Assays on this drift showed 60 per cent lead, 50 ounces of silver and \$2.40 in gold.

Washington, D. C. . . .

From the Geological Survey comes the report of the location in the Manuel area in Arizona of a large low-grade copper deposit which may prove to be the most important copper discovery in Arizona in the last decade.

Tonopah, Nevada . . .

First carload of Nevada "wonder rock" to be shipped from the property recently acquired by C. L. Perkins, I. F. Macy and G. L. Scholl of Tacoma, is to go out soon it was announced. The Tacoma plant, which will use a carload of the material a month, plans to convert it to ornamental tile, facings for cement work, and flagging. The rock has been popular in the past with amateur rock cutters who used it for making desk sets, bookends, etc. The property is 21 miles east of Tonopah.

Las Vegas, Nevada . . .

New electrical equipment designed to increase the capacity of quarry and processing plant of the Nunn company at Overton to 12,500 tons monthly, has been announced. The company produces sand for glass manufacture on the West Coast. The expansion, the owner said, is made necessary by recent long-term contracts for sand deliveries to the coast.

Randsburg, California . . .

Experiments are being conducted on the Monarch-Rand property here to determine the efficiency of a hydraulic vacuum suction machine designed to recover placer gold and tungsten without the use of drag-line shovels and other heavy equipment. The equipment, developed by Donald East and associates of Los Angeles, is designed for quick low-cost installation.

Reno, Nevada . . .

If the bill now in congress for the control of atomic energy is passed, it will have a retarding effect on prospecting in the desert region, according to the opinion of Walter S. Palmer, head of the University of Nevada's department of metallurgy. It is the intent of present legislation that all minerals having radioactive content be withdrawn from private ownership. This control, Palmer believes, will stifle any further search for such minerals, and will result in prospectors remaining silent with regard to any known deposits.

Tonopah, Nevada . . .

Discovery of a deposit of variscite, a green hydrous sulphate of aluminum, which is sought by amateur rock cutters for various manufacturing uses, is reported by Roscoe (Death Valley Curley) Wright and Harry H. Hertwesck. The ore was found near the old camp of Columbus, and the mineral occurs in nodules, some of which are of considerable size.

BY BOAT into the heart of the Southwest's most scenic canyon country with **Norman Nevills**

A limited number of reservations are now being made for the 1946 Nevills expeditions down the San Juan and Colorado rivers—191 miles in seven days. Special-built river boats, skilled boatmen, good food and sleeping bags for all passengers.

Boats start from Mexican Hat, Utah, on the San Juan, and complete the trip at Lee's Ferry on the Colorado. Arrangements will be made to have your car driven from Mexican Hat to Lee's Ferry. Sidetrips include:

Crossing of the Fathers, Music Temple, Mystery, Twilight and Hidden Passage Canyons, Outlaw Cave and the famous Rainbow Bridge

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"... A river trip with Norman Nevills is more than a mere boat ride. It is a flight on a magic carpet of adventure into a canyon wilderness of indescribable beauty and grandeur."

—DESERT MAGAZINE

GEMS AND MINERALS

ARTHUR L. EATON, Editor

CONDUCTED FIELD TRIP TO FEATURE BLYTHE GEM SHOW

Desert Gem and Mineral society, Blythe, California, will stage its mineral show February 16, afternoon and evening. Outside exhibitors are invited to attend. They should notify Secretary Glenn Vargas, Box 53, Blythe, as to type of exhibit planned so that housing arrangements may be made. Reservations should be in hands of secretary at least two days prior to show. Sale of mineral specimens will be permitted.

A field trip to the Hauser geode bed near Blythe will be conducted Sunday, February 17. This show, the club believes, will give out of town rockhounds a chance to learn what type material is found in the Blythe area, and the conducted trip to a geode bed will be of special interest.

At the regular December meeting Norman Brooks was reelected president of the society; Dale Braman was chosen vice-president; Glenn Vargas, secretary-treasurer, and B. W. Cohoon, assistant secretary-treasurer.

ROSEBURG CLUB HEARS COLLECTING TRIP REPORTS

Marjorie Hunt Pettit reports that Mr. and Mrs. Jack Wharton entertained members of the Umpqua mineral club of Roseburg, Oregon, November 20. Anna Knudtson told of a trip she made to Devil's Knob during the summer, and displayed excellent specimens of petrified wood. Roy Rose spoke of an expedition to De-Lake where he found some fine fossils and tere-do wood. Leslie Roberts reviewed a trip made by himself and Everett Teater to Harney and Malheur counties in eastern Oregon, and a meeting with the Owyhee gem and mineral society at Caldwell, Idaho.

A box of mineral specimens was auctioned off and went to high bidder Clair Pettit. Proceeds of this sale go to the public book fund. Mr. Wharton produced a tray of cut and uncut rock specimens, for which members threw dice. Anna Knudtson, Hilda Peterson and Clair Pettit came up with sixes and got their pick of the tray. Delicious refreshments were served at a late hour by Mrs. Wharton, assisted by Mrs. Leslie Roberts and Ella Hutchins.

LAPIDARY ROOM MAINTAINED FOR CONVALESCING VETERANS

Mrs. Mae McKibben, secretary of Mother Lode mineral society, of Modesto, California, reports that the group has donated specimens, money and time to help establish and maintain a lapidary room in Hammond hospital near Modesto. Miss Van Black of the hospital, A. M. Husong and other Mother Lode members aided patients in cutting and polishing gem stones. Hammond hospital is to be closed, but Miss Van Black will take the lapidary equipment with her and establish it in the Bay hospital where she is to be transferred.

Lapidary work is a pleasant and worthwhile pastime for convalescent service men and women, and members of Mother Lode hope that they have helped to make the veterans' time in the hospital a little more pleasant.

OIL MAN ADDS NEW GIFT TO O'BRIEN MINERAL COLLECTION

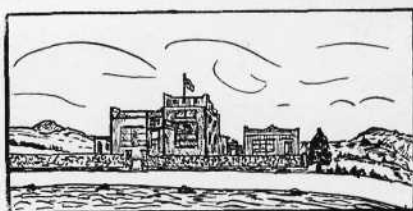
A \$3000 gift to help in housing of the O'Brien mineral collection has been made to University of Nevada, Reno, by Mr. and Mrs. Fred S. Markham, Palm Springs, California, according to December announcement by President John O. Moseley. The Southern California oil man and his wife had presented the O'Brien collection of 10,000 specimens to the Mackay School of Mines several weeks before.

The new gift of \$3000 will be known as the Markham museum fund. It will be used in developing suitable display space in the Mackay school building. Needy returned veterans will be employed under the fund to install and maintain collection, in keeping with donors' request, said Prof. Jay A. Carpenter, director of the school. Collection was built over many years by Joseph O'Brien, Beatty, Nevada.

