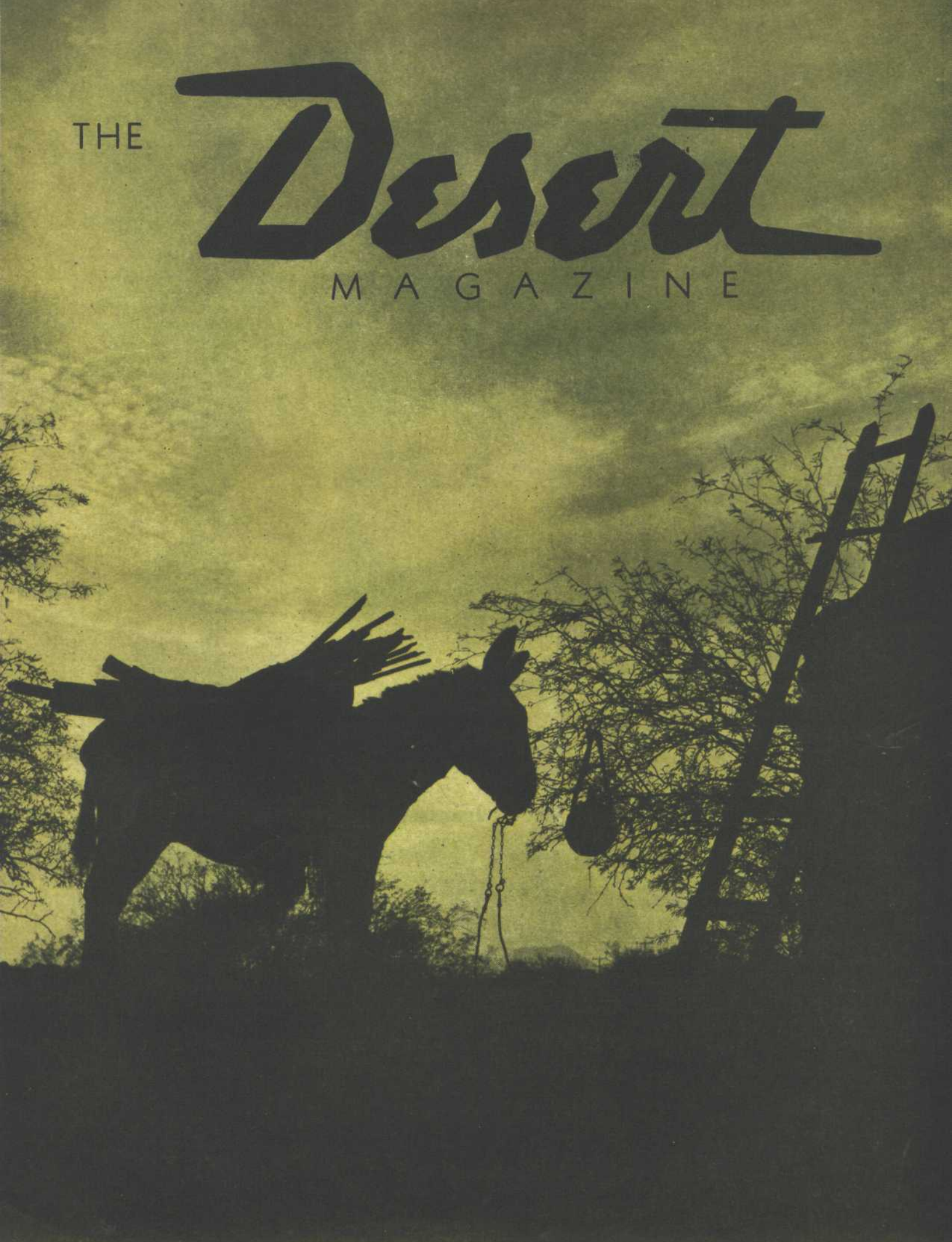
THE Desert MAGAZINE



FEBRUARY, 1945

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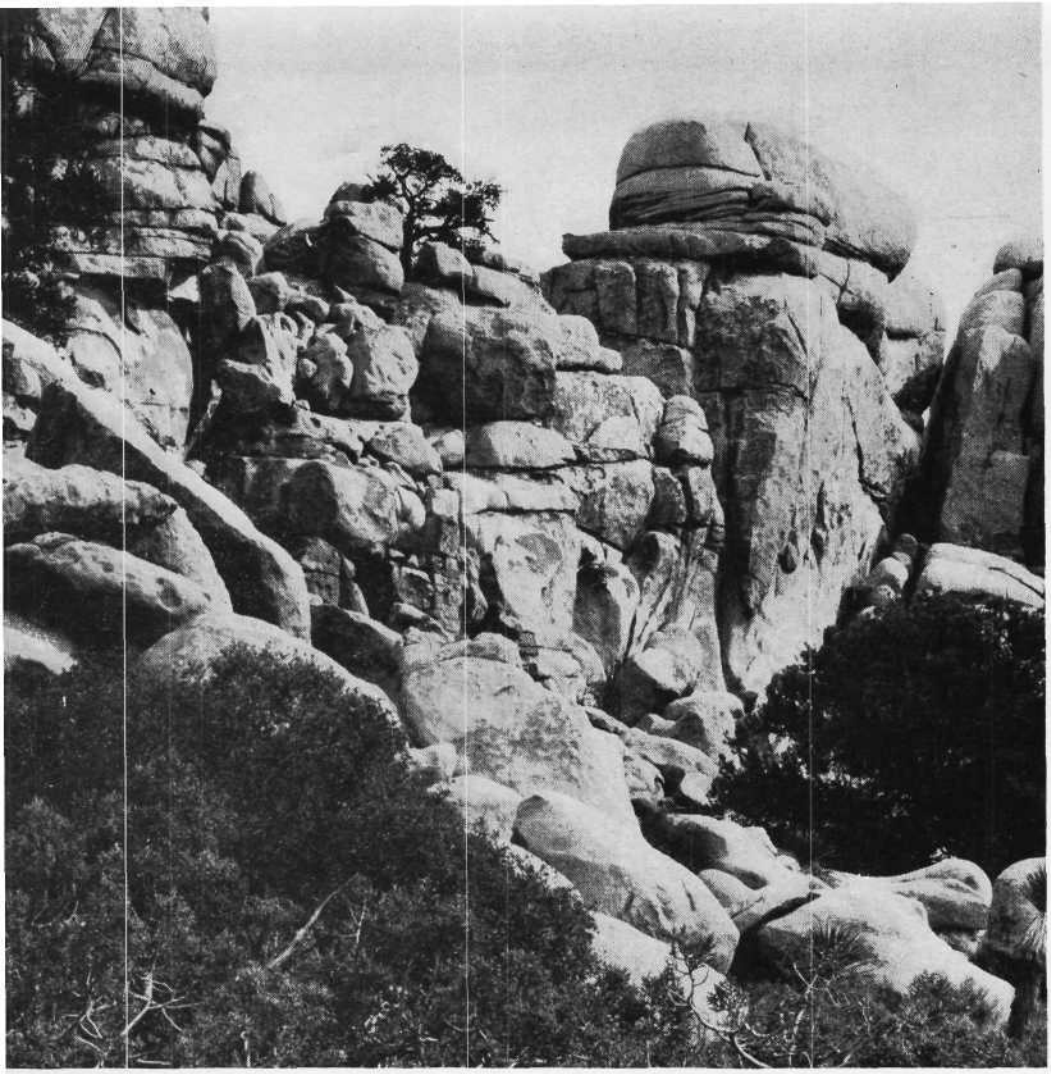

Juniper in the granite dells of the Joshua Tree National Monument. Photo by H. E. Vroman.

Creed of the Desert

By JUNE LEMERT PAXTON
Yucca Valley, California

Its gnarled twisted trunk leaned far o'er the cliff,
Half wistful, half eager to see
If another quite like him could be living near by—
This rugged old Juniper tree.

COVE FORT

By LYDIA WRIGHT SCOBEE
Salt Lake City, Utah

Its usefulness finished, its warfare done
Cove Fort lies drowsing in morning sun
Soothed by the winds of the desert, old
It lives in the past, its tale is told.
Ghosts of the past by windows and doors
Flit through sunbeams, on shattered floors.
You hark for the sound of Indian feet
And dream of the pioneer in this old retreat.
The walls are mottled with grime and sand
Yet sturdy and lifeless still they stand.
Where a pioneer mother lisped her prayer
Are cobwebs and disorder, grim and bare.
One longs for the touch of a friendly hand
To restore this fort of rock and sand.

• • •

DESERT DREAMS

By OLIVE WATKINS
Glendale, California

The stars shine on the desert
With soft and steady light,
While breezes move the shadows
On quiet sands of night.

You watch the peaceful scene
With thoughts that softly stray
To happy love along life's road
And you're glad you passed that way.

SOMETIMES

By E. A. BRUBACHER
Grand View, Idaho

Sometimes I've seen my desert
Shaking its tawny mane,
Sometimes glowing and burning
Like a brilliant flame,
Sometimes sprinkled with colors
Soft as a Chinese vase,
Sometimes gently colorless,
Creamy and grey as old lace.

• • •

LEARNING

By MURRAY SKINNER
Los Angeles, California

Cactus blossoms star the sand
Of the secret desert land,
Underneath the blazing sun
Where the spotted lizards run
In a region man deems banned;

Driven forth by nature's hand
To a landscape, harsh and grand—
Unobservant travelers shun
Cactus blossoms.

Yet when healthy skin has tanned,
Wise the man can pause to stand
Awed before such planting done
By the Artist who has spun
Cactus blossoms.

INDIAN MOTHER

By DORA SESSIONS LEE
Prescott, Arizona

She stands at the door of her hogan
And her black eyes search the skies;
She's seeking a sign in the heavens
Where naught but the eagle flies.

She senses the sheep are grazing
In peace on the tableland;
That soft winds are gently blowing
And shifting the painted sand.

Only an Indian mother
Stolid in grief and pain;
Striving to fathom war's verdict:
"Your son will not come again."

• • •

BREEZES

By MRS. G. H. SCHUBERT
Thermal, California

When leaves of the Palo Verde
Spin cobwebs 'round the moon,
It's time the desert breezes
Begin their ageless tune.
They sing about their memories
And sigh for days gone by,
Then chatter through the cottonwoods
And gossip on the sly.
For awhile they rest their singing—
Then whistle o'er a dune.

When leaves of the Palo Verde
Spin cobwebs 'round the moon.

• • •

THE DESERT

By ELSA DRESBACH
Palo Alto, California

I know of an enchanted land,
Where nothing grows in miles of sand
And varnished rock and alkali,
But joshua trees and queer cacti,
Till suddenly the spring bursts forth,
And then from east to south and north,
The lovely ocotillo towers,
Filled with flaming, scarlet flowers,
And miles of desert land makes room
For other kinds of radiant bloom.
And when the starlit night is gone,
The heavens blossom into dawn,
A brilliant dawn of such rose glow,
As only desert mornings know.

• • •

DESERT GHOST TOWN

By LEONARD JONES
Yuma, Arizona

Alone I ride in the evening,
Weary I lay my head
In a town forgot by the living,
In a town deserted and dead.

The night wind sighs at a memory,
A hot wind disturbs my sleep:
Laughter quickens my heartstream,
Gay music tingles my feet.

Heavy boots tremble the rafters,
A girl's song lilting, alive,
Curley takin' his pizen,
The roar of a forty-five.

The windows stare at me blindly,
A broken door hangs forlorn,
A sun tinted bottle half buried,
A wagon tongue seamed and worn.

As a sea wife waits for her sailor
Who is lost in yesteryear's wave,
As the soldier's bride though widowed
Yet waits and hopes and prays,

Do you wait for your thundering horsemen?
Will the lamplight brighten your door?
(The dust swirls by in the roadway,
The moonlight touches the floor.)

DESERT *Close-Ups*

• Before sending in his story which will appear next in Desert, Jerry Laudermilk sent a "sample" of it to the editor's desk. It was a colorful sample, for it was part of the "Indian Rainbows" he has written about. It consisted of Indian dyestuffs and samples of yarn he had dyed with them, ranging in color from Peach Bloom and Jasper Pink through Seacrest Green to Pecan Brown and Sooty Black. Those who own Navajo blankets and other Indian crafts will especially enjoy this story of how the Indians made and still make these dyes from native materials.

• The war has brought strange sights to the desert. But just as the desert rats were becoming accustomed to jeeps leering from the greasewood and tanks raring up over the sanddunes and bombers diving overhead—the navy starts bringing in its boats—and with the boats, hitch-hiking barnacles, which any good desert rat knows do not belong in a desert. But they're here—in Salton Sea—and John Hilton tells about them in the next issue of Desert.

• Lillian Bos Ross whose story of the Elephant Trees in the Borrego area appeared in the first issue of Desert Magazine in November, 1937, and who later wrote other material for these pages, recently has completed her second novel of early life in central California. *Blaze Allen*, the title of her latest book, is the story of a mountain girl in the Santa Lucia mountains south of Monterey in the 1890's. Mrs. Ross began her writing career while living in Borrego valley many years ago, but more recently has made her home on the California coast.

• Best loved of desert reptiles are the little Horned Lizards, or Horned "Toads" as they generally are miscalled. Weldon Woodson, of Los Angeles has written about his experiences while hunting them on the Mojave desert—with a camera.

• Another spring feature about denizens of the desert will be a pictorial series on birds, with photographs and captions by George McClellan Bradt. It will include fine close-ups of such favorites as the mockingbird, Scott's oriole, curved bill thrasher, ash-throated flycatcher, and various hawks and owls.

• Lost City, which M. R. Harrington mentions in this month's story of the ancient salt cave of Nevada, is now under waters of Lake Mead. The Indians who mined the salt probably were natives of this city, which is believed to have had a population of 20,000. Harrington is largely responsible for rescuing artifacts of this town before it was submerged. When excavation ceased in 1935 over 100 homes had been explored. An exhibit was assembled at Lost City museum, south of Overton, where one may see tools, bits of torches, mescal sandals, corn cobs, mesquite beans and squash seeds—all left in the salt cave. They are accompanied by drawings and photos describing life of the dwellers, 1200 to 1500 years ago.

Volume 8 **FEBRUARY, 1945** **Number 4**

The Desert Magazine is published monthly by the Desert Publishing Company, 636 State Street, El Centro, California. Entered as second class matter October 11, 1937, at the post office at El Centro, California, under the Act of March 3, 1879. Title registered No. 358865 in U. S. Patent Office, and contents copyrighted 1945 by the Desert Publishing Company. Permission to reproduce contents must be secured from the editor in writing.

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SUBSCRIPTION RATES

One year $2.50
Canadian subscriptions 25c extra, foreign 50c extra.

Subscriptions to Army personnel outside U.S.A. must be mailed in conformity with P.O.D. Order No. 19687.

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

When Kohnini the medicine man saw El Cabezon he said, "La! Tis the head of the Enemy God who was killed by the Holy Boys."

For years Richard van Valkenburgh had heard Navajo medicine men "sing" of a place they called Big Bead. It was the dwelling place of their ancestors, far to the east in New Mexico—farther east than any known dwelling of the Navajo. After fruitless searching for it, he concluded it was a sacred place now faded to obscurity. But he had not been chasing Navajo rainbows. He and Dr. John Keur, guided by Navajo friends, finally reached Big Bead mesa in the Rio Puerco valley, where they discovered ruins and pottery sherds which disclosed interesting facts about the ancient dwellers there and substantiated Navajo legend.

Big Bead Mesa-Where Campfires Burned in the Ancient Days

By RICHARD VAN VALKENBURGH

JOE TOLEDO took time to examine the red and buff pottery sherds that I had laid on the blanket before him. After a time he looked at me quizzically as he said, "These *khitsil* are not from the houses of the *Anasázih,* the Ancient People, who built the great pueblos in the Chaco Canyon. They are Navajo—like those my mother's grandmother used to make!"

After weeks of search through the rough mesa land of northwestern New Mexico, Dr. John Yak Keur, the archeologist, and I rested in the peaceful glow of Joe's campfire on the Arroyo Torreon. Aware of my old friend's position as headman of the Torreon Navajo and also of his deep concern over the land rights of his people, I explained to him the reason for our visit:

"These sherds are the key to my survey of the *Dinétxa,* the old Navajo Country. John came with me to try to locate a big Navajo site for archeological excavation. So far, our easternmost site lies 40 miles west of here in the rincons back of Kinteel, the Wide House at Pueblo Pintado. Together we are attempting to prove that the campfires of the Diné once burned as far east as the slopes of the Jemez mountains."

Always before Joe had been kindly but evasive in regard to my probes about Navajo sacred places. But the recognition of the pottery sherds had stirred some responsive cord in him. He rambled, "Ya'a'taa, Good! We have many little places with that kind of pottery around here. But the greatest of them all is one day's ride to the south.

'There in *Tségihayázih,* the Little Rock canyon which the Mexicans call La Cañada Guadalupe, lies the sacred mountain of *Yo'otsoh,* the Big Bead. Near this mountain the signs of the Old People are to be found in abundance. But before I take you there we must see Kohnini, the One Eyed

Guarding the ancient Navajo citadel on the eastern spur of Big Bead Mesa is Big Many Rocks ruin.

Medicine Man. Not knowing medicine I would not go to a sacred place without him."

I quickly agreed to send for Kohnini. It was hard to cover my exaltation. Big Bead! For years I had heard medicine men "sing" of this place. But after endless search I had reached the conclusion that it was one of those places that had faded into obscurity. And now—Joe casually told me of its existence!

Kohnini's arrival at the camp in the grey of dawn awakened us. After coffee we piled into our battered coupe. Pursing his lips toward a bright star that perched atop *Dzilichi*, the Red Mountain, the medicine man announced, "La! 'Tis a sign of good luck."

After winding through the venous maze of 'dobe bottoms that make up the Torreon we climbed the dugway that jumped us up to the pipeline. Once laid as the "crow flies" to service the natural gas lines between the San Juan oil fields and Albuquerque, this monstrosity traverses some of the roughest country in New Mexico. But to the traders in remote posts, segments of the pipeline are their only outlet to the highway.

On the last rise before we reached the valley of the Rio Puerco, Joe motioned us to detour off the main trail. Framed between two great mesas a rust-black dome poked upward from the floor of the valley. Kohnini cried, "La! 'Tis our holy *Chézhin*, Black Lava. It is the head of *Ye'îtso*, the Enemy God who was killed by our Holy Boys!"

A narrow gap veined by converging barrancas led us down into the wide valley. Below us the Puerco was a black snake cutting deep scallops into the tan of the lowlands. Where the pipeline faded into the San Luis-Cabezon road, Joe directed us toward the blue line of the San Mateo mountains to the west.

Soon we passed by the squat adobes of the pueblito of Cabezon. While the name of the volcanic plug to the immediate south has been El Cabezon for more than 150 years the town took the name only recently. Until the latter part of the 19th century it was known as La Posta. This came from the fact that it was a post station on the Santa Fe-Fort Whipple mail route.

After leaving Cabezon our lava studded road wound close to the crumbly high banks of the ephemeral Rio Puerco. Soon we swung south to where the river valley cut a gap between the Sierra Cebolleta and La Mesa Prieta. Under the great shadow of El Cabezon lava flows streaked across the symmetry of the sunlit plain.

Between the pueblitos of Casa Salazar and Guadalupe Joe steered us off the main road. We followed the dim trail that led westward by Griego's ranch toward wooded canyons divided by high ridges. Higher up they converged to form the plateau that runs northward from the 11,389-foot heights of volcanic Mt. Taylor.

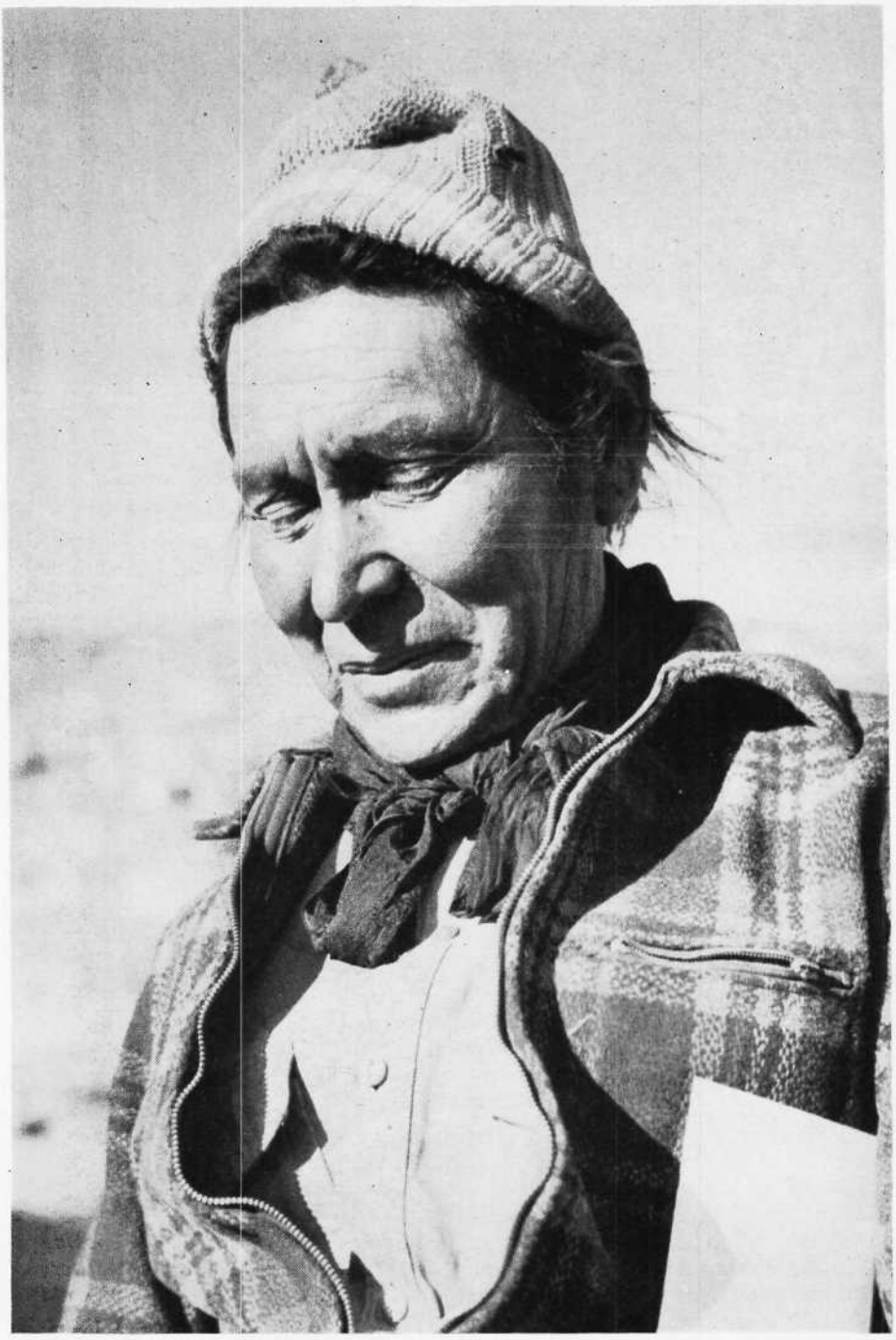
Winding up through straw-colored hills we soon reached the wide mouth of the Cañada Guadalupe. Together we looked at the majesty of a high mesa that projected from the main bulk of the mountains. It ran eastward to terminate in a dome shaped mountain. Capped with black that streaked down over its crumbly white slopes the appearance was fantastic.

