

THE

Desert

M A G A Z I N E



DECEMBER, 1946

25 CENTS



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PALM DESERT

OWNERS AND DEVELOPERS: PALM DESERT CORPORATION

CLIFFORD W. HENDERSON, President

6123 West Third Street, Los Angeles 36, California

DESERT Close-Ups

• At least every other week, DESERT receives an inquiry for John D. Mitchell's book on lost mines, which has been out of print for some time. Good news for lost treasure enthusiasts is that Mitchell has written another series of lost mine articles, to be published in DESERT and later to be incorporated in a new book. Setting for most of this series is Arizona and Sonora, Mexico. Some two dozen of Mitchell's earlier lost mine tales of California, Arizona and New Mexico appeared in DESERT beginning in 1940.

• This month's story by Charles Kelly on his search for the reported treasure cache of the Donners in Utah's salt desert is but one small facet of the author's research into the history of the early pioneer trails of the West. Most of his findings regarding the history of the Hastings Cutoff and other early trails across the Great Salt desert were published in his book *Salt Desert Trails*, which contained much new information on the Donner party.

• DESERT readers soon will read a new version of the fabled Seven Cities of Cibola. Robert A. Barnes, of Gallup, New Mexico, has written a story based on a recent discovery of a group of ruins on the Arizona-New Mexico state line which are believed to be remnants of the "golden cities" sought by Coronado four centuries ago.

DESERT CALENDAR

Nov. 28-Dec. 1—Sierra Club trek to Kofa mountains and Kofa Palm canyon, Arizona. Parker Severson, 1220 N. Beachwood Dr., Los Angeles, leader.

Nov. 30-Dec. 1—Third annual gem and mineral show of San Fernando Valley Mineral and Gem society, North Hollywood recreation center, 5301 Tujunga avenue, North Hollywood.

Dec. 13-15—Rock, gem and mineral show at Riverside, California. Exhibits by collectors of Riverside, Los Angeles, San Bernardino, San Diego and Imperial counties. Information, Chamber of Mines, 3961 3rd St., Riverside.

Dec. 11-13—Annual convention, California State Beekeepers association meet, Calexico. Claude Austin, Brawley, state president, chairman.

Dec. 12—Feast Day of Our Lady of Guadalupe, Santa Fe, New Mexico.

Dec. 20-30—Annual Christmas festivities and illumination, Madrid, N. M.

Dec. 24—Dances after Midnight Mass in Indian Pueblos, New Mexico.

Dec. 28-29—Sierra Club trip via All-American Canal road to Dos Palmas oasis. Roy Aiken, 4270 W. Avenue 40, Los Angeles, leader.

TO THE DESERT READERS:

Due to a critical paper shortage the next issue of Desert may be delayed a few days. But it will come—you may be sure of that. The Staff is doing its best during this critical period.



Volume 10

DECEMBER, 1946

Number 2

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RANDALL HENDERSON, Editor. LUCILE HARRIS, Associate Editor.
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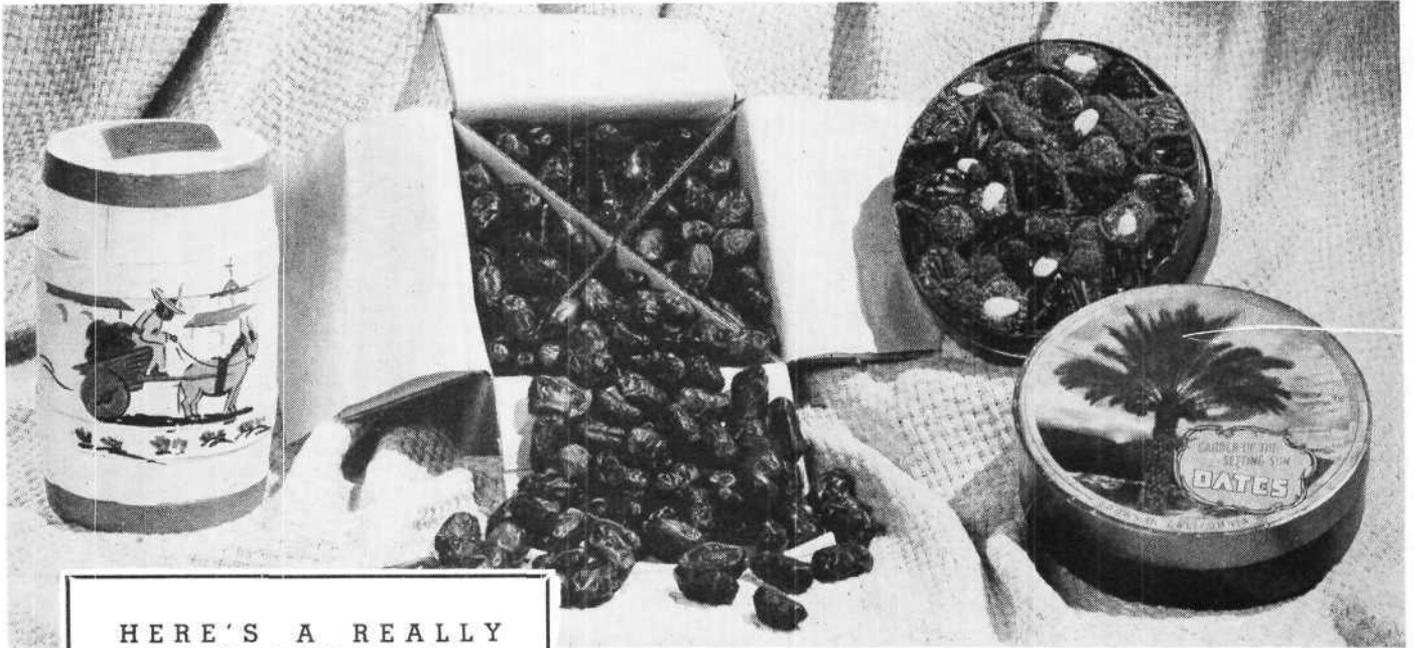
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in Edna Cast's

GARDEN OF THE SETTING SUN

Mecca, California

DON'T FORGET TO VISIT OUR SHOP IN PALM DESERT

Here is the story of an eight-day trek into the little known canyon wilderness of southeastern Utah where the terrain became too rugged even for a packtrain, and the 10 members of the expedition lived for three days out of the knapsacks they carried on their backs.

We Explored Dark Canyon

By RANDALL HENDERSON

ON THE map of southeastern Utah where Dark canyon tumbles out of the Abajo mountains and cuts a crooked chasm through 50 miles of sand and limestone cliffs before it empties its little stream of water into the Colorado, is printed the warning, "Impassable Cliffs."

Perhaps it was the challenge of these impassable cliffs which prompted me to accept the invitation last January when Ansel Hall, explorer and naturalist, invited me to join an expedition to penetrate deep in the Dark canyon country in quest of Indian ruins.

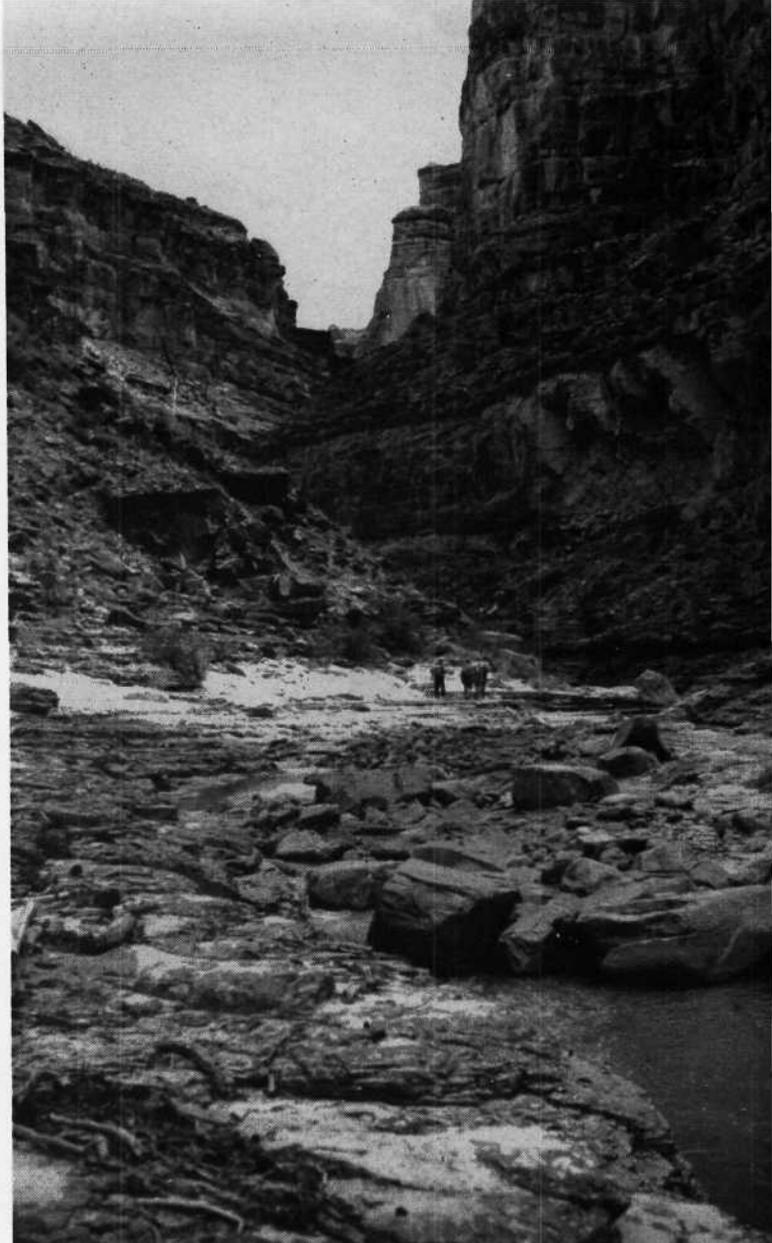
"Not much is known about Dark canyon," Ansel wrote. "We do not know for sure that we can follow the floor of the gorge out to the river. But we will be well equipped for rough going—and in any event it will be an interesting adventure."

I had long wanted to become better acquainted with the mystery land of southern Utah. And so, on August 15 I kept rendezvous at Mesa Verde national park in Colorado where the expedition was to start. There I met Kenny Ross, former park naturalist, now turned photographer, with a studio at Cortez. Kenny was to be leader of our party and my fondness for him increased during the days we spent together on the trail.

At the last minute, Ansel Hall, who has the park concession at Mesa Verde, found it impossible to accompany us. However, his two sons, Knowles and Roger, were to be in the party. Knowles is a student at the University of California, and 13-year-old Roger is a veritable "iron man" on the trail. He carried a man's pack, and always had energy to spare. Other members of the party were Fran Hall, mountain-climber and photographer, who was official cameraman for the expedition, and five teen-age boys who had been selected from a group of 32 lads in attendance at the Explorer's Camp for Boys, sponsored annually by Hall and a group of associates. They had spent the summer in mountaineering and archeological work, and were picked for their physical stamina and cooperative attitude. They were Ralph Condit of Greenwich, Conn., Clay Doss of Bloomfield Hills, Ill., Duncan McEyre of Colorado Springs, Jack Pickering of Goshen, Ind., and Paul Shiman of New York City.

For transportation—as far as it would go—we had a ton and a half truck and a jeep, carrying the 10 members of the party and food for eight days. We were well supplied with rope and climbing equipment, and since there would be backpacking in the lower canyon, each member of the party was instructed to reduce bedrolls and extra clothing to the barest essentials.

From Mesa Verde we followed the paved road through Cortez and over U. S. Highway 160 to Monticello, Utah. There we turned south on State Highway 47 to Blanding, and then took the scenic and well-graded road which leads to Natural Bridges national monument. We left the monument road on Elk ridge

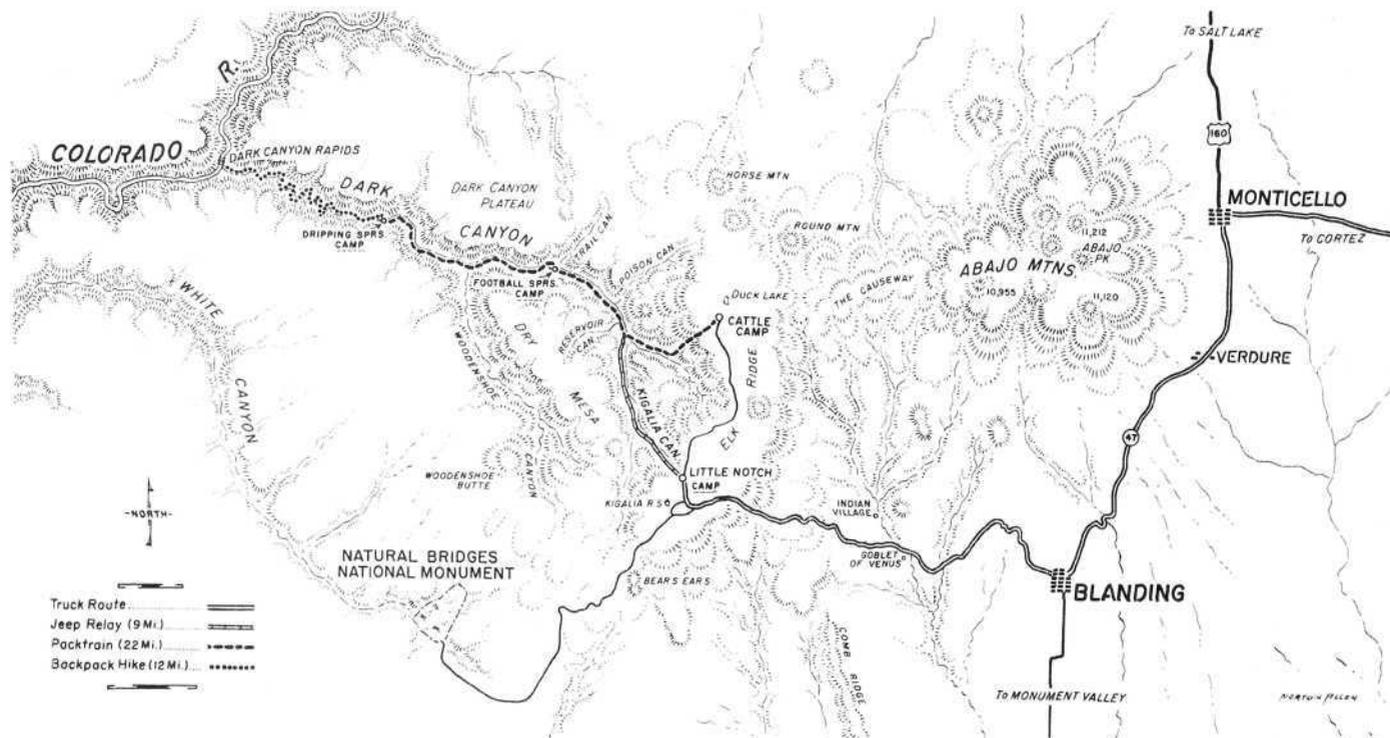


Three miles upstream from the Colorado the canyon walls began to close in—hence the name, Dark canyon.

at a point known as Little Notch, not far from the Kigalia ranger station. Two miles later we arrived after dark at the head of Kigalia canyon. We camped here for the night, at an elevation of 8100 feet. It was drizzling rain, but with the help of a tarpaulin and some huge Ponderosa pines we kept dry among the pine cones and snowberry bushes.

Kigalia is a tributary of Dark canyon. The road ahead was too rough for the truck—but not for the jeep. The following morning we relayed our bedding and food nine miles down the grade in the little combat car. At the junction of Kigalia with Dark canyon we were met by a packtrain in charge of Cardon Jones and Clarence Rogers. They had eight pack animals—a good outfit. We soon learned that the cowmen and the sheepmen had buried their feud in this part of the West. Cardon ran sheep in the Blue mountains, and Clarence had 200 cattle on Elk ridge. They knew their diamond hitches, did a lot of kidding along the trail, and proved to be a pair of congenial companions. During the hunting season their outfit is kept busy packing deer-hunters into the wild country where their ranches are located.

By 1:00 p. m. we had eaten a ham and egg lunch, and the horses and mules were loaded for the trek down the canyon. There was a little stream of water in the creek, but it was running a liquid about the color and consistency of red gravy. The packers told us they would find a spring for the night camp, and we headed down along a cattle trail in Indian file.



Great domes and embattlements rose to elevations of 2000 feet on both sides of us, with juniper and piñon growing wherever it could gain a foothold, and on the upper levels pine and aspen and oak.

This is a country to bring delight to the heart of a photographer. Great exposed and highly eroded faces in white and a hundred shades of yellow and red were fringed with the deep green of coniferous trees. The sky overhead was a canopy of blue flecked with an occasional cloud. The blending of blue and green is a headache when the artist attempts to do it on canvas—but Nature creates perfect harmony between these colors.

The afternoon trek was along the gradually descending floor of a wide canyon. Occasionally we followed cattle trails, but most of the time we took the most direct route from bend to bend, crossing and re-crossing the stream scores of times.

The packers killed a rattler along the trail during the heat of the day—and it was hot in the bottom of that gorge. Toward sundown we saw a lone cliff dwelling beneath an overhang 250 feet up the sidewall, with a passage route over ledges leading up to it. It was a little one-room stone and mud pueblo with an Indian granary nearby—both well preserved. Some of the boys climbed to the site, but found no artifacts.

A few minutes later we rounded a bend and found the packers making camp for the night. A fine spring gushed from the foot of the wall. It was the first clear water we had found along the way and canteens had long been empty. The boys called this Football spring, because its natural landmark was a great egg-shaped rock balanced on a pedestal on the ridge above camp. We had covered eight miles since noon.

That night we spread our sleeping bags in a little grove of scrub oak that grew in the bottom of the canyon, while the stock found grass in a tributary canyon just below camp.

We were packed and away from camp at eight o'clock. Five miles downstream we passed one of Dark canyon's major tributaries, Woodenshoe canyon. Then we came to another cliff dwelling, long deserted, in a shallow cave 100 feet above the creek. Also there were the crumbling walls of what may have been a fortress or watchtower on the flat top of a great block of limestone which had fallen into the canyon.

During the afternoon a stratum of black basalt appeared in the sidewall. It was tilted about the same angle as the fall in the canyon, and this hardrock layer stayed with us all the way to the Colorado. At some places the stream had not yet cut through it, and it formed long stretches of level benchrock which made ideal hiking.

Dark canyon is a happy hunting ground for jasper hunters. Red is the predominant color—a deep red of excellent cutting material. Often we found boulders of it flecked with tiny vugs of quartz crystals, or perhaps calcite.

In midafternoon the canyon walls began to close in, and the pack animals were having increasing difficulty getting over the little waterfalls. One of these falls was a vertical drop of 20 feet, and the packers spent some time finding a detour route. Finally they made it, but had not gone another 300 yards when there was a sharp drop with no detour. And that was the end of the run for the packtrain.

We found clear water dripping from a tapestry of maidenhair fern on a nearby overhang—and camped there for the

night. This was noted in our log books as Dripping springs camp.

Jack Pickering, scouting ahead for a better supply of fresh water, reported that in the mouth of Lean-to tributary a quarter of a mile downstream, a fine waterfall with a swimming pool was located. Everyone scampered over the rocks for a swim. We had to bathe with our shoes on, however, for the water was impregnated with lime, and the pool was encrusted with travertine. It was the most generous supply of clear water we found along the entire trip, and its mineral content did not prevent us from enjoying it for drinking purposes. We had come six miles during the afternoon, making 14 for the day.

Being good Mormons, Cardon and Clarence drank neither tea nor coffee, and that evening Cardon gathered some ephedra and made Mormon tea for dinner. We found precarious bedsites on the ledges and among the boulders in the narrow canyon, and the animals were herded up a talus slope to a little bench for such scanty browse as they could find.

Next morning I was awakened at 5:30 by the song of a canyon wren perched on the rock above my head. How I love the call of that bird! It symbolizes a world that is wild and free, and at peace with itself—where Nature's balance has not been disturbed by the follies of mankind. Coming in the stillness of early morning it is the reveille of a new day of hope and promise, a day in which man may be the master of his own destiny—a good destiny if he will but impose upon himself the disciplines without which there can be neither freedom nor happiness.

The rest of the way we would be living out of the packs on our backs. Before starting, Kenny had each boy lay out his pack

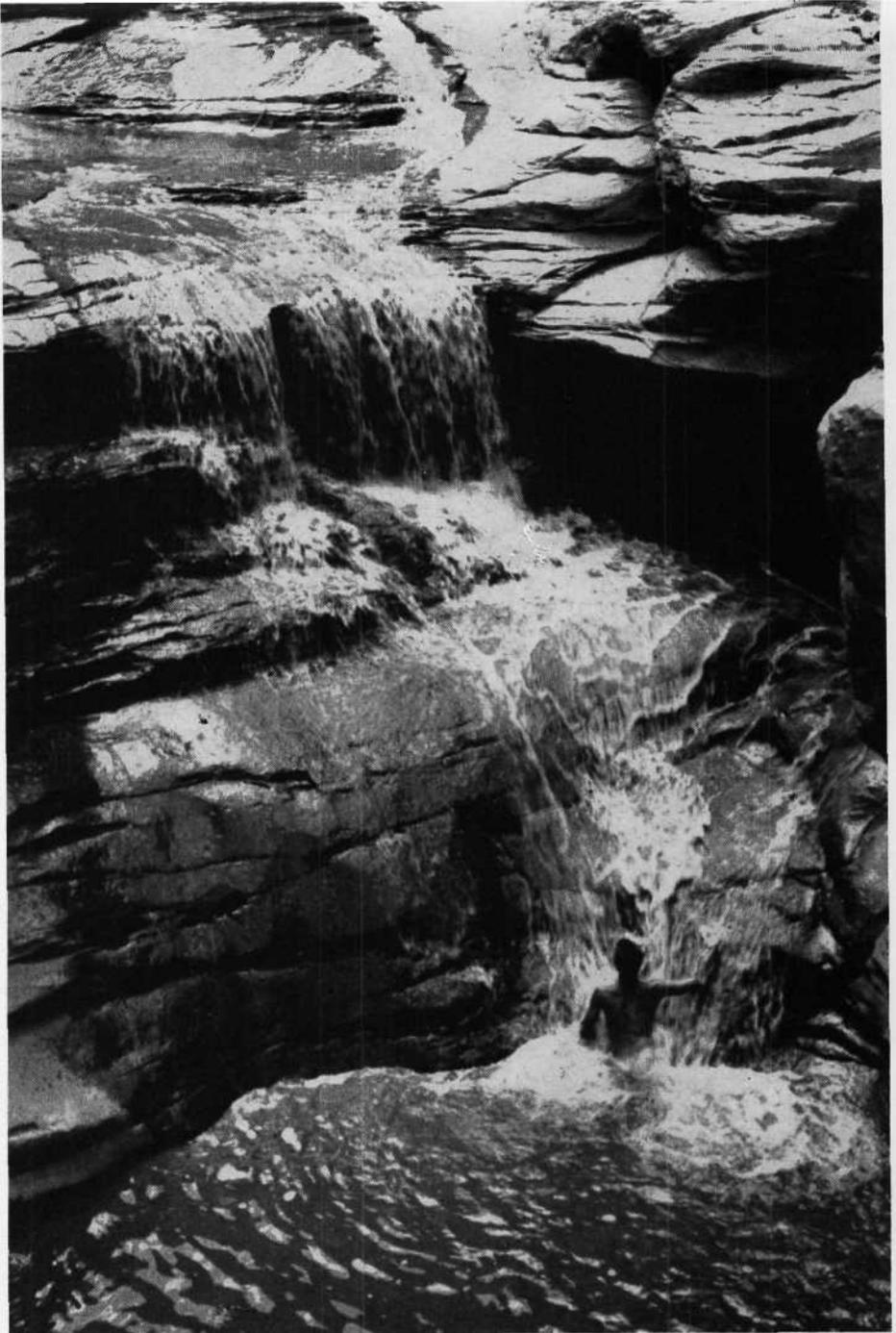
for inspection, to be sure no essentials were omitted, and no excess taken along. We carried food for three days, evenly distributed among the 10 members of the party. There were three 100-foot ropes, camera equipment and first aid kits in addition to food and extra clothing. The elevation at this camp was 5090 feet, and it was warm even at night. Since we would lose another 1000 or 1200 feet before reaching the river, most of the boys carried only a jacket, and no bedding. We could always build a fire to keep warm if necessary, and we wanted to keep our packs under 20 pounds each.