MUSEUMS REPORT DISCOVERY OF NEW GEM STONE

American museum of natural history, together with the National museum at Washington, D. C., recently made the joint announcement of the discovery and identification of a new mineral and gem stone. Frederick J. Pough of the American museum secured the new specimen from a Brazilian dealer. The new stone is said to be a form of sodium aluminum phosphate, somewhat related to the emerald. It is a lustrous greenish yellow, and ranges from translucent to transparent.

Large crystals of the new stone, some of them weighing more than 900 grams, have been discovered in granitoid rocks in Brazil, and named for the country of their discovery, Brazilianite. Although some small gems have been cut, no real commercial uses have been found, beyond the limited demands of collectors.



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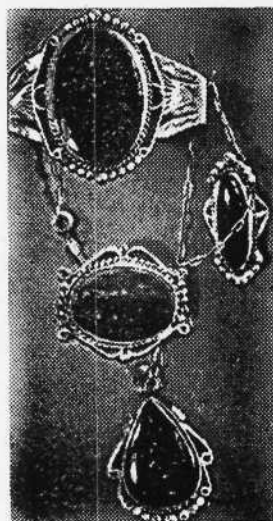
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WANTED TO BUY, or trade for Franklin fluorescent minerals. Western States crystallized or rare minerals. Also iron meteorites. John S. Albanese, P. O. Box 536, Newark, New Jersey.

MINT CANYON ROCK SHOP: Always something New and WORTH WHILE. First and Third Sunday each month. Highway U. S. 6, ten miles from Junction with U. S. 99.

MARTIN'S MINERAL MART, stocked with the best in mineral specimens, is open to old and new customers at a new location. Collectors may buy Morgan Hill Jasper in variety of color and eyes at 50c a lb. Two pounds of small specimens mailed for \$1, plus tax and postage. Martin's Mineral Mart, Box 187, San Martin, Calif., on Hgw'y 101. G. D. (Jack) Martin.

EXQUISITE BEAUTY under cold quartz lamps. A new ROSE design 9x12 in. picture done in fluorescent minerals. Reacts green and rose pink. Tulip design—same size—reacts, blue, orange, red and green, still available. Each \$1.25 postpaid. Thompson's Studio, 385 West Second Street, Pomona, Calif.

JUST RECEIVED a lot of fine Amazonite crystals from eastern Colorado. A few clusters but mostly singles. \$10c to \$1.00. Colorado Gem Co., Bayfield, Colo.

KENTUCKY MINERALS—Ordovician Fossils: 5 minerals 35c, 7 different fossils, 50c. 12 small fossils, 25c. All dollar. Ten pounds unbroken geodes, \$4.75 postpaid. George Bryant's Rocks, Rt. 2, Lawrenceburg, Ky.

BARGAIN BUNDLES—Assorted rough cutting material—Agates, Jasper, Geodes, Variscite, Turquoise, Chrysocolla, Petrified Wood, Obsidian, etc., 5 lbs. \$3.50, 10 lbs. \$6.00, 20 lbs. \$10.00. Assorted sawed cutting material—20 sq. in. \$3.50, 50 sq. in. \$7.00, 100 sq. in. \$12.00. Agate, Jasper, Chrysocolla, Variscite, Turquoise, Wood, Rhodonite, Obsidian, Opal, etc. Please include postage. Send for price list of cutting material, minerals, specimens, jewelry, etc. John L. James, Tonopah, Nevada.

SPECIAL, TWELVE preform cabochons including Turquoise, Chrysocolla, Montana Agate, Picture Wood, Carnelian, etc. \$6.00 including tax. Satisfaction guaranteed. Let me do your Slabbing. W. Pilkington, 1312 Prospect, San Gabriel, Calif.

WANTED A FEW good sized rough Virgin Valley Fire Opal specimens. Will consider buying small collection of same if price is reasonable. A. Singer, Santa Paula, Calif.

HAVE YOUR PET CABOCHON set in silver ring, pin or bracelet by a master silversmith. Sunshine Gem Co., 315 E. Saxon Ave., Wilmar, San Gabriel, Calif.

ASBESTOS IN SERPENTINE MATRIX. 2x2—.75, 3x3—\$1.00, 4x4—\$1.50. Also Texas Agates and Arizona Onyx—for spheres and bookend cutting. Banded and very colorful. Prices on request. Leo R. Quinn, Rt. 4, Box 562, Phoenix, Arizona.

AGATE SLABS ON APPROVAL. Brilliant colors, exquisite patterns, plume, flower and moss. Choice gem quality for jewelry making. End pieces and slabs for outstanding cabinet specimens and colorful transparencies. Send \$10.00 deposit for approval selection and state types desired. Mae Duquette, 407 N. Muscatel, San Gabriel, Calif.

HOME AGAIN: My daughter, Mrs. Kathleen Kitchell, has now returned, after an absence of six months due to critical illness. If past orders or inquiries have been unanswered, please write us again, and you will receive prompt reply. We now have a new, but limited, supply of select cabochon gem agate. 1 lb. assortment including finely banded colored agate, flowered, mossy, and unusual Jasper-agates, \$2.50 postpaid. Also, extra-select assorted cabochon jaspers \$1.50 per lb. postpaid. Wholesale prices quoted on select jaspers suitable for slabbing. FRANK DUNCAN AND DAUGHTER, P. O. Box 63, Terlingua, Texas.

SOMETHING NEW AND DIFFERENT — Deep Purple and Amethyst colored stones. Cutting material \$25 lb., \$7.50 ¼ lb., \$1 for cutting sample. Vein run specimens—75c lb. Money refunded if not desired. The American Fluorspar Group, Inc., Santa Fe and Hot Springs, New Mexico.

SPECIAL!!! Diamond cube crystals from Africa. Every collector should have at least one in his collection. Approximately ¼ carat, only \$5.00. Suitable for making tools. These will not last long at this price. Order yours now. A. L. Jarvis, Route 2, Box 350, Watonsville, California. Closed on Wednesdays.

ARIZONA AGATES AND JASPER. The best in the world. Newly mined stock of gem geodes, gem agates, and gem jaspers. There is every color in the world in these gem stones, with all colors of moss, ferns, flowers, and other designs, with clear, white and banded designs. Prices are, Number 1 Gem in mixed lots, 25 Indian chips \$4.50; 50 for \$8.00; 2 pounds of chunk gem \$6.50; 5 pounds \$15.00; 10 pounds \$25.00; large cutting chunks can be had. **GEM PICTURE PETRIFIED WOOD**. Real pictures of trees, mountains and scenic views all the way through each chunk. Also sold at the same prices above. 5 large choice slices of gem agate, gem Jasper, gem and gem picture wood, mixed slices \$20.00; 10 slices \$35.00; 35 pounds of specimen and gem petrified wood mixed \$11.00. Satisfaction guaranteed. Postage extra. Chas. E. Hill, 2205 N. 8th St., Phoenix, Arizona.