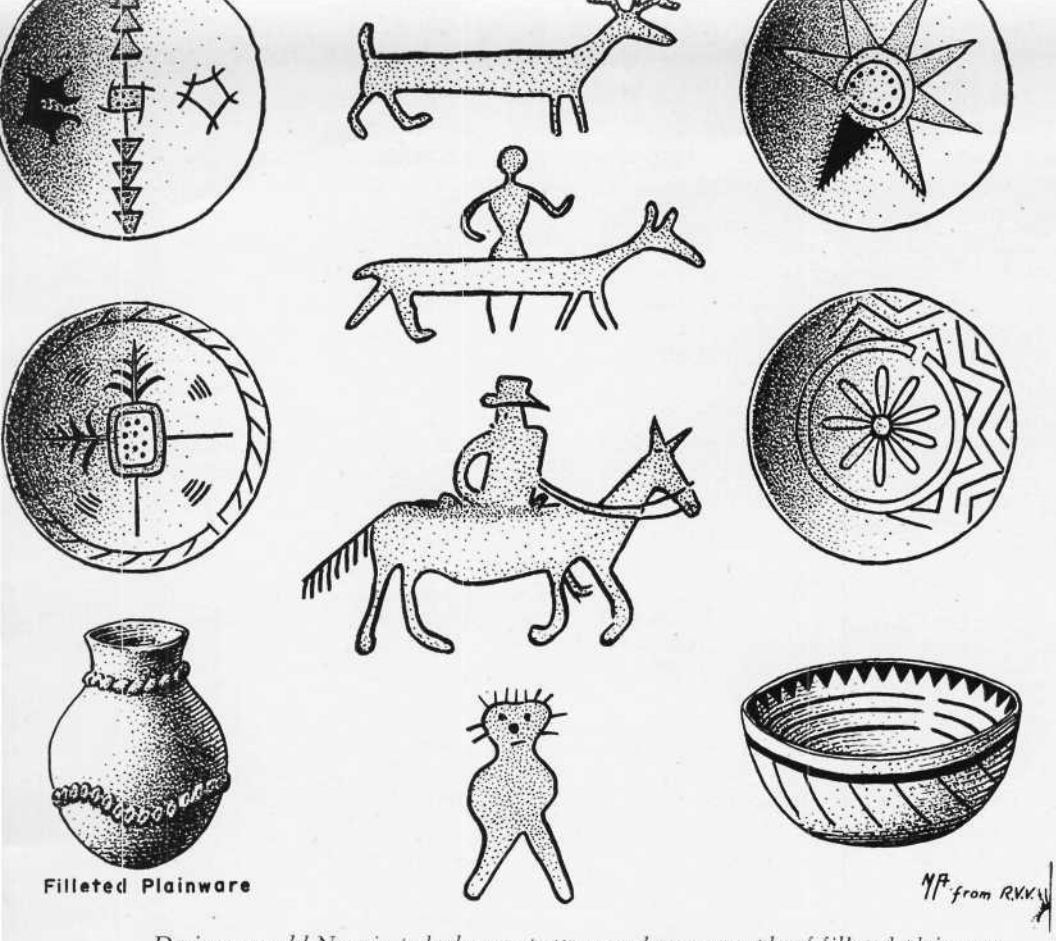
It appeared to be an hour or so before sunset so John suggested that we climb the mesa. But the Navajo stalled, *"Aa'dóta!* No! Night Wind comes down here quick. We're not getting trapped up there on those cliffs tonight. Too much has happened up there. Anyone with sense knows about that place. It's infested with *chindi* of all kinds."

By sunset we had made camp in the piñons. Below us the brook was a silver thread as it gurgled its way to the Rio Puerco. Above us the forested canyon walls diverged upward in black and smoky streaks to meet the primrose sky.

The rattle of Joe at the grub box next morning awakened us. After breakfast John and I fidgeted while the Navajo got around to starting. Bundled with cameras

Joe Toledo, genial Navajo headman who guided Dr. John Keur and the author to Big Bead mesa where they discovered remains of ancient Navajo dwellings farther east than they previously had been found.





Designs on old Navajo polychrome pottery, and one example of filleted plainware. Drawn by Norton Allen from Van Valkenburgh sketches.

and other gear we soon fell behind. Ahead of us the swift gaited Indians padded out across the grass covered slope that led to the south ramparts of Big Bead mesa.

As we approached the shadows that jutted out from the western scarp, Joe spied something. When we hurried up he smiled smugly as he pointed to a small cluster of rotted logs. Nudging the pile of burned rock that lay nearby with his toe, he commented, " . . . *tache sani,* old sweat house!"

Then I knew we were not chasing Navajo rainbows. Something important was up there on the mesa!

In the past every old Navajo citadel I had discovered had one or more of these trail *tache.* Medicine men had told me of their use. When hunters or warriors returned they purified themselves in these sweat houses before entering their camps.

The Navajo began to climb through a rocky fissure. Against the lightening sky rocky points covered our flanks. Motioning upward Joe showed us regular piles of stones along the rims. Then while we drew a breath he said, "It was behind these that the Old People hid. When the Mexicans or some other enemy started to climb this trail they smashed them with rocks!"

Soon we reached the summit of the 400-foot trail. Below us the flats sloped southward toward the decomposed crags of *Lisizi,* the Standing Horse. Spreading out we picked our way over the narrow mesa top. In the outcrops exposing the Mancos Shale and Dalton Sandstone we watched for pottery sherds, which are to the archeologist what "float" is to the prospector.

John yelled from behind a thicket of junipers, "Here's an old hogan!"

Hurrying over we took stock of his discovery. With its three forks still locked, the sagging tripod was identifiable as one of the ancient *alchides'ai,* or forked-stick dwellings of the Navajo. Identical to those found today in the western sector of Navajoland these hogans seem to have been built since the beginning of Diné residence in the Southwest.

Conical - bottomed Navajo cooking pot. One of the few keys to the story of Navajo migration from the old Diné homeland in present Canada.

By the time we reached the small flat-topped crag that perched atop the northern spur of the mesa we had discovered more than 40 hogans. All were not of the forked-stick type, some being of the circular, stone walled construction. Consistently the trash mounds or middens near the eastern doors yielded pottery types that told us an interesting story.

Using the method known to archeologists as cross dating, or comparison of our sherds with those from sites with established dates, we were able to recreate the Indian history of Big Bead. Between 700-1800 A.D. three or more types of people or cultures dwelt on the mesa.

The earliest sherds were made between 700-1200 A.D. by the prehistoric *Anasázih,* the Ancient People of the Navajo. Builders of great pueblos like Pueblo Bonito in Chaco canyon, Pueblo Rincón near Star Lake and Kinya'a at Crownpoint, these first people on Big Bead apparently were a marginal group from the great pueblo cluster some 50 miles to the northwest.

Following them, and possibly their descendants, were the *Kinsani,* or Old House People whom the Navajo still identify as the Rio Grande Pueblans. Sherds typical of those made at early Laguna, Jemez and Zia pueblos show that between 1300-1800 these pueblans played an important part in Big Bead's history.

The southward migration of the Navajo into the Big Bead region from their old camps and watch towers in northern New Mexico was proven by the discovery of sherds known as Gobernador Polychrome. Found in all Navajo sites in the Largo-Gobernador drainages this pottery is dark red with zigzag and pendant black and red decorations. Made during the 17th and 18th centuries, it is believed to have been introduced to the Navajo by slave women from San Juan and other Tewa pueblos of the upper Rio Grande.

Navajo Polychrome, the decorated Diné pottery of the 19th and early 20th centuries, was easily recognizable. Still known, but seldom made by a few aged potters, it has an orange-buff body blotched with bluish fire-burns. Distinctively decorated in dull red outlined in black, the motifs run from linear decorations to realistic animals and flowers. In rare instances a bowl of this almost extinct ware will appear for sale on a trader's shelf.

Common to all Navajo sites, either ancient or modern, was Navajo Plainware, or the conical-bottomed cooking pot. Running in color from grey to dull black, these vessels with filleted or raised decorations, still are in use for storage and cooking. One type is used with a hide cover for the

Squaw Dance drum. But even in their humble monotone these drab *átsaa* are one of the few remaining keys to the story of Navajo migration into the Southwest from the ancient Diné homeland in present Canada.

After prowling through the rims and crevices of the northern spur we located some 30 more hogans. In contrast to the previous 40 discovered on the open mesa top, these dwellings utilized sections of the natural sandstone formation for their back walls. Then we picked our way upward through the litter of boulders to reach the top of the crag to get what Kohnini called, ". . . the view of *Atsá,* the Eagle."

From our aerie we soon found that the only unexplored section of the mesa was a spur that ran toward the east. In this direction it constricted to a thin strip with sheer cliffs dropping down to the flats below. Then it swelled out to end in a rounder point. On this a ragged crag of buff sandstone outlined itself against the streaked black and white of the sacred mountain of Yo'otso.

"Look!" yelled Joe as he spied something blocking the narrowest point of the construction.

Hurrying off the crag we started across the narrow sandstone waist. When we drew near we saw that it was a man made barrier. Soon we found ourselves standing under a well constructed wall of coursed sandstone. Measuring 12 feet in height it girded the entire 25-foot width of the mesa top.

The western face was flat. This was broken by a large door opening in the center. To the sides were three loopholes. Passing through the four-foot thickness of the wall we reached the inside. To one side and joined to the main structure were the remains of a rock walled hogan, possibly that of the watchman's family. Across the lower part of the wall a shelf had been built. By measurement we found that it was just high enough for a warrior to squat and peep out through the loopholes to the approach from the main mesa.

After detailed inspection of *Tsélani tso,* Big Many Rocks, which Kohnini called the breastwork, we moved across to the eastern spur. There we located about 20 more hogans. With the formidable Big Many Rocks between them and the main mesa this undoubtedly was the main citadel of Big Bead mesa. It was not difficult to visualize the Diné gathering here for a last stand should the Spaniards break through the defenses on the main trail!

While we rested against the cool side of a great slab split from the eastern crag, we discussed the fossil shell discovered in the marine shale of the Mancos Formation. Kohnini had his own ideas, "La! They are *yo'otso,* big beads. It was from these that the Old People named this mountain."

As we walked across the mesa in the cool wind that was sweeping off the last warmth of day, Kohnini told us his version of the history of Big Bead:

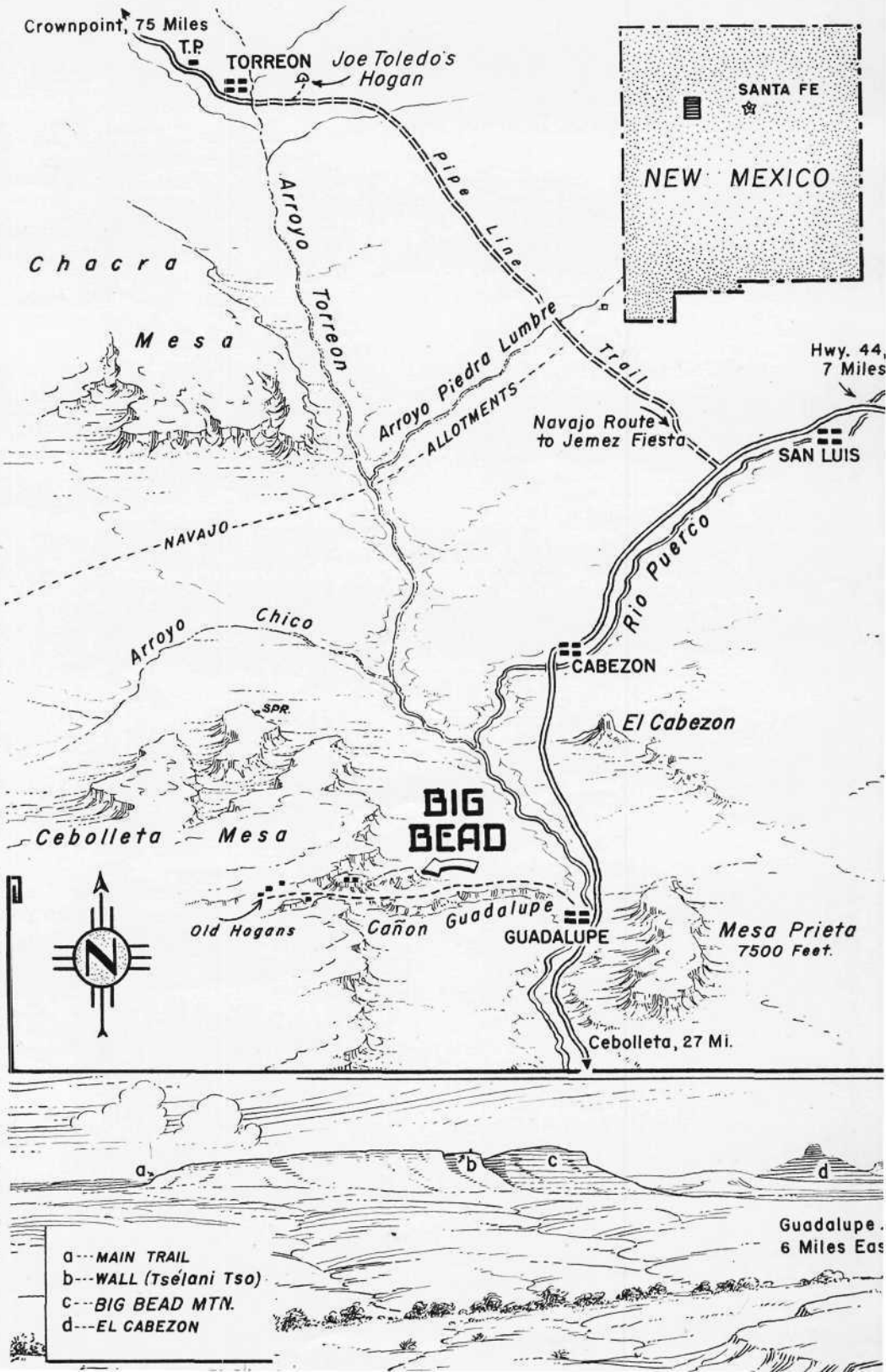
"*Djina.* They told this:

"After the Water Clans from the Western Sea passed the San Francisco mountains they camped in many places. From El Capitán near Kayenta they traveled eastward until they reached Little Meadow With Water. After staying there for a while they traveled into the sunrise until they reached this place.

"When they found the white shell the *hastui* said, 'These must have been left when the world was flooded. The *Ye'i* must have left them to show the People that this would be a good place to live. There is cool water, lots of plant food, and deer all over the mountains.'

"They then found out about the Spaniards. They had to fight them all the time to keep them from stealing their women. That is why they built this fort high on the mesa. But after two generations the headmen decided that the Spaniards and their Pueblan allies were too near.

"So they held a council and decided to



hunt for a new home. When they were ready to leave a few 'coyotes' held back. 'Let's stay right here. This is a nice place,' they argued. 'We'll make a treaty with the Spaniards. Then we'll be near to steal their sheep and women. We might have to spy on our own people to the west—but we can gain by working both ways.'

"But the good Navajo left Big Bead. And the 'coyotes' stayed around. Today their descendants live at Cañoncito some 20 miles west of Albuquerque. Some people say that a lot of witchcraft comes from there.

"Westward the People traveled—even as far as *Dzilizhin,* the Blackish mountain beyond the Canyon de Chelly. Others went only a little way and made their homes in the *Holkid,* or Continental Divide country. We—their descendants—still make our camps on the Arroyo Torreon."

When I returned to Window Rock I began searching through historical material that might substantiate the Navajo claim of ancient residence along the valley of the Rio Puerco. After some digging I found in the New Mexico Historical Review:

Governor Mindinueta's Proposals for the Defense of New Mexico, 1772-1778. ". . . the Navaho nation has 700 families more or less with 4 or 5 persons to each one of its five divisions of San Matheo (Mt. Taylor), Zebolleta or Canon (Cebolleta some 20 miles south of Big Bead), Chusca, Hozo (Ft. Wingate), Chelli . . ."

In Bancroft's *History of New Mexico and Arizona* I found:

Arch. Santa Fe, MS. ". . . On March 25, 1805, Governor Chacon refused to grant a request that the Navaho resettle at Cebolleta . . . they must not go with their livestock beyond the Cañon de Juan Tafoya (a few miles south of Big Bead), Rio de Osa, and San Mateo."

Gaceta de Mexico, Oct. 28, 1819. ". . . Governor Melgares appointed a native General to live near Jemes as possible . . . ; the Navaho were granted all their old territory to Canon Largo, boca de Cañon Chaca, and Auga Azul."

In my last letter to Joe Toledo and Kohnini I wrote:

"John's tree rings taken from the timbers of the old hogans on Big Bead show that the Navajo lived there between 1745-1812. Furthermore, this work in which you helped has pushed the eastern boundary of the Old Navajo 75 miles east of the present reservation line. There is no question as to the justice of your claim to ancestral lands along the Rio Puerco as well as to the Cañon Largo to the north. History as well as archeological data confirm your moral if not the legal right of the Navajo to these lands!"

DESERT QUIZ

Here's another set of headaches for the Quiz fans. Some of the questions require only a general knowledge of desert subjects, others call for specific information in the fields of desert botany, mineralogy, literature or geography. Anyway, they cannot put you in jail if you miss a few of them. The average person will answer less than 10 of them correctly. If you know 15 answers you either are a qualified desert rat, or else you have a lot of learnin'. Only a super-student of the desert will score 18 or better. The answers are on page 34.

1—The fangs of a rattlesnake are located at the tip of its tail..... In its upper jaw..... In its lower jaw..... Back of its eyes.....

2—Indian trail shrines, often found in the Southwest, are built of rocks..... Timber..... Moulded Clay..... Adobe mud.....

3—Creosote bush derives its name from its inflammable qualities..... Its production of oil..... Its scent, especially after a rain.....

4—House Rock valley in northern Arizona is best known for its many weird rock formations..... Its herd of buffalo..... Its production of piñon nuts..... As a historic battlefield.....

5—Tuba City is in Utah..... New Mexico..... Arizona..... Nevada.....

6—Most popular stone used by the Navajo silversmiths in their jewelry is Emerald..... Fossilized wood..... Rose Quartz..... Turquoise.....

7—Charles Francis Saunders' name is best known to students of the desert as a Writer..... Prospector..... Archeologist..... Artist.....

8—A wickiup is a type of Indian Hunting Weapon..... Dwelling..... Ceremonial Shrine..... River Boat.....

9—First known explorer to navigate the Colorado river through Grand Canyon was Kit Carson..... Julius F. Stone..... E. L. Kolb..... J. W. Powell.....

10—Volcanic glass is another name for Feldspar..... Tourmaline..... Quartz..... Obsidian.....

11—The Mountain Chant is a ceremonial used by the Apaches..... Hopi..... Navajo..... Pimas.....

12—The book *The West is Still Wild* was written by Harry Carr..... Zane Grey..... George Wharton James..... Lewis R. Freeman.....

13—To reach the Petrified Forest National Monument you would drive east from Holbrook, Arizona..... North from Flagstaff..... South from Tucson..... West from Springerville.....

14—The name for one of the desert's best known shrubs should be spelled Ocotillo..... Ocatillo..... Ocatilla..... Ocotilla.....

15—Screwbean is a common name for one of the species of Wild Buckwheat..... Ironwood..... Mesquite..... Palo Verde.....