The vegetation had been changing noticeably as we came down the canyon. From the pines and aspens of the transitional zone where the trek had begun, we had dropped to the zone of *Yucca baccata*, ephedra, purple asters and pentstemons.

We covered six miles during the morning, and again ate lunch in the shade of cottonwoods. There had been several waterfalls, but no serious climbing problems. When our canteens ran dry we rinsed our mouths with the muddy fluid that flowed in the creekbed. If one is thirsty enough, muddy water is no hardship.

In midafternoon we had covered another 3½ miles and the canyon walls crowded in so close we understood how Dark canyon got its name. I do not know the origin of the name, but it evidently was given by an early-day explorer who came up from the Colorado river and saw only the lower end of the gorge. If his route had been reversed and he had first seen the upper 40 miles of the chasm I think he would have called it Canyon of the Castles. For it is truly that. As one proceeds downstream the walls on both sides for mile after mile are surmounted by an architectural array of temples, ramparts, domes, spires, colonnades and embattlements such as only Nature could create. For color and design, Dark canyon is one of the most spectacular in a region where the skyline is never dull or ordinary.

The grade of the canyon was dropping sharply, and there were places where careful hand and toe climbing was necessary to go down over pitches of 10 or 15 feet. But we had not found it necessary to uncoil the ropes. Then, at about four o'clock, some of the boys scouting ahead reported a vertical drop of 40 feet with a deep pool at the bottom. Two of them had made it down, and then swam out. We followed the same routine after lowering our packs with ropes from a ledge above the creekbed below the pool. This was the only place along the entire traverse the ropes were used. Later, in ascending this place some members of the party used the rope for help in getting up, although the climb could have been made without. The map-makers who had recorded Dark canyon as a place of "impassable cliffs" evidently



Water in Dark canyon creek was red and muddy, nevertheless the pools along the way provided refreshing dips for the hikers in the hot midday hours.

were referring to the sidewalls of the canyon—not the floor of the creek.

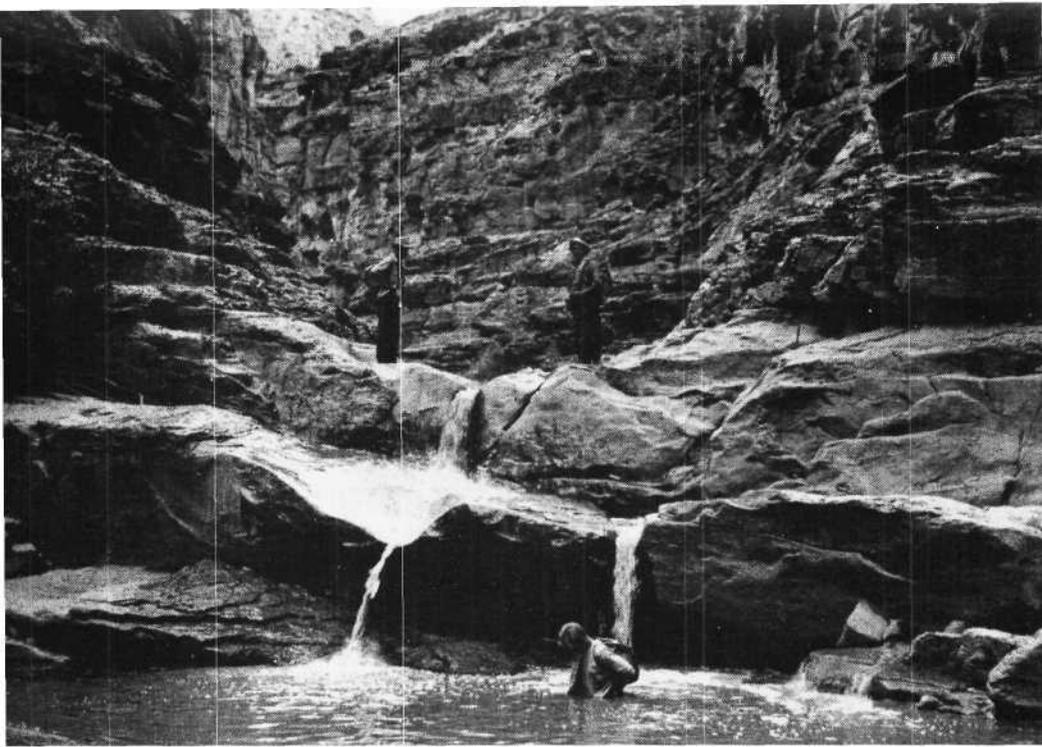
At five in the afternoon we came to the first clear water we had found all day—a tiny trickle that made its presence known by a dark streak on the canyon wall as it seeped down from a spring above.

As the sun dropped in the west we hurried forward to each bend in the winding canyon, hoping the next turn would bring us into view of the Colorado. It was after six, and there was still no sign of a break in the canyon walls ahead. Then gradually we became aware of the roar of falling water. At first it was just a faint and distant rumble—and then it dawned on us that we were hearing the great torrent of the Colorado as it tumbled through Cataract canyon. The river was still a mile away, but there was no mistaking the sound.

Beyond the next bend Dark canyon suddenly fanned out to form a little triangular valley, and ahead against a 3000-foot vertical wall of rock we could see the whitecaps of the great river as it tumbled over the boulders carried into its channel from Dark canyon tributary.

We reached the river at 6:40 and estimated the distance from where we left the packtrain at 12 miles. The 43-mile hike from the head of Kigalia canyon had taken four days. My altimeter showed an elevation of 3650 feet at the river.

It was warm down there, and after cooking dinner on a fire of driftwood we slept without bedding or discomfort on a great sandbar that extended back into the mouth of Dark canyon. We were too tired that night to be disturbed by the roar of the rapids a few yards away.



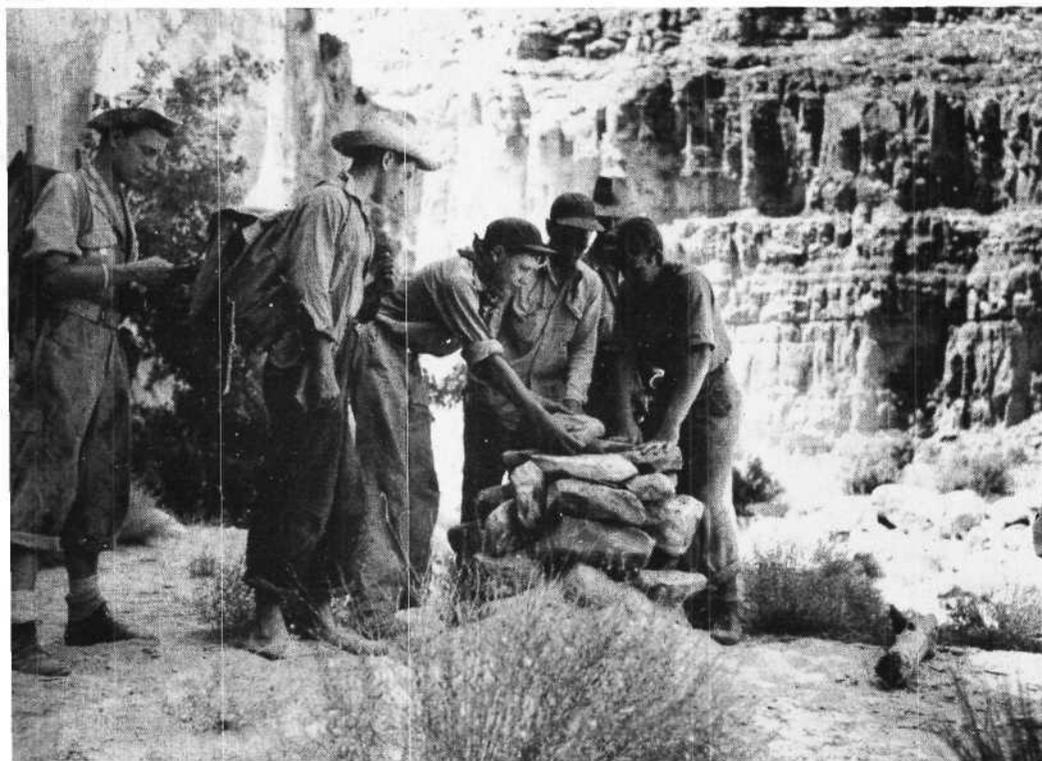
John Wesley Powell, on the first expedition down the Colorado, passed this point July 28, 1869. This is the last of the rapids in 41-mile Cataract canyon. Powell did not refer to Dark canyon by name, but the bend where the river turns sharply to the west just below these rapids was called Mille Crag bend because of the "vast number of crags, pinnacles and tower-shaped rocks" to be seen here.

Julius F. Stone in his expedition in 1909, recorded that the rapids "at the mouth of Dark canyon, which comes in from the left . . . is a rough one, sure enough. Here we had a hard portage, leaving nothing at all in the boats while Galloway and Dubendorff lined them" through the cataract.

Most of the hikers took a swim in the Colorado during the morning. Exploring the cove we found a small cache of food, evidently left there in previous years by a river party. We left it undisturbed. A nearby spring was dry, so we drank the muddy water of the Colorado while we were there, not knowing there was a good spring not far away.

Just before starting the return trek at noon I clawed my way through a little clump of redbud trees and underbrush on one side of the cove and discovered a delightful fern-lined grotto in the sidewall with a trickle of cool delicious water coming down through the maidenheads. I called the other members of the party, and after filling our canteens we erected a cairn out in the open as a marker for future expeditions to this place.

We covered six miles of the return trip that afternoon, and camped on a sandbar opposite a tributary canyon where there were natural tanks of good water. We slept on the bar—but not for long. An overcast sky suddenly spilled a deluge of cold biting rain that sent us scampering over slippery boulders in the dark in quest of a cave that would provide shelter. We had a couple of flashlights and eventually found an overhang in the side canyon where we could get out of the rain. Then we found a dead



Above—When it became too rough for the pack horses, the party continued down the canyon with knapsacks on their backs. This triple falls is one of the many scenic cataracts found in lower Dark canyon.

Center—We built a cairn to mark the location of a crystal-clear spring in a fern-lined grotto near the Colorado river. Left to right, Clay Doss, Paul Shiman, Roger Hall, Kenny Ross, leader, Ralph Condit and Duncan McEyre.

Below—Duncan McEyre and Clay Doss examined the ruins of an ancient Indian fortress or watchtower.



piñon and after much coaxing got the wet wood to burn. Most of the night was spent drying out our clothes and trying to find a soft spot on the rough bench of sheltered rock where we could get a few winks of sleep. Never have I appreciated the warmth of a good campfire more than that night.

At noon the next day we arrived at Dripping springs camp and packed out the following morning for the 22-mile jaunt back to the point where our jeep was parked. Kenny and Knowles Hall took the jeep up Kigalia canyon to go to Blanding for more food, while the rest of the party continued up Dark canyon with the packtrain to go to Clarence Rogers' cattle camp on Elk ridge. We climbed out of the canyon and arrived before dusk at a comfortable log cabin where we bedded down in bunks and on the floor while outside it rained most of the night.

That evening Clarence taught me something new in camp cooking. He rolled back the top of a sack of flour, scooped out a little hollow in the flour, poured in water and shortening and baking powder, and mixed a batch of delicious biscuits in the top of the floursack without aid of pan, spoon or rolling pin. In the oven of a big wood-stove, that hand-mixed dough became bread worthy of a champion biscuit hand.

A few hours later the jeep brought in more food, and the truck arrived for transportation—and there our 86-mile round-trip jaunt down the canyon of the "impassable cliffs" ended. Dark canyon is a beautiful gorge in a region of indescribable grandeur. Americans must become better acquainted with the gorgeous plateau country of southeastern Utah.

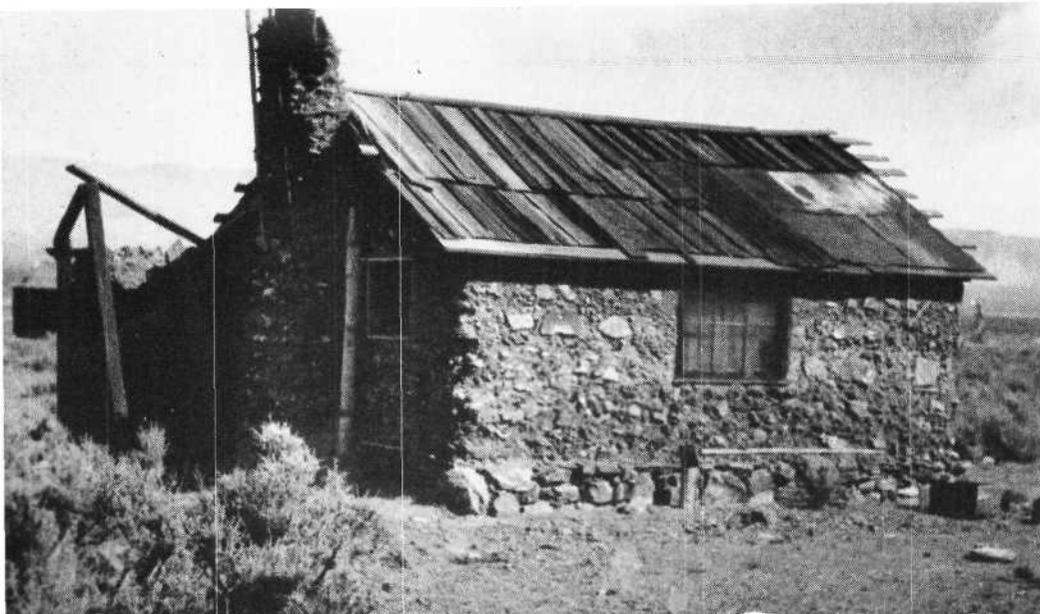
We had found few Indian ruins along the way. Perhaps the ancient tribesmen did not relish that red muddy water any more than I do. Actually, Dark canyon is dry much of the year, and the springs are few and far between. And so this lovely gorge of the Utah wilderness has enjoyed the seclusion of its own majestic walls down through the ages without serious trespass by the human species, either past or present.

Above—Where Dark canyon meets the Colorado. Julius Stone's party portaged their supplies around these rapids, and lined their boats through. Below is Mille Crag, named by Powell in 1869.

Center—Members of the expedition biked 43 miles to enjoy the privilege of sitting on this boulder. Colorado river in the background.

Below—Cardon Jones and Clarence Rogers, packers. They made Mormon tea for supper.





THE WAY

By RUTH CRARY
Glencoe, Illinois

This is the way the Mormon elders came,
Across a trackless desert, mountain-locked;
Their covered wagons swaying, oxen lame
But plodding ever onward; ever mocked
By grim, inexorable barriers; their way
Perpetually challenged. Yet they found
A passage and new hope and strength to pray,
And rest and home, at last, on chosen ground.

Today, broad highways ribbon, bend and trace
The devious way then won by pioneers.
There are no searchings for a wagon-space
Between the mountain ranges—no frontiers.
Thus did a Pioneer, an earlier day,
Undeviatingly define The Way.

LOCOMOTIVE'S CRY

By IVAN CLYDE LAKE
Tucson, Arizona

Deep in the passing night, while ageless stars
Forever watch, the locomotive's cry
Is heard above the rumbling of its cars,
Long . . . low . . . like beasts of desert preying
nigh.

So must it be, for on this sandy plain,
Between the rimming mountains, long before
Men toiled in sweat to bring the speeding train,
Were heard the sounds of things that scream
and roar.

Now with the quiet come, the hunted gone,
Still lingers in the deep star-watching sky
The cries of such as looped on sand or stone—
Heard in the locomotive's long, low cry.

THE OLD WOODEN CROSS ON THE TRAIL

By FAITH WHITCOMB
Glendale, Arizona

Out on the desert's rolling sands
Token of someone's loss;
Wrought and placed by kindly hands,
Rests a weathered old wooden cross.

In vigil it stands guardian o'er stones,
Washed clean by the winds and rain;
Blanketing forgotten bones,
Pioneered by wagon train.

The desert trail in days of old,
Lured men with a siren's breath,
Some lived to know the gleam of gold;
Others, untimely death.

Now I pause at the grave of a kindred soul,
Who dared to seek and roam
O'er mountain and desert to reach his goal,
Where the whole wide land spelled home.

Homestead Shack

By NELL MURBARGER
Costa Mesa, California

It stands all alone on the arid plains
Where the sage and the cactus grow;
Where waterholes parch for the lack of rains,
And alkali dusters blow.
Where blizzards howl in the winter grim,
And roar in their frozen might,
While the coyotes yelp in the coulees dim,
And slink through the dark of night.

The windows stare like sightless eyes,
With their glass strewn around about,
And prone on the ground the slab door lies,
So the cattle go in and out,
Long empty cupboards the mice explore
And never will quite forsake . . .
The dusty niche 'neath the splintered floor
Is the realm of the rattlesnake.

The walls lean out and the roof sags down;
The pathway is grown to grass—
A little lone shack on the landscape brown,
Deeded back to the winds that pass . . .
Baked in the heat of a hostile land,
And frozen in winter's snow—
The homesteader's shack makes its last brave
stand,
Like a ghost that is loath to go . . .

TOMBSTONE

By ELSIE DEVERELL WELSH
Tombstone, Arizona

Go walk abroad in Tombstone
In the early morning's glow,
When desert air is wondrous sweet,
And cooling breezes blow.

How safe it seems in Tombstone
When comes revealing day,
You see the toilers at their work,
The children at their play.

But walk abroad in Tombstone
As the purple night comes down,
When deep shadows through the outskirts
Of this beleaguered town.

And in from out the darkness,
Slips a silent watchful band,
Reminders of a vanished age
When this was their own land.

Yes, walk abroad in Tombstone
When the safe, sane day is done,
And darkness gathers from the hills
That hide the setting sun.

And you who are not blind will see
The crested warriors stand,
Atop the hills to look upon
Their own beloved land.

GHOST CARAVANS

By CATHERINE M. HENSON
Flagstaff, Arizona

There are hundreds of pin-cushioned mountains
Sharp-chiseled with low desert sun;
And the oft-changing ridges of sand dunes
Filter purples and blues as they run.
The sunlight will turn into shadow;
The shadow will fade into night
And into the vast of its darkness
Old secrets again take their flight.
I see in the twinkle of starlight
Ghost caravans crawling along
With the tragedies, joys, and the sorrows
Of the vast moving army now gone;
And the night passes on into morning
As I dream of the wagon trails old
Till the heavens have burst into dawning
With splashes and dashes of gold!

SPIRIT OF SAND

By GRACE CULBERTSON
San Diego, California

Why should a place as sphinx-like as these sands
Provoke the need of words, the lure of speech?
Why should a painted thing make dire demands
Of artists' hands, beyond mere mortals' reach?
It should suffice a sculptured stone to stand
As such, a tree to leaf, a flower to bloom:
What is there in a land of silent sand
And sage, mesquite and palo verde, to give room
To lust for line and color, pen and brush? . . .
Some siren sleeps beneath these vanished seas,
Or else some spirit bides behind this bush;
A whispering is borne along the breeze,
And with the mystery of desert moons,
An incantation comes across the dunes.

COYOTES

By WAHNETA ECHOLS
Calixico, California

On the starlit rim of the western sky
Coyotes howl . . .
They know not why
Out o'er the desert barren and still
Through ages past with accents shrill
Their forebears stood on the same old hill
And howled . . .
They knew not why.

THE DESERT AWAKES

By STELLA SHERWOOD VOSBURG
Claremont, California

Dame Nature can give and she can withhold.
She rations the heat, she rations the cold,
She rations the rain until needed the most,
And then she can prove a munificent host.

She just claps her hands, rhythmic echoes intone
From blue desert hills in weird baritone
That rumble and rumble, then down comes the
rain
To waken the flowers on mesa and plain.

The waiting brown seeds that have lain parched
and numb
Now gladly respond to Nature's "green thumb."
All plant life now teems. Soon the desert will be
A riot of color we trek miles to see.

WIND ACROSS THE DUNES

By CECILE J. RANSOME
Riverside, California

A cloud of amber sand
Will imitate a fountain
With stinging spray, like swarms of tiny bees,
The while it dims the land,
And blurs the distant mountain,
It charms the heart, with elfin melodies.
A broken rhythm shakes
From pods, where seeds are drying
On loco weed, and twisted yucca trees,
When desert wind awakes,
And starts its lonely crying
Across the dunes, that border vanished seas.



Remains of the Donner wagons. In the foreground are bones of oxen. The old wagon tracks are still visible. Silver island is in the distance.

Treasure Hunt on the Salt Desert

One hundred years after the Donner party made its ill-fated trek across the great Salt desert of Utah with the goldfields of California as its goal, the tracks of the old wagon train still are visible. So treacherous is the desert that few have tried to follow the route. But there have been rumors that George and Jacob Donner cached a small fortune in gold out somewhere on the desert when their ox-teams played out—and here is the story of an unsuccessful search for that gold.

By CHARLES KELLY

JUST one hundred years ago this fall the famous Donner emigrants crossed Great Salt desert over the Hastings cutoff on their way to California.