BARGAINS in lovely specimens. One Arizona crystallized chrysocolla 2x2 or larger. One lovely Vanadinite Arizona. One native copper Michigan. One limonite pseudomorph after pyrite. One diopside. One garnets in rhyolite. One purple zircon. One rhombic calcite bladed. One amazonite. All for \$3.00 plus postage. We are very sorry but we can not sell any more of these specials to dealers in large lots. West Coast Mineral Co., La Habra, California, Post Office Box 331. Send for special cutting list.

MINERAL SPECIMENS of all kinds. Collections for museums and students. Micro-mount mineral collections. Rocks and minerals by the pound or by the specimen for display, study and research. H. Goudey, Box 529, Yerington, Nevada.

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PETZITE (Silver-gold telluride). Lustrous masses of this rare mineral in matrix. Excellent specimens for \$5.00, \$7.50 or \$10.00, according to richness. Postage extra. H. Goudey, Box 529, Yerington, Nevada.

SPECIAL: My surprise assortment of Arizona minerals \$1.00 FOB. Cash with order. A bargain. L. E. Bagg, Box 782, Peoria, Ariz.

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EXPERIENCED TURQUOISE cutters wanted. Rate 2 cents per carat for 40 hours work, 3 cents per carat for cutting after 40 hours in one week. Can cut up to 53 hours per week. List references and experience in first reply. Maisel's Indian Trading Post, P. O. Box 1333, Albuquerque, N. M.

INDIAN RELICS, Curios, Coins, Minerals, Books, Old Buttons, Old Glass, Old West Photos, Weapons, Catalogue 5c. Lemley Antique Store, Osborne, Kansas.

WANTED: TO BUY, sell and exchange specimens outstandingly rare and beautiful. Sam Parker, 2160 East Van Buren, Phoenix, Ariz.

MONTANA MOSS AGATE in rough for gem cutting and specimen. 50c to \$1 per pound, plus shipping cost. Also can supply Jade, Jasper and Petrified wood. E. A. Wight, P. O. Box 1318, Billings, Montana.

\$2.50 brings you prepaid six rare and beautiful crystallized Arizona minerals. Vanadinite, Diopside, Wulfenite, Willemite, Chrysocolla, Azurite. Specimens 1½x2 or larger. Wiener Mineral Co., Box 509, Tucson, Arizona.

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AMAZING BARGAINS! . . . High Quality Stones: Almandine Garnets (Madagascar) ea. \$1.20; Green Garnets (Australia) ea. \$1.80; Opals (Australia) ea. 90c; Moonstones (Ceylon) ea. \$1.20; Sapphires (Blue & Golden, India) ea. \$2.40; Aquamarines (Brazil) ea. \$1.80; Sardonyx (South America) ea. 90c; Quartz Topaz (Brazil) ea. \$1.80; Amethysts (Brazil) ea. \$1.20; Turquoises (Persia) ea. 90c; Rough Quartz Topaz (Brazil) ea. \$1.80. All stones cut and polished. We guarantee complete satisfaction. See that remittance accompanies your order. L. de Crissey, P.O. Box 93—Times Square Station—New York 18, N. Y.

SEND ME your favorite cabochon mounted in either sterling or 10 K gold. Each piece designed to bring out the beauty of your stone. Ladies Sterling rings from \$3.00, 10K gold from \$7.50. Pins, Brooches, Bracelets, etc., reasonable. Satisfaction guaranteed. Send for descriptive list of fine ladies and mens rings now in stock. Your correspondence invited. K. K. Brown, Star Route, Castle Rock, Wash.

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ROCK COLLECTORS ATTENTION: Special New Years Offer. 1 Choice Fluorescent rock \$1.00, 1 Garnet in Rhyolite, \$1.00, 1 sparkling Quartz & pyrite XL group \$2.00, 1 slice Rhodonite \$1.00, 1 Agatized clam \$1.00, 1 white Aragonite stalactite \$1.00, 1 double refractory Iceland Spar \$1.00, 1 cuttable Malachite \$1.00, 1 Tourmaline in matrix \$1.00, 1 blue Calcanthite specimen \$1.00, 1 Vanadinite crystal group \$1.00. Free cabochon or polished specimen. All postpaid for only \$8.00 (nothing sold separate). The Rockologist (Chuckwalla Slim) Cathedral City, Calif.

DUE TO constantly moving about the country I am forced to sell my collection built up for twenty years. Lots of twenty-five pounds each at \$5.00, \$10.00 and \$15.00, depending on quality. Many choice specimens in \$15.00 lots. A few lots at \$25.00 containing some rare ones. Two lots at \$50.00 containing my best. Money refunded if I have sold out, or you are not satisfied. (Even the \$5.00 lots contain good specimens, including cutting material that would cost many times this amount if purchased from a dealer.) Shipped freight or express collect. Lieutenant D. S. Fraser, 145 Ivy St., Spartanburg, S. C.

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AMONG THE ROCK HUNTERS

Charles King, proprietor of Dunmavin, was host to the N.O.T.S. rockhounds of Inyokern, California, at their November meeting. King showed the group his collection, including display cases of stones and minerals from the Aleutian islands and New Guinea. A field trip was planned for December to the Darwin falls area.

Mineralogical Society of Southern Nevada planned to meet early in the new year to reorganize and elect officers. The club was practically non-existent during the war years. Anyone interested in joining is requested to send name and address to acting secretary Dora Tucker, 916 South Second street, Las Vegas, Nevada.

Searles Lake gem and mineral society, Trona, California, has elected the following officers to serve during 1946: John Bernhardt, president; Ann Talchik, vice-president; Diane Adler, secretary; Harvey Eastman, treasurer; Al Means, Bill Hunter, George Pipkin, Ceasel Wittorff, Chester Edwards, directors. Dues were raised from one to two dollars a year. Officers were installed at the Christmas party, December 19.

J. R. Wilson, Phoenix union high school, was scheduled to talk on petrified forests at December 20 meeting of Mineralogical Society of Arizona. For their first field trip since the war, the group went to the Superior area for perlite and obsidian nodules, and to Arnet canyon for desert roses, carnelian, etc.

R. J. MacClanahan was Santa Claus for Sacramento mineral society's annual Christmas dinner party December 21. Everybody played bingo following distribution of mineral specimen gifts. Vice-president Paul Downard presided in absence of President A. J. McClellan.