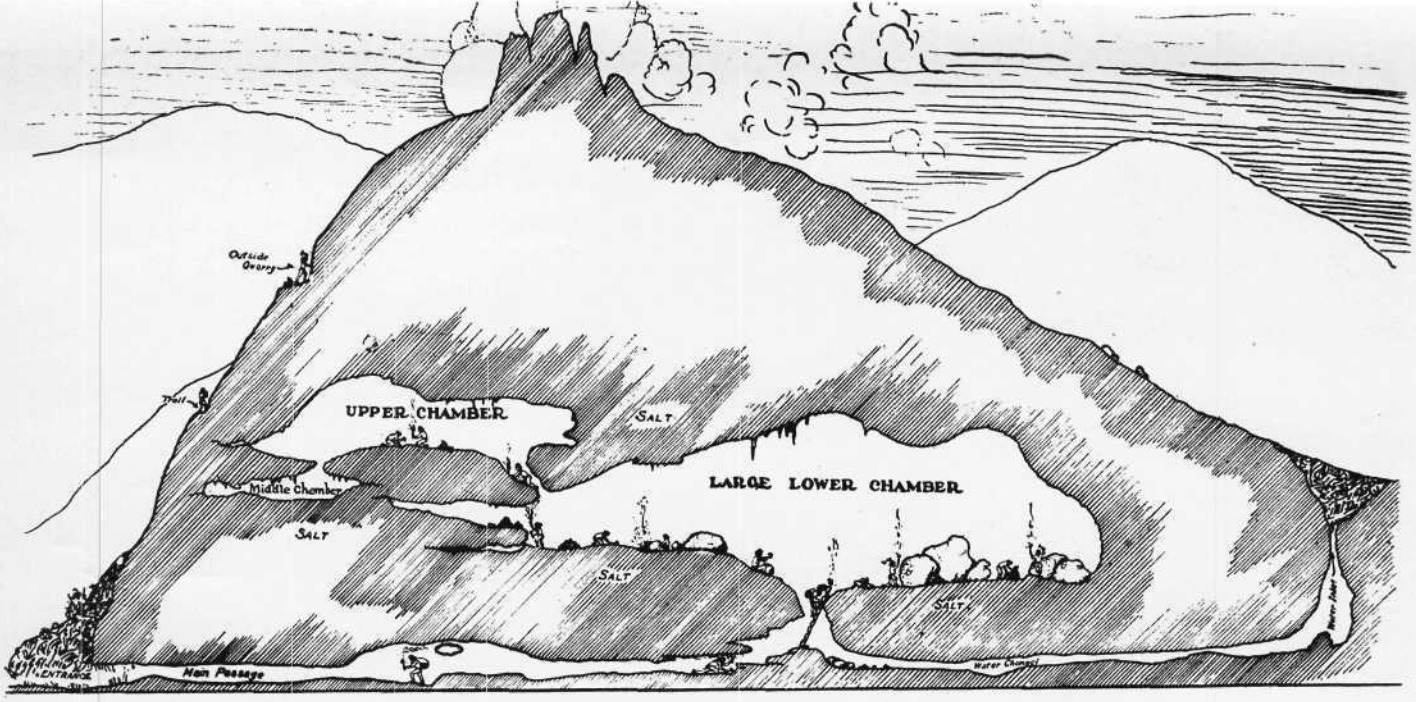
16—The stream which flows through Zion National Park is San Juan river..... Virgin river..... Little Colorado..... Hassayampa river.....

17—The setting for the book *Seven Pillars of Wisdom* is the Sahara desert..... Australian desert..... American desert..... Arabian desert.....

18—The western state known as the Silver State is Arizona..... Idaho..... Nevada..... Utah.....

19—Mishongnovi is the name of a Hopi village..... Peak in the Wasatch Mountains..... A tribal god of the Mojave Indians.....

20—San Gorgonio Pass is in Nevada..... New Mexico..... Arizona..... California.....



Cross section of Salt Cave near St. Thomas, Nevada. Drawn by Don Louis Schellbach III in 1924. The hole in which the writer was stuck is located back of the standing figure in the lower passage. Drawing published in Scientific American, August, 1926.

Nevada's Salt Cave Mystery

Why would prehistoric savages of the American desert crawl deep into a dark dusty cavern to carve strange glyphs on the walls and ceiling and floor? This was the mystery that confronted M. R. Harrington of Southwest Museum, Los Angeles, when his guides led him into the Salt Cave of St. Thomas the first time. But archeologists have a way of solving such riddles—and the answer was very simple when all the evidence was assembled.

By M. R. HARRINGTON
Curator of The Southwest Museum, Los Angeles
Photographs by the Author

MY HEAD and shoulders were in a big chamber, dark as pitch except for my carbide light, and stinking of bats; but I could not drag my bulky carcass through the narrow opening. What was worse, I could not go backward. In fact I was stuck, and if I had been alone in that first attempt to explore the Salt Cave near St. Thomas, Nevada, my mummy might be sticking there yet.

Lucky for me, Fay Perkins and Willis Evans were behind, and they managed to pry out enough rock salt from around me with their picks so I could wriggle on through.

It was Fay, an old timer in the Moapa valley of southern Nevada who had told me about the cave in the first place. It was a good-sized cavern, he said, up a wash from Jedediah Smith's little cave which fronted on the Virgin river, and quite near the modern salt mines. It was pretty hard to get into, he told me, and that was why not many white people had seen the old Indian "hieroglyphics" which covered its walls.

Now "hieroglyphics" is Nevadese for what the archeologist calls pictographs or petroglyphs, and I was naturally interested. Why would Indians wish to make carvings or paintings in a dark cavern a hundred yards from daylight? Had the figures some religious or ceremonial meaning? Or were they perhaps natural markings after all? I resolved to find out, and that is why we left our diggings at the Lost City ruins that afternoon for my first visit to the Salt Cave.

The entrance to the cave was a water channel which had to be followed on hands and knees for some distance. Then the ceiling was higher and we could stand and walk erect. Here we noticed that the walls were clear like ice in some places, milky in others. I tasted a piece. We were in the heart of a mountain of salt.

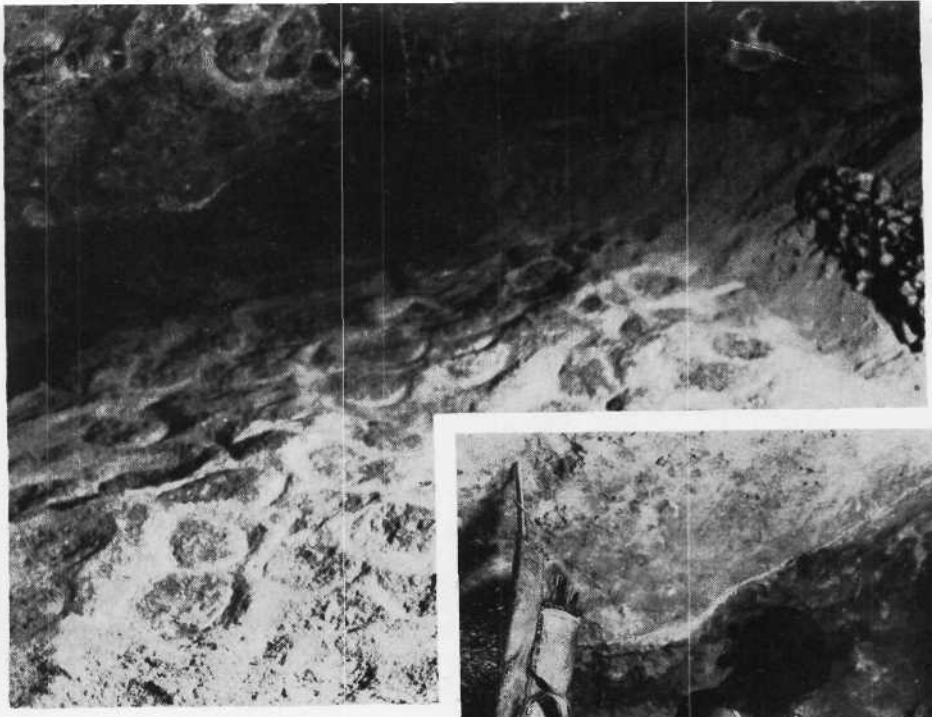
Farther on Fay indicated a sort of shelf or upper berth up near the ceiling. Above that was the entrance to the main chamber.

"Climb up on that shelf," he said, "and work your way back. There you will find the hole leading into the big room." He and Willis were perfectly willing that I should take the lead. I did—and got stuck.

However, I forgave them when I finally squeezed through, for when I began to look around I saw that the walls were really covered with man-made markings, all circles or ellipses, pecked into the hard crystalline salt, measuring a foot in diameter more or less. As I walked around examining these, the toe of my shoe struck an obstruction in the salty dust of the floor. I picked it up—a water-worn river pebble five inches long, with a sharp cutting edge chipped on one end by human hands. This, I thought, might well be one of the instruments with which the ancients had made the mysterious markings.

But why? Why should any human being at any time, wish to squeeze his way back into such a place, just to peck a lot of circles on a cave wall? There must be some explanation. "Ceremonial" is the archeologist's refuge when he can't think of a reasonable answer. I'd leave that as a last resort if the usual detective methods failed. To begin with, we must gather general information.

For example, how did these old birds get light? They had no carbide lamps, no lanterns, not even candles. I poked around in the dusty rubbish. Yes, here it was—strips of bark, sage brush and creosote sticks, all burned at one end. I should have guessed. They had used torches. Later we found traces of small bonfires that must have helped a lot—if they did not make too much smoke. But suppose their torches went out? What a job to make a light with fire-sticks in a place like that, or to find your way out in inky blackness!



The Indians pecked out their disks of salt on the walls, ceiling and floor.

Posed picture showing how the ancients went about their work of mining salt.

When an archeologist finds himself stumped at something he sees above ground he knows he may find the answer near at hand, buried in some old trash heap or ash dump. In this case it was plain that many people had come into the cave to carve the mysterious circles. And they very likely had lost or hid away some of their possessions. If we could find any of these, especially pottery—even small bits such as are thrown away in trash piles—we might be able to tell who the old circle-makers were and when they operated. Was there any place in the cave where we could really dig?

Again I searched around. In many parts of the cave the floor was solid salt, hard as rock. But in the largest chamber, where the circles were most numerous, my trowel sank down through a soft deposit as far as I could reach, with bits of burned torches all the way. We had a trash dump to dig in! Now I had high hopes of getting some real information, and made plans to return with a small digging crew, well equipped with carbide lights, dust-masks, notebook, jointed ruler, tape line, camera, everything necessary.

I think it was that first day we found an easier entrance to the cave proper from the water tunnel below—a chimney-like natural shaft that needed only a ladder. And so we dug through the dusty rubbish, and gradually our collection grew. The work had to be done very carefully with small trowels so as to overlook nothing. But even so, we had to stop every few minutes to let the dust settle in order to see what we were doing, for there was no ventilation to carry it off. And of course when anything was found it had to be recorded in the book with all the measurements and circumstances, and a field label made for the specimen, which was wrapped and put in a box.

Especially numerous, next to the torch sticks, were the sharpened pebbles used to peck the circles. Some pebbles had notches on the sides for attaching a handle, or so we guessed. Then, to our delight we found such hammers with wooden handles all complete, preserved by the salt and the dryness. But why so many tools for marking simple circles, even stone hammers with handles?

Corn-cobs were plenty—another hard thing to explain unless the people had actually lived in the cave—which did not seem likely. Strings made from different kinds of native fiber were common, also, and one netted bag made of fiber string. Then there were the sandals, made of yucca fiber, some complete to tie strings and all.

When I saw those, I began to suspect that our circle-carvers were ancient Pueblo Indians, for I remembered that somewhat similar sandals had been found with Pueblo pottery in Arizona. Pottery! If we only could find some pottery here! Finally we did, and it was Early Pueblo, like the ware we had been digging up in the Lost City ruins, only a few miles away, which seem to date around 700 or 800 A.D.

So far, so good. But the main problem, the meaning of the circles, still eluded us. When the rubbish deposit was cleared away, we found the incisions even on the floor of the cave! We kept on digging in hope of finding some definite clue.

Finally we uncovered a piece of salt which seemed to have been artificially shaped. It was flat, rounded on one edge and about an inch and a half thick. Then we found another and another; they were pieces of flat disks of rock salt, which had been originally ten or twelve inches in diameter . . . A light began to dawn! We examined the circles more closely. The centers had been broken out of many. The salt disks had come from the circles!

Now we could see the whole story. The ancient people had pecked the circles into the salt, round and round, deeper and deeper, undercutting, leaving a disk or button of salt in the center. Then they had pried out the disk, or broken it out. The cave was a salt-mine, nothing less. The circles merely were the markings left by the ancient miners, who had quarried out the disks of salt to take home. Now the fine powdery salt mingled with the dust that always accumulates in a dry cave was explained. Also, the innumerable sharpened pebbles and the countless torch fragments.

The corn cobs? The miners had brought in their lunches—green corn roasted on the

The ancient miners had corn on the cob for lunch. This picture posed by Indian assistants in the Harrington expedition.

ear. The netted bag was an Indian substitute for the old dinner pail. As for the pottery, somebody probably had stew for his lunch and unhappily broke the bowl.

Checking up our evidence we decided that most of the mining probably was done by Pueblos, as the pottery suggested. But we found one thing that made us suspect that the cave had even earlier visitors. That was a piece of a curved wooden club, something like an Australian boomerang, of a pattern used only by a mysterious people known to students as the Basketmakers who drifted into the Southwest in the early centuries of the Christian Era.

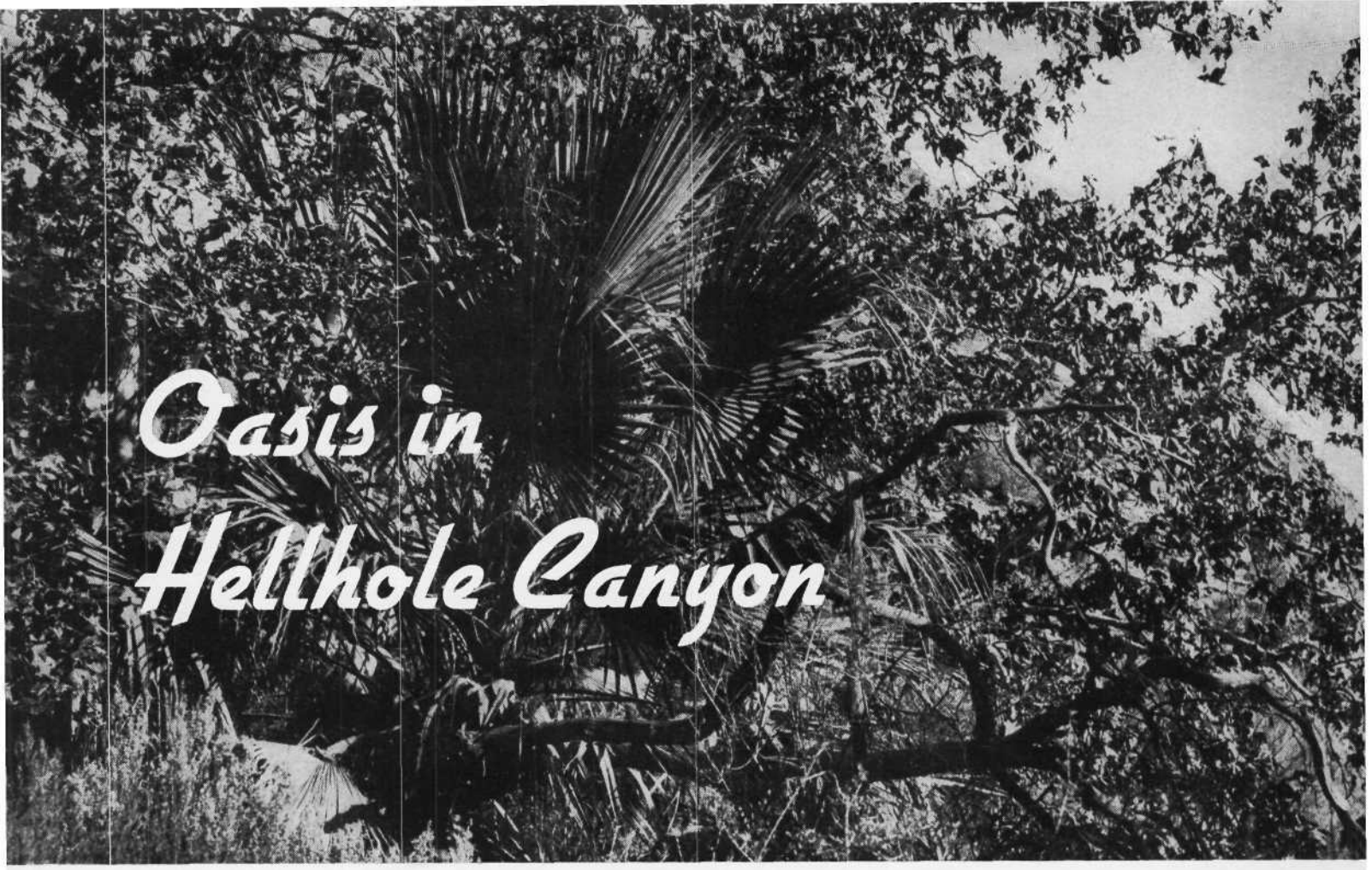
One puzzle never was solved, however. Why had the ancients crawled into a dark and stuffy cave to mine salt when there were other outcrops in the open air on the nearby hillsides, which, we later learned, also had been worked?

Perhaps each band or village had its own salt claim, and our cave miners, arriving late on the scene, found all the outdoor pits preempted. Or, there may have been some ceremonial or religious angle to the thing after all. The ancient people may have thought that salt taken from the very bosom of Our Mother, the Earth, possessed some special power or virtue.

It does not seem possible, but the Salt Cave adventure I have just related took place 20 years ago! The collections went to the Museum of the American Indian, Heye Foundation, in New York, and to the State of Nevada. Now some of the things are on view in the little adobe museum built by the National Park Service near Overton, Nevada.

As for the cave itself, I understand that the very hill in which it lay has been more or less melted down by the waters of Lake Mead, backed up by Boulder Dam. Certainly it will yield no more secrets of the past. Even the little village of St. Thomas, where we bought our supplies, has disappeared beneath the waters.

Entrance to the Salt Cave of St. Thomas.



Oasis in Hellhole Canyon

For those who like their desert rough and rugged and raw, Hellhole Canyon in the Anza Desert State park of Southern California is a challenge. This is one of the lesser known palm oases on the California desert. In this narrow gorge the palms share honors with fine native sycamores—and the two make a gorgeous color picture in fall and winter when the sycamore leaves have turned to gold. This story is the second in Randall Henderson's series covering the native palm oases on the American desert.

By RANDALL HENDERSON
Photographs by the author

WHY did they name it Hellhole Canyon? For many years I have been seeking the person who knew the answer to that question. One of the old-timers said the name derived from a deep natural pit somewhere up near the head waters of the stream which flows down the canyon. I made one trip in search of the pit, and friends of mine later scoured the area—but found no pit.

When I asked Harry Oliver, who once was a homesteader in Borrego valley, he immediately invented a yarn so fabulous it made me laugh. Harry knew that I knew his tale was pure fiction.

My friend H. E. W. Wilson who spent many years searching for the Lost Pegleg mine in that area answered, "Well, it's a helluva place to go into on a midsummer day." Edward Duval, who has operated the Borrego valley store 14 years quoted two rumors: One was that the prospectors who ventured up there in summer found the gorge so full of rocks and catsclaw and so suffocatingly hot they invariably came out damning the canyon as a hellhole on earth. The other story which Duval passed along was that when the first white men visited the Borrego valley and asked the Indians what this canyon was called, the answer was an unintelligible Indian word which was translated as Hellhole.

Finally I asked A. A. (Doc) Beatty, who took up land and filed on water rights at the mouth of Coyote canyon in 1913—and who knows practically all the answers in that part of the desert.

"Well," he answered, "if you would go up to Montezuma valley on top the mountains and start down that canyon after dark, as a friend of mine did, you would think it was a hellish hole—just as he said it was."

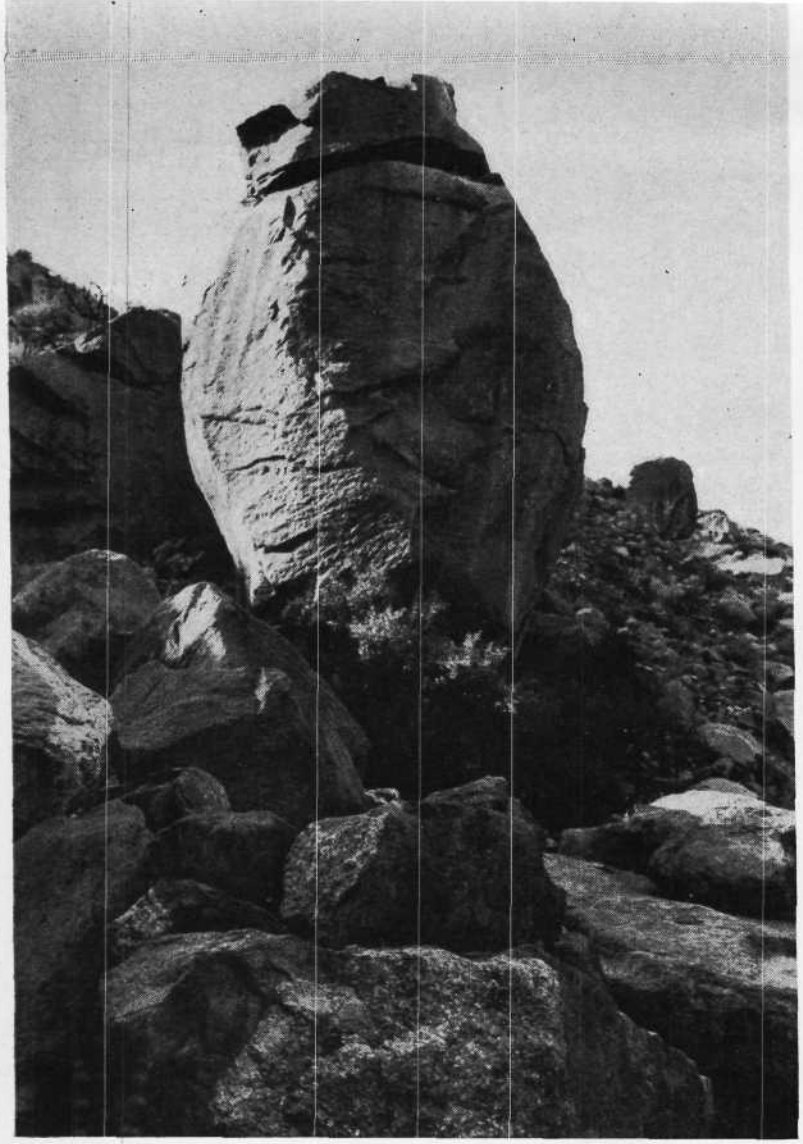
So the reader can take his choice. On a cool winter day Hellhole is not such a terrible place. True it is all tangled up with boulders and grapevine and catsclaw. But despite these obstacles the canyon has a rugged charm that remains as a pleasant memory long after the catsclaw wounds have healed.