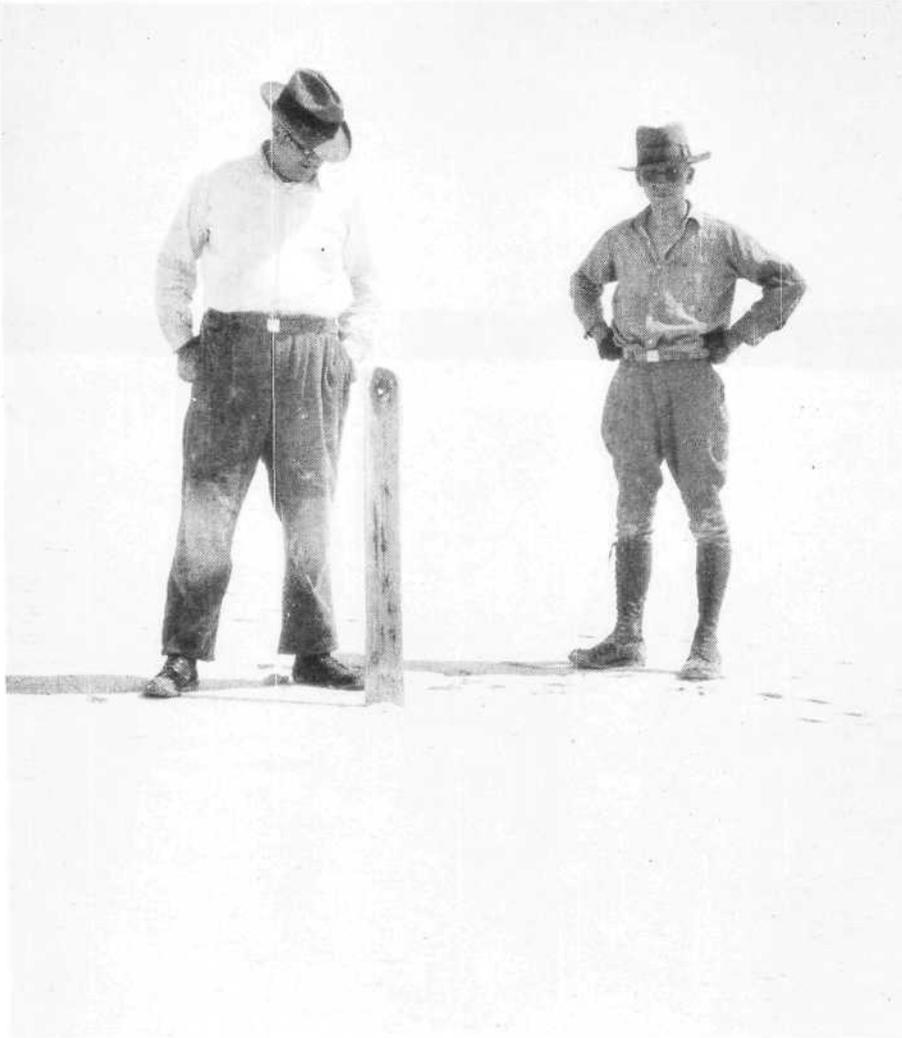
The story of their sufferings at Donner lake in the Sierras, where nearly half their number died of cold and starvation during the winter of 1846-47 is well known and

needs no retelling here. But their experiences in crossing the Salt desert, a delay which caused the tragic disaster at Donner lake, are not so well known.

In 1927 Charles E. Davis, colorful owner of Mullet Island resort on Salton sea in Southern California, decided to retrace this old emigrant trail from west to east in order to collect pioneer relics. While interviewing descendants of Donner party pioneers he heard several family legends indicating considerable treasure in gold coin had been buried on the Salt



This is what happened when the Kelly party stopped its car to investigate the low mound in the middle background. Note parts of the century-old emigrant wagon used to block up the wheels of the mired car.



Above—Edgar M. Ledyard, historian, and Dwight Kelly looking at the spot where they were sure they would find the long lost cache of gold.

Below—Hub of a linch-pin wagon abandoned by the Donners 100 years ago.

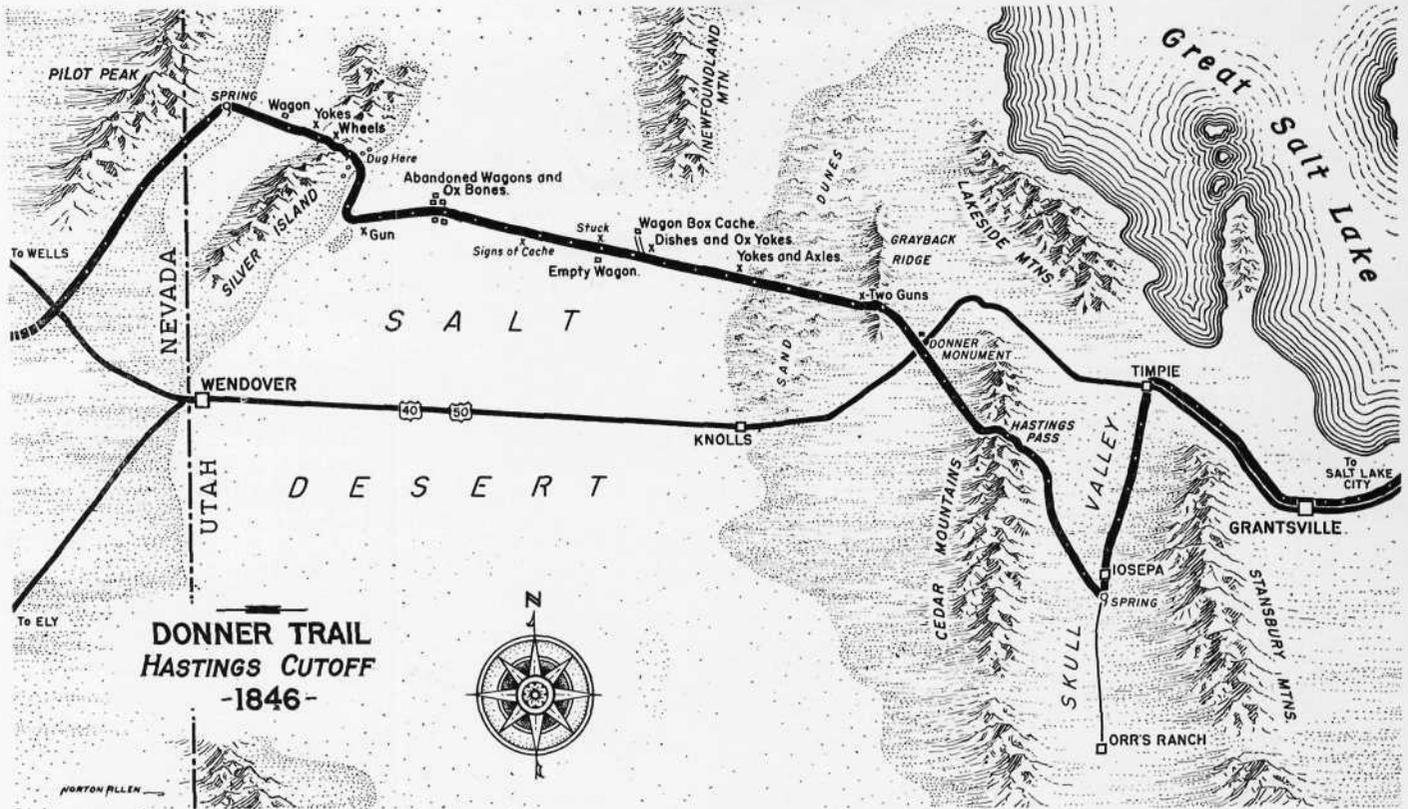
desert when five wagons were abandoned. Being convinced these stories were true, his search for relics developed into a treasure hunt.

On arriving in Utah, Davis visited Orr's ranch in Skull valley, just east of the desert, where he met Dan Orr, one of the ranch owners. Dan knew the country and told Davis how to find the old trail. During their conversations Davis told Dan about the stories of buried gold, showed him maps obtained from Donner descendants and convinced him of their authenticity. But he failed to invite Dan to accompany him on his search. In his anxiety to find the trail Davis hurried off, leaving his packet of maps and notes at Orr's ranch, where I later examined them.

Following Orr's directions Davis found the old trail, followed it into the desert, discovered several abandoned wagons, and spent considerable time digging. But the Salt desert is a vast place—flat, barren and without guiding landmarks. Digging is difficult because of the dense, sticky mud, and any hole soon fills with salt water. The search was hopeless. After wearing himself out and nearly perishing of thirst, Davis returned to California with nothing to show for his efforts except some relics of the Donner party picked up along the trail. They are now on display in Fort Sutter museum and the state capitol building in Sacramento.

Two years later and with no knowledge of Davis' search, I also began retracing the Donner trail, gathering material for a book. I was advised to see Dan Orr in Skull valley, who was said to know the location of the old Hastings cutoff. He proved such a mine of information, and such a good traveling companion that I arranged to take him with me on subsequent trips. With Frank Durfee, of Grantsville, Utah, we eventually covered every inch of the dim old road from Salt Lake City to the Ruby mountains in Nevada.

My purpose was to gather information, photographs and relics. Dan cooperated in this project, but he was also interested in trying to locate the Donner treasure which Davis had failed to find. Reading everything available on the subject we learned that George and Jacob Donner, James F. Reed and several other members of the Donner party were comparatively wealthy; that they carried considerable sums in gold; and that very little money had ever been found at Donner lake after their rescue. Five wagons had been left standing in the desert when their ox teams died of thirst. It therefore seemed logical to assume that their gold had been buried in the desert near these abandoned wagons. While I am naturally a skeptic, Dan's arguments almost had me convinced, and we never overlooked an opportunity to dig in likely looking places along the trail. I was supposed to be hunting only relics. But of course a



cache of golden eagles, dated before 1846, would have been very acceptable.

Dan and I began our intensive search near Iosepa, in Skull valley, where the Donner party camped in September, 1846, to cut grass and fill their barrels for the desert trip, requiring two or three days of day and night travel without water except what could be carried along. Following the trail over Cedar mountain we reached Hastings pass. From this elevation we had a grand view of the whole salt covered plain. We could see the dim road stretching away toward Pilot peak, 80 miles distant. In all that dismal expanse there was not a drop of fresh water. The emigrants had made no stops, day or night, except for an hour now and then to rest teams and eat a hasty lunch. Beyond Cedar mountain lay several miles of desert covered with stunted greasewood and shadscale where it was difficult for us to locate the old road except by searching for bits of wood or iron lost from the pioneer wagons.

Within a few miles we came to a volcanic formation known as Grayback ridge. Its western slope was covered with black boulders, some of which had been rolled aside to provide a passable road. Walking down this rough slope we found a great quantity of articles which had been discarded or lost—mashed tinware, broken bottles, pieces of wagon boxes and old iron. At its base lay two old Kentucky rifles, one in fair condition considering its age.

Beyond Grayback we had to cross a series of sand dunes several miles wide. At one place in these dunes was charcoal from an old fire, and nearby a small hillock which appeared to have been disturbed.

We made an excavation and found what might be expected—nothing.

At the western termination of these dunes we came to the edge of the barren salt flats extending almost unbroken to Pilot peak, still 40 miles away. Perfectly level, without vegetation and covered with a thin crust of salt, this desert looked like a dead sea, which it actually was—a dried up section of Great Salt Lake.

Just at the edge of this wide salt flat lay a pile of half rotten ox yokes and extra wagon axles, discarded to lighten the wagons. Stansbury, crossing this desert in 1849, saw a cache here, and so we spent considerable time digging, hoping to locate more pioneer relics if not the buried gold. But either the cache had been raised or we failed to find the right spot.

Riding along at 20 miles an hour we covered a considerable distance before finding another pile of wagon timbers which we stopped to photograph. Nearby was more charcoal from a fire and beside the fire some broken pieces of blue china of a pattern known to have belonged to the Donner family. At this place a single pair of wagon tracks turned off at right angles. Curiously we followed it about half a mile, when we came upon the box of an abandoned wagon and four ox yokes. Removing the sand we found it contained a large assortment of goods, including a cast iron stove, nearly a bushel of broken dishes, tools, chains, bottles, a feather bed and traces of what had been books. Here, we thought, would surely be a good place to look for the treasure cache. But our excited digging produced nothing but bits of iron turned to brown powder in the salt.

Continuing across the dreary flats and completely surrounded by a mirage, we soon came to another low mound. Removing a quantity of windblown sand we uncovered a complete box and the running gears of a pioneer wagon. But the box was empty, its contents having been removed before abandonment. Careful probing of the mound revealed no hidden cache.

Returning to the car we discovered it had settled in the soft mud up to its running boards. Digging energetically for two hours we failed to advance more than two feet. Finally, in desperation, two sideboards were removed from the old wagon box. Finding them still remarkably sound we put them under the wheels and managed to get momentum enough to circle the mound and return the way we had come.

Crossing the desert a week later on Lincoln highway, we drove to Wendover, on its western edge, then turned north along the base of Silver island to intersect the trail. Finding it after some difficulty we turned east, traveling over the salt flats toward a point where Dan said the Donner wagons ought to be. Soon the mud became so soft we had to leave the car. Continuing on foot about five miles, we saw in the distance several low mounds marking all that remained of the Donner wagons.

Exploring these mounds we found wagon boxes, wheels, axles, quantities of old iron, log chains, broken bottles and miscellaneous pieces of wood and metal. Near each wagon were skeletons of the oxen which dropped dead under their yokes from fatigue and thirst. Here disaster had overtaken the Donner party in

1846. And here, if anywhere, we would find the buried treasure.

But where to look? Dan believed the gold would have been removed from the wagons and buried in the mud. But rains and wind had obliterated any traces of digging that may have been done in 1846. The desert's surface was smooth and unbroken. Probing of the sandy mounds revealed nothing but rusted iron and bits of wood. All the holes we put down showed nothing but undisturbed mud and soon filled with brine. Weary and disappointed we gathered what relics we could carry and returned to the car.

Between these trips, made over weekends, Dan always managed to come up with some new theory. On our next trip we made camp on Silver island, just where the trail came in. He had decided the treasure we were looking for would not be buried in mud, but on dry ground on Silver island close to the trail. With shovels we began exploring the vicinity in search of a likely place to bury gold. There were many, some appearing to have been disturbed in earlier days. If all the holes we made had been dug in one place the excavation would have made a good cellar. But nowhere did we find evidence of anything having been buried. Dan's theory was good, but the gold wasn't there.

On another trip a short time later, my brother and I walked several miles beyond the abandoned wagons to the place where our car was stuck, completing exploration of the trail. At one point we found a spot where it appeared something had been buried. In the mud were dim outlines of what looked like a square wooden box sunk slightly below the surface. Nearby was a board which must have been part of the box. We had no shovels, but marked the place so it could be excavated later.

The following week we returned with Edgar M. Ledyard, who was also greatly interested in old trails. We had worked ourselves into a high pitch of excitement, certain something of importance would be uncovered. After arriving at the spot and studying it carefully, Ledyard was soon as excited as Dan had been on other occasions. So after photographing the place we grabbed our shovels and began digging, putting down a hole four feet square and three feet deep. But it was soon evident the ground had never been disturbed. Marks on the surface had probably been made by a wooden box thrown out by emigrants, which in time had disintegrated except for that one board.

We told Dan about this disappointment, but even that did not discourage him. With a truck, a helper, and a brand new theory he returned to the desert, camped several days, explored every possibility and put down numerous test pits. But if the Donner treasure ever was buried in the Salt desert, it is there yet. None of us ever found it.

Dan did discover a number of relics on dry ground above the salt flats, including whole wheels, log chains, wagon tires, water jugs and tools. All these, together with what I brought in and others found by Frank Durfee, are now preserved in the high school museum at Grantsville, on the Donner trail, where they may be seen by anyone interested.

Those relics are one hundred years old this year. The Donner trail is still clearly

visible, after a century, and will remain so for centuries to come. Only in the Salt desert do such favorable conditions exist. Perhaps while you are reading this I will be guiding descendants of the Donner party across the Salt desert, where they may see their grandfathers' wagons and the tracks made by their wheels. We may even find the cache of gold supposed to have been buried there one hundred years ago. Who knows? Stranger things have happened in this queer world.

DESERT QUIZ

Here's a new batch of headaches devised by Desert's quiz-master. Some of them are easy, others require a rather intimate knowledge of the desert country.

All of them are facts worth knowing if you live on the desert or plan to visit this great recreational area of the Southwest. Ten correct answers is a good score for a tenderfoot. Fifteen is evidence of a pretty fair knowledge of the Southwest. Above that gives you a superior rating. The answers are on page 27.

- 1—Which of the following mountains is visible from Tucson: Funeral range..... Wasatch range..... Catalina mountains..... San Jacinto mountains.....
- 2—One of the following reptiles is venomous: Chuckawalla lizard..... Horned lizard..... Gridiron-tailed lizard..... Gila monster.....
- 3—The elevation of Badwater in Death Valley is: —279.6 feet..... —44 feet..... —422 feet..... —127 feet.....
- 4—Nevada's Pyramid lake derives its name from: A pyramid-shaped rock formation near the shore..... An odd-shaped species of fish found in the waters..... The contour of a nearby range of mountains..... The similarity of the surrounding desert to the desert of Egypt.....
- 5—Marcos de Niza was: The explorer who founded Tucson..... A friar with Coronado's expedition..... First white man to navigate the Colorado river..... The padre who proved that California was not an island.....
- 6—Among students of the desert the name Philip A. Munz is associated with: Mining..... Archeology..... Botany..... Reclamation.....
- 7—U. S. Highway 66 crosses the Colorado river at: Topock..... Parker..... Ehrenberg..... Yuma.....
- 8—Bright Angel trail leads to: Valley of Fire..... Top of Mt. Whitney..... Rainbow Natural bridge..... Bottom of Grand Canyon.....
- 9—The army officer in charge of the first camel caravan across the United States was: Kit Carson..... Lieut. Emory..... Lieut. Beale..... Gen. Kearny.....
- 10—A mescal pit was used by the desert Indians for: Storing food..... Cooking mescal..... Burying the dead..... Ceremonial purposes.....
- 11—Kaibab is the name of: A forest in Arizona..... A national monument in California..... An Indian reservation in New Mexico..... A mountain peak in Nevada.....
- 12—Obsidian is: An igneous rock..... Metamorphic rock..... Sedimentary rock..... Conglomerate.....
- 13—Squaw or Mormon tea is made from the stalks of: Common sage..... Desert holly..... Nolina..... Ephedra.....
- 14—Walpi is the home of: Zuñi Indians..... Mojave Indians..... Taos Indians..... Hopi Indians.....
- 15—Gem stone most sought by Indians of the Southwest is: Garnet..... Turquoise..... Topaz..... Tourmaline.....
- 16—The home of the Chemehuevi Indians was along the: Rio Grande river..... Shore of Salton sea..... Colorado river..... San Juan river.....
- 17—Madrid, New Mexico, is famous for its: Indian weaving..... Christmas festivities..... Copper mines..... Healing springs.....
- 18—The name Nellie Coffman is associated with: Desert Inn at Palm Springs..... La Fonda hotel at Santa Fe..... Furnace Creek Inn in Death Valley..... El Tovar at Grand Canyon.....
- 19—Tahquitz was a god of the: Apache Indians..... Cahuilla Indians..... Paiute Indians..... Hopi Indians.....
- 20—The Mormons originally went to Utah to: Escape persecution..... Seek gold..... Trap beaver..... Hunt buffalo.....

One of these days, someone is going to refer to Ghost Mountain, humorously, as Tortoiseville, if the growing population of desert tortoises continues. This month Marshal tells about the most recent comers—a new-born mite, and a venerable monarch who had been living as an exile in Santa Fe, New Mexico. But if the tortoises are to continue on a lettuce diet, the Souths either will need a new supply of water to grow more lettuce—or a tramway up Ghost Mountain for fast transportation of tortoise food.

Desert Refuge

By MARSHAL SOUTH

THE MOUNTAINS seemed to be floating in the mists of evening, their summits ruby-red in the rays of the setting sun, their skirts dim in a swift-rising tide of purple mystery. The sky was sunset-gilded and the whole lone sweep of the land somber with the shadows of a brooding Earth. Such a picture was the desert the other evening as we sped down from the rocky escarpments of the mountains toward the lone, wind-whispered playas that pattern the dry bed of the Vanished Sea.

This trip was my friend Crocker's idea—Thomas Crocker, the artist, who can capture upon canvas imperishable color records of both human personality and desert mystery. It was his idea entirely. Like all true artists Tom is temperamental. Also unpredictable. One can never quite figure what he will do next. In this case it was quite late in the evening when, out of a clear sky, Tom suddenly said: "Ah, what a beautiful sunset. I can actually feel the soft touch of the wind as it comes up across the ripples of the Salton Sea. Quick, let us go down to Brawley and have dinner at the Planters Hotel."

And in less than five minutes we were off. I tell you Tom is like that, sometimes. So, in sincerity, I warn you, if you value your peace of mind do not have anything to do with artists—especially artists who are real geniuses. You can never tell what they are going to do. In the midst of getting a camp meal—the coffee pot just coming to a boil and the food all but cooked—they are likely to say, "Ah!—just look! That light effect—that bit of desert over there! Magnificent! Quick! Quick! . . . Out of the way—"

And before you can say "Jack Robinson" or "Hot potatoes" they have upset all your pots and camp gear and are sitting right there at an easel in the midst of the wreckage painting away for dear life. You have to be a thoroughly experienced optimist if ever you go wandering around with an artistic genius—particularly one who specializes in desert landscapes and portraiture.

Well, anyway, with barely time for me to grab my *zarape*, and no time at all to wash my face (there wasn't much water around, anyway) we were off. Crocker owns a sort of Flying Carpet—one of those mechanical contraptions on wheels whose smooth purring and effortless rush often make us wonder if the puffing, boiling and wheezing old Model A, which is the mainstay of Yaquitepec, is really an automobile or just a collection of busted ironworks, held together with binder-twine and hay-wire. I don't know the make of Crocker's car—which is probably just as well, as it would only make all the other car manufacturers jealous if I mentioned it—but anyway it does get over the ground. As we eased out from among the creosote bushes Tom glanced



Thomas Crocker, San Diego artist, beside one of his recent western paintings.

at his watch and said: "Splendid. We shall arrive at the Planters exactly right for dinner"—just as casually as though we were only going to step across the street, instead of heading out on a journey that in the old ox-team days would have entailed weeks of struggle and hardship.