Members of Mother Lode mineral society, Modesto, California, are grieved at loss of their beloved member, Prof. William Lear Brown, founder and first president of the society.

At December meeting of Yavapai gem and mineral society, Prescott, Arizona, Dr. Charles A. Anderson, U. S. geological survey, told the story of formation of rocks. Second speaker was Hal Dawson who told of his recent trip to one of "John Hilton's agate fields" in the Colorado desert. Being a generous rockhound Hal brought along a large box of agates and distributed them among members.

State Mineral Society of Texas staged one of the most complete mineral shows ever held in the Southwest at Dallas in November. Outstanding exhibitors were: A. E. Curry, selenite and other crystals, pink onyx, agates; Floyd Studer, fossils in asphaltum, Palo Duro quartz, sepiaria; Viola Block, petrified woods, agates, crocidolite, Mexican minerals, lava from El Paricutin; Phil Lawrence, cat eyes; Edith Owens, carborundum crystals; Myron Everts, uncut gem stones; Colorado mineral society, specimen box of 20 minerals. June meeting and show is planned for San Antonio.

J. E. Ruckman, chief chemist at Culligan zeolite plant, San Bernardino, California, was speaker at December 4 meeting of Orange Belt mineralogical society. The group planned a December field trip to the plant. Attendance prize of two uncut geodes, awarded by president Peter Burk, was won by the secretary, Mrs. Wade.

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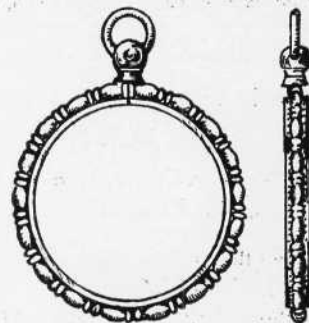
6 in.....	\$ 4.60	14 in.....	\$14.80
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Sterling Silver Sheet and Wire, Gold and Silver Bails, Sister Hooks, Jump Rings, Joint Wire, Chain by the foot, Complete Neck Chains, Ear Wires, and many hard to get jewelry findings. Also Ring Mountings, Brooch and Pendant Mountings.

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UNIVERSAL ARBOR C-2, $\frac{5}{8}$ x13 in. spindle. Heavy cast aluminum housing $2\frac{1}{4}$ x8 in., wheel capacity between washers 1 in. Finest quality ball bearings, lubricated and sealed for life of the bearing. Shipping wt. 12 lbs.

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HEAVY DUTY GRINDER D-3, $\frac{3}{4}$ x22 in. spindle mounted on perfectly aligned ball bearings. Single piece cast aluminum housing. Wheel capacity $1\frac{1}{2}$ in. between washers. Distance, base to center of shaft, $7\frac{3}{4}$ in. Spindle threaded both ends. "V" belt driven on 3-step pulley through bottom or rear of housing.

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CRAWFORDITE NODULES

This scarce colorful material in half nodules, 4 to 6 sq. in.

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Long Beach mineralogical society held a Christmas covered dish party, December 12, at the regular meeting place, 4104 Allin street. Mrs. Fisher talked on turquoise. 1946 officers are: Mrs. Lowell Gordon, president; Lowell Gordon, treasurer; Jay Wilson, vice-president-secretary. Board members are: K. O. Otoupolik, J. E. Webb, Jay Wilson, Roy Wagoner, Florence Gordon. Club voted to present a paper weight to Mr. Case of Press Telegram in appreciation of the good publicity given the society.

Center of interest at December 4 meeting of San Jose lapidary society was President Russell Grube's talk on sawing and grinding, combined with experiences of other members present. Opinion was about equally divided as to merits of mud saw and diamond saw use. Several members displayed their jewelry and other material.

O. C. Smith, second vice-president of Pacific mineral society, took the group on a Kodachrome motion picture tour of our national parks at December 18 dinner meeting. Gift specimens were exchanged. No field trip was scheduled for December due to the holidays, but field trip chairman Louis Goss promises one for early in 1946.

Jack Streeter talked on Rio de Janeiro at November meeting of Kern county mineral society, and displayed interesting Brazilian specimens. November 18 field trip was to Kramer, after meeting in Mojave at 8 a. m. Good specimens were obtained at Kramer and at the "potato patch." December gathering was a Christmas party. Members exchanged mineral gifts. Emmett Van der Eike, Lee Richardson and Della Chenard were scheduled to speak on "my most interesting specimen."

Imperial Valley gem and mineral society voted to hold a field trip rather than a Christmas part, December 16. Four cars braved the sands of Salt Wash, to the last peak in the Orocopias. Cutting quality prase, geodes, agate and banded chalcedony were found.

Mineral auction and raffles of Marquette geologists association, Chicago, netted the society about \$80. December meeting was a study, by means of sound film, of mountains in the making, and erosion of land.

Dr. Ball's geology class, Chicago, Illinois, discovered desert glass on a trip to Indiana sand dunes. It is unusual to encounter the purpled glass east of Colorado, but low moisture conditions of the dunes seem to have been conducive to its formation.

Edith Long Henderson has a brief article on lapis lazuli in December Marquette geologists bulletin.

Los Angeles mineralogical society was visited by Santa Claus at December 15 meeting, held at 1832 South Hope street. Retiring president Richard Lehman was voted a life membership. Club starts its fiscal year with over \$280 in the treasury.

Arthur L. Eaton talked on atomic energy and uranium ores at December 1 meeting of Imperial Valley gem and mineral society. He displayed about 15 distinct types of uranium-radium minerals.

San Jose lapidary society plans to hold its annual gem show January 19-20.

Conway Snyder of Cal Tech was to talk on nuclear physics and atomic energy at December meeting of Pasadena Mineralogical Society of Southern California. Mr. Snyder worked on the development of the atomic bomb. Members were asked to display their specimens of uranium bearing minerals. December field trip was to Cajon pass. Pasadena society is to be host for the California federation convention, to be held in Pasadena June 15-16. Address communications to Mrs. Lillie Rhorer, 581 Summit avenue, Pasadena 3, California.

Col. Martin L. Ehrmann presented a vivid first hand picture of the present condition and status of the mineralogical museums of Europe to the New Jersey mineralogical society, Plainfield, New Jersey, at December 4 meeting.

Charlie Williams, reputed oldest desert gem and mineral collector on the Mojave desert, has disposed of his collection and moved to the Bay area. His many friends on the desert will miss him.