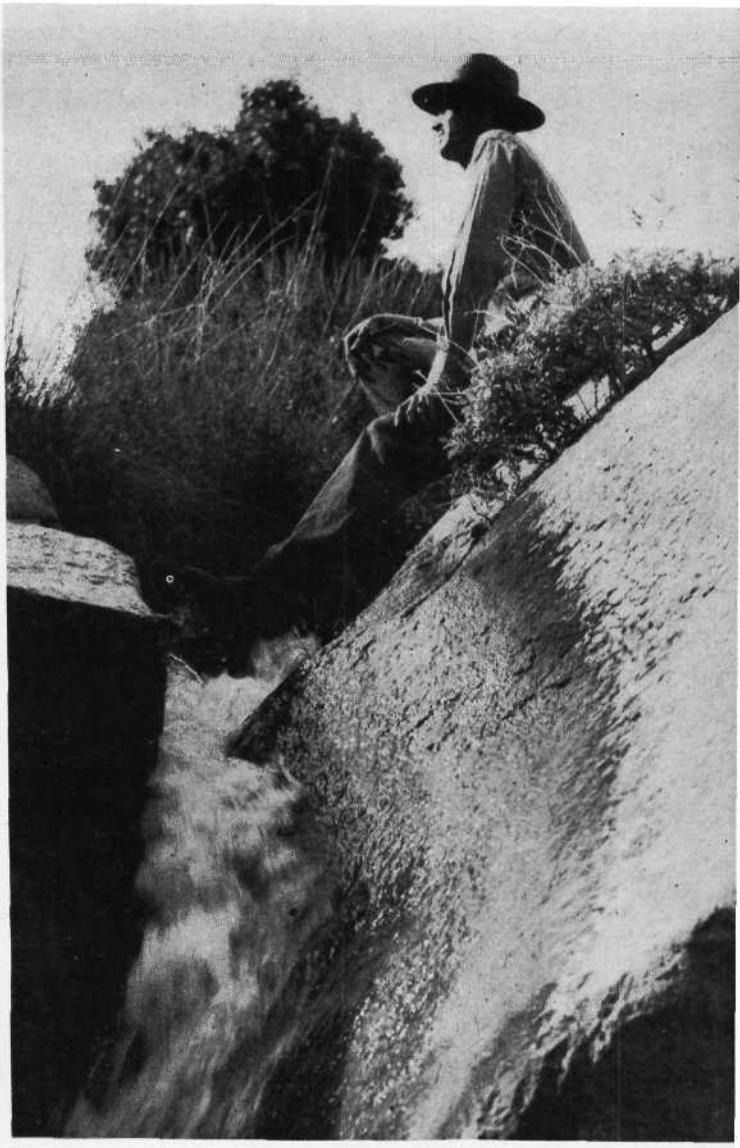
In Hellhole canyon is one of Southern California's palm oases—and that entitles it to a place in Desert Magazine's series of palm oasis stories—catsclaw or no catsclaw.

It was in Hellhole that I had my first encounter with a swarm of angry wild bees. It was a painful experience. I would much rather meet a couple of rattlesnakes on the trail than face the aerial straffing of a cloud of hostile bees.

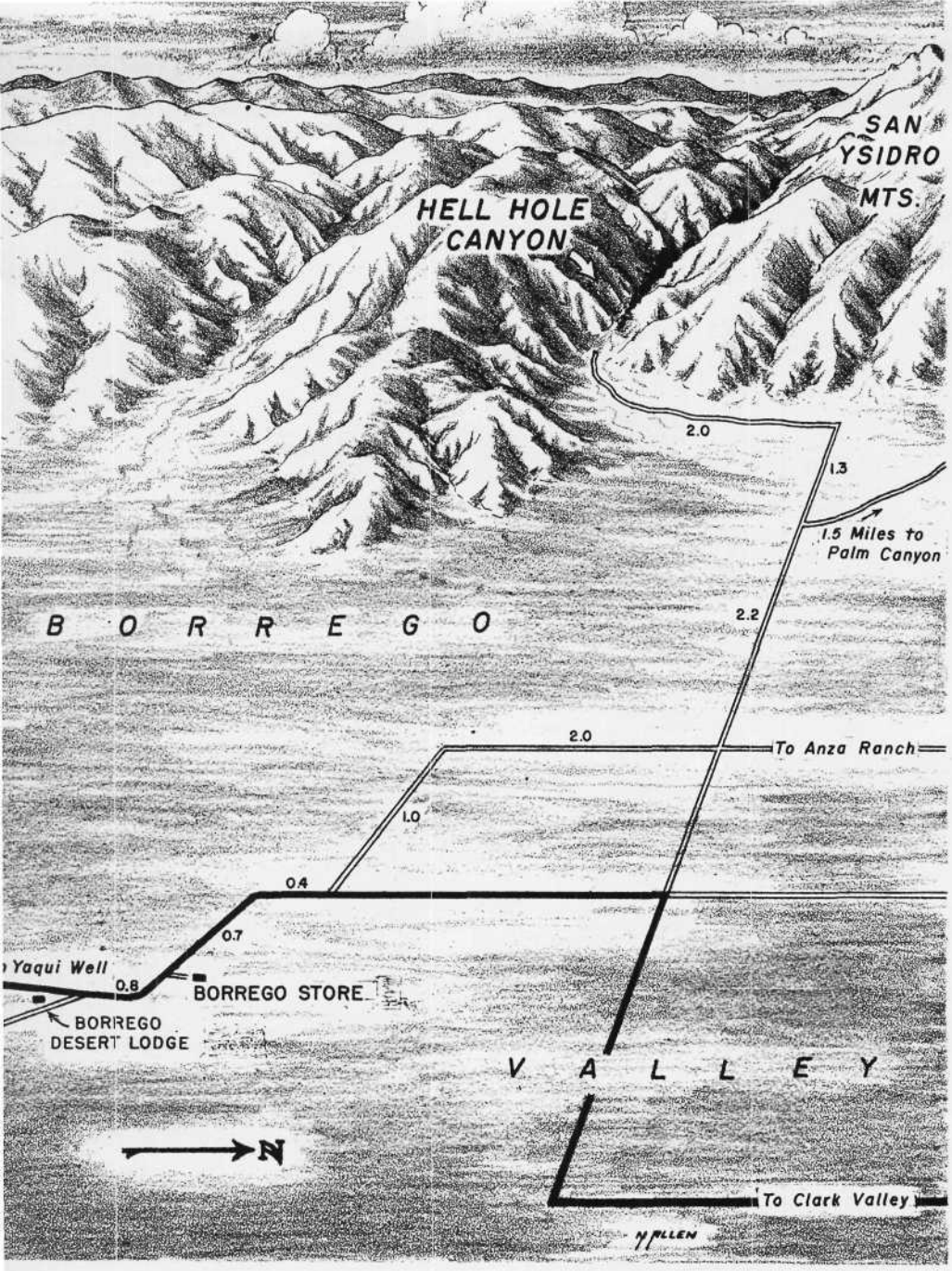
It was in 1935. I hiked up the canyon with a troop of Boy Scouts. We had passed through the palm thickets and were well up the canyon when the route took us over a hollow log on the ground. There were 21 in our party and as each boy stepped on the log in passing, the bees became more and more indignant over the intrusion. I was the last in the line, and by the time I reached the log the air was buzzing with infuriated bees. They are suicide fighters when aroused. They dived into our hair, our ears, and inside our collars. The only way to get rid of them is to plunge into water or through dense brush. Since the stream is very small, we went for the brush—which happened to be catsclaw. But even catsclaw is less terrifying than a colony of berserk bees. No one will ever induce me to rob a wild beehive.

I returned to Hellhole last December with John R. Fleming, ranger on duty in the Anza Desert State park, as my com-





Upper left—Vase rock is a conspicuous landmark high up on the side of the canyon.
Upper right—John Fleming, park ranger, at one of the many small waterfalls in the canyon.
Lower—Green fronds of the palms among the golden leaves of sycamores formed a giant bouquet of gorgeous color.



panion. We found the winding auto trail from the floor of Borrego valley up the bajada to the mouth of the canyon very passable despite the fact that it has had no upkeep and little travel the past two years.

A faint foot-trail leads up along the stream about a mile to the first of the native Washingtonia palms in this oasis. Above that point the canyon becomes narrow. There is no trail and the hiker has his choice of bucking his way through the thick underbrush along the streambed or detouring up along the steep rocky slopes at a higher level. It is a rugged trip either way.

A fine stream of water was coming down the canyon in December and we noted many young sycamore, cottonwood and palm trees growing among the shrubs on the bank of the stream.

Down toward the mouth of the canyon the stream disappears in the sand, and becomes part of the great underground reservoir from which Borrego settlers pump their water for domestic and irrigation purposes.

Palm trees usually dominate the landscape in a desert oasis—but not so in Hellhole canyon. Here they share honors with fine old sycamores—the two clustered so close along the stream that their tops formed giant bouquets of gorgeous color—green fronds among golden autumn leaves.

We counted 25 palms, including only those three feet or more in height. They extended along the stream three-quarters of a mile. Nine years ago I counted 28 palms here. Barring storms of cloudburst proportions which occasionally sweep practically all the vegetation out of desert canyons, the number of trees in this oasis should increase rapidly as there are scores of nursery-size trees.

Just above the upper group of palms is a well-concealed cove at the base of a 15-foot waterfall. The sycamores growing around this fall are so heavily festooned with grapevines as to make it difficult to penetrate this little jungle—but it is worth the effort. On the vertical rock face beside the falling water is a great bank of luxurious ferns. Ferns in a desert canyon are so rare, they invariably bring an exclamation of surprise from the visitor.

The palms were heavy with seed in December, and at one point it is possible to climb to a high rocky ledge and gather the seed from the tree. No doubt the Cahuilla Indians gathered food from this shelf long before the white man knew about Hellhole canyon.

Frost had nipped many of the desert shrubs out on the floor of Borrego valley—but not in the canyon. Encelia had put on its new coat of leaves. Blossoms were still on the chuparosa. There was a carpet of green grass and newly sprouted phacelia in little clearings. The only evidence of the winter season was the coloring in the sycamore leaves.

We found shrubs of the Upper Sonoran zone growing much below their usual level—agave at 700-foot elevation, wild apricot at 900 feet and juniper in the floor of the canyon at 1000 feet. Later I checked my altimeter to be sure these elevations were accurate.

We climbed 2½ miles up the canyon. There is a conspicuous landmark at that point—a huge rock sculptured like a symetrical vase or jardiniere, with a cracked neck, up on the south slope of the canyon. It is perhaps 25 feet high and is visible from far down the canyon.

The lower part of the canyon is privately owned, and the property line is not marked, but John Fleming said he thought most of the palms are in Anza park. There was a filing on this water at one time, and some one actually put in a pipe line to capture the water and carry it down to the floor of the valley for irrigation purposes. But the plan was abandoned. Edward Duval told me he now owns the pipe and expects to take it out of the canyon.

Efforts have been made in the past by farming interests, and no doubt will be renewed, to obtain the water in Hellhole and nearby Borrego Palm canyon for irrigation purposes. It would be a double calamity if such applications were granted. Not only would these canyons lose much of their scenic beauty if water is drained away in pipes, but settlers in Borrego valley who depend on water pumped from the underground table also would suffer. The public interest here obviously is to keep the water flowing down these canyons undisturbed. Thence by natural seepage it will reach the underground reservoir beneath Borrego valley. All landowners then will have equal access to this water through wells and pumps.

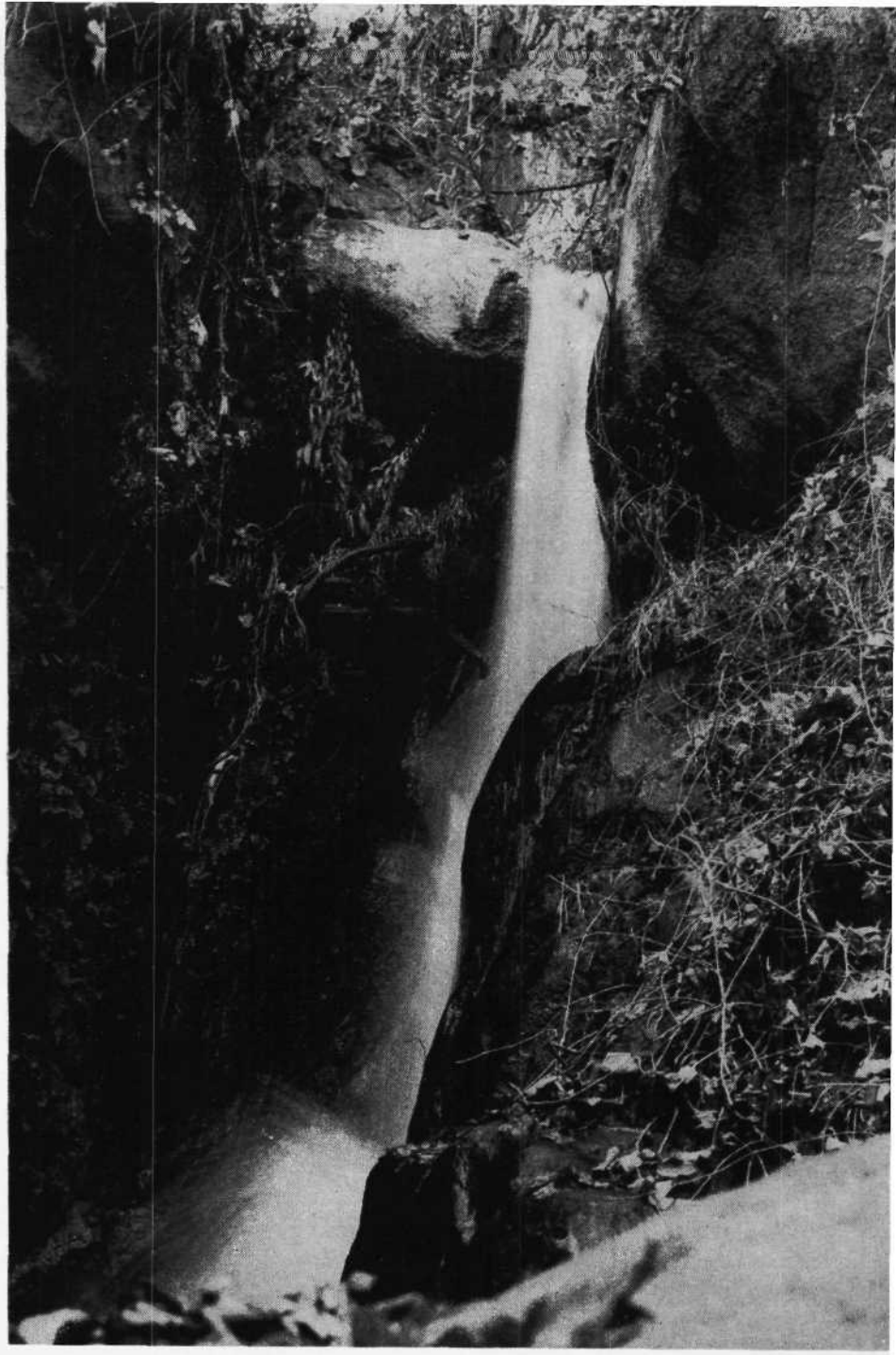
Borrego valley, with neither towns nor

industries other than a few hundred acres in vegetables and fruit, has been little disturbed by three years of war. There is considerable trading in land, as there is in potential farm land everywhere, but the valley is far off the traveled routes and for the present it waits in peaceful seclusion for the day when motorists again will be flocking there to see the gorgeous fields of wild flowers for which it is famous.

Despite the isolation of this area, however, Ruth and Noel Crickmer told me that their cozy Borrego Desert lodge has been filled to capacity most of the winter.

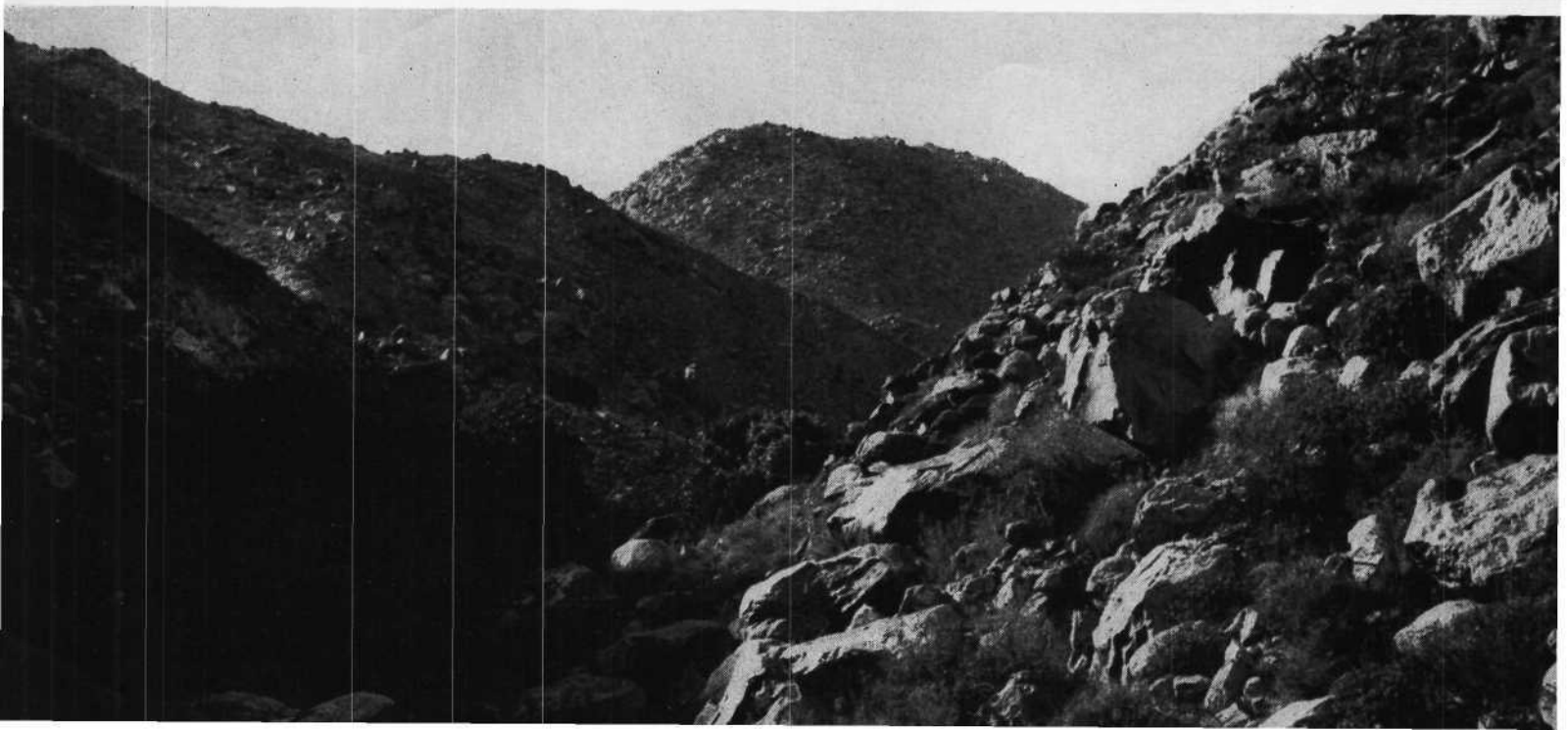
Postwar motorists who travel that way will be greeted by new operators at the well known Benson's service near the entrance to Borrego valley. The Bensons have sold their station to Mr. and Mrs. J. E. Clark, recent arrivals in the West from New Jersey. The Clarks admit they are tenderfeet—but they are friendly folks with a great deal of enthusiasm for their new home—and that is the formula for success on the desert.

In the meantime, the origin of the name Hellhole may remain clouded in mystery—but there is nothing mysterious about the canyon itself. It is right there where you can see it and feel it—boulders, catsclaw, grapevines—and sabre-toothed bees. Hellhole will remain a challenge to those who like their desert rough and rugged and raw.