A run down over the long leagues which separate the mountain country from the desert lowlands always is impressive at sunset and twilight—even if you do take it in company with an artist, who is always urging you to squint your eyes so that you can get the full value of the "mass effect" of scenic gems and color arrangements. Mystery lives in the desert. And there is no section of desert that I know, upon the North American continent, that holds more allure and mystery than that area which contains and surrounds the bed of the old Vanished Sea, which men today call the Imperial Valley. Perhaps this is because the old sea is not yet entirely "dead" nor "vanished." For, from the desert foothills and from the summit of Ghost Mountain you can still see it, nights and mornings whenever the light happens to be right. It lies—or rather the "ghost" of it lies—just where it always lay in those past ages before the sun sucked it dry. From the mountaintops you can see it plainly, rolling blue in its old bed—covering the towns and the highways and the cultivated fields deep beneath its heaving blue shadow. The old islands still lift above it, as they did in the old days; the old gulfs and lagoons still border its margin with blue, mysterious patterns. Fancy? No, I do not think so. I have taken men who did not know the country to the summit of Ghost Mountain. And have said simply to them "Look."

And they have stared, and marvelled. And have sworn that they could see even the tide-rips between the rocky islands of that lowland ocean. Nor, after they had been told the truth, would they believe that they had been staring only at the ghosts of waves that have vanished these many centuries.

So cushioned in ease we sped on down the ribbon of concrete into the purple dusk. Mountains, ghostly and fantastic and unreal as shapes from another world, floated up at us out of the darkness, revolved and drifted away. Distant lights winked at us out of indigo gulfs like the far gleam of phantom watch-fires or the flickering torches of disembodied spirits treading again a maze of long-forgotten trails. The wind came out of the lowlands and whispered across the white, dry playas; rustling the pale fragments of age-dry sea shells in its passage and muttering to itself around the rocky headlands of dry and long forgotten coves. The moon came up, full and awe-inspiring in its lonely majesty, and flung a mantle of beaten silver across a desolation

of naked jet. Far off, unreal and spectral in the unearthly moon-gleam, an aviation beacon swung slowly like a brandished sword. The man-made lights of Brawley were a necklace of earth-spilled stars.

It had been a long time since last I had had dinner at the Planters Hotel. And I was prepared to be disappointed—for the flood tides of what passes for progress have a habit of blotting out so many things of worth-while and sentimental value. But my fears were groundless. I knew that the moment I entered the spacious lobby—the moment I had grasped the welcoming hand of Dave Foster, the genial manager.

There are quite a few paintings bearing the signature of Thomas Crocker hanging in the lobby of the Planters Hotel. And after I had made the rounds of these and we had enjoyed a good dinner, we went out in the patio and sat under the palms in the night and listened to the faint, outer noises of Brawley—and talked philosophy and art. Being interested in the painting of a ceiling—upon which I had vague ambitions to depict colorful cupids bearing wreaths of roses—I felt at the moment well qualified to discuss art. Also I had ulterior notions that I might entrap the master artist into giving me a few tips. But Tom utterly refused to be lured into the realm of anything so sentimental as cupids. His special genius lies along the lines of portrait painting.

Yaquitepec was chilly beneath the stars when I arrived home—at two o'clock in the morning. At that I narrowly avoided a most picturesque climax to a really picturesque evening. For, feeling sentimental as I drifted in over the trail, I was humming to myself a few bars of one of Kipling's melodies. I learned later that Rider, believing the music to proceed from an advancing pack of timber wolves, was just taking down the rifle. Fortunately however he has good eyesight and, as I stepped out of the shadows of a juniper near the house, he was able to perceive his error.

Speaking of Rider recalls that he is, at the present moment, wandering around Ghost Mountain with a plaster cast on his left arm, which was broken in an encounter with a bicycle, which he was endeavoring to rope and break to the saddle. Whether the bicycle threw him and rolled on him, or whether it kicked him as he was roping it we have never been able quite to determine—and his own ideas on the subject are hazy. But due to skillful medical setting and the healing effects of desert air and sunshine it is doing very nicely and will probably soon be as good as new.

The population of Yaquitepec again has increased. This time the newcomer is a baby desert tortoise. For, after a little over eleven weeks of waiting, one of the two eggs which Juana-Maria-Better-Than-Nothing laid so carefully beneath the shade of a goatnut bush (and which we subsequently removed to the house for better protection) hatched out into a fascinating, toy-like little creature. This fragile looking little elf, a perfect edition in miniature of its elders, captivated the attention of the entire family. No larger than a silver dollar when hatched, it seemed almost impossible that so tiny a creature could survive the hardships of desert life and develop into the rugged, sun-leathered tortoises which we knew. Yet we knew well enough that Mother Nature thoroughly understands her business, and we gathered both satisfaction and amazement in observing how thoroughly the new baby arrival seemed to understand the business of life.

It has been said that "The proper study of mankind is man." But this is not altogether true. For just as much, if not more, can be learned about life from an intelligent study of all the rest of animate and inanimate creation. If men would pause a little more to reflect upon the daily lessons which Nature spreads before them there would be fewer puzzles and doubts upon subjects connected with immortality. For instance here was a tiny spark of life, no more than a few hours emerged into light of day. Yet it understood its business perfectly. Worried that it did not seem

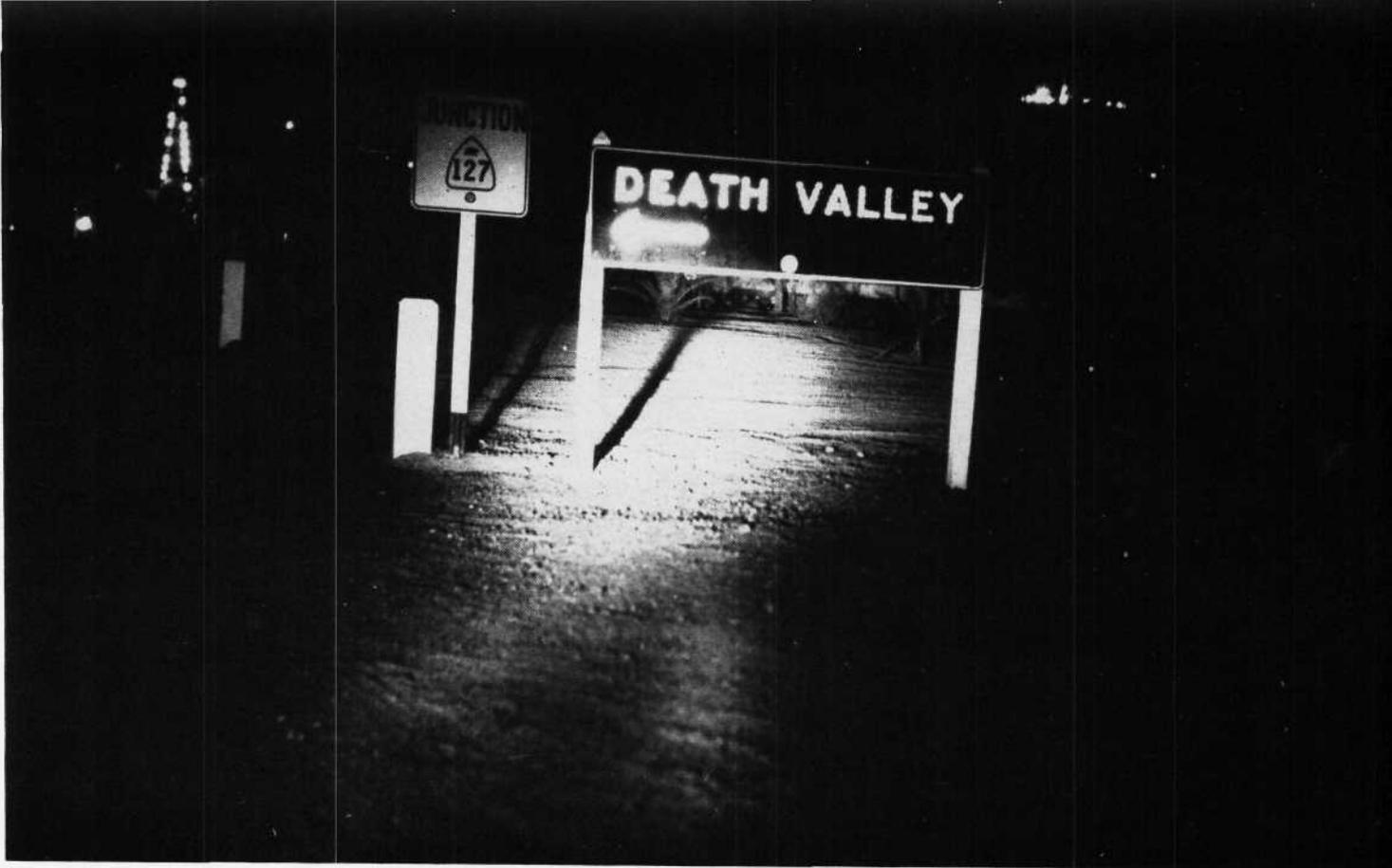
to want to eat, the children got the notion that perhaps it would like to drink. So a tiny, shallow pan was provided and filled with water. But our new arrival ignored it completely. However, a little while later, while Rider was adding some fresh water to the dish, he accidentally spilled some on the sand close to the seemingly dozing baby. Instantly it galvanized into life, thrusting its tiny head eagerly into the damp gravel and tilting its body forward to the highest upward reach of its hind legs, in the peculiar, characteristic kneeling pose which adult desert tortoises adopt when they are drinking from rain puddles. The action was so typical that it was startling. Here was a spark of supposedly "new" life. But it was an old hand at all the old rules and mannerisms. The artificial drinking pan it ignored. *That* was strange. But the splash of water upon desert sand was perfectly familiar. It was something to think about. So, taking the cue, we splashed more water on the sand and, bit by bit, coaxed our new-born to an understanding of the unfamiliar tin pan. From which, having become accustomed to it, he drank deeply. There were other hints that our new arrival was by no means new to this world and its problems. It had a confidence that could come from nothing less than previous experience.

Of course, if you want to, and have nothing else to do, you can explain away all these things in a perfectly logical manner. But we have long since ceased to worry too much over science or logic. Both of those bespectacled by-paths of human existence can be terribly overdone. "One touch of Nature"—as we have been told—"makes the whole world kin." And it is equally true that one startling demonstration of previous existence, as was provided by our baby tortoise's reaction to what it thought was a desert shower, will explode a lot of the musty, man-created theories that are found in books.

Good fortune—like bad—seldom comes in single doses. And this chronicle would be woefully incomplete if it neglected to mention also the joyous arrival of "Monica."

Monica is another tortoise. A native of Palm Springs, California, by birth—and of Santa Fe, New Mexico, by adoption and many years of residence, Monica came to Ghost Mountain through the kindness of H. Cady Wells, of Santa Fe, who was Monica's affectionate guardian.

A crisis had developed in Monica's many years of protected existence. It was necessary that a new home and protector be found. And, by correspondence, Monica's guardian inquired if we would undertake the charge. Would we? The children were wild with enthusiasm. An immediate letter of acceptance was dispatched. And, presently, from the historic and glamorous atmosphere of Old Santa Fe, Monica headed westward upon the racing wheels of a transcontinental Flyer. Not as a humble desert tortoise did Monica return to her birthplace. She was preceded, surrounded and accompanied by telegrams, air-mail letters—and a barrage of succulent lettuce. For there was much to arrange. Ghost Mountain is a place difficult of access even to express shipments, and our friend, H. Cady Wells, like an experienced general, was leaving nothing to chance. And nothing *did* happen by chance. So well laid were plans and so efficiently were connections arranged that Monica arrived at Ghost Mountain in high spirits, without the slightest hitch—and with still one lettuce left. The children welcomed her with open-armed joy—almost at midnight. And she was conducted to a warm sleeping place in the royal suite—for they insist that a tortoise over whom so much trouble has been taken and who has lived so long under the protection of so much loving care must be of royal birth. And maybe it is so. For Monica is a wonderful and a most lovable tortoise. The biggest, by far, of all our tortoise family. We hope that Monica will like her new home—she ought to, if the care and affection of three happy youngsters has anything to do with it.



Prize Winning Photos

Death Valley

Winner of first prize in Desert Magazine's October contest is this photo of the Death Valley sign, taken on Junction route 127 by Charles E. Pelletier, Arlington, Massachusetts. Rolleiflex camera, Tessar 3.5 lens. Super XX film.

Arizona Signpost

Second prize winner is this sign on Route 89 about two miles east of Verde river, between Cottonwood and Sedona, Arizona. Photo taken by Rayburn F. Hunt, Flagstaff, Arizona, in August, 1945. Kodak Bantam Special at f16, 1/25 sec. Plus X film.



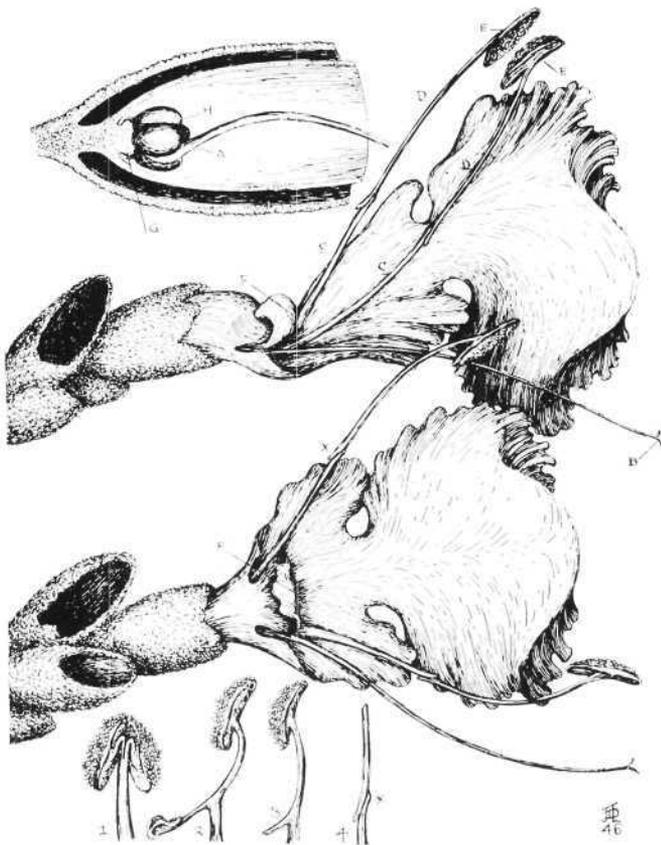


Figure 1—Flower of white sage, *Salvia apiana*, enlarged to show construction as described in text. Upper left—Section through lower half of corolla. Middle—Flower tilted toward observer. Lower—Looking straight down on the flower. Across bottom—Stamens of four species of mint to show how white sage's curious stamen evolved. 1—Catnip, *Nepeta cataria*. 2—*Salvia texana*. 3—Closely related sage, not identified. 4—Common white sage, *S. apiana*.

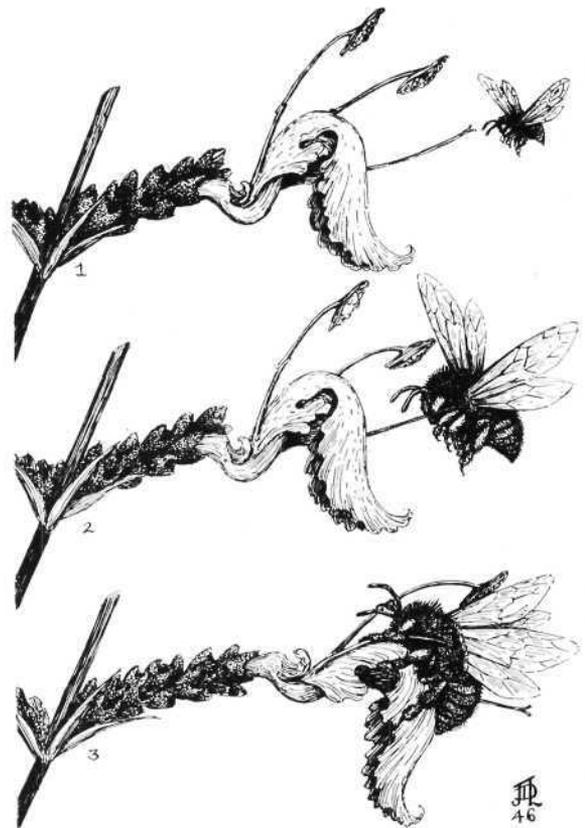


Figure 2—A bee goes to work. 1—Approaching a white sage flower. 2—Bee bumps into style *A* which sticks out just for the purpose. 3—Bee lands on the petal and to brace itself grabs the stamens and gets a dusting of pollen—just as Nature intended it should. The bait, of course, for all this maneuvering is the nectar concealed beneath a sort of trapdoor arrangement.

Flowers Have Their Tricks

Nature's world is very cooperative. Without the flowers, the bees would die of starvation, and without the bees and other insects, the flowers would either have to devise a new method for the perpetuation of their species or become extinct. You'll understand better how this works out after you have read Jerry Laudermilk's story of the mint blossoms and the horehound flower.

By JERRY LAUDERMILK
Drawings by the Author

I KNOW this will sound like a whopper, especially to anyone who has never seen Arizona in full bloom, but it is a fact there are more than 3000 species of flowering plants growing within the borders of that amazing state. Of course, some of these grow in other parts of the country and some are actual cosmopolitans, but many belong only to the desert. Three thousand is a large number but it is no rash commitment when I say that there is not one uninteresting character in the entire list.

Whether a plant is interesting or not depends largely on how much we know about its personal life and peculiarities. It may

inspire wonder by its size and strangeness as the saguaro or giant cactus *Cereus giganteus* or it may be repellant like the diabolical jumping cholla *Opuntia bigelovii*. But the less conspicuous shrubs also have rare interest for those who look beyond the drab exterior to discover secret life processes not revealed to the casual observer.

For instance there is a rather common water plant called "bladderwort" *Utricularia vulgaris* growing in a pond near Victorville, California, and other localities. It looks like a tangled mat of moss. From this plant's ordinary appearance one would never suspect that it must have a little live meat in addition to its regular diet of water, carbon dioxide and mineral salts. This carnivorous bent in the plant's make-up is gratified by very clever traps which are neither leaves nor flowers, but special organs which operate like microscopic mouse traps to capture and digest such small fry as mosquito larva and water-fleas.

But the majority of higher plants need no such sensational fixings as mouse traps to justify their existence. Roses, lilies and the rest of the charming assembly fascinate us at first glance but there is a whole legion of floral Cinderellas which are regularly snubbed because they do not put up enough front to compete with the beauty of their more romantic sisters. All plants are strange but some of these unassuming types have weirdly complicated methods for holding their places in the struggle to live.

The poser for all flowering plants centers upon the intrica-

cies of pollination, a mysterious floral rite essential for production of fertile seeds. In this microscopic drama some unknown agent within the pollen grains must "click" with an equally unknown factor in the rudimentary seed-cells to give the plant Mother Nature's official okay to its right to carry on. The pollen is, of course, the dust produced upon the anthers. It is generally yellow but sometimes white, orange or even blue. The flower's problem is to see that some of the pollen reaches the stigma, the specialized tip of the style and the only place where it can do any good.

Some plants scatter pollen broadcast upon the wind and trust in luck. A few are self-pollinated and take no chances, the flower being designed so that pollen is transferred from anther to stigma even before the bud opens. Most flowers depend on insects that dine on nectar and leave the banquet with pollen on their shirt-fronts. In order to exclude unwelcome rabble all sorts of tricks and gadgets occur among the various plant families. Sometimes these contraptions are so complicated that it is a marvel that an insect can operate them at all. One group favoring highly complicated flowers is the *Labiatae* or Mint family which has many representatives in the desert: horsemint *Monarda pectinata*, bluecurls *Trichostema arizonicum*, horehound *Marrubium vulgare* and many species of sage or *Salvia*. Some of the sages are wonderfully fitted out with trapdoors, trick handlebars, landing platforms that automatically spill any visitor heavier than a honey bee, and enormously lengthened styles which are actual bee-bumpers. Let's look at the picture of a flower of white sage, *Salvia apiana*. This species has a very complicated blossom and is typical of several desert sages.

At the upper left of Figure 1 is a section through the lower half of a flower. At A is part of the style which connects with four undeveloped seeds H. At G are the cells that produce nectar, the sweet syrup that lures the bees into doing the plant's work. Unless pollen reaches the stigma B on the free end of the style, all this complicated organization amounts to nothing and the seeds will not set.

But everything here is designed to work together for good. C, C are stamens carrying the connectives D, D and the anthers E, E. The connectives have a history that is hard to believe. In some ancestral form of this sage each stamen bore a two-lobed anther with lobes joined by a short string-like connective. As the flower became more and more specialized, one side of the connective with its anther lobe became smaller and smaller so that now all that remains to show where it originally branched off is the peculiar splice shown at X. A series of stamens from related species of sages and mints showing how *Salvia apiana* came by its present type of stamens is shown at the bottom of the picture. At any rate, each flower now has two very curious stamens with a single anther lobe on each. The anther itself is a neat little item loaded with pollen and functions like a bee-sized powder puff.

The bee becomes mixed up in the flower's affairs through the magic of the nectar which is completely unreachable unless the trapdoor F, is forced open. From start to finish the whole complicated business of fertilization is like this:

A bee with its jacket dusted with pollen from the last flower it visited arrives at a new blossom, which, from its crisp, snappy look announces that it has not been robbed. Since the flowers grow several to a spike, the long styles projecting from the flowers make a series of fenders, one of which is certain to be blundered into by the ecstatic insect. So far so good, one touch from the bee's dusty coat has guaranteed fertilization for some lucky blossom—those seeds are safe.

The bee has now paid its way and lands upon the broad petal platform intent upon crashing the gate at F. Its dead-weight alone is not enough to depress the petal and open the door but as it flounces around on the platform it soon comes into contact

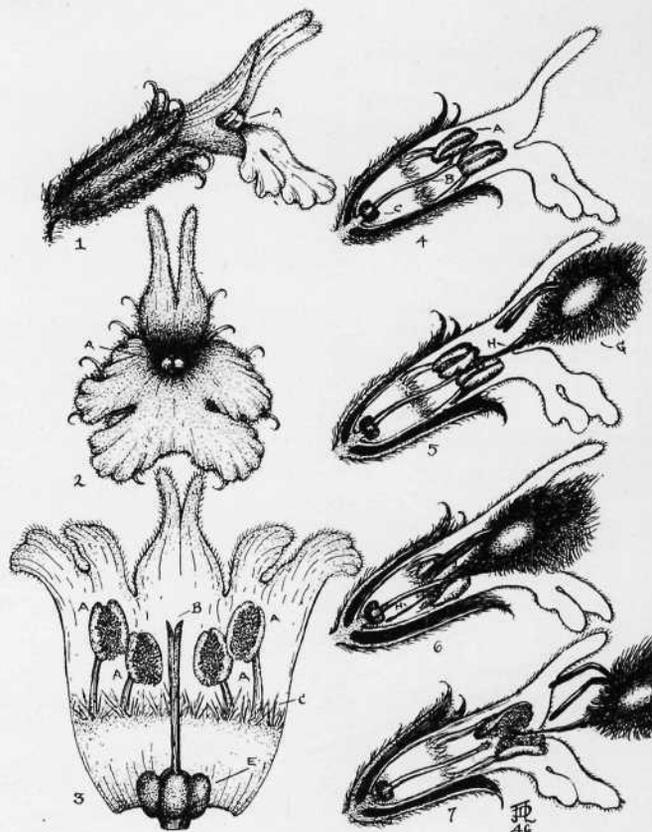


Figure 3—Horehound flower, *Marrubium vulgare*, a bee, and subsequent events. 1—Side view of flower showing how anthers crowd doorway at A. 2—Front view of same flower. 3—Flower spread out to show parts, A-A stamens and anthers, B stigma on end of style, C circle of bristles lining tube as nectar guard, E seeds. 4—Section through flower, A anthers, B style, C seed. 5—Bee's head with its proboscis H entering flower. 6—Proboscis reaches nectar at bottom of tube and bends anthers down, pressure causing them to split. 7—Bee retracts proboscis and anthers are pulled back with pollen sides up. The bee has its proboscis dusted with pollen as it departs.

with the fancy stamens. These furnish a pair of convenient handlebars by which the bee braces itself on its springy underfooting. Its movements drag the anthers inward with the result that the bee's velvet bolero receives a thorough sprinkling with pollen, a consignment for the stigma of the next blossom it visits. Usually, at this point things wind up by the bee breaking in and stealing the nectar.