Leslie Roberts, president of Umpqua mineral club, Roseburg, Oregon, is conducting classes in cutting and polishing at his home lapidary shop. Roberts has two classes of five persons each, as many as his machines will accommodate. He gives instruction in basic mineralogy as well as lessons in cutting and lapping. He makes a small charge, just enough to cover cost of materials and power. So much interest has been shown in these classes that another one may have to be formed to satisfy demands of the mineral minded. Roseburg is fortunate in having a man of Roberts' knowledge and experience who is willing to give his time and lend his equipment for the education of ambitious rock-hounds.

MINERAL IDENTIFICATION SIMPLIFIED

By O. C. Smith, A.B., A.M.

2nd Revised Edition

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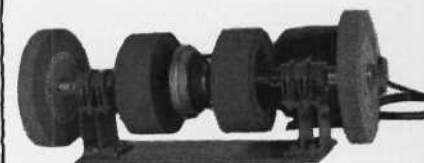
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Write for our Catalogue

San Fernando valley mineral society reports the following officers for 1946: J. L. Mikesell, president; B. L. Junkin, vice-president; Louise Iverson, secretary; Cora Hamer, treasurer. Over 100 members and friends of the club enjoyed a delightful Christmas party and turkey dinner at Roscoe recreation center, December 13. Program included a reading by Verna Mann and a Christmas story by Nancy Stone.

Dr. T. K. Cleveland of Philadelphia quartz company, Berkeley, California, discussed plastics at December 6 meeting of East Bay mineral society, Oakland. George Higson was responsible for the display table. Christmas party was enlivened by club songs written by members. Society planned to attend the annual gem show of San Jose lapidary society, January 19-20.

Members of Imperial Valley gem and mineral society, on their December 15 trip to Orocopia mountains, made their first investigation of Boiling spring, not far from the north shore of Salton sea. This hot artesian spring at one time was capped to supply mineral water commercially, but the metal pipes are now badly eaten and rusted away. The water carries soluble iron carbonate, lime carbonate, salt, etc. Boiling water under considerable pressure, accompanied by dense clouds of steam, pours out of the rusty pipes, encrusting rocks, boards and everything near with minerals. Two streams of boiling water leave the pool, but join again lower down the slope, to form the one large stream of hot water which empties into Salton sea.

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Cogitations . . .

Of a Rockhound

By LOUISE EATON

Rockhounds what hasn't seen each other for the duration shure has a lot uv talk to do. They meets like long separated bruthers 'n starts right in to catch up on rock news 'n family happenins. It takes a lot uv confabulation cause rockhounds is inherently poor letter writers.

Sum folks never learns to recognize true values. They can't tell th' difference between truly important issues 'n what really isn't essenshul. Like when summun sez "now let me kno when dishes is ready to wipe. I'll wipe the dishes." Just as tho dish wipin' wuz th' most onerous task uv th' day. Desert livin' is stripped uv many unnecessities. Th' longer yu stays on th' desert, th' more yu finds out what things yu can do without. Uv course sum folks can exist on just plain bread-n-butter, but uthers gotta have white hyacinths too.

Therz a nawful lot uv prickey things on th' desert. Every growin' plant frum tiniest grass blade to largest tree has stickers. But they all has beautiful flowerz in their season. Desert folks, too, has prickery tempers, but, just as desert plants has blossoms, peepul has good attributes that overbalance thorny tempers. That is, most uv um do.

ROCKHOUND GIVES RULES FOR VIEWING A COLLECTION

Stevens T. Norvell, president of Marquette Geologists association, Chicago, in the society's latest bulletin, reminds rockhounds of some rules which may be forgotten in the excitement of viewing a new collection of mineral specimens. By observing these simple rules, Norvell says, they will save the specimens themselves as well as the owner's mental anguish—and also entitle them to a cordial invitation to "come again."

1—Never handle a specimen without its owner's permission. It will be readily granted when the owner sees that you are considerate enough to request permission.

2—When permission has been granted, hold the specimen by its edges and never, never run your fingers over the polished faces or the natural prismatic and pyramidal faces. Not only do fingers leave an oil smear which collects dust thus necessitating an extra cleaning operation, but dust sticking to the finger tips is an efficient abrasive causing irreparable damage.

3—Use extreme care to avoid dropping a specimen or knocking it against some object. When you pick up a specimen by its edges with the fingers of one hand hold the other hand immediately beneath it to form a cup to catch the specimen if it should drop.

Showing of colored slides of mining locations and panning of gold in streams, accompanied by an instructive talk by Ralph Churchill, who spent 2½ years in Alaska while in the service, featured December meeting of Texas mineral society at Baker hotel, Dallas.

Among the new developments in use of atomic power is the attempt to use thorium instead of uranium, element 90 instead of elements 91 and 92. There is very little room for doubt but that any of the radio active elements can be used for atomic power if necessary.



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Most successful social event ever held by Mineralogical Society of Arizona, Phoenix—that's the report on the club's tenth birthday party held in December. Distinguished visitors from Connecticut to Washington, a "double" birthday party, music, contests, exchange of gifts and prizes, refreshments—all contributed to the making of a gala evening for the 91 persons in attendance.

A program East Bay mineral society members have been looking forward to for months is scheduled for January 17, when G. C. Gester, consulting geologist for Standard Oil Company of California, will take them on a trip to Saudi Arabia via motion pictures. Main interest will be in geology and petroleum resources of the country. Mr. Gester is past president of American Association of Petroleum Geologists.

San Jose Lapidary society is urging its members to take advantage of their last chance to vote when annual election is held in February. Only active members who have displayed are eligible to vote, so a display at February meeting is their last opportunity.

H. M. Doran, M. A. Jackson and A. I. Alf, of Great Falls, Montana, have just acquired U. S. patent No. 2,384,610 for a chemical method for the recovery of indium from zinc ore. Indium, one of the rare metals, is used mostly as an alloy in dental work. The ore is first dissolved in sulphuric acid, the zinc-indium recovered by electrolysis, and the indium finally precipitated as bisulphite. After purification from iron and aluminum, it is again dissolved in acid, and the pure indium secured by electrolysis.

A "double-barreled" program was scheduled by Sequoia mineral society, Parlier, for January 8. Annual election of officers will be followed by a talk and demonstration on gem faceting by J. C. Heaslet, Fresno. Says C. O. Sorenson, program chairman, "Most of us are getting quite choosy in the selection of the materials we are finishing for our own collection, and that is as it should be. And most of us have been looking forward to the time when we could advance into the art of faceting real gem stones."

Boron carbide, a compound made in an electric furnace by the fusing of carbon in boron, is being used in chemical laboratories to reduce hard substances to a fine powder, where freedom from contamination and careful analysis are necessary. A mortar and pestle made of this material is hard enough to powder almost any material softer than diamond or sapphire. The surface of the mortar is not even scratched in the process.