Above the upper palms is a 15-foot waterfall flanked by a great bank of ferns.

There is a dim trail part way up the canyon. Beyond that it is a rugged hike over boulders and through catsclaw.



Camote--the Black-sheep

By MARY BEAL

THE HOFFMANSEGGIAS might be called the "poor relations" of the Pea family. Although they belong to a botanical family which is extremely valuable economically they contribute no important food or other products. And at least one of the Hoffmanseggias could be labeled a black sheep. In some agricultural districts, such as the Palo Verde and Imperial valleys, it even is becoming an outlaw, diligently elbowing its way to public attention. This enterprising hustler-gone-wrong is known variously as Pignut, Hog Potato and *Camote de ratón,* due to the tuberous enlargements developed on the deep-seated branching roots.

The last name, of Spanish or Mexican origin, is translated Rat potato, the tuber indicated being the sweet potato or yam. While these nut-like tubers make good hog feed they cannot compete in value with the crops they invade. They once provided an addition to Indian rations when roasted but now have been replaced by products of cultivation. Botanists call the Camote—

Hoffmanseggia densiflora

A perennial herb, Pignut, or Camote, grows from 6 to 12 inches high with few to several spreading stems, the herbage quite conspicuously glandular especially about the flowering parts. The twice-parted leaves are situated at the base for the most part, usually clustered in a heavy tuft. They vary from 3 to 5 inches in length, composed of several pinnae or primary divisions made up of 6 to 10 very small, closely-set, oblong leaflets, inclined to fold inward. The long naked flower stalks lift their colorful racemes well above the bright-green leaves, displaying them to full advantage. The corollas are orange colored, from a golden shade to red-orange, about half an inch long, the 5 petals with long claws, the lower part of the petals and the claws densely covered with stalked glands. The ovary likewise is bestudded with curious tack-shaped glands. The 10 stamens have hairy filaments, the alternate ones also heavily glandular. The flat pods are mostly straight, from one to 1½ inches long, containing few to several seeds.

Camote is quite common in the Colorado and Mojave deserts up to 2000 feet, reaching over twice that elevation in Arizona, extending eastward to Texas, and well down into Mexico, usually blooming from April to June, sometimes on through the summer.

It is vigorous enough to thrive well on hard alkaline soils, where it has little competition, but it is quick to take advantage of more fertile cultivated soil, making surprising headway because of its habit of sending up new stems along the creeping branches of the deep rootstock, thereby rapidly becoming a troublesome pest under improved living conditions.

There are two other herbaceous species with spreading stems and persistent foliage, both of them absent from the California deserts but found from Arizona to Texas. Their roots are woody, not tuber-bearing.

Hoffmanseggia drepanocarpa

This species sends up its stems from a thick taproot. The herbage is clothed with fine appressed hairs, the bipinnate leaves mostly basal, the petals short-clawed without glands. The sickle-shaped pods are often curved almost to a semicircle. The specific name means "sickle fruit." It blooms from May to September at altitudes of 3000 to 5000 feet.

Hoffmanseggia jamesii

James' Hoffmanseggia inhabits about the same areas as the above but reaches somewhat higher altitudes, commonly on dry plains and mesas but sometimes takes up residence in the piñon-juniper belt, blooming from May to August. It may be identified easily by the conspicuous black glands which speckle the leaflets on the under side, the stems, flowers and pods also dotted in like fashion. The large root is spindle-shaped and the crescent pod unsymmetrical, being much widened above the middle.

This small-leaved species, Hoffmanseggia microphylla, lacks the aggressive spirit of Pignut, even though it may grow to a height of ten feet in contrast to the foot-high stature of Pignut. Its bright yellow blossoms may be seen from March to October.

Hoffmanseggia microphylla

This species has a very different personality from that of Pignut. It lacks the aggressive spirit, strictly minding its own Ps and Qs. A rounding shrub, it has erect rush-like stems densely hairy with fine soft hairs. Usually it grows from 2 to 4 feet high but favorable soil and moisture may send the many wand-like stems up to 8 feet or even more. The twice-pinnate leaves are 1 to 1¼ inches long, set alternately rather far apart. They have only 3 pinnae, the end one twice as long as the other two. The tiny oval leaflets number 8 to 18 and often are edged with red, sometimes all red, and folded inward rather closely.

The numerous leafless elongated racemes measure 3 to 8 inches long, openly spangled with yellow or orange blossoms about ⅓ inch long. The bright yellow of the corolla is set off by the dull red of the downy calyx, which at first is grey-green, each sepal neatly edged with red glands. The gland-dotted crescent shaped pods are about ¾ inch in length.

This species is quite common on sandy or stony soil along the banks and slopes of dry washes and canyons, sometimes on mesas, at low elevations in the Colorado desert and southwestern Arizona, ranging into adjoining Lower California and Sonora. It may be found in bloom from March to October. Painted Canyon in the Mud Hills of the northern Colorado desert fosters a fine array of these attractive bushes. At higher elevations they also may be found in Inyo county, particularly in Owens valley, but the more arid southerly deserts are their favored resorts.

This group of the pea family was named in honor of J. Centurius, the Count of Hoffmansegg, co-author of a Flora of Portugal, who lived from 1766 to 1849.

The chill winds of winter are sweeping across the top of Ghost mountain these days—and that creates new problems for a family without artificial sources of light, and only a sparse desert landscape as a source of fuel for heating and cooking. The Souths refuse to denude their mountain of such growing shrubs as junipers. The alternative is to walk long distances to gather the dry stalks of dead mescal—pulpy stalks which throw an intense heat for a minute and then are gone. But to Marshal and Tanya the daily chore of gathering fuel wood is no hardship. They have spent the greater part of 11 years in their remote desert mountain home. That is the life they have chosen and it has brought them health and happiness, and where on earth can one find more than that?

Desert Refuge

By MARSHAL SOUTH

Children of the desert are Rider and Rudyard. Their mother is teaching them from books—Nature is building strong bodies and alert minds.

A CLEAN desert wind whips from the east, driving in from the far distance where the Sierra de los Cocopahs stretch a dim rampart of goblin blue across the horizon. The low hunched junipers of Ghost Mountain sigh chillily to the gusts, and the eddying smoke from Yaquitepec's one tall chimney trails to leeward like that of a steamship bucking a head wind.

But the desert sun, low hung upon its southern course, shines from a cloudless sky. The whole vast, tumbled panorama of wasteland wilderness—of jagged peak and saw-tooth ridge and writhing lowland wash—glows in crystal light. Yes, it is winter. But this is just one of those wide, clear, bracing brisk days that gives desert winter its special charm.

There are however pools of summer warmth—little sheltered nooks where, screened from the drive of the wind, the sun beats down in a drowse of lazy warmth. One of these protected little patches is in the lee of the house. And here, assembled in tribal council, Rider, Rudyard and Victoria are living over again all the exciting events of Christmas. The sun glows on their sun-tanned bodies and the long, slender fingers of the gnarled little squaw-tea bush beside them make shadow patterns upon the white gravel as they talk. I am out of earshot of all but the wind-drifted blur of their voices. But I can guess well enough at the words. For old Santa and a host of desert friends, whose camp fires now send flickering greetings even from the other side of the world, made this a memorable Christmas at Yaquitepec.

Friends and friendship are soul-stirring things. And it is always at this season of the year that we reflect sadly on the madness and stupidity which set one human being against the other in bitter enmity, when instead they could so easily share the unlimited blessings of the Great Spirit in friendship and fellowship. Linked as we are in the bonds of understanding with such a host of desert friends, the greater number of whom we have never seen, it is doubly hard for us to contemplate the spectacle of a world gone mad and wading savagely through seas of blood toward a common destruction. Human beings, all. No matter of what race or creed or color. Fashioned of the same clay, in the same mould. Pursuing the selfsame cycles of existence, with the same needs, the same joys, the same sorrows and the same loves and fears. And in place of the extended hand of friendship, each to each, there is the blow, the word of insult, greed, treachery and the sword.

Yaquitepec days are busy ones in winter. Which does not infer that summertime is not packed full of tasks also. But in winter the shortened hours of daylight give less time for work. Yaquitepec is essentially primitive. And the lengthening of the work day by means of artificial light is neither practised nor desired. When the sun rises work begins; when it sets activities have to be suspended. This is the natural way of life, and the healthy way of life. But in an age of electric illumination man has largely forgotten this truth, and pays a sad reckoning in physical ailments, including that in injured eyesight, in consequence. The keen eye of the unspoiled savage is proverbial. Just how much of that keenness may be traced to the fact that he does not assault his sensitive eye nerves with any artificial light stronger than the yellow glow of torch or fire?

But short days make more crowded work hours. And to this is always added the winter job of keeping the fireplace fed with fuel. No small task in a region where fuel is scanty.

The bulk of our heating comes from the mescal—that marvelous desert plant of one thousand and one uses. Mescal butts, when of last season's flowering and thoroughly dry, are unsurpassed for heat and a brilliance and fury of burning. Natural oil and alcohol in the substance of the plant results in an almost incandescent flame, and the spreading, spiny butt, as it dies down into a glowing shape of coals, like a huge flower fashioned from illumined glass, is a thing of beauty which no crackling log can even approach. But the heat and the glow are short lived. Not so short lived as the twists of straw which the pioneers on the plains were forced to depend upon. But nevertheless short enough.

The amount of butts which a fire will consume on a chill winter day is staggering. All these butts have to be carried for

considerable distances down, or up, the slopes of the mountain. And each butt, with its long dry flower stalk, is generally a hefty load. The collecting of great heaps of this fuel, as reserve against the sudden descent of snowstorms, is something which Tanya and the two boys generally undertake. It involves considerable walking and mountaineering. It is not likely that the inhabitants of Yaquitepec will ever need to lay out a golf course in order to enjoy the benefits of physical exercise.

There are other fuel products of the mescal, however, besides the comparatively new, dry butts. The remains of dead plants also are excellent burning material. Though, being rotted down and closely matted, they are inclined to smoulder and smoke. The dry flower stalks too, cut into handy lengths, make excellent, though short lived, stove fuel. But it is the ancient roots—the dark, almost petrified core of very old dead mescals—which give the longest burning, though not large, fires. These old cores are almost the equal of mesquite wood. They are hard and very difficult to get lighted. Once burning however, they will form a glowing mass, very much like that of hard coal. Such a little fire will glow and smoulder for hours on a cold winter night. You have to crouch close to it, Indian fashion. But that is in keeping too, with good sense—and with the desert.

We never cease to marvel at the mescal. What the bamboo is to the Oriental so is the mescal (agave) to the dweller of those sections where it flourishes. So many of the basic wants of primitive man are supplied by this one plant that it is difficult to speak of it without an excess of enthusiasm. Not only does it supply fuel after its life span is ended. But during its existence it is capable of furnishing footwear, cordage, clothing, food, drink, sugar, alcohol, vinegar, paper, soap—and a host of other products. The Aztecs were fully aware of the many excellent qualities of the plant. And the Mexican variety of it, which is much larger than the native growths of Ghost Mountain, was called upon to supply a large proportion of domestic needs. There is even a record, in Aztec history, of the spiky thorns of the plant being used to punish unruly boys, who were jabbed—let us hope more or less tenderly—with them.

There is no single growth on Ghost Mountain upon which we are as dependent as upon the savage dagger pointed mescals. If a sandal strap breaks when we are on a tramp we turn to the nearest mescal clump for repairs. The tip of a long, fleshy stiletto pointed leaf bent over and stripped down yields a natural needle with a length of tough threads already attached. If we need a longer or a stouter thread, all that is necessary is to sever a big leaf close to its base and pound the pulpy flesh with a rock until the fibers are loosened and can be combed out and separated by the hand. Then a quick arrangement of strands and a few twists, or even just by braiding—and your cord or rope is made. At one time we always used rawhide or leather for sandal straps. Now we use mescal fiber. It is easier to get.

If a brush is needed to sweep about the fireplace, or a broom needed for the floor, or a big paintbrush for applying asphaltum to a water cistern, or a tiny brush for decorating pottery—again we turn to the mescals. You can make brushes from the fibers as artistically as you have leisure for. Or you can just pound the edges of the big dry leaves on a stone and use them "as is." You can tie them in bunches, with their own fiber, and build up as big a brush as you need. And in the case of a broom you use a length of dry mescal stalk for a handle.

If curtain poles are needed, or legs for light tables, or if there is a light fence to be built, or if rustic shelves are required, or napkin rings, or boxes for small objects—for all of these, and for many more needs, the mescal is our first thought. And in the springtime, when the plants begin to send up their new shoots, there is the toothsome, pumpkin-yam sweetness of the roasted mescal hearts. Here on Ghost Mountain we have not even begun to tap the resources of this desert friend of man. And it is with malicious satisfaction that we hug to our bosoms the knowledge that the hand of Commercialism is not likely to reach for the mescals in these regions, despite their many virtues. There are not enough mescals growing wild to feed the greedy maw of a factory. Exploitation must go farther afield . . . to the regular agave plantations . . . for its cordage. The Great Spirit of the desert planned a jest for all the despoilers of its useful plant life. They grow too slowly and there are not enough of any of them in any given area to make any schemes of greed profitable. This applies to the Yuccas and to the Ocotillos and to the Mescals alike—as many impractical, and often fatly subsidized, concerns have discovered to their chagrin.

Clumps of short velvet-green grass spread spots of color along the bases of the boulders and in the shelter of squaw-tea and buckwheat bushes. The rains that drift in across the western wall of the sierras have washed everything clean and the quartz gravel sparkles in the sunlight like a strewing of crushed marble. The three tortoises are sound asleep, tucked up for their winter hibernation within the shelter of the house. Rider's three stalks of corn are all dead and yellowed. But we harvested five tiny ears from them. Not bad (at least so Rider thinks), considering they were nourished on water saved in spoonfuls from domestic uses, and upon occasional bottlefuls brought home on water hauling trips. Onions now have the limelight, for we have a little patch of them, the gift of a friend, growing bravely on our smallest garden terrace. At night they are covered up tenderly with gunny sacks, for the spears of the frost and ice stab violently sometimes in the hours of darkness. And often the water in the outdoor catch-pool is frozen over.

Practically all of the lizards have gone into hiding. And the squirrels who used to come for scraps on the terraces appear no more. Little white-crowned sparrows hop demurely about under the house windows or pose, watchful for crumbs, under the shelter of the junipers. The ramarillos—a species of rubber brush—have their grey green coats trimmed with a woolly sprinkle of dingy-white dead blossoms, amidst which, here and there, late lingering blossoms prick out little dabs of yellow. The cottonwoods of the lowlands all have shed their leaves. The creosotes are sere, and the mesquites and the catclaws are stark and chill.

Yes, it is winter. But what a winter. And what a land. You must live in it to love it. And you must love it to live in it. For localities, like people, have souls. And their full charm and confidence is given only to those who love them.

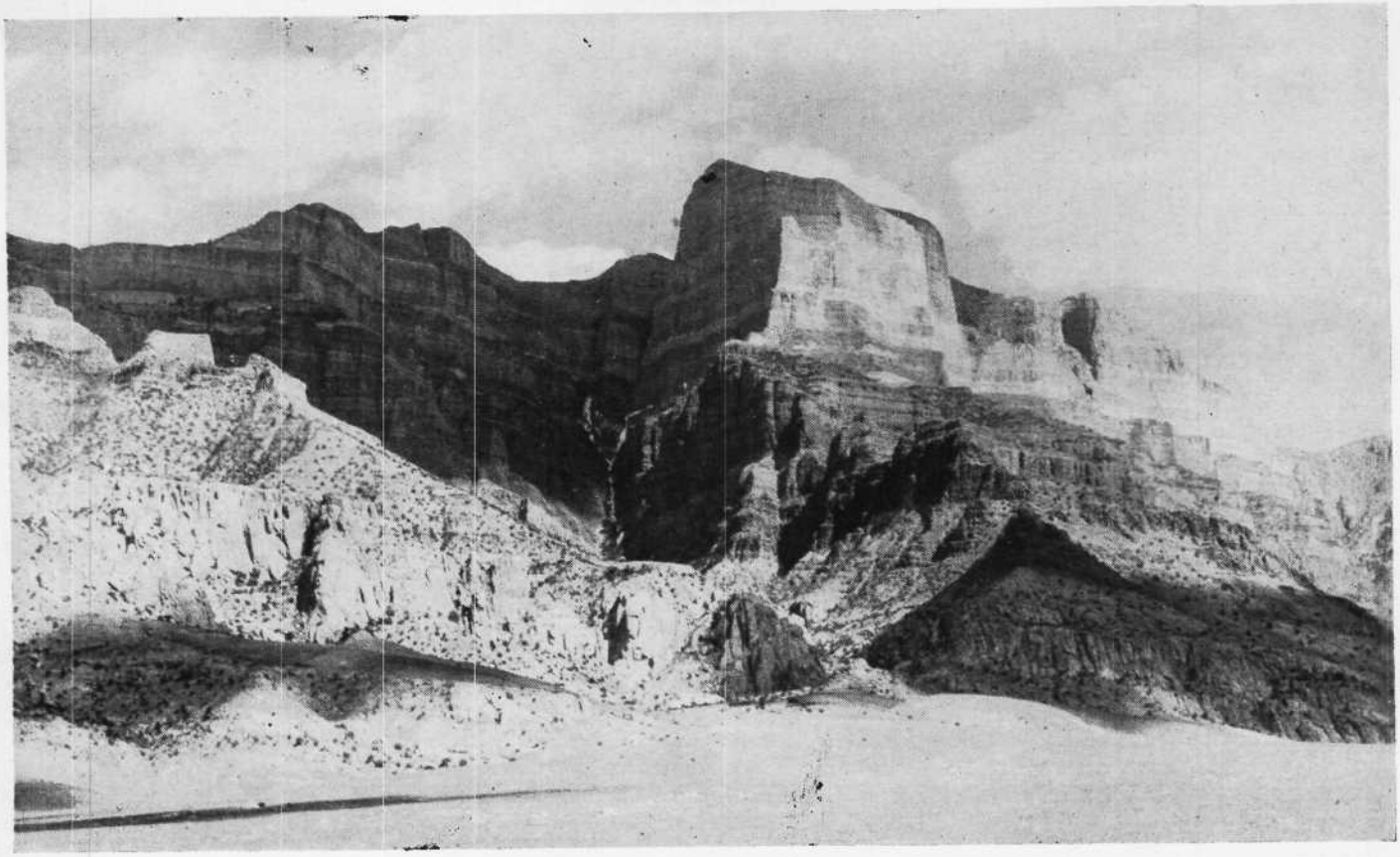
And here, in this jagged desolation of tumbled rock and waterless wash, and dim blue distances, the spirit of the land is very real. How many shall turn back the pages of the long vanished years and read its history? How many shall even guess at the secrets which are crooned by its night winds, whispering about the old rocks and about the fire-blackened stones of long deserted hearths?

• • •

OH, LIFT YOUR HEARTS

Still rise the mountains as of yore.
Oh, lift your hearts and see!
The splendors of life's endless store
Should be your company.
Then do not grovel when you can
Be heir to boundless sky.
Man is not made of common grain,
But spirit high.

—Tanya South



Along the base of Notch Peak runs the great fault whose slight but frequent movements cause the rumbling of the mountains. Located in the House range of western Utah, the peak is 9725 feet above sea level and almost one mile above Tule valley to the west. Photo by Frank Beckwith.

Utah's Rumbling Mountains

Five hunters, disappointed to return to camp without a deer, were consoling themselves by watching the sun set over a magnificent vista of Utah valleys and ranges. Suddenly they were aroused by a terrific jolt. The earth trembled and shook. A long rumbling rolled like thunder. Speculations to explain it ran high. Soon a column of black smoke in the distance convinced them a new volcano was in the making. But their theories were proved wrong by one man, who continued through the years to study the geology of the area until he learned why the mountains rumbled. He was Frank Beckwith, Delta publisher, who has made many discoveries in the Utah mountains of scientific value. Here is the explanation of the rumblings, which have been reported by others in various sections of the world, but which most lay observers could not explain any better than the deer hunters who first drew Beckwith's attention to the phenomenon in the House range of Utah.

By CHARLES KELLY

ON a bright October day, a few years ago, five men from Sevier valley, in Utah, decided to go deer hunting on Swasey mountain in the House range, 50 miles west of Delta. After selecting a camp site high on the mountain, they began scouring the rough slopes, covered with a growth of piñon and cedar. But it was a poor season for game, and late in the afternoon they all returned to camp without success. Tired and discouraged, they agreed to rest awhile before cooking supper.

Walking to the edge of a sheer cliff several hundred feet high, they let their feet dangle in space as they watched the sun slowly setting behind a magnificent vista of wide desert valleys and the saw-toothed mountain ranges of eastern Nevada. The crisp mountain air was scented with fragrant cedar, the spot was peaceful and quiet, and the brilliant October sunset, they agreed, was well worth the effort of climbing to that lofty viewpoint.

Suddenly, without warning, there came a terrific jolt, as though the mountain had been struck wtih a mighty sledge hammer. This heavy shock was followed by a shaking and trembling of the ground, accompanied by a loud rumbling sound like distant thunder. The hunters sprang to their feet and raced away from the edge of the cliff in record breaking time. The trembling ceased after a few seconds, but the rumblings continued for several minutes. When the sound died away and the men gathered their scattered wits they tried to judge what had happened.