A second example of mint flower cleverness shows how the same successful pollination can be managed without the complicated series of gadgets and nice adjustments favored by the sage blossoms.

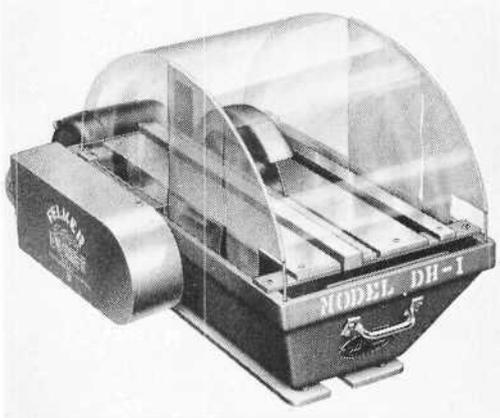
Throughout Southern California and Arizona, common horehound *Marrubium vulgare*, the stuff once used to flavor candy, grows as an unimpressive member of the plant population. Its flowers are little mites less than $\frac{3}{8}$ inch long whose most obvious claim for notice is that the upright petal is split so that it looks like a pair of tiny rabbit ears. These grow so modestly in whorls around the stem that nobody would suspect how well they keep the secret of the neat apparatus all set to sprinkle a departing guest with pollen. The bait is the usual drop of nectar hidden at the bottom of the corolla-tube. A glance at the drawing shows how the doorway is practically filled by the arrangement

of the stamens and the style. These grow so close together you would suppose self-pollination inevitable. But this is not so.

The stamens grow so that the anthers are grouped in pairs on each side of the stigma and above it. A bee probing for nectar pushes its proboscis into the doorway. It reaches down the tube and its proboscis, already charged with pollen from the last flower it visited, makes contact with the stigma. You might think that some of the flower's own pollen would be carried along with it but it doesn't, which is the clever part of the transaction.

By the time the flowers are ready to entice the bees the anthers are all set to *dehisce* (to split along a special seam) so that the business sides of the anthers with their exposed pollen masses will be slanted downward. As the bee's proboscis pushes against the anthers they bend past the style and safely below the stigma. The nectar is now reached and robbed and as the bee retracts its proboscis the anthers are also pulled back to their original positions but now "business sides" up so that just as the proboscis leaves the tube it drags through the cake of pollen very much as your coat-sleeve might drag through a saucerful of butter. Everything is now ready to be repeated at the next flower.

The question this account of Labiate pollination leads to is this: Why, since these two species, sage and horehound are nearly related, has evolution followed two entirely different but equally satisfactory paths leading to the same result when one method would have done for both species? Why all the variety? This is simply another of those many mysteries that come to light when we begin to delve into the secrets of the Vegetable World.



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"Hell-fire, Eddie, we've struck the richest jackpot since Klondike." This was Shorty Harris' exclamation when he and his partner, Eddie Cross, made their famous strike at Bullfrog, Nevada. Shorty has now gone over the hill, and Eddie has retired from prospecting, and lives quietly on a little ranch in Southern California, but he has a vivid memory of the boom days in Nevada mining. Here is his story of the Bullfrog "jackpot."

He Was in on the Bullfrog Jackpot

By LUCIEN M. LEWIS

WHENEVER the Bullfrog mine is mentioned, most persons think of Shorty Harris as the discoverer. That supposition, however, is only partly true. Eddie Cross, who lives near Valley Center, California, about 12 miles from Escondido, was Shorty's prospecting partner when the mine was located. They were on a prospecting trip when they stumbled upon the specimen that led to the rich strike. But because Shorty was a colorful personality, much of the newspaper publicity was focused on him.

Most everyone around Escondido knows Eddie Cross. He has lived on his ranch near Valley Center for 30 years. For, like the late Will Rogers, Eddie likes everybody he meets. But the similarity does not end there. Eddie has the same droll sense of humor and Will's comical way of telling a story and dramatizing it.

Mention of the Bullfrog to Eddie does not draw quick-fire response. His diffidence, one might suspect, may be due partly to awakened memories of the Bullfrog's golden days, when miners used twenty-dollar gold pieces for chips and when Eddie himself ranked high as an authority on matters pertaining to mining and locating.

"When I was just out of my 'teens, I left my Iowa home and drifted to Montana, lured by fabulous tales of gold," Eddie said, when questioned about his early mining days. "I found work in mines around Butte and elsewhere, and worked for Marcus Daley and William Clark when they were in a life-and-death struggle for control of the mines and also were rival candidates for the United States Senate. From Montana I drifted to Utah, where I first met Shorty Harris. Shorty and I formed a partnership and set out for Nevada on a prospecting trip, reaching Goldfield when it was booming. We worked in the mines when short of funds, but always returned to the hills when we had a stake.

In the summer of 1904, with a packtrain of five burros, we again headed for the hills. After being out nearly two months, with nothing to show for our labor, we came to a rugged mountainous section that looked good to both of us."

"Was it a hunch?" I interrupted.

Eddie shook his head. "No, it was the formation. Just as a doctor may detect an inner ailment by a glance at his patient, so a trained prospector may observe revealing signs in rock strata and the general formation. We would work away from that lo-



Eddie Cross still dons his old miner's garb occasionally.

cality, only to find ourselves back there again, in the manner of two hounds back-tracking a cold trail. Then, one morning while digging and sampling, I picked up a specimen about the size of a hen's egg that gave me a little shiver of excitement. I could tell by the feel of it that it ran heavy with gold and was—

"Did you dig it up?"

"No, it lay on the surface. In fact, the glisten of it in the sunlight was what drew my attention to it. But getting back to my story, I took my specimen to our camp, tested it until I was sure that my first impression was correct, then called Shorty. With a skeptical smile, Shorty looked at it, hefted it, then began the usual tests. Watching him as he worked, I saw his cheeks change color. There was excitement in his eyes and his fingers trembled. Even his unusually big ears seemed to flap. Suddenly he let out a warwhoop, jumped straight up and shouted:

"'Hell-fire, Eddie, we've struck the richest jackpot this side of the Klondike! Let's get as busy as packrats and stake out our claims!'"

"How did you happen to name it the Bullfrog?" I asked.

With a reminiscent smile, Eddie looked away and didn't speak for a half minute. Then he said, "It was a case of being sentimental, I suppose—that and the size and greenish color of the specimen. A song about a bullfrog was going the rounds, and something about the shape and color of that specimen recalled it. Maybe you've heard it:

'Twenty froggies went to school,
Down beside a rushy pool;
Twenty little coats of green,
Twenty vests all white and clean.'

"So much for the name," Eddie continued. "Stepping high and with visions of two penniless prospectors turned millionaires overnight, Shorty and I staked out two claims, then rushed to Goldfield to have them recorded. My main anxiety was to keep Shorty sober until we could get the claims recorded, for I knew there would be a stampede for the hills as soon as word of a strike should get out. I made it all right, but that didn't save Shorty. With title to that mining claim recorded, he fell an easy prey to a bunch of tinhorn gamblers who inveigled him into a poker game. When the game was over, those gamblers had Shorty's half interest in the Bullfrog and he had a mule and \$500. Think of it! The Bullfrog was listed on the stock exchange shortly after that for \$200,000."

"And your half interest?" I asked.

"Well, I organized a stock company and sold shares," Eddie said. "At that time twenty-dollar gold pieces were slipping through my fingers like sand running through a sieve. A little later, when a San Francisco broker made us a cash offer, we let the Bullfrog loose. And believe me, he bellowed 'Gold! gold! gold!' for a long time after that."

When Eddie paused and gazed off with a far-away look in his eyes, I rightly suspected that he was back in his beloved Nevada hills again, flowering sagebrush sweet in his nostrils, air resonant with braying of burros. For, turning back to me with a grin, he said:

"I can see precisely how Shorty Harris looked that morning when I gave him that specimen, see his bulging eyes and flapping ears. And I can hear him yell, 'Hell-fire, Eddie, we've struck the richest jackpot this side of the Klondike!'"

Sez . . .

Hard Rock Shorty of Death Valley...

By D. A. TYRRELL



"Don't it ever rain here?" asked the tourist, who was waiting in the shade of the Inferno store while Death Valley's only mechanic put a patch on one of his tires.

Hard Rock Shorty edged his chair over a few inches to get more directly in the breeze that came from a squeaky fan. When he was comfortably settled again in his new location, he glanced up at the newcomer.

"Yep!" he said. "Three years ago last August it rained so hard some 'o the lizards began to grow webs on their toes. An' one o' them ducks Pisgah Bill keeps in the pen with his chickens drowned 'cause it'd never learned to swim.

"Looked as if we'd have another rain a coupla months ago. Them black clouds came up over the Panamints, an' Ol' Pisgah Bill came outa his shack and took a squint at the sky. 'Looks as if I'm gonna git another bath,' he yelled. 'Ain't had one since the last rain three years ago.'

"Then he went back inside and used what water was left in his barrel soapin' hisself up ready for a good shower.

"But do yu know what happened? Them clouds busted up without spillin' a drop o' water. An' Bill had to walk 15 miles to a spring to wash the soap offen hisself."

LETTERS...

He's a Lucky Rockhound, and a Tenderfoot at That . . .

Cedar Rapids, Iowa

Dear Sirs:

We saw our first copy of Desert Magazine at Barstow. Being interested in rocks we read John Hilton's story about Dr. Parks' onyx field near Henderson, Nevada. We were on our way to Needles, but changed our plans and went to Las Vegas to visit the Parks field instead. Found some nice pieces of onyx along with chalcodony. Your descriptions and pictures guided us right to the spot. The outline of the mountain in the picture helped immensely as we are a couple of tenderfeet from Iowa who had never been in that country before.

Incidentally, we stopped overnight in Las Vegas and won \$90 on a 50-cent bet in one of the games there, so your magazine proved a good investment.

W. G. FRENCH

Congratulations to Reader French on his luck at the roulette table—but those dealers in Vegas are not exactly philanthropists, and we sincerely hope some other rockhound in Desert's family doesn't get stuck for that \$89.50 plus the house percentage.

Maybe the Sloths Were There . . .

Los Angeles, California

Dear Desert:

Early this month Robt. Wright and myself spent several days in Afton canyon on the Mojave desert east of Barstow. Recent storms had caused numerous slides in the adjacent canyons, and in one of these we made an interesting discovery.

Approximately six feet up from the floor of the canyon was a freshly exposed stratum of what appears to be petrified dung. The vein runs horizontally, the thickness varying from six to 18 inches. We found this odd formation at three different places in the canyon, the largest ex-

posed area appearing to be the floor of an ancient cavern.

We brought samples of the deposit out, hoping to place it in the hands of someone qualified to give the right answer. If you can help us in this respect, I will be deeply grateful. As you know, this area is one of the oldest in the United States, geologically speaking, and it is possible our discovery may be of interest to someone.

We had the good fortune on this trip to meet Dr. H. Marsden Heard, a charter member of the Los Angeles Lapidary society. Dr. Heard spends every other weekend at his roadside place near Calico dry lake, using that as a base to comb the Calico and Alvord mountains for cutting specimens.

DONALD G. INGALLS

Dear Don: I suggest you send a specimen of the deposit to Jerry Lauder-milk at Claremont, California. Jerry'll find the answer if anyone can. Desert readers will be interested in the result.—R.H.

Anyway, it Was Very Dry and Hot

Blackwell, Oklahoma

Dear Mr. Henderson,

I like the way you came right out in big black type and spelled the word—DROUTH. It sounds as dry as the reptiles John Blackford writes about.

We had a long dry spell over the middle west last summer and the newspapers persisted in telling about the "drought." That is too much like "draught" and reminds me of a cool drink of water, or a cool breeze, and you can take my word there was neither, here.

The hot winds seared the skin. Vegetation was burned brown. Cisterns and wells went dry. There were prairie fires on the plains. It was 117 degrees in the shade one day, and over 100 degrees for several weeks. It was a DROUTH. I'll be glad when Americans write the way they talk.

MARIE KENNEDY

Mystery of the Crater . . .

Boulevard, California

Dear Randall Henderson:

According to a recent issue of Desert Magazine some fellow is quoted as saying that meteor crater in Arizona was not made by a meteor.

Well, I spent two years over there at Canyon Diablo (Two Guns), only six miles from the crater. I am well acquainted with the caretaker, and I learned many things about the history and development work done there.

There is no indication of the hole having been blown from below. There have been many hundreds of pounds of meteor iron picked up around the crater. The Guggenheim company was the first to drill in an effort to locate the meteoric mass. They gave up, and several other companies tried.

There were 28 holes drilled in the crater, some to a depth of 2000 feet. Then an old scientist from Massachusetts looked the place over and told them the meteor probably did not come from straight above. He believed it came in at an angle from the north, and told them to drill to the south of the pit.

They drilled again and struck metal at 1376 feet. They ran the drill for several days and made very little impression on it. Then they started putting down a shaft. When this was down 700 feet they encountered so much water they were forced to quit, although the pumps were throwing over a million gallons a day. That was the situation in 1931, and I understand there has been no change since then.

GUY O. GLAZIER

Exploring the Desert—Overseas . . .

Inglewood, California

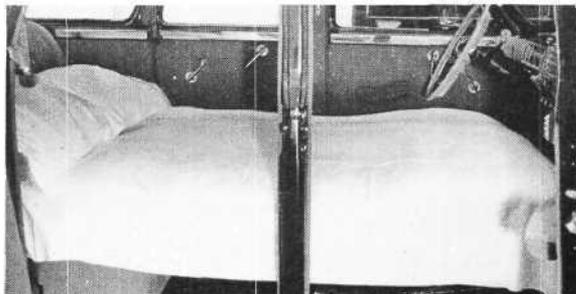
Gentlemen:

I thought you would be interested to know that as far as our household is concerned, your magazine has been doing double duty. We have a son stationed in the South Pacific and we bundle up the magazines and send them to him. I quote from his last letter:

"The issues of Desert Magazine came. I have been too busy reading them to think of writing the thoughtful person who sent them, but at last have them read, and here is a thank you note from the bottom of my heart.

"I guess the next best thing to being on the desert is reading stories about it. I like to read the Readers Page and the news about the valley. It is like meeting old friends to come across the names of towns in Arizona and Imperial Valley. There are so many places mentioned in the magazine, out of the way canyons, hot springs, mineral deposits and the like that I wish I was free to explore all of them and, of course, I go for the poems about the desert in a big way."

SAM HILL



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Mines and Mining . . .

Vernal, Utah . . .

Possibility that a plant will be installed here to manufacture crude oil and gasoline from the large deposits of oil shale in the Uintah basin, was indicated recently when Elmer H. and E. Leslie Records of the Records Industrial Research laboratory spent several days studying the deposits and collecting samples for laboratory tests. Shale deposits in Uintah basin are estimated to total billions of tons, and the average production of crude oil a ton is estimated at 41 gallons.

Searchlight, Nevada . . .

Revival of this old mining camp appears to be in the offing—but not because of mining activities. Construction of Davis dam is the magnet that is drawing newcomers to Searchlight and there is a generous sprinkling of bartenders and gamblers in the new stampede. Sheriff Glen Jones of Las Vegas has asked for funds to enlarge and remodel the jail.

Winnemucca, Nevada . . .

Negotiations are underway for the sale of the Green Elephant claims, known as the Vindicator gold mine by Mrs. Lucy A. Born to the Vindicator Gold Mine syndicate, according to reports here. The mine has not been worked for years, and one of the conditions of the sale is that Humboldt county commissioners improve the road to the property.

Goldfield, Nevada . . .

After being inactive for many years, the old Florence mine, formerly a big gold producer, is to be re-opened by the Newmont corporation under a lease-option, according to local reports.

Kingman, Arizona . . .

An unusually fine grade of deep blue turquoise is reported to be coming in from Ithaca peak in the Mineral Park district. The operators are Gross Lewis and Winkle Dietrich and associates. The vein is reported to be about four inches thick, and is being brought out in eight to ten-pound slabs. The property has been worked intermittently for 25 years.

Fallon, Nevada . . .

Operating without water, power or rail transportation, V. S. Baxter is working a small but high-grade mine of fluorspar in the Broken Hills area with an unusual degree of proficiency, according to a report in the Nevada state bureau of mines. Acid-grade fluorspar of very high quality is being produced without blasting, by hand selection only. The mineral occurs in lavas, and breaks away from the softer country rock in clean cleavages that enable the operator to ship an exceptionally pure grade of ore by the simple process of breaking it out and dropping it in the chute.

Goldpoint, Nevada . . .

Extensive exploration of 100 acres of gravel in a wash on the Goldpoint Mining company's property is to be started as a result of the recent discovery by Silas Harvey of \$1.00-a-yard values in material taken from a 50-foot shaft sunk in 1910. As there are no boulders in the loose shale, it is believed it can be screened down to milling gravel which will run from \$4.50 to \$5.00 a ton. Harry DeVotie, company manager, stated that plans to work the gravel would depend entirely on the results of further exploration.

Lovelock, Nevada . . .

Operating on a 500-ton basis, the plant of the Standard Cyaniding company at Rye Patch 25 miles east of here is again active after a five-year shut-down. Mill superintendent is Charles L. Hazen, son of the president of the operating company. A. J. Kirkman, contractor, has moved 20,000 yards of overburden for open pit mining, and another 40,000 yards remains to be taken out.

Tonopah, Nevada . . .

Following the report that Charles Joseph and George Dyer had found good placer gold values in Ophir canyon in Toiyabe range, scores of claims recently have been staked in that area. After finding color in surface pannings, the miners sank a 22-foot shaft and then started a drift which yielded increasing values. Ophir canyon was the scene of a silver stampede in 1883 when a mill was erected. Ruins of the old camp indicate extensive operations at one time.

H. G. Clinton, geologist and mineral collector, who has lived at Manhattan, Nevada, for many years, died early in October. He was held in high esteem in the mining world.

As a result of President Truman's recent order, the mining and sale of uranium has come to a complete halt. It is believed the order will be modified later to permit the mining of carnotite ores, with the uranium content, to be earmarked for the government.

Continental Oil company at Elk Springs, Colorado, 65 miles east of Vernal, Utah, tapped a new pool of oil early in October when a wild-cat well came in with a production of 216 gallons in the first day's test run.

Walter Douglas, former president of the Phelps Dodge corporation, was buried at Elmsford, N. Y., on October 4. The 76-year-old mining man played a leading role in the development of Arizona's copper resources over a long period of years.

"Tungsten Deposits of the Osgood Range, Humboldt county, Nevada," is the title of a geological report just issued by the Nevada bureau of mines and the Mackay school of mines. The report was prepared by S. W. Hobbs and S. E. Claubach of the U. S. geological survey.

Sale of a vermiculite deposit 15 miles south of Silver peak to A. G. Barmore and sons was reported by G. Crawford of Bishop, California. Discovered by A. Markham and Dan Nicoll, the mineral is to be mined and marketed for insulation purposes.

IMPERIAL IRRIGATION DISTRICT'S POWER SYSTEM'S . . .

RECORD \$2,413,235

Represents the Total Revenue from the District's Power Sales in 1945.

THAT IS WHY THE DISTRICT'S POWER SYSTEM IS PROVING TO BE A PAYING INVESTMENT.

Since the Spring of 1936, power sales revenue has increased from \$52,296 to \$2,413,235.

Net income has grown from \$9,848 to \$827,088.89, recorded for the year 1945.

Despite mounting war and post-war prices, the 30 per cent pre-war reduction of District power costs has been maintained . . . the only commodity that has not increased in price!

Neither has the District's power system caused any taxation.

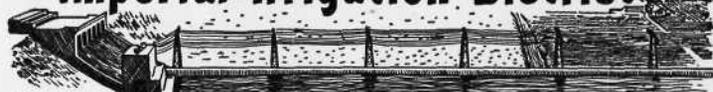
BUT — EXPANDING NEEDS HAVE RESULTED IN AN UNPRECEDENTED DEMAND FOR MORE POWER.

The people of the publicly-owned district power system have provided for those demands by authorizing the expenditure of \$6,200,000 for additions and betterments to their system, including a 20,000 kilowatt steam-electric generating plant, new substations, new transmission lines, and other vital facilities.

This program, known as the 1945 power development plan is now under way, contracts are being let and it will only be a short time until actual construction work will be under way—

Yes, Imperial Irrigation District's power system is growing—growing substantially and permanently. The district has shown over a ten-year period that it can undertake increased volume and continue to operate successfully.

Imperial Irrigation District



Use Your Own Power—Make it Pay for the All American Canal

A CHRISTMAS GIFT . . . that comes every month of the year!



For those who love travel and recreation in the great outdoors, there is no more appropriate gift than a magazine which month after month throughout the year brings fresh new information and maps of the places to go and the things to be seen in America's great winter playground—

THE DESERT OF THE SOUTHWEST

Desert is clean and wholesome—no liquor or other undesirable advertising. It is a magazine for young and old—for the home, the office and the school.

Shut-ins and others who do not have the opportunity to travel, enjoy Desert especially for it brings them in close contact with a fascinating new world—and in some measure takes the place of the travels denied to them.

A GIFT CARD WILL BE MAILED WITH EACH GIFT SUBSCRIPTION . . .

One subscription (1 yr.)	\$ 3.00
Two subscriptions	5.00
Three subscriptions	7.50
Four subscriptions	10.00

ORDER TODAY FROM

THE *Desert* MAGAZINE
El Centro, California

HERE AND THERE . . . on the Desert

ARIZONA

Through Joshua and Saguaro . . .