DESERT QUIZ ANSWERS

Questions are on page 32

- 1—Superstition mountains.
- 2—Imperial Valley of California.
- 3—Joshua tree.
- 4—Camelteam for Lieut. Beale.
- 5—On the floor of desert dry lakes.
- 6—As food.
- 7—Copper group.
- 8—The exploration of Grand Canyon.
- 9—New Mexico.
- 10—Cactus.
- 11—Roadrunner.
- 12—Arizona.
- 13—Presidential order.
- 14—Pottery.
- 15—Hardness of minerals.
- 16—Billy the kid.
- 17—Never again tell the truth.
- 18—Control the flood waters of the Colorado.
- 19—Tucson.
- 20—Mine.

Members of New Jersey mineralogical society, Plainfield, were to have a double treat at their January 8 meeting. A surprise display of very rare material will be on view, and a distinguished authority on industrial mineralogy will be the speaker of the evening. Dr. A. E. Alexander, director of Gem Trade laboratories, New York City, will talk on the role of the mineralogist in industry. Dr. Alexander has been a college professor, consulting petrographer, research worker, industrial mineralogist and director of Bureau of Natural Pearl Information.

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and polishing equipment. Leland Quick, who conducts this department, is former president of Los Angeles Lapidary society. He will be glad to answer questions in connection with your lapidary work. Queries should be addressed to Desert Magazine, El Centro, Calif.

By LELANDE QUICK

At the risk of calling down the wrath of the "dealers" I am going to stick my neck away out and say quite baldly that it is most unwise to include them in the membership of lapidary or gem societies. And then I hasten to say that the dealers never had a better friend than myself and most of them know it.

The wisdom of excluding commercialism from amateur lapidary societies has been conclusively proven in the Los Angeles Lapidary society which always has had such a restriction. Some of its members have turned partly commercial since joining but at least they did not join with a selfish interest in mind. They have done only what many hobbyists have done before them in many fields—turned an avocation into a vocation. But they did not do this until they had translated the knowledge gained from the society into a skill that became personally profitable. And after all that is a high testimonial to the value of the group. They usually sever membership to maintain a rightful independence.

One doesn't have to go back very far to remember the common experience I had a few years ago. Approaching a professional cutter one day I asked some questions and was given no answers. Continued aggressiveness prompted by a profound curiosity only brought forth the snarled comment, "whadayawant me to do—teach you the business!" I slowly burned and then when I had to pay another lapidary \$4.00 each for cutting some cabochons from my own material I did a fast burn and thought, "for \$4.00 each I'll make my own cabochons." And that's how lapidaries are born.

When I joined a small group of other folks determined to pool our small knowledge and teach one another I found dealers on every hand anxious to join too and we wisely concluded to be independent and hoe the row alone and not be dominated by anyone's experience that might narrowly restrict us. We were amateurs and wanted to stay amateurs. Did that hurt the dealers? My friends have spent many thousands of dollars with the dealers for supplies in the intervening years. Our decision was the making of a snowball that has rolled into a mighty dealer business that has grown to a boom in the intervening years. I repeat what I have said before—the amateur gem cutter needs the dealer and the dealer needs the amateur gem cutter—many more thousands of him. But it is best for the societies to be independent of the dealer and vice versa.

Probably all of those early associates could make a comfortable living today as lapidaries if they had the inclination. Almost without exception they have at one time or another accepted money for some phase of the lapidary art, by making equipment, selling surplus material or selling a finished gem. This usually has been done for supplemental income to maintain their expense and enlarge the scope of their lapidary activities. Such things do not change our "amateur" status—we are not competing athletes.

The great increase in numbers of people interested in gem cutting is not attributable to the influence of the societies. They have a small total membership because they usually wisely limit their membership to prevent unwieldiness and formation of political cliques. The enormous increase is due to attendance at exhibitions of results and to the printed word.

In the last five years an amazing amount of good printed information about gem cutting has

This page of Desert Magazine is for those who have, or aspire to have, their own gem cutting

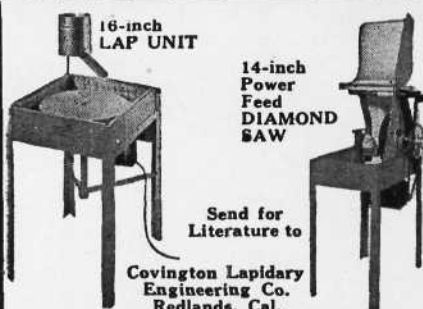
come to the public at a time when people generally trebled their reading hours because of curtailment of other activities. One popular gem cutting instruction book sold 1500 copies in 1938 and doubled this figure in the next six years. But in the first six months of this year the sales were nearly 3500 copies. With holiday buying it is not improbable that this volume will sell six times as many copies this year as it did in 1938. These sales are nearly all to newly interested persons as the old timers probably bought the book years ago. The mineral and gem magazines have greatly increased in size and quality. I have no doubt their subscription lists also have increased enormously and deservedly. Almost every national magazine of importance, covering general subjects, has had articles on gems and gem cutting in the past three years.

The subject of gems is fascinating to many but as a subject there is intense ignorance about it. What did you learn in school about gems? I am continually amazed at the number of people who look at my crystals and are frankly skeptical that they came out of the earth that way. On the other hand I have learned not to laugh too loudly at folks who think gems are found in stream beds all faceted and polished. But the ideas on gems are very vague with most people, a pardonable situation indeed because of the previous lack of printed matter about them. My extensive library contains most of the books published since 1840 about gems. None was ever published before then that I have found. Nine of every ten books have been published since 1935. I maintain a scrap book of every magazine gem article that I can find time to cull from the second-hand stands. Almost without exception these articles, up until about 1935, dealt with only three things—diamonds, crown jewels and archeological specimens. General information hardly existed before 1935. It now exists in increasing abundance and I believe that accounts for the great increase in interest in lapidary procedure rather than the societies which still are too few in number to have any great influence.

One of the greatest agate collecting areas is under new management. The Priday ranch in Jefferson county, Oregon, now is under the supervision of Ruth Gulovson. The ranch recently was sold to E. W. Williamson of Bend, Oregon, by Leslie Priday. The agate specimens taken from this ranch in the past 20 years have found their way into every important museum in the world. Gem prospectors will be admitted under a license arrangement similar to the one that has existed. There will be a car charge each prospecting day and an additional charge for each person in the car. Headquarters will be at the main entrance to the agate beds adjacent to Highway 97. One wonders what would have happened to these famous deposits if they had been freely open since discovery.