Some thought the sudden jar and noise

had been caused by part of the cliff falling away; but a cautious inspection some time later showed the cliff standing as solidly as before. Others thought perhaps the strange sound, like a distant explosion, had been caused by volcanic activity, of which there were many old evidences in Sevier valley. This latter theory seemed to be definitely proven, when, a little later, they observed a high column of black smoke rising into the sky off toward the west. A new volcano, they were sure, was in the making. Hurriedly breaking camp the hunters rushed back to the town of Delta with this astounding news.

Early next morning a group of excited men routed Frank Beckwith, editor of the local newspaper, out of bed.

"We're going out to see the new volcano!" they shouted. "Want to go along?"

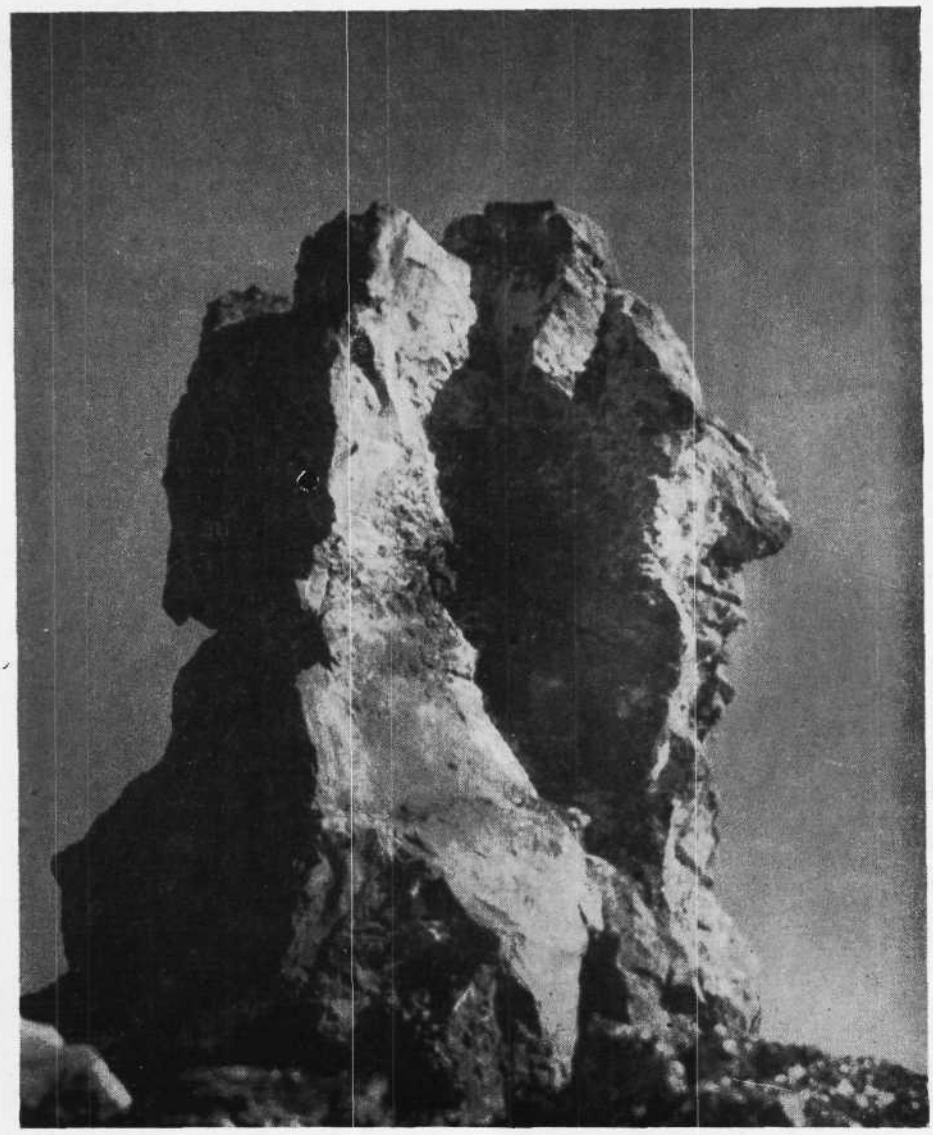
"Sure!" said Frank, only half awake. "I'll be ready in a jiffy."

For several years Beckwith had been studying the geology of his section of Utah, exploring old craters, lava flows and hot plugs from which steam still issued. Much of that activity appeared to be fairly recent, and there was a bare possibility, he thought, that a new eruption might have taken place. If so he wanted to be among the first to observe it.

Fossil hunting expedition in the "Rumbling mountain" area about 20 miles from Notch Peak, 1927. Dr. Fred J. Pack, University of Utah professor, in foreground studying fossil specimen. Frank Beckwith, Delta publisher, at extreme left. Party is on a cove of massive lime. Top 160 feet of Notch Peak is fossil bearing Ordovician lime. The party is working in an outcrop below this level. Beckwith photo.

Bumping over 50 miles of rough desert road the party reached Swasey mountain where Beckwith and his companions, guided by one of the hunters, climbed to the hastily deserted hunting camp. In their climb they found no evidences of the reported earthquake. Arrived on top they scanned the horizon with field glasses, but there wasn't a puff of smoke or steam in sight. Some of the party began to think the guide had partaken too generously of snakebite remedy, but he insisted he was telling the truth and pointed out the exact spot where he had seen the smoke. Perhaps, he said, the first great billow of smoke had been followed by a flow of hot lava. In that case the glow from the lava might be reflected in the night sky. But when night fell there was no telltale glow in the sky.

That was Frank Beckwith's introduction to the Rumbling mountains. The smoke seen by the hunters, he discovered after long inquiry, was caused by a sagebrush fire in Disappointment valley. But the trembling of the ground and loud rumbling sound were not figments of the hunters' imagination. Those mountains, he found, had been making strange noises, off and on, for more than 40 years.



The Great Stone Face, bearing a remarkable resemblance to Joseph Smith, Mormon prophet, is an unusual landmark in the House Range area. From the top of the head, one can see a panorama including Notch Peak, Marjum Pass, Antelope Pass, Swasey Peak.

House range, from which the rumblings emanate, forms the western boundary of Sevier valley, 80 miles wide, in which are found many geological phenomena. This valley was once the bed of prehistoric Lake Bonneville, of which salt-laden Sevier lake (now dry) is a small remnant. On its wide flat surface are many extensive lava flows and several old craters, one of which was pushed up through the old lake, all showing comparatively recent activity.

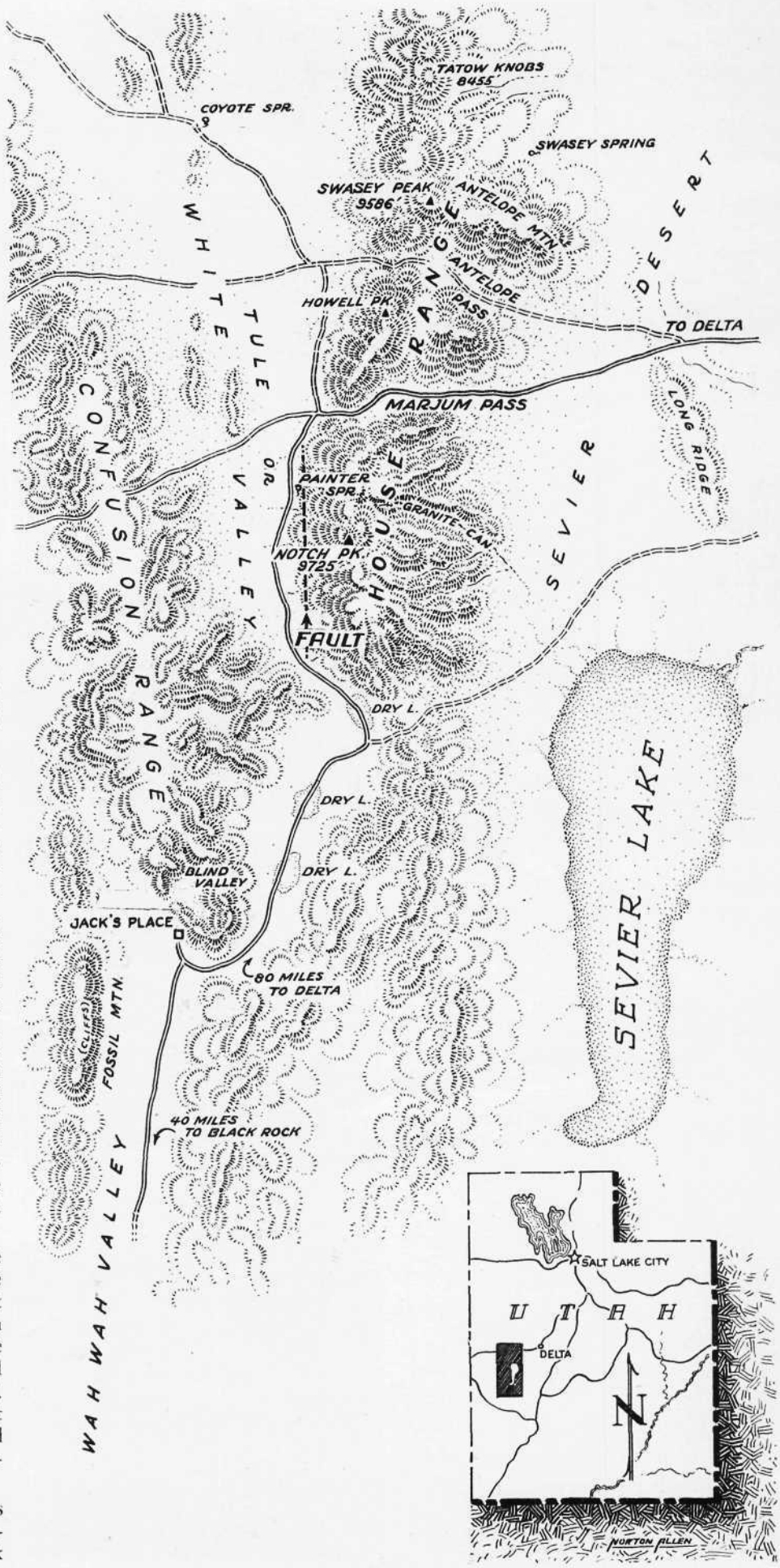
Highest point in the House range is Notch peak, with an elevation of 9725 feet. Its west face, standing almost exactly a mile above Tule valley, has a sheer drop of 3000 feet. Swasey peak, where the hunters received such a fright, lies a few miles north in the same range. Across Tule valley to the west are the appropriately named Confusion mountains. At the north end of the House range is Topaz mountain, where Frank and I picked up a hatful of fine topaz crystals, while a few miles to the south stands Crystal Peak, a pure white intrusion of unexplained origin.

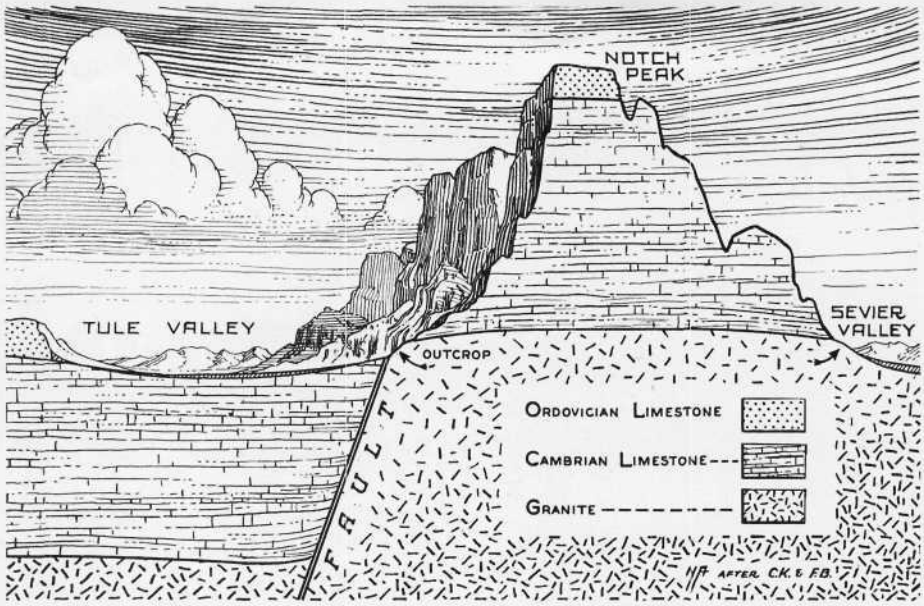
In all that vast expanse of wild desert between Sevier valley and the Nevada line there was but one permanent resident. Jack Watson located in Wah Wah valley in 1887 and for more than 30 years lived alone in his desert empire. During those years Jack kept a diary in which, among other things, he made a record of every rumbling of the mountains.

Jack says the rumblings usually sound like heavy blasting or distant thunder. At first he thought they were caused by blasting in the mines at Ely, Nevada, but later found they came from almost every direction. Occasionally there was a distinct tremor, such as frightened the hunters, which sometimes might send a loose boulder crashing over the cliffs, or rattle the windows of his cabin. At such times horses, cattle and sheep might become frightened and stampede across the desert. But usually there was only a sharp report like thunder or a long rolling growl, often followed shortly by two or three more of lesser intensity. At other times the sound might resemble a truck bumping over a rough road, or a herd of wild horses galloping by. Many were quite faint, but some were loud enough to wake one out of a sound sleep at night.

During the first years of Jack's residence in Wah Wah valley the rumblings were infrequent. According to his carefully kept records their greatest activity was between the years 1905 and 1920, when they were heard nearly every day, sometimes several times a day. Since then they have decreased. During one three year period they almost ceased entirely. Now they have resumed again, although the sound is not as frequent as before 1920.

Although Frank and I visited Jack's place several times, we heard the rumblings only once and then but faintly. Jack





Theoretical cross section of Notch Peak, showing fault whose movement causes the strange rumbling sounds heard by Jack Watson over a period of 40 years.

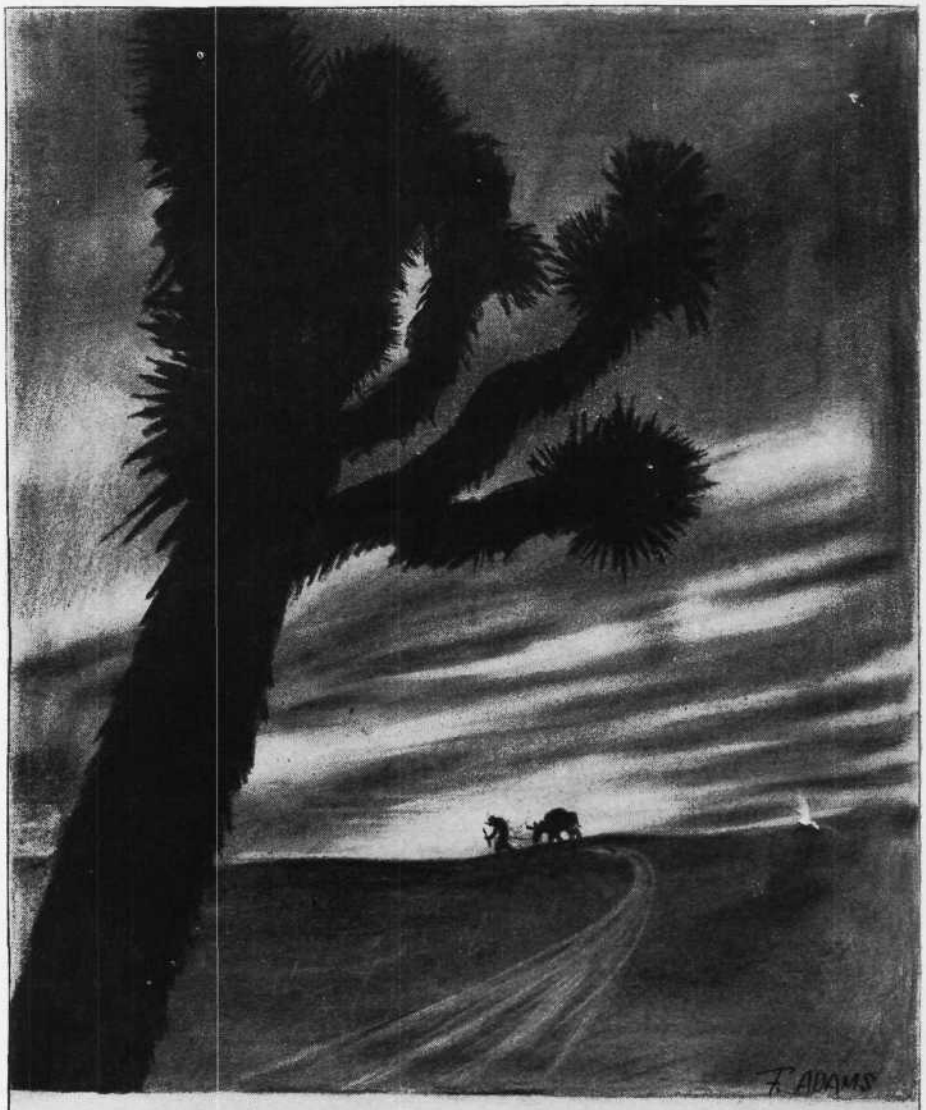
says that is because we always visited him in summer when the sound is less frequent. His records show that the rumblings occur much more frequently in cold weather and that any sudden drop in temperature during the winter almost certainly will be followed by sharp and frequent growling of the mountains. Just why surface temperature changes should have such an effect has never been determined.

Jack's records and story, corroborated by statements from other men who had passed through those mountains, intrigued Beckwith's curiosity to such an extent that he determined to find the cause of those strange sounds. With that idea in mind he made many trips to the House range, which seemed to be the center of the disturbances.

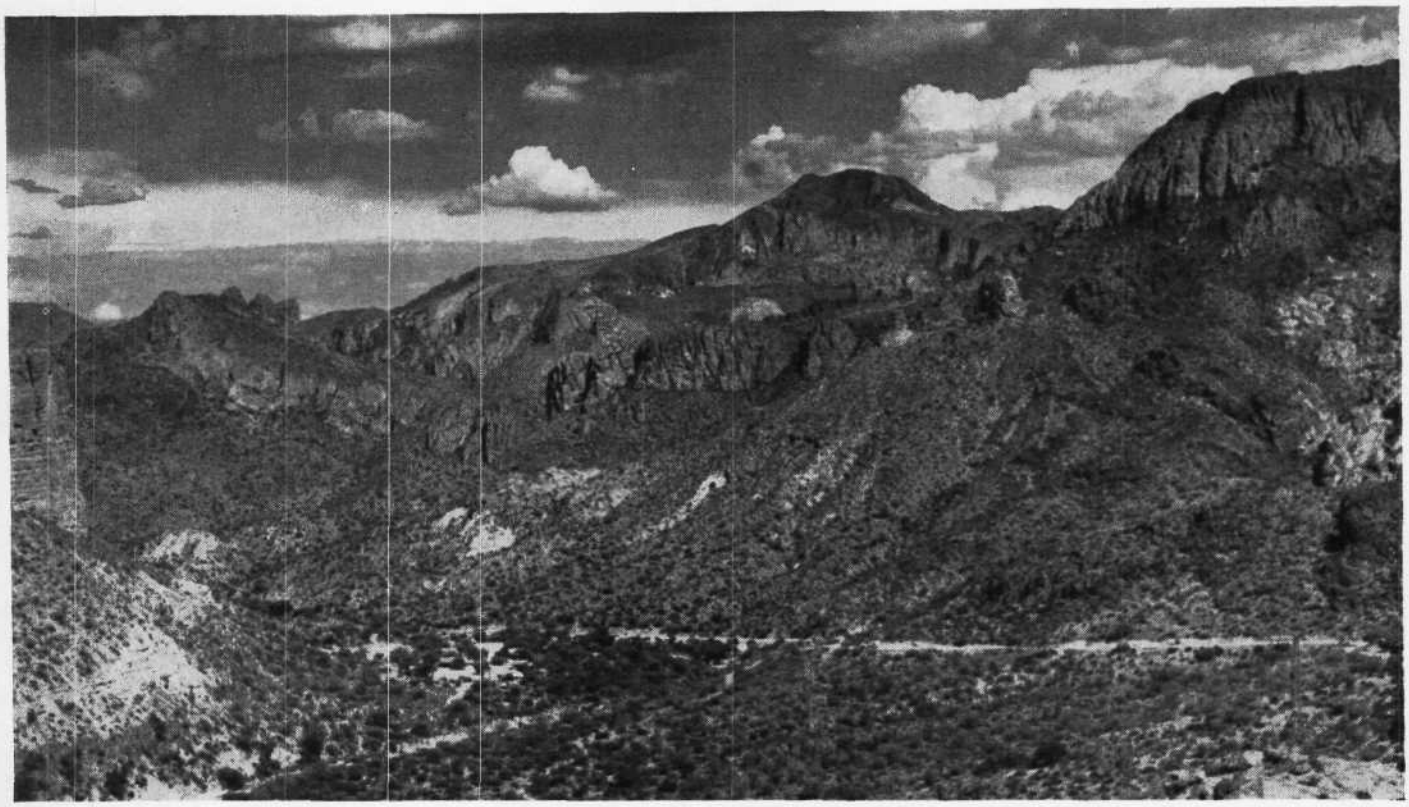
He found that its high, sheer west face was caused by an immense fault representing a displacement of several thousand feet. His studies showed that Notch Peak was composed of Cambrian and pre-Cambrian limestones and shales, tipped with 165 feet of Ordovician lime. Since this latter formation was found on the floor of Tule valley, to the west, the displacement along the fault must have been between 5000 and 6000 feet. At the base of Notch Peak he found an outcrop of underlying granite and later found granite about five miles from the east base. This indicated that the mountain had been slowly pushing upward while the valleys apparently had been sinking, particularly on the west where the great fault was so plainly visible. It is this movement or slippage of one great block of the earth's crust against another along a previously established crack which causes the rumblings heard in the House range. Such movement, at least in modern times, is so slight that it leaves no visible trace, yet it sets up underground vibrations which are heard as rumblings on the surface.