KINGMAN—Arizona state highway commission has taken Highway 93, the new short-cut route from Kingman to Phoenix, into the state system and this year will spend \$350,000 on its improvement. This route is through one of the most scenic areas in Arizona, where Joshua trees and saguaro cacti grow side by side. Eventually a bridge is to be built over the lower Bill Williams river which now renders the route impassable when the stream is in flood.

Live Long at Tombstone . . .

TOMBSTONE—In Tombstone where men once were proud to die with their boots on, it is now becoming fashionable to live to a ripe old age. Local businessmen recently have formed Greater Tombstone, Inc., with the announced purpose of encouraging Americans to come here for their health. Asserting they have the finest climate on earth, Tombstone citizens are planning to erect and equip a new modern hospital.

Shoots Lion from Car . . .

MOHAVE—When a 180-pound mountain lion crossed the highway ahead of him and crouched on a boulder beside the road, Hap Slaughter fired once and put a bullet through its head. The beast was killed three miles north of Walkover mine near Hackberry. Bounties paid by the state and the cattlemen's association total \$75 for the kill.

For Killing an Elk . . .

HOLBROOK — When Rancher Robert L. Ausburn was brought to trial for killing one of 11 elk in his alfalfa field during the closed season the defense introduced a letter he had written the state fish and game commission. He wrote: "I have done everything I could think of to keep these animals out of my field with-

out success. I will have no crops again this year and my patience is shot—and so is one of your precious elk." The jury failed to reach a verdict.

Where She Danced . . .

SALOME—As a tribute to the memory of Dick Wick Hall, whose stories of the frog that never learned to swim and other contributions to America's fund of humor, the Salome-Wenden Mountain Lion's club has inaugurated an annual Dick Wick Hall Day to be observed in October each year. Madame Salome, in whose honor Dick Wick gave the town its name, appeared in the first Hall Day as a fortune teller.

Officially, It's Meteor Crater . . .

WINSLOW—Formerly known as Crater Mound, the famous meteoric crater south of Highway 66 between Winslow and Flagstaff has now been officially designated by the U. S. Board on Geographical names as Meteor Crater. This information was made public recently by Dr. Harold S. Colton of the Museum of Northern Arizona. During the last 100 years the crater at various times has been called Coon butte, Franklin's hole, Coon mountain, Meteor butte and Meteor mountain. Dr. H. H. Nininger has assembled more than 15,000 pounds of meteorites from all over the world at the newly established American Meteorite museum on Highway 66 near the crater.

New Setting for an Old Shrine . . .

TUCSON—The famous wishing shrine, relic of the days when Tucson was an adobe village on the banks of the Santa Cruz river, is to be brightened up with a new ornamental fence, red sidewalks and additional grass and parking, according to plans of Charles A. Maguire, city landscape engineer. Known as Tiradito, the shrine is a sentimental landmark for both Mexican and Anglo residents of the community.

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.

38th season under original ownership and management of Nellie N. Coffman, Earl Coffman and George Roberson



PALM SPRINGS, CALIF.

Those Tiny Horses . . .

GRAND CANYON—Miniature horses exhibited as having come from Grand Canyon where they were dwarfed for lack of feed, have never been near Grand Canyon, according to the statement of Superintendent H. C. Bryant in a recent interview. "The horses which have been exhibited as coming from Grand Canyon have their origin probably in Shetland stock secured

from a ranch in Mexico," Bryant said. The superintendent suggested that newspapermen could render a service to the public and to the national park service by refusing to be a party to the miniature horse hoax.

One of the last of the Indian scouts who helped the United States army fight the Apaches, Laughing Jack of the Hualpai tribe was given a military funeral October 13. The American Legion joined with tribesmen in the ceremonial held on a cedar-covered mountain-side near Peach Springs.

CALIFORNIA

Pegleg Still Lives . . .

WARNER'S RANCH—When Mrs. Patricia Johnson of Beaumont, hiking on the desert recently, turned over a rock and found beneath it an old cap pistol bearing the name "Smith," she unwittingly started an avalanche of new rumors pertaining to the mythical lost gold mine of Pegleg Smith. Although there have been thousands of prospectors named Smith, and at least three legendary "Pegleg" Smiths in Southwest mythology, mention of the name invariable brings forth a score of new stories about fabulous wealth believed to lie buried somewhere in a desert area which prospectors have covered virtually with a fine-tooth comb.

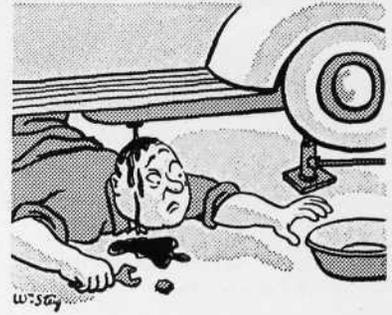
They Made a Mistake . . .

TRONA—When officers at Kingman, Arizona, killed a bandit and found a wallet and other papers bearing the name of David H. Eaton in his clothes, they forwarded the body to the address of the mother at Lynn, Mass., for burial. When she denied that the body was that of her son, an investigation led to the disclosure that the papers on the dead man had been stolen from David Eaton in this city—and that the owner of the papers was alive and well. The bandit has not been identified.

Fuel for Scotty's Fire . . .

DEATH VALLEY—Ties from the abandoned Tonopah and Tidewater railroad are to furnish fuel for the giant fireplace in Scotty's Death Valley palace according to a recent report. The ties were purchased at a sale following the action of the Interstate Commerce commission in authorizing the discontinuance of the road due to lack of traffic.

YOUR 1947 MODEL



If you are like most of the rest of us, your 1947 model automobile will be of the 1939 or 1940 vintage.

Was a time when a new year meant a new car. But automobile production now is only about two-thirds of what it was prewar.

They say it will be at least 1948 before you can get a new car on reasonably short order.



Meantime, every day some 5,000 elderly vehicles are rolling into the junk yards by limps and bounce.

That's a lot of mechanism piled up to rust in pieces.

But even if only one car a day were hitting the scrap heap it would be plenty tough—if that one car happened to be yours.



Since your present automobile will likely be your 1947 model, it seems the better part of wisdom to handle it *rightside up with care*.

The "rightside up" department is your job. When driving, look where you're going and go where you're looking.

The "with care" section is a job for your Shell Service Station Man—if you'll give him the assignment.



Of course, you could lubricate the car yourself—if you don't mind mess production.

But the surest way is to get Shelllubrication. Your Shellman has the equipment, facilities and know-how to perform this very necessary upkeep service.

Drive in regularly at the *Sign of the Shell*—give that priceless vehicle of yours a chance to live to a ripe old mileage.

— BUD LANDIS

S-U-N spells FUN at . . .

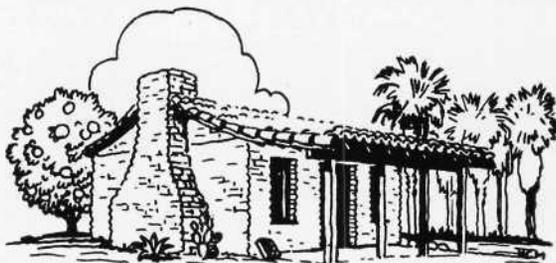
LAS VEGAS
NEVADA

Warm sunshine gives a quick lift to winter-weary spirits in this glorious desert playground. Bring your tennis racket, golf clubs, skis . . . your riding boots and sun clothes. Go fishing and boating on Lake Mead . . . enjoy winter sports at Mt. Charleston. Visit Grand Canyon and Death Valley.

After dark, dance to your favorite bands, watch big-name floor shows . . . play in glittering casinos. Come for sun . . . come for fun . . . by air, rail or highway.



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San Antonio Date Shop

New crop now ready for shipment. Finest crop ever harvested. Khadrawi, Deglet Noor and Soft Varieties. Date Roll, Finest Fresh Date Candies, Chocolate Dipped, Fondant and Nut Stuffed.

FRANCES M. GEORGE

SAN ANTONIO DATE SHOP

Palm Springs Road

Rt. 1, Box 18, Indio, Calif.

DATES

for
Christmas

ORDER
EARLY

THE DESERT TRADING POST

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

MISCELLANEOUS

BINOCULARS—Cleaned, repaired and colimated, all makes by Factory Trained man. Fast Service. Write, tell me your trouble for estimate. **THE GUNSHOP**—12 W. Roosevelt St., Phoenix, Ariz.

WANTED—Old desert pictures and paintings or prints, old brass and copper and Nevada fire opal specimens. A. Singer, Santa Paula, Calif.

DESERT COLOR SLIDES—In gorgeous Ansco and Kodachrome transparencies. See ad on page 29.

HAND WROUGHT COPPER, in all types of metal arts for the home. Many desert gems cut and polished or rough. Inlays for the fireplace and barbecue. Send for a list of our special items. Valley Crafts Shop, 14135 Oxford St., Van Nuys, Calif.

CACTI AND SUCCULENTS—From the deserts of the world. Don-Rita brand. By appointment only. Write us your needs and we will try to help you. Michael Donnelly Cacti Gardens, 334 Lowell St., Daly City, Calif.

COMMERCIAL LAPPING and Polishing on flat surfaces. Finishing of bookends and polished rocks for fireplaces a specialty. Send for estimate. Joseph R. Mathieu, 1230 1/2 Boyle Ave., Rt. 1, Box 841, Fontana, Calif.

FOSSILS—Geological supplies, Geiger counters, thin sections, picks, hammers, etc. Omaha Scientific Supply Co., Box 1750, Omaha 4, Nebraska.

PANNING GOLD—A side line hobby for Rockhounds and Desert Nomads. You should know how to pan gold, recognize gold bearing gravel and valuable quartz ledges. The places you go are where rich virgin ground is found. Send your name for new folder on panning gold, with pictures—list of mining books and equipment for prospector beginners. Old Prospector, Box 21A5, Dutch Flat, Calif.

WOMAN, honest, competent, lover of nature, seeks light duties home, business, management of tourist court or ? Salary not objective. 54. Address F. D. c/o Desert, El Centro, Calif.

BOOKS — MAGAZINES

NEW MEXICO, Model Craftsman, Trains, other magazines, bought, sold, traded. John Wesley Davis, 1611 1/2 Donaldson St., Los Angeles 26, California.

PIONEER MATERIAL—I buy and sell old and scarce books on the early West and Southwest. Address Galen P. Perry, Box 704, Carpinteria, Calif.

ENJOY THE GREAT OUTDOORS: Learn wildcraft, woodcraft, Indiancraft. By experts. Articles on outdoor living. Hunting, fishing, camping, trapping. \$1.00 per year, 35c copy. Subscribe today: Wildcrafters World, Rt. 2, Lawrenceburg, Ky.

DEALER & COLLECTOR; World-wide Firearms publication. \$1.00 yearly; Foreign \$2.00. Dealer & Collector, 71HR, Flushing, New York.

BOOKFINDERS! (Scarce, out-of-print, unusual books). Supplied promptly. Send wants. Clifton, Box 1377d, Beverly Hills, Calif.

CAMP AND TRAIL INCIDENTS OF PIONEER LIFE, by W. Iven Lively. A desert book by a desert author, who has lived for fifty years in the Southwest. It has the real tang of the Desert. If you like poetry, you will like it; if you do not like poetry you will read it and forget that it is poetry as you become absorbed in its narrative and descriptive thrills. \$1.50 postpaid. Address W. I. Lively, Route 6, Box 1111, Phoenix, Ariz.

INDIAN GOODS

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.

New Museum is Growing . . .

INDEPENDENCE—Plans for the expansion of the Eastern California museum were made at a meeting here in October when Mrs. Bessie Best was elected new president of the organization. It was announced that the board of supervisors has granted additional space in the county court house for the exhibits being assembled by the organization.

More Money for Reclamation . . .

EL CENTRO—As a result of the decision of the federal budget bureau to add \$25,000,000 to the previous allocation of \$85,000,000 for reclamation bureau projects this year, several projects in the Southwest will receive added funds. Those to be benefited include Coachella branch of the All-American canal, Boulder canyon and Davis dams, Gila project in Arizona, and power development at Parker dam.

INDIAN ARTIFACTS. Arrows, Spears. No Catalog. Write Herbert Lewis, Builder of fine Indian collections, Box 4, Strafford, Mo.

NAVAJO RUGS—Just returned from my old home at GANADO and ORAIBI, Arizona, with beautiful assortment rugs from 13 1/2 x 16 1/2 feet, 12x7, 11x8 feet. **COCHITI HANDMADE INDIAN DRUMS, KAT-CHINA DOLLS**, fine NAVAJO Indian Handmade **INDIAN TURQUOISE SET JEWELRY, OPEN SUNDAYS. HUBBELLS INDIAN TRADING POST** (Tom S. Hubbell), 2331 Pico, Santa Monica, Calif.

INDIAN RELICS: 4 very fine ancient Indian arrowheads \$1.00. 4 very fine bird arrowheads \$1.00. 10 nice perfect arrowheads \$1.00. Stone tomahawk \$1.00. 2 flint skinning knives \$1.00. 10 arrowheads from 10 different states \$1.00. 10 arrowheads of 10 different materials \$1.00. 2 nice spearheads \$1.00. 4 small spearheads \$1.00. 5 stone net sinkers \$1.00. 5 stone line sinkers \$1.00. 2 fine flint chisels \$1.00. 4 finely made duck bill scrapers \$1.00. 10 stemmed scrapers \$1.00. 5 rare round hide scrapers \$1.00. 5 small finely made knife blades \$1.00. 2 stemmed hoes \$1.00. 4 fine drills \$1.00. 5 fine awls \$1.00. Rare ceremonial flint \$1.00. 4 sawedged arrowheads \$1.00. 4 odd shaped arrowheads \$1.00. 4 fine drill pointed arrowheads \$1.00. All of the above 23 offers for \$20.00. Fine Stone Celts or ungrooved Axes, 50c, 75c, \$1.00, \$1.50, \$2.00 each according to size. 100 assorted Sea Shells \$10.00. Location given. 20 slightly damaged arrowheads of good grade \$1.00. 100 damaged arrowheads \$3.00. List free. Lear's, Box 569, Galveston, Texas.

LIVESTOCK

DESERT PETS of all kinds, wild and tame. Grail Fuller Ranch, Daggett, Calif., Phone 3489.

KARAKULS. Producers of Persian Lamb fur are easy to raise and adapted to the desert which is their native home. For further information write Addis Kelley, 4637 E. 52 place, Maywood, California.

REAL ESTATE

FOR SALE: 5 acres Old Woman Mountains mineral land, \$150. Near Needles. Address Box E, Desert Magazine.

For Imperial Valley Farms—

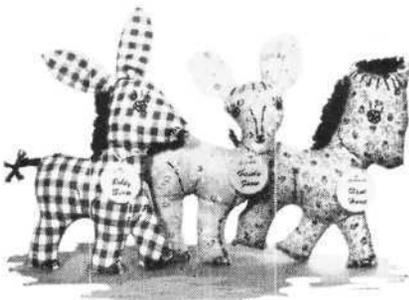
W. E. HANCOCK

"The Farm Land Man"

Since 1914

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Here at last we have a toy
That will produce that added joy,
For little Tots and Babies too
To cuddle close as they love to do.

Each one's hand made, nine inches tall.
Of rich gay prints and gingham all.
They're soft, they're tough, they're
made to stay,
An ideal Gift for home or play.

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ONE EACH OF Bobby Burro, Freddy Faun
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OUTSIDE CONTINENTAL UNITED STATES..... 2.00

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— Bobby Burro — Freddy Faun — Hank Horse PRICE \$ 2.00

OUTSIDE CONTINENTAL UNITED STATES..... 2.50

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Trenching for Phone Cable . . .

BLYTHE—Trenching has been started in the Palo Verde valley for the laying of a \$5,000,000 cable by the Bell system to improve its transcontinental phone service. The Southern California section of the cable, from the Colorado river to Los Angeles, is being laid by the Southern California Telephone company, affiliate of the Bell system. Divers with jet equipment are to lay the huge cable under the floor of the Colorado river.

Muroc May be Permanent . . .

MUROC—With a seven-mile runway for jet and rocket-propelled planes, plans are being considered for a federal expenditure of \$25,000,000 to transform Muroc Army field into a permanent test center for huge bombers and high-speed planes, according to the statement of Colonel S. A. Gilkey, commanding officer. About 3,000 army personnel would be stationed here permanently if the plans are approved.

The old landmark near Mojave known as "The Castle" recently has been purchased by Mr. and Mrs. Lee Hanlan of Los Angeles who announce they will remodel it for veteran wheel chair cases from Birmingham Military hospital.

Bill and Prudence Underhill, who sold their weekly Twentynine Palms Desert Trail four months ago, have exercised a sale option and returned to resume the editing and publishing of the paper which they founded 12 years ago. C. N. Burger, who published the paper four months, expects to reenlist in the army.

To combat gnats, one of Southern California's most irritating pests at certain seasons of the year, the government is cooperating with the Coachella Valley mosquito control district in experiments with the use of a DDT formula, to be sprayed by airplane. Tamarisk trees, imported from Asia Minor, are reported to be the breeding place of the gnats.

NEVADA

Nut Crop is Short . . .

FALLON—A mild winter is forecast for this part of Nevada, based on reports that the pignon nut crop is light this year. According to the Indians, a heavy crop foretells a hard winter. While the gathering of nuts formerly was confined largely to Paiute and Shoshone Indians, considerable market has been developed by the Kolhoss brothers, storekeepers here.

ANSWERS TO DESERT QUIZ

Questions are on page 14

- 1—Catalina mountains.
- 2—Gila monster.
- 3—279.6 feet.
- 4—Pyramid-shaped rock formation near shore.
- 5—A friar with Coronado's expedition.
- 6—Botany.
- 7—Topock.
- 8—Bottom of Grand Canyon.
- 9—Lieut. Beale.
- 10—Cooking mescal.
- 11—A forest in Arizona.
- 12—An igneous rock.
- 13—Ephedra.
- 14—Hopi Indians.
- 15—Turquoise.
- 16—Colorado river.
- 17—Christmas festivities.
- 18—Desert Inn at Palm Springs.
- 19—Cahuilla Indians.
- 20—Escape persecution.

Southwest Needs More Power . . .

BOULDER CITY—Southwestern states were urged to settle their dispute over the waters of the Colorado river so that more dams could be constructed in the near future, when Michael W. Straus stated that all available power at Boulder dam now has been utilized, and there is increasing demand for additional energy. The value of Boulder's power to the Southwest was indicated when one official pointed out that it is equivalent to the labor of 5,000,000 men continuously employed at a wage of 10 cents for an eight-hour day.

Hours for Dam Visitors . . .

BOULDER CITY—Effective October 1, visiting hours at Boulder dam are to be maintained from 7:30 a. m. to 7:30 p. m., with guides constantly available. Elevators leaving the top to carry visitors into the heart of the big dam will leave at intervals of from five to 20 minutes. A tour of the dam including the power houses at the bottom requires approximately 40 minutes. Next May a summer schedule will become effective, extending the visiting hours to 9:30 p. m.

NEW MEXICO

Old Trail to Be Marked Later . . .

SANTA FE—Marking of the old Santa Fe trail with historic plaques, scheduled to have taken place this fall, has been postponed to early next summer. The project was undertaken by the American Pioneer Trails association of which Dr. Howard R. Driggs of New York is president. Dr. Driggs recently advised the local chamber of commerce that more time would be required to prepare the plaques and arrange for their installation.

"LOST MINES OF THE OLD WEST"

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SCENIC GUIDES . . .

The most complete travel guides ever attempted. Attractive covers in full color. Descriptions, pictures and maps to lead you to the many scenic wonders of the West.

Guides to Northern California and Nevada are available now. More to come soon.

PRICE \$1.00 EACH

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Comfort and Relaxation in the
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EUROPEAN PLAN — DINING ROOM
BAR

MODERN ACCOMMODATIONS
HOTEL AND COTTAGES

"The Oasis of Death Valley"

OWEN MONTGOMERY, Manager

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DESERT MAGAZINE in
Loose Leaf Binders!**

These gold-embossed binders are made especially for Desert readers. Magazines are quickly inserted, and they open flat for easy reference.

Each binder has space for a year's copies. Mailed to you postpaid for . . .

\$1.25 EACH

THE *Desert* MAGAZINE
El Centro, California

Sam Akeah Leads in Voting

GALLUP—A runoff election to select a chairman for the Navajo tribal council became necessary when the count of the votes showed: Sam Akeah of Shiprock 3222, Henry Chee Dodge 2600, and Scotty Preston of Tuba City 1851. Tribal laws require that the winning candidate must have a majority of all votes cast to win the election.

In Memory of Gen. Kearny . . .

SANTA FE—The 100th anniversary of the arrival of General Stephen Watts Kearny and the United States' occupation of New Mexico, was observed here October 16 with appropriate festivities. The Santa Fe stamp club was host to visiting postal department officials who inaugurated the sale of the new Kearny memorial stamp as one of the program features.

Indians Must Move or Starve . . .

ALBUQUERQUE—Because 20,000 acres of land with limited irrigation water is not enough to support a population of 16,000 people, young men in the 19 Indian pueblos in Rio Grande valley are being forced to leave their reservation homes to find work elsewhere, according to the report of the United Pueblos agency. The Indian population is increasing at the rate of two per cent annually.

The famous 470,000-acre Bell ranch located in San Miguel and Guadalupe counties, including 21,000 head of livestock, has been purchased by Henry Leonard, E. T. Springer and Albert K. Mitchell, manager of the ranch for several years.

Famous Naturalist Dies . . .

SANTA FE—At the age of 86, Ernest Thompson Seton, authority on wildlife and Indian lore, passed away at his home at Seton village 10 miles from this city October 23. Seton was active until the time of his death, having recently completed his 42nd book. He was planning a 10,000-mile lecture tour this winter. Seton was one of the organizers of the Boy Scout movement. Julia M. Seton, the widow, has announced that the 2500-acre estate where Seton village is located will eventually become the Seton foundation where the 55,000-book library of the author and his natural history collection will be housed permanently.

A gold watch given by cattlemen of New Mexico to Gen. H. W. Lawton for his part in the capture of the Apache Chief Geronimo, has been presented by the general's grandson, Lieut. Henry Lawton Bagby, to the New Mexico Historical society.

UTAH

No Fees for Movies . . .

ZION CANYON — Secretary of Interior J. A. Krug has announced that in the future the national park service will make no charge for the filming of professional motion pictures in any of the country's parks. In the past some Hollywood producers have paid as high as \$500 a day for the privilege of using park sets. Krug expressed the view that easy access to the parks by the film companies would give more Americans an opportunity to become acquainted with the national playgrounds by seeing them on the screen.

DESERT WILDLIFE . . . Photo Contest

Desert Magazine's contest prizes in December will go to photographers who submit the best pictures of desert animals—foxes, rabbits, deer, mountain sheep, cougars, antelope, beaver, etc. The animals must be denizens of the desert and photographs of animals in their native habitat. Pictures of animals in captivity are taboo.