Remember three things: (A) The San Jose Lapidary society will be holding its free exhibition at San Jose, California, almost the very day you receive this issue—on the 19th and 20th of January. (B) I want names of interested people who desire to join new lapidary groups in Glendale and Beverly Hills areas of California. Organization meetings will take place early in February. (C) If you belong to a lapidary or gem society advise me of your meeting time and place and I will publish a list of all the societies.

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By RANDALL HENDERSON

AMONG the contributors to the making of Desert Magazine every month are the publishers and editors and reporters of scores of desert newspapers. It is not practicable for us to keep a staff in the field covering the local news in each of the desert communities—and so we rely on the local newspapers to keep us informed. Many of these newspapers come to our office each day, and every one of them is scanned carefully by members of our staff for items to be used currently, or filed away for future reference.

Since it hardly is possible to give credit to the publishers every month for the information they furnish us, I want to acknowledge our debt to all of them. Almost without exception they are doing a good job of newspaper editing for their home communities, and through Desert Magazine are helping keep the world informed of the significant news in the territory they serve.

We find the news from the Indian country of Arizona and New Mexico and Utah especially interesting. Of all the tribes, the Navajo make the headlines most often. For one thing, their's is the largest tribe in the jurisdiction of Uncle Sam. But that isn't the only reason they make news. The Navajo are colorful people. They are rugged individualists to the nth degree—intelligent, proud, and intensely religious.

A news item this week brought to light another trait which perhaps has been overlooked. Certain church organizations asked the Navajo tribal council for small free grants of land on the reservation on which missions would be established.

The council turned down the request. The reason: The Navajo are planning to send a delegation to Chicago and Washington in March to ask for more schools and hospitals and additional grazing lands. It would be inconsistent to give away land they now have while petitioning the Great White Fathers for more.

Another decision of the tribal council was to reject the suggestion that they take a white lawyer to the national capital to help present their case to government authorities. They felt they could present their own case more effectively. I hope they are right. Certainly the Navajo are entitled to something more than the bare subsistence that can be gained from their present reservation lands.

* * *

To the 3400 new subscribers whose names have been added to our lists during the Christmas season, the staff of Desert Magazine sends greetings. We hope you will enjoy the companionship shared by those who follow the desert trails through these pages each month.

There was a time when men feared this desert country. It was a land of terrifying heat, of thorn-covered shrubs and venomous reptiles, of savage Indians and waterless trails—a place shunned except by a few hardy souls brought here by the lure of gold or the thirst for adventure.

But that desert is becoming only a legend. Today more than a million and a half persons are living in security and comfort

on this great arid expanse that extends from the Rocky mountains to the Sierras of California, and from the Great Salt Lake to the Mexican border.

More important, other millions are finding in this last frontier of the United States the opportunity to play and relax and explore a region where Nature is still supreme—where humans may come for a few days or weeks or months, away from the petty selfishness and misunderstandings of the society man has created, and gain a renewed faith and a better sense of values.

Desert Magazine fills a rather unique niche in the world of periodicals. Thumbing through its pages you will find working people dressed in their working clothes—no fashion plates or glamour girls. You'll find men scratching in the earth for rare minerals, or tramping the hills in quest of botanical specimens or Indian relics, or settings that can be reproduced on canvas or camera films. Desert is published for those who have some primary interest in life beyond the acquisition of wealth—although we do publish an occasional lost treasure story for those who believe that Santa Claus has some secret caches of gold still hidden away somewhere in the arid country.

Some readers turn first every month to Marshal South's story of the adventure in primitive living which he and his family have been carrying on at Ghost mountain for the last ten years. We also have a few readers who think Marshal should have his head examined by a sanity board. This world would be a very dull place, you know, if we all had the same ideas about the art of living.

The desert—the real desert—is not for the eyes of the superficial observer or the fearful soul of the cynic. It is a land, the character of which is hidden except to those who come with friendliness and understanding. To these, the desert offers rare gifts: health-giving sunshine, a sky that is studded with diamonds, a breeze that bears no poison, a landscape of pastel colors such as no artist can duplicate, thorn-covered plants which through countless ages have clung tenaciously to life through heat and drought and the depredations of thirsty animals, and yet each season send forth blossoms of exquisite coloring as a symbol of courage that has triumphed over terrifying obstacles.

We hope, through Desert Magazine, you will get to know the charm of this desert country and will feel the lift that comes to those who see through the grim mask to the beauty that lies beyond.

* * *

I haven't mentioned the poets on this page for quite a while. But I want to assure them I am just as much of a crank as ever. For instance, this week I wrote one of our poetry contributors as follows:

"Your poems are all out of time. In other words, the meter is bad. Try singing them with a lilt and you will understand what I mean—too many syllables in one line and not enough in another."

There are lots of poets in this world. We get their verses in the mail every day. I really don't know how they would make out if they didn't have me to bawl them out once in a while—me, who never wrote a poem in my life.



TWO NEW TITLES IN WESTERN TRANSPORTATION SERIES

Late in 1945, Stanford University Press published two more volumes in its series of early Western transportation. They are **SHIPS OF THE REDWOOD COAST**, by Jack McNairn and Jerry MacMullen, and **VIA WESTERN EXPRESS & STAGECOACH**, by Dr. Oscar Osburn Winther. These titles follow *Paddle-Wheel Days in California*, *Cable Car Days in San Francisco* and *Bonanza Railroads*, all uniform in size, 7x10 inches, attractively bound.

In the "Redwood" volume, stories and anecdotes of the men and ships that brought lumber from the Oregon and Washington forests to the fast growing cities of early California are told in colorful and personal style—many of them printed here for the first time. Before this book, little information on the old lumber ships was available, but the authors have done much research and have passed along many of the yarns told by old time skippers. It is well illustrated by photos, drawings and endmaps. Index, 156 pages, \$3.00.

The Winther volume reaches farther down into the desert country, for it gives the colorful story of the stagecoaches and express lines which served the gold hungry hordes swarming West. It tells the history of Wells Fargo, the Butterfield stages, the Pony Express and numerous rival lines; and it tells of the picturesque, famous and infamous drivers who piloted the stagecoaches, the passengers who were jostled from station to station in them, the towns they thundered through, the road agents who held them up, and the cargo they carried. Illustrations include some rare old engravings and photographs. Index, 158 pages. \$3.00.

EARLY WEST TRAVEL HAZARDS TOLD IN OVERLAND MAIL BOOK

Walter B. Lang, in volume one of **FIRST OVERLAND MAIL**, gave the four important accounts of stagecoach journeys made by the first travelers over the Butterfield trail between St. Louis and San Francisco. Now he has edited and privately published a second volume which contains narrations and items of historic interest over the alternate route from San Francisco to Memphis, Tennessee—a route which followed a trail south from San Francisco through Yuma, Arizona, and one of which the Butterfield Overland

Stage company warned its prospective passengers: "You will be traveling through Indian country and the safety of your person cannot be vouchsafed by anyone but God."