All other Utah mountain ranges seem to have settled down to a serene old age; only the House range continues to grow, at least audibly. There was a time, during the days of the old Fur Brigade, about 120 years ago, when the Uintah range of northeastern Utah was known as the Rumbling mountains, but its rumblings seem to have ceased about 1875.

Jack Watson had to leave his desert home a few years ago. Since then no records have been kept. But the mountains still rumble and occasionally the sound is heard at some of the outlying ranches west of Delta. Frank Beckwith was disappointed in not finding the new volcano reported by the deer hunters; but during the years he has derived great satisfaction from his study of the mountains "which grumble as they work," and has solved the mystery of their audible protest as they heave themselves slowly and painfully skyward out of the surrounding desert.



" WHEN I GROW TIRED OF PETTY TRIALS
AND CITY STREETS HAVE LOST THEIR LURE
I HIE AWAY TO DESERT HAUNTS
WHERE LIFE IS FREE - AND AIR IS PURE ! "



Tortilla Flat, pioneer stage station on the Apache Trail, and entrance of Tortilla Creek into the Superstitions. A day's travel south was where Wagoner stumbled onto his rich ledge. Today, Tortilla Flat Store, hardly visible in the immensity of space, is the jumping off point for lost mine hunters.

Wagoner's Lost Ledge

Bonanza gold in rose quartz! This is one of the treasure ledges men have been seeking in the region of the Superstition mountains in Arizona for many years. The man who found the gold even left a map in the hands of his friend the stage driver—but the map was imperfect, and the gold is still there—if you believe in lost treasure legends. This is the second story in Barry Storm's series—Lost Gold and Hidden Silver.

By BARRY STORM

IN THE early nineties, while Fred Mullins was still driving the Pinal-Mescal stage, one of his passengers, known only as Wagoner, often rode out along the desert from Pinal, Arizona, and then would vanish for weeks at a time. Sometimes, Mullins said, Wagoner would drop off at the western edge of the Superstitions and head north to prospect across the Salt river. At other times he would go back into the mountains nearer at hand. And always, sooner or later, Mullins would pick him up again somewhere along the road for a ride back to Pinal, where Wagoner rustled his grubstakes from the miners.

Wagoner, it was said, was from somewhere back East, a "lunger," as T-B sufferers were called, and he had to stay outdoors and in the sunshine as much as possible, if he wanted to continue living. So he was always on the move, prospecting here and there, carrying a blanket-roll and suitcase full of provisions. No one ever learned much about him.

On a day in 1894, after one of these trips, Wagoner found himself on the north side of the river, out of grub. Instead of making a long roundabout trip back past the western end of the Superstitions, which would have taken an extra day, he headed straight across the country toward Pinal. He crossed the river at Mormon Flat, hiked up the Apache Trail road to Tortilla Flat and then southeast up Tortilla Creek.

For some hours he followed the creek bed between high cliffs and steep slopes until he reached fairly level country on the east side of Tortilla mountain. Then he turned due south through the lower hills which, he knew, separated him from the head of La Barge canyon and a trail that went on down the southern slopes of the Superstitions through Red Tank canyon to Whitlow's ranch near the road to Pinal beyond. Hiking for the better part of a day Wagoner finally reached La Barge canyon where he found that he had misjudged his direction slightly and was a mile or so lower and farther west than he had expected to be. In the gathering dusk he missed the trail.

Night was upon him now, making it difficult to travel farther even if he had found the trail. But he continued down La Barge canyon another mile, staying in the center where the walking was open and comparatively smooth, and built a fire near a spring of water about three miles due east of Weaver's Needle.

When daylight came again, he saw that he was almost due north of Miner's Needle. He started down over the broken hills

to the east of Miner's Needle and within the hour stumbled upon a rose quartz vein outcropping on a southern slope. Knocking off a few pieces with his prospector's pick, he found the pinkish, glassy rock to be literally studded with bright yellow gold.

Here were all his dreams come true—freedom from want and worry, from having to beg strangers for grubstakes, and freedom to pursue his easy-going, nomadic life. For gold, the price of food, of fresh air and sunshine, was also the price of life itself to Wagoner. And breaking off a few pounds of the bonanza rock to put in his suitcase, he went on into Pinal.

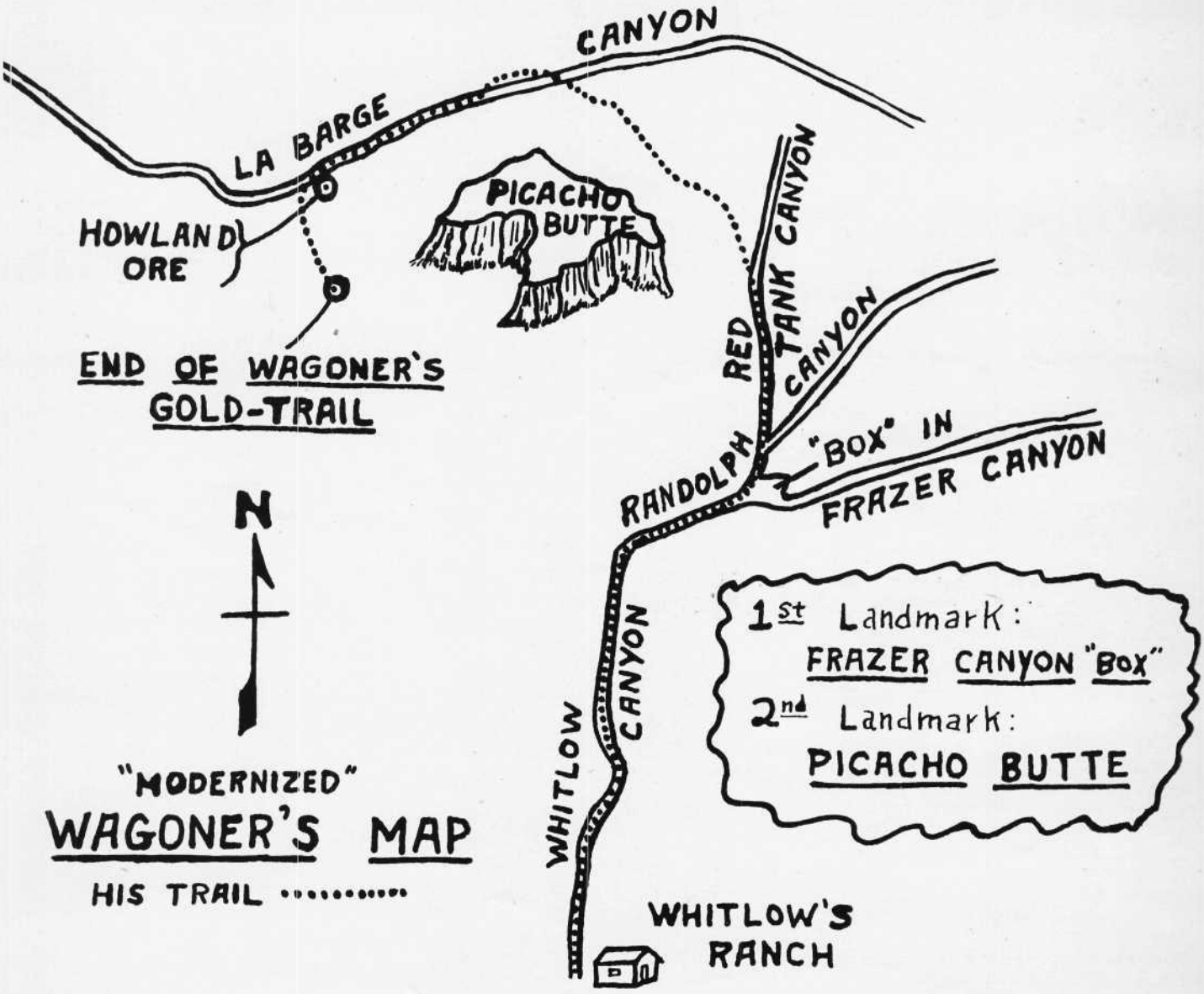
From that time on for months Mullins observed that Wagoner invariably left the stage in the vicinity of Whitlow's ranch and as invariably caught it there again a few days or a week or so later. And now he had two new leather suitcases in which to carry his groceries and effects. But instead of being empty when Wagoner flagged him down for a ride back to Pinal, the twin suitcases, which Mullins helped many times to hoist up to the baggage rack on top, were as heavy as when he went out.

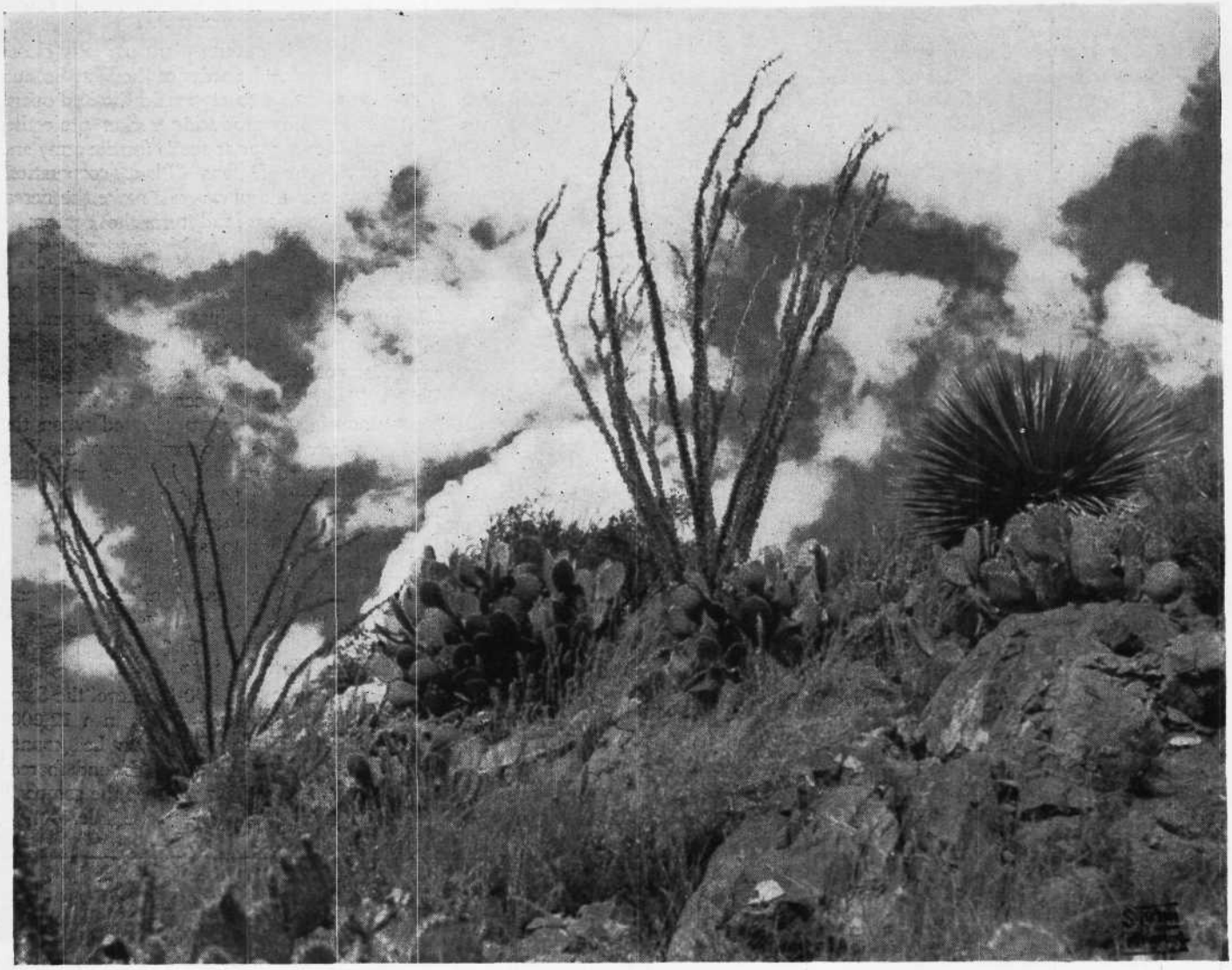
About this time there were rumors in Pinal that Wagoner was consistently cashing in large amounts of free gold which he had obviously separated by hand from crushed quartz rock. And then occasionally there would be an additional passenger who rode out from Pinal to disembark shortly after Wagoner had left the stage.

At first Mullins merely thought Wagoner had found a likely prospect which he was trying to keep hidden from one or more of his previous grubstakers who all seemed to be trying to trail him to it. One of these extra passengers confided that Wagoner always hiked a short distance up canyon from Whitlow's ranch where he camped out under a willow tree. And then always at a moment when he was unwatched, he would vanish abruptly toward the Superstitions with the suitcases slung over his shoulders on straps. His tracks could not be found. It was as though he had walked on air.

Added to this mystery was the fact that Wagoner was overworking himself making repeated trips back and forth to the Superstitions. He admitted it one day when he appeared pale and sick and asked Mullins to hoist the bags up alone. He had finished a certain job now, he remarked. And Mullins, agreeing that he should take things easier, almost strained his own back getting the suitcases on top of the stage. What was in them, he asked Wagoner, that they were so heavy?

Wagoner's mapped trail to his hidden gold ledge in the Superstitions, matched to correct topographic features north of Whitlow's Ranch, from which he always started.





There are other treasures than gold in the desert for those with eyes to see and soul to feel, delicate vistas of stark beauty, enchanting scenes ever new. Silent but somehow eloquent, nature's own song stills the noise of man.

"Look and see," Wagoner said. "This is my last trip anyway."

And Mullins opened one of the bags to find it stuffed with hand-picked gold ore of the highest grade—bonanza rock!

"Looks like you got it made, all right," Mullins said excitedly. "But many's the time I gave you a free lift when you were broke. How about letting a friend in on the secret?"

And he persuaded Wagoner to tell him the whole story of his accidental discovery and how he had been returning to it and wiping out his tracks with a piece of sacking which he had drug along behind. Wagoner even made him a detailed map showing the way back up Red Tank canyon into upper La Barge canyon and around a picacho butte. He explained, too, that he had always covered the rose quartz outcropping with rocks and bushes when he left it, and in addition, this last time, he had planted a circle of trees around it to grow up into a permanent marker if he should ever want to return. And now he was going to vanish from Pinal with the fortune he had accumulated and take life easy somewhere. And vanish he did, forever.

Fred Mullins tried to use the map but he could never quite find the right place. Many years later a resident of Mesa is reported to have found a clue without realizing its significance—two pieces of fabulously rich rose quartz which probably had been dropped by Wagoner. But the source remains undiscovered.

INDIAN TRIBES UNITE IN NATIONAL CONGRESS FOR MUTUAL BENEFIT

Through the newly formed National Congress of American Indians, first steps were taken in January to give the Indian population greater opportunity for advancement.

The first meeting of the Executive Committee of the National Congress was held in Chicago January 19-22. This committee was named last November when representatives of practically all the tribes met in Denver to perfect a permanent organization.

Among the objectives of the new Congress are the following:

1—To seek improvement in the administration of Indian affairs by the federal government.

2—To maintain advisory agents in Washington to advise congressmen in connection with Indian legislation.

3—To provide a legal department for the protection of tribes, groups and individuals.

4—To issue a news letter for the purpose of keeping Indians informed on matters affecting their welfare.

5—To establish a scientific polling system in order to determine quickly the views of members on important issues.

6—To cooperate with the American Indian Insitute in matters affecting the welfare of the tribesmen.

7—To advocate the creation of a special tribunal for adjusting Indian claims against the United States.

Mines and Mining . .

Pioche, Nevada . . .

A geological survey of the Groom mining district 80 miles west of Caliente is to be made by Fred L. Humphrey, former geologist for Basic Magnesium at Gabbs. The Groom mine has been an intermittent producer of silver bearing lead for 30 years.

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Yuma, Arizona . .

Addie S. Nottbusch, pioneer resident, has filed suit to clear title to 14 mining claims in the Kofa region. The claims are the Addie 1 to Addie 14, and the plaintiff's relocation of them dates back to December, 1933.

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Kingman, Arizona . . .

A. W. Smith and Carroll Farley recently returned from an 8-mile hike to the Black Mountain range southeast of Oatman bringing sacks of "calcite rose" discovered there by Smith several years ago. These are believed to be the largest and most unusual specimens found in the Southwest, some of the specimens having twists and swirls like a perfectly formed ash tray. They have a very definite rose color.

Boulder City, Nevada . . .

Although erected originally as a laboratory for the processing of low-grade manganese, the pilot plant installed by the U. S. bureau of mines at Boulder City can turn out more than 2,000 pounds of 99-plus per cent pure metal daily, according to the report of metallurgists who have been assigned there. The report tells of many improvements designed to reduce the cost of the electrolytic process. The publication is titled Report of Investigations 3681 — Manganese Investigations 1919, and may be obtained from the Bureau of Mines, Washington 25, D. C.

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Salt Lake City, Utah . . .

Urgent need for increased lead production is announced by the War Production Board through A. M. Dixon, consultant for the western mining division. Lead producers are urged to file requisitions for additional labor when needed, and to maintain operations at a maximum. Labor difficulties in Mexico, it is reported, have curtailed metal from that source, and this makes it important that miners and refiners in America operate at top capacity.

Las Vegas, Nevada . . .

Basic Magnesium plant partially closed in November by order of the War Production Board, is to reopen for limited operations again, producing rocket projectiles and 81mm. mortar shells for the army and navy. The Defense Plant corporation, owners of the plant, will make the necessary alterations and turn the equipment over to the Rheem Manufacturing company to rush out war munitions. The plant is reported to have produced 165,000,000 pounds of magnesium during its operation.

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Denver, Colorado . . .

Five thousand miners in the CIO metal producing trade were affected when the non-ferrous metals commission of the War Labor Board announced December 23 that the request for 14 cents an hour increase in pay had been denied. The commission explained that to alter the "little steel formula" limiting wage increases to 15 per cent of the prewar scales was beyond its authority.

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Hobbs, New Mexico . . .

Drilling at the 3800-foot level the Stanolind Oil company brought in a 12,000-barrel gusher near Eunice in Lea county November 30. Pay oil was found in reef limestone just about the time the company was planning to abandon the hole.

LETTERS . . .

Mojave Comes Home to the Desert . . .

Whittier, California

Gentlemen:

I am sending to you "Mojave"—one desert tortoise.

I found this tortoise on my way to work, near Long Beach, California. It was headed south, and probably was brought in off the desert by one of the soldiers.

For nearly a month, since I found Mojave, I have been unable to persuade it to eat. The story in Desert Magazine about the South children and their tortoise race gave me an idea. Why not send them this one? I am sure they will know how to take care of it.

If it is too much trouble to contact the Souths, please release the tortoise out on the desert where it belongs—not too near a road. Some one had daubed paint on its back before I found it—but do not try to remove the paint—you might injure the reptile.

Thank you for any kindness you may show Mojave.

JAMES E. MAYBERRY

Dear James Mayberry:

"Mojave" arrived by express in good order, thanks to your interest. We improvised a sort of cave in which he could hibernate—then on December 31 we took him out to the Souths at Yaquitepec—and he will have the whole range of Ghost mountain up there—with companions of his own kind.

It is too bad someone daubed the blue paint on his back—but he may not even know it, and we'll hope the other tortoises will be considerate enough of his feelings not to mention it. Or, perhaps that strange coloring will give him extra prestige in the tortoise tribe—who knows?

Anyway, I am glad you reclaimed Mojave from the chill damp air of the California coast—and headed him back to the desert where he can bask in warm sand and sunshine. As for his lack of appetite—this is the wrong time of year for a tortoise to eat. He is supposed to be asleep in his winter hole in the sand. On behalf of this harmless denizen of the desert I want to express appreciation for your kindness.—R.H.

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From the Land of Mud and Mire . . .

Italy

Dear Miss Harris:

I just received the October issue of DM, and decided to drop you a note. It is a welcome change from the mud and mire over here to read about places that aren't so wet.

I especially enjoy Randall Henderson's stories of North Africa. I spent a year there myself and get quite a kick out of his descriptions of the Arabs. What always amazed me most was the way they appeared from nowhere in some barren region. You can just stop your truck where nothing living is in sight (except a few plants) and within two minutes an Arab will be standing nearby.

I'm also a bit of a rockhound, but I am afraid it doesn't offer many possibilities here in Italy. I did find a large mine that had been producing iron pyrites—although I don't know what could be made with them. I took one specimen for myself.

I like the magazine very much but I am afraid I don't appreciate the life Marshal South writes about. It seems to me he is reversing civilization. Even the Arabs that Mr. Henderson writes about utilize all available means to elevate themselves above their present state.