First prize is \$10, and \$5 for second place. For non-prize-winning shots accepted for publication \$2.00 each will be paid. Entries must reach the Desert office in El Centro by December 20, and the winning prints will be published in the February issue.

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

Cheaper Steel for Utah . . .

GENEVA—Long speculation among steel buyers as to what effect the operation of the Geneva steel plant would have on the price of steel in the West, was partly ended late in October when U. S. Steel corporation, operating the plant, announced a price of \$53.50 a ton on plate steel at Geneva. This compares with \$50.50 at Pittsburgh and \$62.50 at Chicago. The

Geneva price is \$8.70 below the cost of steel on the Pacific coast. The base price of pig iron at Provo is established at \$26.00 a ton, which is \$2.00 below the prevailing prices at Pittsburgh and Chicago. Since the transportation cost of steel from Geneva to Pacific coast points is \$12.00, the operation of the Utah plant will bring no reduction in cost to coast users unless a more favorable freight cost is secured. While the announcement fixes the price of plate only, it is assumed the cost of structural shapes will be adjusted accordingly.

WATER DIVINING . . .

Easy to acquire the art of Water Divining by following simple directions in this practical book of instructions. \$1.50 postpaid. PALMER PUBLICATIONS, Box 643, Pasadena, California.

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29 PALMS INN

Pioneer Trail to Be Paved . . .

SALT LAKE CITY—A contract has been let for the first sector of a highway to be constructed along the route taken by Mormon pioneers over the Wasatch mountains. To be known as the Pioneer Trail highway, the first 5-mile link now under contract will extend from the junction Emigration and Mt. Dell roads to the top of Big mountain.

Pioneer's Statue Approved . . .

SALT LAKE CITY—Ending many months of study and conferences, the committee named by the Utah legislature to approve the model of the Brigham Young statue to be unveiled at the centennial program next year, has been approved. The statue was designed by Mahonri M. Young, grandson of the great pioneer leader of Mormonism.

J. Cecil Alter, Utah historian and author, recently resigned his post as editor of the Utah Historical society's quarterly publication. Alter is chief of the U. S. Weather bureau at Cincinnati, Ohio, and stated that he could not do justice to the editorial job because of the distance from his source of material.

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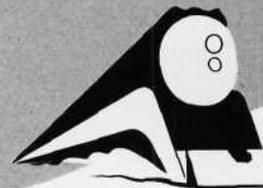
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AMATEUR GEM CUTTER

By LELANDE QUICK

Just about the time that people read this may will be in a quandary about what to get Cousin Sylvester or Brother Joel or even Aunt Ida for Christmas. If you know that they are interested in rocks and gems the answer is easy. If you are interested in them yourself you can let it be known that you would like something that would help you further your interest. First of all there is a large book list. To alter an old saw don't say to yourself, "I can't give Sylvester a book about minerals—he has one." There are no two gem books quite the same and there are at least two dozen good ones available.

For the lapidary particularly—

The Art of Gem Cutting,
Dake and Pearl\$1.50

Jewelry, Gem Cutting and Metalcraft,
Baxter 3.00

Revised Lapidary Handbook, Howard .. 3.00

For the advanced student and cutter—

Introductory Gemology, Webster
and Hinton\$3.50

Quartz Family Minerals, Dake,
Fleener & Wilson 2.75

Minerals, Zim and Cooper 3.00

Mineral Identification Simplified,
O. C. Smith 3.50

The Rock Book, Fenton
(beautifully illustrated) 6.00

Gems and Gem Materials,
Kraus and Slawson 3.50

Getting Acquainted with Minerals,
English 2.75

Everyone interested in gems and minerals should be getting a publication about them. Good monthly publications are:

	Year
<i>The Mineralogist,</i> Portland, Oregon.....	\$2.00
<i>Rocks and Minerals,</i> Peekskill, N. Y.	2.00
<i>Mineral Notes and News,</i> Bakersfield, Calif.	1.00
<i>Trade Winds,</i> Beaumont, Calif.	1.00
<i>The Earth Science Digest (new),</i> Omaha, Neb.	2.00

And now at last one can buy equipment—all manner of GOOD equipment. The last minute purchaser will be faced with out-of-stock items because of the anticipated rush. Space does not permit the listing of the dealers and manufacturers but the advertisements of many reliable companies appear in this issue. One advertiser sends a catalog free that is as good as any lapidary book. It gives complete illustrated instructions on cutting cabochons, faceting (with tables), sphere cutting, etc. A postal addressed to me will bring you the name.

Don't forget that people who have a magazine subscription would welcome another—or a renewal. People who have all the equipment would welcome materials such as polishing powders, grits, sanding cloth, grinding wheels, an alcohol lamp or cutting material and fine mineral specimens. And many people yearn for an ultra-violet light as the easiest way to play magician to their friends and have a lot of personal enjoyment. Then there are the things that outdoor people need for an outdoor hobby—mineral picks, specimen bags, hiking boots, sleeping bags, camp stoves, thermos jugs, etc.

And don't forget the younger element. You may start them in a hobby that will bring them long years of happiness. Pay their dues in a mineral or gem society. The society doesn't exist

that couldn't profitably use some members under 30 years of age. Most societies' membership is predominantly over 40 and the majority of members are over 50. The balance wheel of experienced thinking is needed for youthful enthusiasm and imagination but a happy mixture of all of these is necessary for a flourishing society.

So take your Christmas list, consult the advertisements and make some headway with it. A rockhound will appreciate a new piece of equipment, something to read about gems and minerals or some supplies more than he will appreciate a new shirt and tie which he'd rather buy for himself anyway. Try it and see.

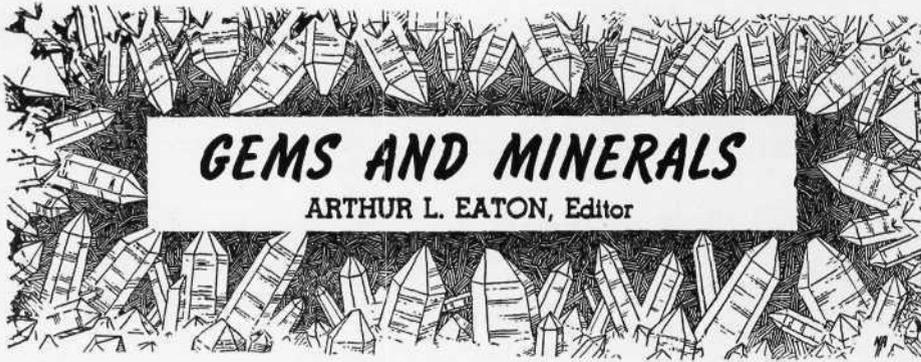
Despite the fact that I have written several times that to my knowledge there is no place where a person can go to school to learn the complete art of gem cutting many continue to ask me where they can go. There are many high schools all over the land where a person can learn something about the art but hardly enough to qualify for a job in a professional lapidary shop. Under the government service educational system a veteran can learn almost anything. He can become a lawyer or a hairdresser. He can have the government pay his tuition to a dancing school provided he signifies his intention of becoming a dancing teacher. If he just wants to learn to dance he can't learn free so many thousands attend dancing schools swearing they are going to become "instructors." But a veteran can't learn to be a useful lapidary.

There just isn't any school that can qualify as a teaching institution and no one has had the vision to start one. A possible exception is the New Mexico State Teachers college at Silver City, New Mexico, which includes lapidary and jewelry work in a new general crafts course.

After much delay the American Gemological Institute qualified under the act to teach veterans gemology but they only teach them to identify gems so that they can be better jewelry salesmen; they teach nothing of the lapidary art. They are operating at top capacity and doing it by mail. A person interested in learning to become a gem cutter should find out if his local high school or junior college has a lapidary class. If it does perhaps it also has an evening class under the adult education program. However that wouldn't permit anyone to obtain government subsistence money. Sometime soon someone will start a real lapidary school. Certainly the time is ripe for it and such a venture, it seems to me, is destined for immediate success.

• • •

Charles Kelly of Torrey, Utah, wants to know if any reader has experience making beads and how to do it. The only person I know who has attempted this is James Forbes of Lynwood, California, who is working on a gadget that cuts a lot of small spheres at one time. When they are ground perfectly round he just removes two and keeps on grinding. In a little while he removes two more (they've all been ground smaller) and then two more, etc., until he has a lot of graduated spheres which are drilled from each end to make the bore even and strung into a necklace. Forbes hasn't completed the idea yet but it looked practical to me when I examined it. Has anyone had experience making beads? If so I'd like to hear about it.



GEMS AND MINERALS

ARTHUR L. EATON, Editor

LOS ANGELES LAPIDARY MEN SPEAK AT SEQUOIA MEETING

"What Shall We Do With Our Hobby" was the subject of Benton MacLellan, president of Los Angeles Lapidary society, when he spoke at October 4 meeting of Sequoia Mineral society, Parlier, California. He stressed importance of striving for artistic creation, and told of the various groups in the Los Angeles society who are specializing in carving, group faceting, cabochons and polished slabs. He displayed jewelry for which Mrs. MacLellan had made silver and gold mountings, and for which he had cut the cabochons, faceted and emerald cut the stones and carved the jade.

A. B. Meiklejohn, past president of the Los Angeles society, spoke on the rich fields for collectors around mine dumps in Utah, Idaho and Montana, suggesting that through societies and collectors the miners could be educated to the value of many specimens they discard. Mr. Allen, of Allen Lapidary Equipment of Los Angeles, who accompanied the speakers, demonstrated faceting equipment during the evening.

It was announced that Parlier lapidary class under leadership of Chris Anderson, and jewelry class under Mr. Gravatt, would resume. Club voted to display at Reedley Fiesta, under direction of following committee: Leon Anderson, Dinuba; P. P. Eitzen, Reedley, and Elmer Eldridge, Fresno. Summer exploring and collecting trips were reported at the meeting by Gates Burrell, Elmer and Pearl Eldridge, Leon Dial and A. L. Dickey.

CHICAGO ROCK CLUB ISSUES FIRST NUMBER OF BULLETIN

Vol. 1, No. 1 of *The Pick and Dop Stick* has appeared. This is the official publication of recently organized Chicago Rocks and Minerals society. Officers of the group are George C. Anderson, 6367 Nokomis avenue, Chicago 30, president; Arthur Sanger, vice-president; Beverly La Buda, secretary; Emil H. Andreson, treasurer; Lucille Sanger, curator and librarian. The group meets second Saturdays in Sauganash Field House, 5861 North Kostner avenue.

C. O. Horberg was the scheduled October lecturer. Horberg, a member of the geology department, University of Chicago, gave an illustrated talk on the Teton mountains of Wyoming. Auction and raffle headed November program.

NEW MINERAL CLUB ORGANIZED AT BANNING

Nucleus of a new organization, San Gorgonio Mineral and Gem society, was formed at a meeting held October 23 in San Gorgonio Inn, Banning, California. George Buckner, formerly of Desert Gem and Mineral society at Blythe, was appointed temporary chairman of the new group. Jack Frost, Banning, gem and mineral dealer, was appointed secretary-treasurer.

Meetings will be held third Wednesdays at San Gorgonio Inn. Charter meeting was scheduled for November 20, at which time officers were to be elected. Everyone in the area is invited to attend.

NORTHWEST FEDERATION PICKS SEATTLE FOR 1947 CONVENTION

At its annual convention held August 31 and September 1 in Boise, Idaho, the Northwest Federation of Mineralogical societies chose Seattle, Washington, as site of its 1947 meeting. Officers selected for ensuing year are: E. E. Walden, Boise, president; Lloyd L. Roberson, Seattle, vice-president; Mrs. J. Frank Murbach, Seattle, secretary; Dale Lambert, Spokane, treasurer.

Hosts for this year's meet were Idaho Gem club, Boise, Owyhee Gem and Mineral society, Caldwell, and Snake River Gem club, of Weiser and Payette.

Minute Notes on Minerals

Recent attention to uranium has brought about great interest among collectors and prospectors in uranium ore. Several amateur prospectors have brought in samples of what they supposed to be carnotite, only to be undeceived. Carnotite, one of the best uranium-radium ores, is nearly the same color as sulphur, but is easily distinguished. Sulphur can be ignited with a match and burns with a dim bluish flame and offensive odor of sulphur dioxide. Carnotite does not burn at all.

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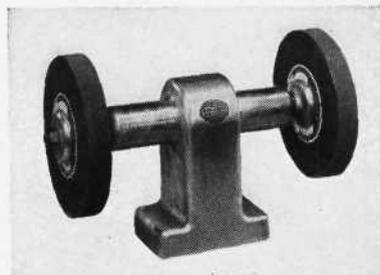
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FOR JUNIOR'S XMAS. Only \$6.50. Believe it or not, we will ship you prepaid the following 25 large sized chunks of such specimens as follows, all will be one-fourth to one-half pound pieces: Cinnabar, Cassiterite, Chromite, Nicolite, Hematite, Rhodonite, Beryl, Spodumene, Andalusite, Satin Spar, Alabaster, Garnets, and others. K. O. Otoupalik, D. C., 640 River St., Missoula, Montana.

BEAUTIFUL AGATE, for cabochons or slices. Also beautiful under U. V. light. \$1.00 brings you a generous specimen of this material. I also have many new fluorescent minerals in stock now, 10 for \$5.00. Write for price list on other specimens, also cutting material. Jack the Rockhound, P. O. Box 86, Carbondale, Colo.

CABOCHONS—Cut from numerous types of semi-precious stones including agates, jasper, woods, jade, tigereye, etc. Suitable for jewelry making or collectors. Prices very reasonable. Rough slices Silicified rhyolite in fine gem quality. It's my best seller, priced 15c to 25c square inch. W. J. Kane Lapidary, 1651 Waller St., San Francisco 17, Calif.

JEWELRY as you like it. Have your earrings, brooches and rings for all occasions designed and forged by expert craftsmanship, in white, red and yellow 14k gold or platinum, with diamonds or precious stones, at factory prices direct to you. You will be amazed. Complete details upon request. Joseph St. George, (manufacturer of fine jewelry), 4026 Camero Avenue, Hollywood 27, California.

CLOSING OUT HUNDREDS of good, clean mineral specimens at pre-peace time values. Prices are advancing sharply. Buy NOW and SAVE. Clusters of fine, clear topaz crystals; some twins, some double terminal, 60c. Rare tellurides; sylvanite, 1 1/2" \$2.50, calaverite, 1 1/2" to 2" \$2.50. Oozes gold when roasted. Crystallized coemanite, beautiful, 3" to 4" \$1.25. Rare pearly rayed calcite, fluorescent, 2 1/2" to 3" 75c. Erythrite with cobaltite, 1" to 2" 20c to 80c. Entire satisfaction or your money refunded. Thompson's Studio, 385 West Second Street, Pomona, Calif.

MORGAN HILL Orbicular Jasper, 2 lb. selection \$1.00. 1 museum specimen Azurite, specimen \$50.00. 1 museum specimen Azurite, specimen \$35.00. Benitoite—write for prices. Plume Agate slabs \$2.00 to \$7.50. Cerasite xls., \$1.00 to \$5.00. Bismuth xls., N. M., 1 1/2", \$1.50. We have most everything. Minimum order \$1.00, add tax and postage. Martin's Mineral Mart, Rt. 2, Box 14, Gilroy, Calif. 1/4 mile north of Gilroy, Calif.

SPECIAL—New gem stock of Arizona agates, jaspers and petrified wood. This is fine gem quality. Makes fine gems and cabinet specimens, and is very beautiful in the rough. This rough gem material is rare and beautiful with all colors and rich deep shades of reds, purple, green, golden, pink, black, white and clear. We also have some rainbow and high color agate of bright beautiful mixed colors. Pictures are moss, ferns and flowers in the agate jaspers. Trees, flames, mountains, black trees in white, outlines of birds, animals, men, houses, fires, smoke, clouds and other pictures in petrified wood. The agate jaspers and petrified wood both come in beautiful rich colors. Send \$5.00, \$10.00 or \$25.00 and tell me just what you want. Orders will be filled within two days. Samples sent for \$5.00. Extra fine and rare picture, moss, flower, fern or plume can be had in the slice. Large orders filled on contract only. Satisfaction guaranteed. Postage, express extra. Chas E. Hill, 2205 N. 8th Street, Phoenix, Arizona.

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TEXAS AGATE. Gorgeous colors in scenes, flower, rose, ribbon, white plume in blue black to black, mosses and ferns. Select by the pound, \$3, mine run \$1.50. Slabs 35c sq. in. Assorted blanks from choicest material, 25 for \$10, 100 for \$25. Top gem golden brown tiger eye \$5 per pound. Add postage and 20% if not for resale. We promptly exchange or refund. Five tons of rough. When through El Paso don't miss seeing our collection. El Paso Rock & Lapidary Supply, 2401 Pittsburg St., El Paso, Texas.

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NORTHERN MICHIGAN Copper xl. \$3 to \$10. xl. Silver \$3 to \$8. Copper in Calcite \$1 to \$10. Fluorite, Ill., \$1 to \$5. Petoskey Stones 10c to 30c, lb. \$1.50. Beautiful Calcite groups, Monroe, Mich., 50c to \$7.50. Ceylon Sapphires, oz. \$2.50. Moh's Scale sets with streak plate \$1.25 postpaid. Museum pieces, Copper, Fluorite, Tourmaline, Quartz, Malachite or Calcite, \$6.50 to \$35.00. Complete stock Western, Tri-State and New Jersey Minerals. E. W. Martin, 1884 Miller Ave., Ann Arbor, Mich.

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

GILDE GEM CUTTER. We now offer this compact portable outfit to the home cutter. Write for details and new catalog listing over one hundred varieties of rough. Also all kinds of supplies. Gem Exchange, Bayfield, Colo.

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.

100 GOOD GRADE ancient Indian arrowheads \$4.00, 1000 \$30.00. Tomahawk, hoe, discoidal, axe and 20 arrowheads \$5.00. Large flint knife, large spearhead, game ball, celt and 20 stemmed scrapers \$5.00. 100 blemished spearheads \$10.00. 100 fine arrowheads \$10.00, 100 slightly blemished stemmed scrapers \$4.00. 100 beautiful sea shells \$10.00. List free. Lears, Box 569, Galveston, Texas.

WANTED: TO BUY and sell crystals and superbly colorful rare minerals, strictly top grade. Sam Parker, 2160 East Van Buren, Phoenix, Arizona.

WANTED: Excellent crystallized specimens, outstanding cutting material for wholesale trade. Send specimen samples and prices. Jack Frost, 59 E. Hoffer St., Banning, California.

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\$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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100 MINERALS and fossils, nice size, \$4.00. 40 small \$1.00 ppd. Bryant's Rockpile, Rt. 2, Lawrenceburg, Ky.

ATTENTION TOURIST: When passing through Modesto, California, do stop and see the Ken-Dor Rock Roost at 419 South Franklin St. We Buy, Sell or Trade Mineral Specimens. Visitors are always WELCOME.

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MINERAL SETS—Selected specially for Prospectors. 50 mineral specimens mounted, identified and pocket booklet describing each specimen. In cloth reinforced carton. Postpaid \$4.00. Old Prospector, Box 21R98, Dutch Flat, Calif.

ATTENTION is called to the new location of Swisher's Rock and Novelty Shop, at 4719 So. Hoover St., Los Angeles 37, Calif. The place for rare novelties, Petrified Woods, mine minerals, Agates, Geodes, etc. Beautiful costume jewelry made from lovely Petrified Wood. When visiting Los Angeles call on us. Swisher's, 4719 So. Hoover St., Los Angeles, Calif.

CAN SUPPLY Montana moss agate, agatized wood, jasper, jade and sapphires. The sapphires are small and are put up approximately 75 in a glass vial with two or three Montana rubies included for \$1. Good grade agate \$1 per pound plus postage. Jade in various shades of green \$3 per pound and up. E. A. Wight, 217 Hedden Building, Billings, Montana.

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THE DESERT RATS NEST will reopen with a good supply of minerals, sold under the old guarantee. But I shall cater mainly to facet and fine cabochon cutters. Third Brazilian shipment now in—all first grade gem material. Amethyst, Andalusite, Golden Beryl, Chrysoberyl, Brazilian Almandite, Garnet, Blue and white Topaz. Now in, Ceylon shipment, Gray and gray Star Sapphires, Ceylon Moonstone, will wholesale some. On hand, facet material—Australian Sapphire, Montana Garnet and Sapphire, small Mesa Grande bi-color green and rose Tourmaline. On hand, Finest cabochon Aventurine for stars, star garnets, Star sapphires, Ceylon Moonstone, poor grade Mexican opal, green and golden Beryl, topaz blue Amethyst, Citrine, Tigers Eye, Rutilated Quartz, 3 colors Rutile, tiny blue Tourmalines in Quartz, Sagenite, Sweetwater Agates. Lots of specimens, tell me what you want, no list. Mail address, Geo. W. Chambers, P. O. Box 1123, Encinitas, Calif. Home address, 640 Fourth St., between F & G Sts. Come on down and bring your surf fishing rod.

MINERAL SETS—24 Colorful Minerals (identified) in 1x1 compartments—Postage paid, \$3.50. Prospector's Set of 50 Minerals (identified) in 1x1 compartments in cloth reinforced sturdy cartons. Postage paid \$5.75. Elliott's Gem Shop, 26 Jergins Arcade, Long Beach 2, Calif.

MERRY CHRISTMAS! And it can be, too, if you give yourself or your friends one of these mineral values. Wulfenite on matrix from Los Lamentos, Old Mexico, \$1.00 to \$15.00. Apple green Californite \$3.50 per lb. Water-bubble selenite crystals \$1.00 to \$5.00. Golden calcite crystal groups 50c to \$5.00. Opal from Mexico—clear, honey-colored, and cherry, in matrix (not fire opal), 25c to \$25.00. Amber calcite from Mexico. Groups from 10c to \$3.00. Collectors' items—Desclozite, choice specimens, \$1.00 to \$7.50. Higginsite 75c to \$10.00. Aurichalcite \$2.00 to \$7.50. Diopside \$2.00 to \$15.00. Bisbee Azurite and Malachite, together and separate \$3.00 to \$25.00. No orders less than \$1.00, please. Postage not included. Gemarts Company, 4286 Marlborough, San Diego 5, Calif.

WEST COAST MINERAL CO. Bargain Assortment as advertised in the October Desert Magazine is still available, this is No. 11. Also the Fluorescent assortment as advertised in the November, 1946, issue. Our shop location is 1400 Hacienda Blvd., La Habra Heights, Calif. We are open every day in the week except Monday. Thousands of specimens as well as cutting material. It is a lovely drive from Los Angeles or Pasadena to La Habra Heights. Drive out and visit us, see some new Southern Calif. country. You are more than welcome. West Coast Mineral Co. Mailing address: Post Office Box 331, La Habra, California.