Most of the descriptive news items are by "Our Special Correspondent" of the San Francisco Daily Evening Bulletin, in the year 1858. It also includes travel accounts printed in other newspapers, both by correspondents and as "letters to the editor."

Illustrations include reproductions of Overland Mail company ads of 1858-59, and facsimiles of letters carried via overland mail. 94 pages, stiff paper covers. \$2.50.

BOOK BRIEFS . . .

A new life of Joseph Smith recently was published by Alfred A. Knopf. In *No Man Knows My History*, Fawn M. Brodie has written one of the most impartial and painstaking books yet produced on the life and work of the Mormon prophet.

Scenic Guide to Nevada is an 84-page paper bound booklet compiled and published in 1945 by H. Cyril Johnson. In alphabetical order he gives brief descriptions of towns, lakes, rivers, mountains, historic landmarks and scenic beauty spots of the state. There are numerous photos and maps. Mr. Johnson has condensed considerable history, statistics and travel information in compact form. This is the first in a series of such guides proposed by the author for Western states. \$1.00.

If the Prospect Pleases is a new book from University of Oklahoma Press in which Ladd Haystead, farm editor of *Fortune*, tells about "The West the Guidebooks Never Mention." It has humor and earthiness, but it also purports to be a realistic and helpful guidebook for the returning serviceman and warworker, pointing out problems likely to confront them in the various Western fields, notably mining and livestock ranching. He emphasizes the possibilities in new undeveloped industries of the West.

Newest in series published by Laboratory of Anthropology, Santa Fe, to illustrate Southwest Indian silverwork is *Bracelets*. Descriptive and historical notes are by H. P. Mera, photography by Stanley A. Stubbs. The 31 bracelets described and illustrated show a chronological development, from the most elemental forms to the more complex types.

In answer to many requests and in order to correct misconceptions of the Navajo dance ceremonial popularly known as the Squaw dance, Fr. Berard Haile, O.F.M., of St. Michaels, Arizona, has written a 50-page booklet which gives in simple form the story of this important ceremonial correctly called the Navajo war dance. In 1938 Yale University Press published his more comprehensive study of this dance, but the present work is written expressly for average visitors to the Indian country. It tells the purpose of such a dance, describes the ceremonial paraphernalia and rituals. He remarks that just because the Navajo hold these dances every summer, it does not mean a preparation for a war, nor does it mean they have been warring with their neighbors. The reason for them is far more subtle and is bound up with their attempt to alleviate a mental and physical condition in the patient for which they have a traditional, if not scientific, explanation.

A Great Novelist and a Skilled Biologist Wrote . . .

SEA OF CORTEZ

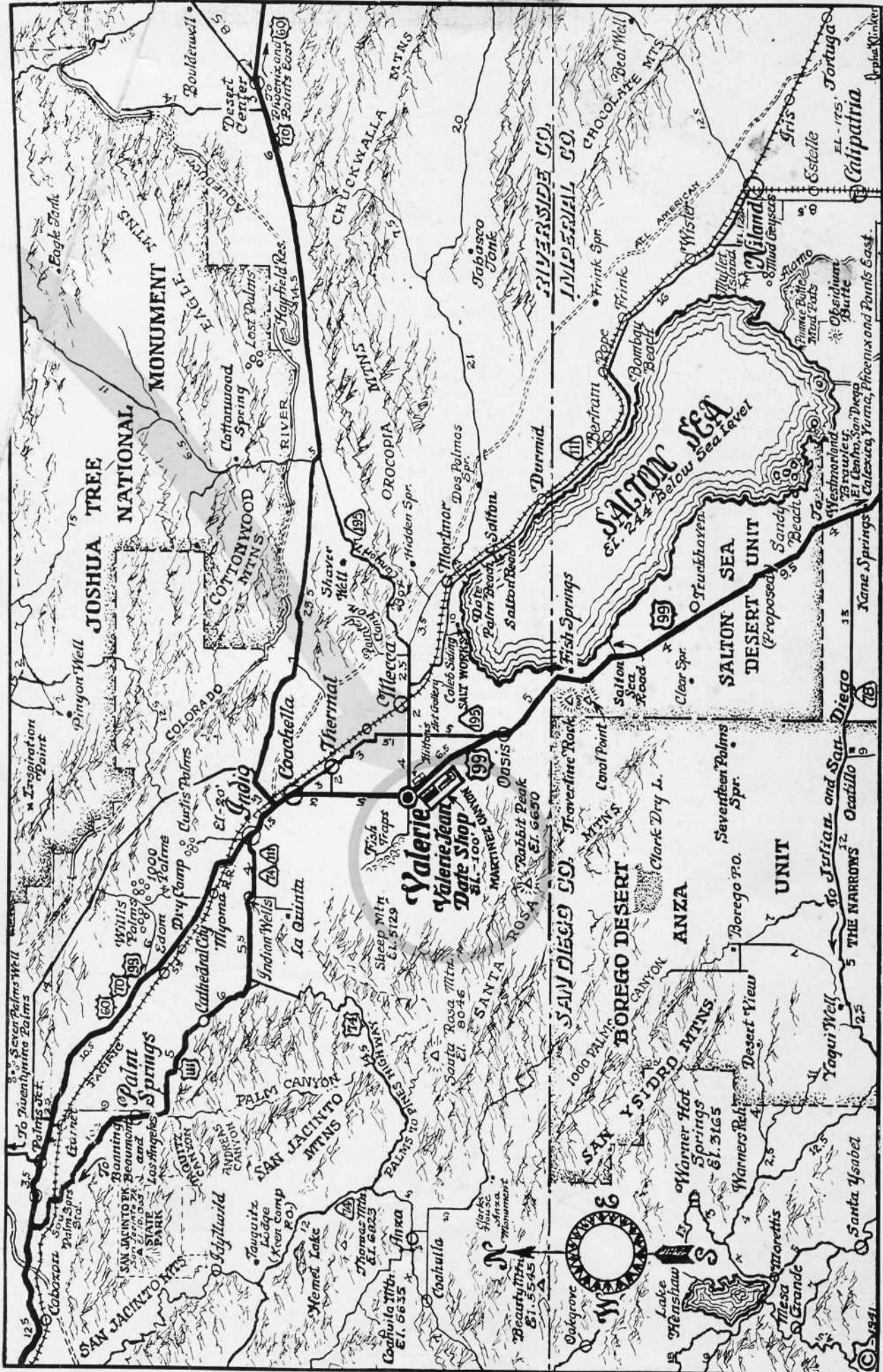
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