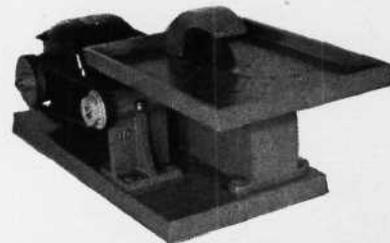
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MINIATURE SETS, Ass't'd per doz.\$6.00
50 RING STONES, including genuine and synthetic\$7.50
SYNTHETIC RUBIES or **GENUINE GARNETS**, per carat\$1.25
CAMEOS or **OPALS**—Genuine—12 for \$3.75
100 JEWELRY STONES removed from rings, etc., \$2.40; 50 large ones\$2.40
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AMONG THE ROCK HUNTERS

A rock, gem and mineral show will be held in Riverside, California, December 6-7-8 with five counties participating. Riverside, Los Angeles, San Bernardino, San Diego and Imperial county collectors and exhibitors are asked to write for space and details to secretary, Chamber of Mines, 3961 3rd street, Riverside.

Raymond Dickinson spoke on geophysical methods of exploration at October 16 meeting of Searles Lake Gem and Mineral society. Dickinson is a former professor at School of Mines, Golden, Colorado.

Sacramento mineral society held its annual exhibit October 12-13 in Clunie club house. Admission was free. G. R. MacClanahan, member, demonstrated at October meeting the entire operation of facer cutting and polishing an aquamarine. He gave advice and information on details of cutting. The completed aquamarine was presented as a door prize.

Gem Exchange, Bayfield, Colorado, has just prepared its 1947 Preliminary price list of gem cutting materials and supplies. Materials are listed by states and countries.

Ernest Chapman of Pasadena entertained Santa Monica gemological society at October meeting with a talk on the minerals of Broken Hill, N.S.W., and the opal mines of Lightning Ridge and White Cliffs, Australia. Many beautiful opals were on display. Mojave district was visited on October field trip.

Although John Hilton has sold his gem and mineral business to J. W. Greb, John will remain at his old location at Valerie's corner on Highway 99, devoting all his time to his art work, cactus gardens and souvenir shop. He is planning to expand his stock of craft merchandise.

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Sawed Halves—
2 1/2 to 3 1/2 in. dia., each50
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Cabochon Slabs, 3/16 in. thick, ea. .50
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2 1/2 to 3 1/2 in., each 1.00
or 12 for 10.00

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16"	4	13.50	11.50

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Montana Agate slabs for cabochons, 50c to 1.00 each or \$5.00 bundle for \$4.25.

Agate rings, Lavalieres, and Brooches for resale in one dozen and half dozen lots. Prices or approval selections on request.

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New address of Lapidary Equipment company, Seattle, is 1545 W. 49th St., 2 blocks north and 1 block west of Ballard Bridge. According to K. J. Hillquist, president, purchase of the new building will enable the company to consolidate their retail store and manufacturing plant.

Mineralogical Society of Southern Nevada plans to hold a rock show in the near future. A scrap book and club history is being prepared, illustrated by pictures of various field trips. The group meets third Tuesdays in the Los Angeles branch of water and power building, Boulder City.

Richard Buhlis talked on minerals of Arkansas at October meeting of Pacific mineral society, Los Angeles, displaying many interesting specimens from that state. An auction was planned for November meeting. October field trip to Mojave was to hunt orthoclase feldspar, mostly carlsbad twins, some bareno twins. October bulletin carries a list of members, their addresses and phone numbers.

Speaker scheduled for October 29 meeting of Sequoia Mineral society, Parlier, was Dr. Evans, geology teacher at Reedley college, who planned to lecture on his recent travels in Central America.

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Icicle Agate, 1.75 lb., sq. in.25
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Turquoise (good), 1/4 lb. bag	5.00

All the Above are Grade 1
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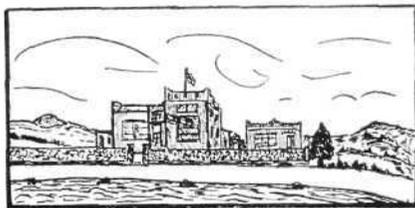
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 Agate, rough, good cutting material, \$1.00 to
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 Montana Sapphires, mixed pale colors, choice
 gem but not large, cut about half carat, each
 50c. Finished Montana Agate cabochons \$1.00
 and up. Precision facet cutting. All work and
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 No pieces sold separately. Would greatly
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EARL STANDARD
 Brown, Kern County, Calif.

George Parker of North Hollywood spoke
 on natural law and the atomic bomb at October
 meeting of San Fernando mineral and gem so-
 ciety. E. L. Newkirk displayed crystals and
 Lawrence McKinley talked on identification of
 lead and zinc minerals. Lapidary society of
 Glendale joined the group in a field trip to
 Horse canyon where agate was found. An Ore-
 gon nodule polished as demonstration in the
 lapidary meeting held at the home of George
 McPheeters was drawn by Eugene Tuttle. San
 Fernando club reminds rockhound readers of
 its third annual show to be held November 30-
 December 1 at North Hollywood recreation
 center, 5301 Tujunga avenue, North Holly-
 wood. Doors open 10 a. m.

Two events highlighted October for the
 Yavapai Gem and Mineral society of Prescott,
 Arizona: A successful rock auction and a field
 trip to Morristown for fossils. Plans were made
 for several mineral exhibits to be sent to the
 state fair in Phoenix, November 8 to 17. An-
 nouncement was made that some of the junior
 members had organized a club called the Jun-
 ior Rockhounds, for the purpose of training
 children under 12 in mineralogy and lapidary
 work, preparatory to their joining the Yavapai
 society. Its officers are John Butcher, president;
 Larry Bender, secretary; and Tyler Nanette,
 chief helper.

Al Cutter of Arcadia was guest speaker at
 October meeting of Orange Belt Mineralogical
 society held in social hall San Bernardino junior
 college. October 13 was field trip date. The club
 hopes to get the boys at Norco Navy hospital in-
 terested in cutting and polishing as they already
 have a saw and lapidary machines.

Mr. and Mrs. Kilean E. Bensusan entertained
 Pomona Valley Mineral club at October meet-
 ing with an illustrated talk on collecting gem
 stones in Brazil. They exhibited a colorful col-
 lection of Brazilian gems and minerals. During
 the war Bensusan operated a mica mine in Bra-
 zil, supplying mica to United States govern-
 ment. Glen Weist read a paper on opals, birth-
 stone of the month.

Edwin V. Van Amringe, Pasadena junior col-
 lege, was scheduled to speak on geological pio-
 neers of the Southwest at October 14 meeting
 of Mineralogical Society of Southern California,
 held in lecture room of Pasadena public library.
 As the club planned to go to the Trona show
 October 26-27, Searles lake minerals were dis-
 played at the meeting.

Imperial Valley Gem and Mineral society
 elected the following at October 22 meeting:
 S. E. Robinson, president; Ira Huffman, vice-
 president; Mrs. E. K. Patton, secretary-treas-
 urer. Meetings and field trips have been re-
 sumed after the summer recess; time of meet-
 ings has tentatively been changed to first and
 third Wednesdays. Field trips to Black Hills
 and to Ogilby region have been enjoyed and a
 three day trip to the Quartzsite chalcidony beds
 was scheduled for November 9-11.

Long Beach Mineralogical society has insti-
 tuted a question box for any member desiring
 information regarding minerals, mineral loca-
 tions, polishing problems or club procedure.
 President or members will attempt to answer all
 inquiries. Wendle Stewart gave an illustrated
 lecture on mines and minerals of Old Mexico
 at October meeting.

From the New York diamond market comes
 news of interest to all owners or prospective
 buyers of diamonds. The long expected drop in
 the price of these stones seems to have arrived
 at last. One carat blue white stones which were
 selling merrily a few weeks ago at \$825 now
 are quoted as low as \$700, while the less valu-
 able tinted ones have dropped as much as 25
 per cent to as low as \$300 per carat.

Rocks and Gems, official publication of San
 Fernando Valley Mineral and Gem society, re-
 ports a series of mineralogy forums. Copper,
 lead, zinc and iron have so far come up for dis-
 cussion. October 25 meeting was held at home
 of president J. L. Mikesell.

Patricia Ross, 4350 N. Pennsylvania St., In-
 dianapolis 5, Indiana, would like to correspond
 with others interested in the study of rocks and
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Cogitations . . .

Of a Rockhound

By LOUISE EATON

Rockhounds what knows a lot about minerals an' names uv specimens gets a bit impashunt or downrite disgusted with uther rockhounds (mostly the mama wuns) who asks several timz what sum-thing is—an' then disremembers or makes a mistake like sayin that a tourma-line crystal is apatite.

Rockhounds is sorta like peepul in wun respect—they procrastinate just as of-ten. Then when finally they gets at a postponed task they either claims they don't have time, or hurries so fast it makes their heads ake.

Therz gettin to be so menny rock shows all over the country that a fella would need a autogiro to get to all uv um. It's a shame to miss enny, too, cause all are wonderful.

Desert plants recouperates amazinly prompt. Give a good rain to a cactus that has shriveled all summer under scorchin sun an' the nex day it is plump an' perky as ever. Peepul is that way, too. They can be sunk deep in the doldrums, but if sum-thing happy cums their way they're im-mediate cheerful clear thru.

Notes From the Field

Many years ago good, clear crystals of quartz and nice groups or plates of quartz crystals could be found in the vicinity of Beal's well, ten miles north of Niland, California. In recent years the finds have been few, but on October 19 a large clear crystal almost four inches long and 1 1/4 inches in diameter was picked up near the well.

Plans for their second annual gem show were to be discussed at November 5 meeting of San Jose Lapidary society. At the October meeting R. M. Deidrick lectured on the borate minerals of California. History of borax industry and quick testing methods were told, and samples of various ores displayed.

San Diego mineralogical society reports a cal-cite and zeolite locality near Rosarito beach, Baja California, on Rancho Las Delicias west of Table mountain. The field was discovered about 1935 by Allen Nicol.

The shelter at Beal's Well, north of Niland, has been restored this summer and the well thoroughly cleaned. There are even a new rope, pulley and bucket.

The vicissitudes of a chemistry teacher during war years were somewhat lightened by living in the desert. Many chemicals in pure or almost pure forms can be found in different parts of the desert: manganese dioxide (pyrolucite) can be obtained in the Chocolate mountains; calcium carbonate (limestone), calcium magnesium carbonate (dolomite), in many places; sulphuric acid in springs in Lower California; pure sulphur and potassium aluminum sulphate (alum) in the mountains south of Calexico; alkali and sodium chloride (salt) near Salton sea; arsenic sulphides (realgar and orpiment) at Manhattan, Nevada; lead, copper, fluorite, vanadium in Yuma county, Arizona; and so on indefinitely. Most of these are of good enough quality to be used in an emergency in the laboratory.

At October 15 meeting of Seattle Gem Collectors club, in Frye hotel, 85 members enjoyed a talk by Mr. Ross of Handy & Harmon Co. on silver soldering and brazing in connection with jewelry making. Fine displays of assorted polished materials were shown. G. I. Canfield, chairman of 1947 Federation convention, presented the preliminary outline of committees and the work to be accomplished.

Midwest Federation of Geological societies held its annual convention October 19-20 in Minneapolis, Minnesota. Main events were short field trips and illustrated lectures.

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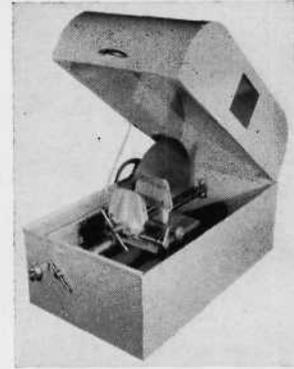
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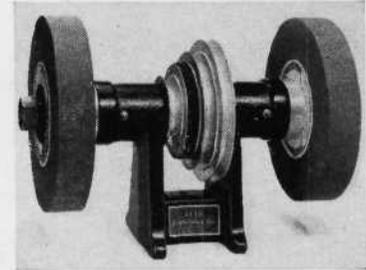
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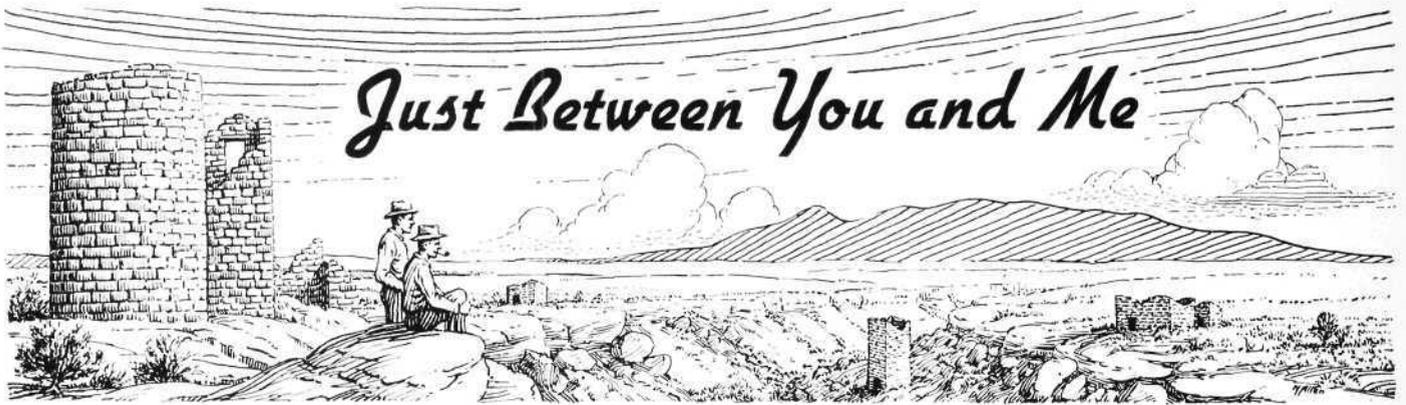
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Just Between You and Me

By RANDALL HENDERSON

THOSE Southern Californians who make an annual trek to that delightful little 37-palm oasis deep in the Orocopia clay hills on the north shore of Salton sea, known as Hidden Springs, will be interested to know that one of these days when the All-American canal builders have completed their grading and excavations, a new and better access will be provided to the springs.

I drove there late one afternoon in October, just after workmen had completed a bridge over the canal where it cuts across the entrance to Hidden Springs canyon. To reach the springs over the new route, one follows the well-graded road that parallels the south side of the canal east from Mecca. Then cross the new bridge—the first one east of Box Canyon road, and follow up the floor of the canyon to the springs.

But don't attempt the trip yet—unless you have a rugged car. There is much grading yet to be done on the bridge approaches before it will be a passable route. This was the first rough mission on which I have taken my army surplus jeep, and without that four-wheel drive I don't think I would have gotten through.

But to those who look forward to a return trip—or a first visit to this canyon with the rainbow hues and the hard-to-find little spring, there is the promise of a better road than in the pre-war days.

* * *

This is being written just before the general election November 5, and my Republican friends assure me their party will be in control of congress when the votes are counted. Regardless of the outcome, life for the most of us will go along very much as it did before. I am not as violent a partisan as I was in my youth.

In a democratic country, it isn't the rules and regulations—the disciplines—imposed upon us by government that make or break us. It is the rules which each individual imposes upon himself that makes the difference between happiness and distress, between personal freedom and bondage.

If there are too many bureaus in Washington, and too many regulations and restrictions on personal liberty, it isn't because either the Democratic or Republican party leaders desire to deprive Americans of their privileges of free enterprise. Laws that restrict personal liberty are not a cause, but an effect. They are enacted because somewhere in the social structure, individuals or groups have sought to gain an unfair advantage over other groups or individuals. And it became necessary for the government to step in and impose disciplines, in the interest of justice.

The Republican leadership has proclaimed its intention to "restore free enterprise in United States." But the Republicans do not really mean that. They have no thought of increasing the freedom of enterprise now accorded organized labor. Rather, their intent, if I am to believe my Republican friends, is merely to shift the point of emphasis—to impose less restriction on

management, more restriction on organized labor. Perhaps they are right. I do not know.

But I have not lived on the desert all these years without acquiring some ideas as to the basic remedy for the growing confusion in our political and economic life. I see no mention of this remedy in the campaign literature of either the Republicans or Democrats. I think the trouble goes beyond party platforms—beyond the understanding of most political candidates.

It goes back to our program of education. And if you ask what I would do about it, my answer is that I would double the salaries of all school teachers tomorrow—and let the taxpayers howl if they will. And then replace about half of the teachers with men and women—whether they have certificates or not—who understand that the primary obligation of the school is to teach the art of living, rather than merely the mechanics of making a living.

And as the next step I would call in the broadest minds of the Catholic, Protestant and Jewish faiths and say to them: "Up to now we have been only half educating our youngsters in the schools—and our oversight threatens to wreck our civilization. We've been concentrating all our efforts on the development of intellect, and have ignored the more important role which emotions play in the life of every individual. We failed to recognize the obvious truth that an educated mind without the safeguard of emotional balance is a potentially dangerous human being.

"Religion is concerned primarily with human emotions. Proper religious training develops the best in the emotional life of the individual. Because it stresses the cardinal virtues of faith, hope and charity, it is the most effective agency yet devised for the preservation of peace and goodwill among men. Generally speaking, the children of today are getting this emotional guidance in neither the church nor the home.

"And so, we are going to inaugurate a program of religious training in the schools. We are not concerned with forms and rituals. We are not interested in where a man goes when he dies. We want to teach him to live a useful and charitable life here on earth. After all, that is the primary goal of all religion. We want you fellows to get together, forget your petty differences as to the where and why and how of religion, and prepare a course of instruction based on the simple God-given virtues of truth and love. And then we are going to find teachers who have the understanding to teach these values in terms of the business of everyday living in association with other human beings."

* * *

I am indebted to George Black of the Institute of Experimental Agriculture at Belem, Brazil, for some interesting figures as to the vegetation on the desert. George spent a week at Ocotillo on Southern California's Borrego desert last spring, and being a very thorough botanist he measured off a plot 16 meters square on the floor of the valley. (A meter is 39.37 inches.) He counted the botanical specimens in this little natural garden. There were 12,500 plants divided among nine families and 21 genera. And they call this a desert!



FACT AND FANCY ABOUT A MIGHTY RIVER SYSTEM

"The Colorado river system," writes Frank Waters, "is at once an international headache, a geographical skeleton, a hydrographic puzzle, a roll call of the most familiar names in the whole Southwest, and a symphony complete from the tiniest high pizzicato of snow-water strings to the tremendous bass of the thunderous cataracts reverberating in deep canyons."

In his book, *THE COLORADO*, Waters undertakes the huge task of bringing to the reader a comprehensive picture of this most baffling of all the river systems in North America. He writes not only of the stream and its tributaries, but of the people who inhabit its mountains and mesas and valleys—the story of the coming to the Southwest of the Spanish invaders, the padres, the trappers, the settlers, and of the Indians who were here before them, and who so far have remained very much aloof from them. He even delves into the world of mysticism in an effort to define if not to discover the "mysterious, unfathomable impulses" that make them what they are.

Topographically, the Colorado is not a basin, but the slope of a great pyramid whose apex is the crest of the Rocky mountains, mother of most of the great river systems of the United States.

Without question, Frank Waters has compiled in this book the greatest array of fact and figure relating to the Southwest ever assembled in one volume, and with a remarkable degree of accuracy. Born almost in the shadow of Pike's Peak, the author spent an active life in the Southwest. His story is the product of wide observation and voluminous research. The most vivid parts of the book are reports of his own experiences. He did a superb job of reporting some of these incidents. Perhaps it is unfortunate that more of the book was not written in the reporter's vein. For too many pages are devoted to groping in the world of unreality for psychic causes which may interest the poet, but not the average reader.

There is much meat in the book, but also much that is irrelevant to the subject under discussion—irrelevant because the fantasies of one mind seldom are of vital concern to another.

Rinehart & Company, publishers, New York, 1946. Glossary, index, 400 pages. \$3.00.

NOVELIST DE-GLAMORIZES CORONADO'S EXPEDITION

At Compostela, Mexico, in February, 1540, there was assembled a brilliant company of adventurers eager for conquest of a new and unknown land of fabulous riches. At its head rode Coronado in gilded armor with red plumes waving from his helmet. Fray Marcos walked beside him, in coarse Franciscan habit, carrying a cross taller than himself. Following them were 260 horsemen, lances erect, banners flying, the long bright blankets of their horses trailing to the ground, then 70 foot soldiers, a thousand servants and allies, and finally the artillery, its guns loaded on mules.

As they moved past the reviewing stand for final inspection, viceroy Antonio Mendoza addressed them, "Gentlemen, soldiers, cavaliers, I see before me so noble a company, gathered in such fine spirit and good will, that I may confidently state, no mightier force, nor one more superbly equipped, has ever set out on so momentous an undertaking."

Like an operatic stage set was the beginning of the expedition which was to provide story and legend for the Southwest for centuries to come. But while many of the books written on the Entrada have preserved an aura of glamor about the entire venture, Virginia Hersch, in her new novel *THE SEVEN CITIES OF GOLD*, shows realistic and human motives in contrast to the more frequent idealistic version. And she reveals very real men under the bright trappings—men who before they return to Mexico are heartsick and weary, discouraged, desperate and afraid. Realism is effected chiefly through the first-person narrative of Carlos, young horseman who joined the expedition in the hope of finding riches with which to win the fair Cristabella.

The romantic story itself, running through the novel more like a tenuous thread than as the motivating force, is less real and moving than the story of the men during their tortuous march through the present Arizona, New Mexico, Texas and

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Arizona bureau of mines, Tucson, announces a reprint of Arizona topographical map now available. A red overprint has been made on the map to bring state highways up to date.

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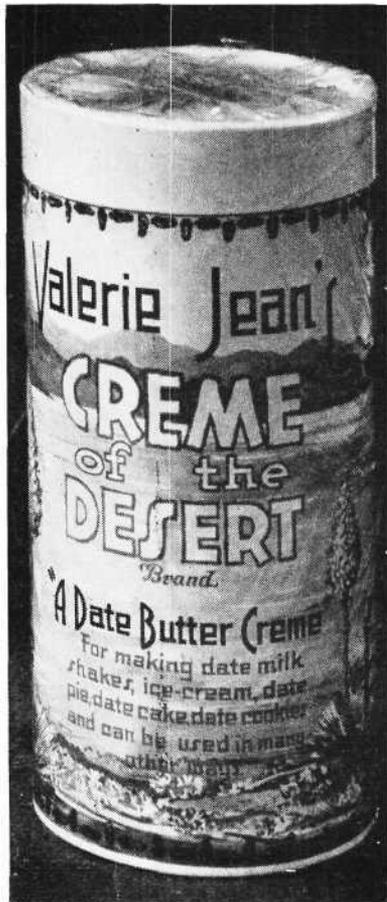


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