T/3 JOHN W. ORR

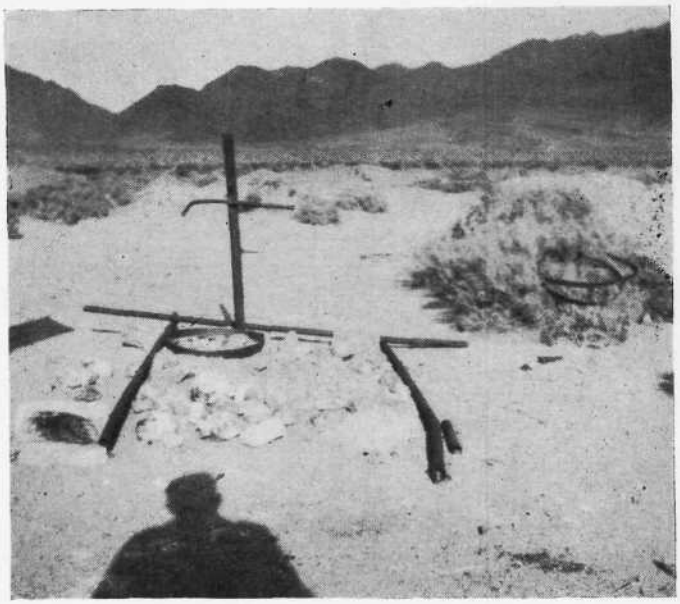

Photo taken by Fred Eads in 1907

Death Valley Grave That Vanished . . .

San Gabriel, California

Dear Sir:

The enclosed photo of a grave at Confidence Mill in Death Valley was taken in the spring of 1907. Next time I passed the place the junk man had gathered up all the metal scrap at the old millsite, including the iron cross on the grave.

The place was deserted for many years. Then in 1934 the price of gold was nearly doubled, and the following year when I passed that way two mills had sprung up on the old site of the Confidence.

By 1938 these also had vanished. The old ore dumps, including the rock mound on the grave were gone. If any of the readers of Desert can identify this old grave I would like to hear from them through Desert Magazine.

A. FRED EADS

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After the War—Life on the Desert . . .

India

Dear Friends:

The average magazine and newspaper comes through third class mail and is from three to four months reaching this interior station. I have never seen a copy of Desert Magazine, but have heard plenty about it. If it is what I expect of it, I would like to order a life-time subscription. I expect to prospect in the desert after the war—at night with a black light, and I am expecting Desert to be a sort of guide book for my future use. Thanks for your service to the men overseas, and I hope some day to visit the Desert press in El Centro.

M/Sgt. LEE ELMORE

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Here's One for the Archeologists . . .

Washington, D. C.

Dear Sirs:

We would like very much to find an Indian gong to add to our collection of Indian arts and crafts. Inquiry at the Indian Crafts shops here in Washington has been in vain. Could you give me the names of any dealers, or other sources, that would be likely to have a gong for sale.

MRS. F. M. CLINGAN

Mrs. Clingan: I'll have to confess my ignorance. I never heard of an Indian "gong"—that is, related in any way to the American Indians. Can any reader of Desert throw any light on this subject?—R. H.

Elephants Near Monkey Flats . . .

Hanford, California

Dear Randall:

I just finished reading your article "Oasis in the Chuckawallas." I had the pleasure of spending two weeks at Aztec Well in 1943. The trip was made with a man who worked for some time for Steve Ragsdale. His name was Ernie Haycox.

When we were there we stayed with an old Indian named John de la Garza. At that time he was taking care of Corn Springs, since A. B. Chaney was doing his prospecting temporarily on the front porch due to ill health. We got to visit the graves of those grand old men of the desert, Gus Lederer and Tommy Jones.

Also, we went up to Monkey Flats and on the way up there we saw interesting rock formations which John called the "Feeding Elephants." I believe you missed something by not going up there.

I have my stacks of Deserts laid away so that when I get out of the army I can make some of those trips.

PVT. MARK STACK

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Mining Days in Coyote Mountain . . .

Escondido, California

Dear Sir:

In your edition of January, 1945, you requested information about the old roads in the vicinity of Coyote mountain, Imperial county, California.

I can give you first hand information regarding the early history of mining in that area. My first trip into Painted Gorge was in January 1896, and thereafter for many years I spent from three to six months in the Coyote mountains and vicinity.

During January 1901, I discovered and located a deposit of grey marble about 1½ miles northwest of the Gorge. A few years later the Golden State Mining company was organized in San Diego.

The first location, and several later ones, were included in the company's holdings and I assumed the superintendency of the subsequent development. At that time we limited our work to the more accessible places, from north of Dos Cabezos to the west of Alverson canyon, as well as Creole, the first discovery mentioned.

About 1910, other limestone—so-called marble—deposits were located by James Fowler, to the south and west of Painted Gorge. He organized a company, the name of which I have now forgotten, and built a house, sheds and other structures just below the mouth of the Gorge. No marble was ever shipped from this locality but the iron-rimmed wheels and other machinery were part of the equipment intended for future use.

Lack of financial backing soon caused this venture to be abandoned, but in the meantime a very small deposit of silica sand suitable for water filters was found about half way up the east side of Coyote. He built a steep and impracticable road to this deposit—but did not ship any of the product.

In 1913 the Golden State company built a road leading north from the mouth of the Gorge to a banded marble deposit near the summit of the hills at that point. Nice specimens can be found there of dark grey, white and pinkish marble. There has never been any other mineral mined in the vicinity to my knowledge.

I hope this will help clear up the mystery of Painted Gorge. The name Painted Gorge has been applied recently. It had no name in the old days. Needless to say, both companies have long since ceased to exist, and their liabilities charged off to experience.

W. H. TRENCHARD

Touring the Desert on Kerosene . . .

Santa Fe, New Mexico

Dear Mr. Henderson:

Referring to the story in January Desert about your trip in the jalopy that burns a mixture of kerosene and gasoline. If you will consult a qualified oil man I believe you will find reasons not to encourage the use of a mixture of kerosene and gasoline in an automobile. I have been told by people who should know that the explosive potential of this mixture is many times greater than that of pure gasoline. Serious accidents have resulted from using the two together.

E. T. SCOYEN

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Mountain Sheep at the Hayfields . . .

Pasadena, California

Dear Sirs:

I thought you might be interested to know that we believe we saw a mountain sheep cross Highway 60-70 near the Hayfield aqueduct pumping plant last month. It was traveling north from the Orocopia mountains toward the Cottonwoods in daylight—no evidence of others following.

DR. J. E. FILMAR

Dr. Filmar: You are probably correct. There are still a few sheep in that area, ranging part of the time in the Chuckawallas and at other times in the ranges to the north.
—R. H.

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Story of a Four-Legged Desert Rat . . .

Top O' Th' Pines, Prescott, Arizona

Dear D. M.:

Speaking of "desert rats" recalls to my memory a baby kangaroo rat unearthed from his desert refuge by a curious dog many years ago, near Needles. I rescued the little fellow and raised him on a doll's nursing bottle. He grew to be a huge fellow, for a rat, with slick dove colored fur, and big, shiny, black eyes. My brother and I used to turn him loose in the livingroom, where he would romp with us like a kitten, sometimes jumping clear over our heads. We fed him on Polly's sunflower seeds, much to the pretended disgust of that bird, who made ferocious dives at him every chance she had.

Our mother was mortally afraid of the pet rat, and whenever she discovered that he was out of his cage, made a mad scramble for the highest piece of furniture. One day my brother and I returned from a visit to our grandmother to find that Bright Eyes had "escaped" from his cage and gone back to the wide, sandy stretches. A glance at Mother's relieved face told us the story . . . Our grief was appeased only by Father's kind and understanding sympathy; for we knew that wherever our long-legged playmate was, our father had seen to it that he was given his chance to live, among those of his own kind.

Needless to say I have a kindly feeling for the desert rats, both four-legged and two-legged. I do not feel any antipathy toward the name, as Mr. Singleton does. It intrigues my interest and imagination.

IDA SMITH

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Calling for Hardrock Shorty . . .

Hemet, California

Dear Editor:

I have been reading the D.M. for some time now, and I've always enjoyed it. But with the shape the world is in, we need something to make us laugh. I have noticed with some disappointment that the "desert philosopher" is missing—better known as Hardrock Shorty. I am sure others feel as I do, and miss Hardrock.

RICHARD WIPPERT

Dear Dick: Editors of D.M. are trying to locate Hardrock—and if we can lasso the sunuvagun we'll have him in Desert again. We miss him too. *—R.H.*

HERE AND THERE . . *on the Desert*

ARIZONA

Postmaster Buys State Landmarks . . .

TUCSON — Crumbling ruin of Fort Lowell, once center of Old Tucson's brilliant social life, has passed into private hands. It was bought at public auction by George Babbitt, Jr., Flagstaff postmaster, who previously had bought site of the Oatman Massacre, about 17 miles east of Sentinel, where the Oatman family was attacked by Apaches in 1851. Said Babbitt of his purchases, "Both were made with the one aim of helping to preserve historic landmarks which are fading all too rapidly in Arizona."

Bird Cage is Novel's Setting . . .

TOMBSTONE — Bird Cage theater, center of interest during Tombstone's silver boom days, will receive national publicity when Lynton Wright Brent's novel, *Bird Cage,* is released by publishers next spring. Brent, of Hollywood, has made Tombstone his home while writing novel, which uses many early day characters and centers about experiences of a New York theatrical troupe which came for opening of the theater, December 26, 1882. Brent already is working on another novel, *Brewery Gulch,* with setting in Bisbee.

"Cattle of the Future" to Be Educated

FLAGSTAFF — Plan for preventing cattle accidents on highways at night is suggested by Andrew L. Case, supervisor of driver education for state highway department. He urges that farmers continue to increase number of white-faced cattle in their herds, teach them from calfhood to walk on left side of street or highway, facing approaching traffic. "If, in years to come, we succeed in teaching our cattle this first rule for pedestrians on the highways, we can then hope to teach human beings," Case concluded.

Texan Buys Historic Ranch . . .

BONITA—W. T. Waggoner, Jr., Fort Worth, Texas, in December added to his extensive cattle holdings by purchasing the Eureka ranch near here, one of the finest "spreads" in the Southwest, for a reported price of more than $400,000. In purchase were included 2000 head of Hereford cattle, all range lands and leases, ranch and guest houses, equipment. New owner and his wife plan to make this their permanent home. Ranch was established more than 50 years ago, has seen service as a stockade and stage stop between Fort Grant and Fort Thomas.

Frontier Marshal's Widow Dies . . .

TOMBSTONE—Death came December 19 to Mrs. Josephine Marcus Earp, 75, widow of the colorful frontier marshal Wyatt Earp. She died at her Los Angeles home. During the days her husband restored law and order in frontier towns from Dodge City to Tombstone, she was his faithful companion. They settled in Los Angeles in the early 1900's. He died there January 13, 1929. In 1939 Mrs. Earp served as technical advisor for the filming of her husband's career at Tombstone.

Fifty to Go Buffalo Hunting . . .

GRAND CANYON — Hunters will crop 50 buffalo from the state owned herd in House Rock valley north of here February 3 and 4, in order to maintain the herd at 200, which is carrying capacity of the range. Herd produced 51 known calves the past season. The 50 hunters, drawn by lot, will be allowed to keep head, hide and one front quarter and may buy one other quarter at 25-35 cents per pound. No commercialization of the meat is permitted.

All-American Engineer Transferred

YUMA—Leo J. Foster, U. S. reclamation bureau engineer here the past eight years and in charge of all construction work on All-American canal and Gila canal projects, left in December for Denver where he will be with chief engineer of the bureau. He will be given special assignments and serve as consulting engineer.

Assistant Named for Refuge Area . . .

YUMA—Frank B. McMurry of Havasu Lake national wildlife refuge, near Needles, California, has been transferred to Yuma area to assist Arthur F. Halloran. Yuma office will administer Havasu and Imperial refuges as well as Kofa and Cabeza Prieta game ranges, a consolidation made necessary by war conditions.

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CALIFORNIA

Old West Relics Destroyed . . .

THOUSAND PALMS — A valuable collection of relics belonging to Harry Oliver, picturesque desert trader, was destroyed by fire December 17 at Dewey Wallace warehouse here. Rare old maps, covering West from the days when California was thought to be an island, Indian pottery, antique furniture and brassware, ancient firearms and other museum pieces which far exceeded the $8000 valuation placed on them, were lost. There was no insurance. Oliver, who had been working on a fireproof adobe structure to house the collection, will complete his building and seek a new collection.

Indians Not Selling Their Home . . .

PALM SPRINGS — Palm Springs Indians want it known their reservation here has not been sold and no negotiations for its sale have been started. William Veith, local Indian agent, made the announcement at request of tribal committee, to stop rumors which had been circulating.

Legion Works for Mesa Homesteads

EL CENTRO—Imperial county American Legionnaires moved again in January in effort to bring about development of county's East and West mesas in interest of both World War I and II veterans, when they conducted their national commander, Edward N. Schierberling, on tour of areas. Official surveys list only about 40,000 acres as "suitable" for farm development, while farmers and soil experts believe much more is adaptable to certain types of farming. Efforts of various groups to secure permission for test farming on 10,000 acres so far have met with refusal. Legionnaires, fearing federal prohibition against opening area to homesteading while suitability is in dispute, feel there are no grounds for refusing test farming.

Birds Aid Project for Blind . . .

SHOSHONE—Jack Kenny, blind canary fancier, is progressing with his plan to establish a rancho in Death Valley for rehabilitation of newly-blinded persons, including returned servicemen. When Kenny, former sales expert for national corporations, became blind more than six years ago and failed in four-year effort to have his vision restored by specialists in Europe and this country, he came to Death Valley country and started raising pedigreed roller canaries for which he has developed a national market. Now in effort to raise funds to help other blind people "find themselves" he is setting up curio store to sell Indian crafts and souvenirs, and is inviting civic and service clubs to purchase canaries at $20 each and leave them in his aviary as a memorial to some deserving person. All proceeds will be used to finance rancho where "guests" will be taught appreciation of the beautiful in life, tricks of trade in getting about in a dark world, and how to become independent though blind. Candidates to Rancho del Valiente (ranch of the stouthearted) will be nominated by donors of memorial birds. Many birds already have been purchased and named for servicemen, war heroes, deceased members of families and crippled relatives. Much of the response has come as result of publication in August, 1944, issue of Desert Magazine of Kenny's story, "The Man Who Heard Music in the Desert Darkness."

Postwar Airport is Possibility . . .

DESERT CENTER—This community in Chuckawalla valley may have a postwar airport if resolution before congress for $25,000 for its construction is approved. It is hoped to obtain this amount as part of nationwide airport program of civil aeronautics administration which calls for expenditure of $1,250,000,000 to build 3050 new fields and improve 1625 others. This community would be required to match government appropriation on dollar-for-dollar basis, unless state legislation is provided to allow state aid.

Four-Million Dollar Date Crop . . .

INDIO — Coachella valley dates this season have brought income of more than $4,000,000, exceeding last year's crop by $500,000, according to Eugene C. Jarvis, United Date Growers association manager. Ripening, harvesting, packaging and marketing will continue until next summer, it is expected. In past years distribution has been largely completed by end of Christmas season.

Honor Given Rancher-Artist . . .

HOLTVILLE—William R. Thompson, rancher-artist of this district, has received acclaim for his oil painting, "Hole-in-the-Wall", recently exhibited by American Veterans Society of Artists in New York City. Painting is landscape of barren western mountains.

Postmaster Since Teddy's Day . . .

BLYTHE—What is believed to be a postal service record has just been chalked up by P. D. McIntyre, this town's first and only postmaster. At close of Christmas rush December 26 he completed 36 years as postmaster, having served since his appointment by Teddy Roosevelt in 1908. At that time Palo Verde valley population was 300 and mail was brought in from Glamis three times a week. First postoffice was in a little adobe building known as The Big Store, on site now occupied by new city jail.

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NEVADA

Tips for Meteor Hunters . . .

RENO—Nevada's sagebrush lands and unexplored hillsides probably contain a large number of undiscovered meteorites, believes Dr. Vincent P. Gianella, department of geology head at University of Nevada. Second largest meteorite known to have fallen in U. S. was discovered near Tonopah in Quinn Canyon mountains in 1908. It was found by an old prospector and weighed about 3600 pounds. There are reports throughout the state of meteorites having been seen passing through the air. Dr. Gianella urges people to observe carefully the flight of a meteorite by some landmark or compass bearing so their course may be determined. Normally meteorites lose their incandescence about 18 miles above earth's surface, although they have been known to strike the earth while still flaming. They have a commercial value of about $5 per pound, Dr. Gianella said. The university mining laboratory will analyze free any substance believed to be a meteorite.

Plan Hunting, Fishing for Veterans

CARSON CITY—Nevada will become a sportsmen's paradise if state's supply of wild animals, fowl and fish is increased as provided in a 14-point program announced in December by E. J. Phillips, chairman of state's fish and game commission. Phillips said program was to insure better fishing and hunting for returning servicemen. He pointed out that leading army and civilian psychiatrists recommend hunting and fishing above all other types of therapy for mental relaxation needed by battle tired veterans. He seeks intensive studies of game areas to increase productiveness and correct biological balances and pollution conditions. One of most urgent problems is to reduce large number of game law violations.

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During past four years there have been almost twice as many Indian births in Nevada as deaths.

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Next conference of 11 Western governors has been set for some time between April 15 and May 1 at Reno.

It Didn't Change the Climate . . .

BOULDER CITY — Despite extravagant predictions when Boulder dam was built, Lake Mead, largest artificial reservoir in the world, has made no appreciable change in the climate around southern Nevada and northern Arizona. This was the recent testimony of William B. Warne, assistant reclamation commissioner, before house irrigation and reclamation commission at Washington. While immediate vicinity of the 120-mile lake has enjoyed slight benefit in its weather, such effect is not noted at any distance. Lake has a surface area of 162,700 acres.

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NEW MEXICO

Tradition Bent But Not Broken . . .

ZUÑI—Wartime conditions are disrupting Zuñi Indian tradition. Shalako, the ancient house blessing ceremony, is held each December with elaborate preparation and festivities. But this year one of the Shalako priests had to leave for army induction just before the ceremony. Part of the rites includes a scalp dance, initiating a new bow priest, but since no enemies were at hand they had to use dog scalps instead. Further curtailing ceremony was the house shortage. Since Zuñis are so busy driving their cattle and sheep to market to meet wartime needs they had no time to build new houses, only five new ones being ready to dedicate. These setbacks however did not discourage the Shalako gods, in strange costumes ten feet high, nor the Mudheads, most sacred of pueblo gods, who came down from Thunder mountain to preside over all night ceremonies, dancing and festivity. When the prayer plumes were planted on the flats bordering Zuñi river and the gods retired to the sacred mountain, Zuñi New Year officially began.

Kit Carson Aide Dies . . .

MORA—Jake Rains, one time scout and Indian fighter for Kit Carson, died at a Colorado home for the aged December 22. He was believed to be more than 100 years old. His possessions included a bell from the old mission here, which had been cast of gold and silver coins and was valued at $5000.

Indian Service Officers Named . . .

DULCE—A. E. Stover of Dulce, superintendent of Jicarilla-Apache reservation in northwest New Mexico and southeast Colorado, was elected chairman of Southwest superintendents' council of U. S. Indian service at December meeting in Phoenix, Arizona. Floyd McSpadden, of Ignacio, Colorado, superintendent of Consolidated Ute reservation, was elected vice-chairman, and Burton Ladd, of Keams Canyon, Arizona, superintendent of Hopi reservation, was chosen secretary.

Indian Crafts to Be Filmed . . .

GALLUP — Arrangements are being made by Warren Trainsue and Homer Hott in cooperation with Navajo service officials here to produce a technicolor visual education film on Indian arts, crafts and industry. The film would cover the entire arts and crafts field on 16 mm size for use by schools, clubs and other organizations. It is intended to include some black and white shots in the film to convey by contrast the great beauty and brilliant color of Southwestern landscapes.

Aztec Monument Improvement Voted

AZTEC—E. T. Scoyen, associate regional park director, has announced that $8000 has been allotted by national park service to build a drainage ditch around prehistoric ruins at Aztec national monument. Scoyen said the monument has been "depreciating" the past several years because of seepage from nearby irrigation ditches.

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Pfc. Ben Quintana, outstanding 21-year-old Indian artist, former student at Santa Fe Indian school, has been reported killed in the Philippines.

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UTAH

Public Health Steps Taken . . .

SALT LAKE CITY — Comprehensive report on hospital facilities in Utah, with far-reaching recommendations for establishment of state medical center, district hospitals, rural health centers and branch health centers, as prepared by U. S. public health service, was accepted in late December by a special committee appointed by Governor Herbert B. Maw. Proposed state medical center would be for diagnostic, teaching and research work and would be developed by university medical school on grounds now owned by Salt Lake general hospital, using existent facilities as a nucleus. It was expected Gov. Maw would recommend suitable measures in his message to the state legislature.

Japanese Will Leave Topaz . . .

TOPAZ—Utah's giant relocation center here, home for from 6000 to 8500 Japanese since its founding in January, 1943, "will be disestablished in an orderly manner," Luther T. Hossman, project director, announced following proclamation which will permit most of the residents to go anywhere in the U. S. after January 2. Exodus is expected to take place over period of six months to a year. Since only those who have been carefully examined and cleared by military authority will be allowed to leave, proclamation requests that these persons be "allowed to enjoy the same privileges accorded other law abiding American citizens or residents."

Utah Artist Honored . . .

SALT LAKE CITY—National recognition has come to Joseph A. F. Everett, prominent Utah artist, who has been awarded the Logan medal, presented annually by the National Society for Sanity in Art. Award was made for his watercolor, "Deep Snow," is being shown at California Palace of Legion of Honor, San Francisco. Everett is the first Utah artist to receive the award.

PERMANENT BINDERS are now available for your DESERT MAGAZINES

Desert readers who have been waiting two years to obtain binders for their back files can now be furnished with covers for all volumes. The new binders are the same as formerly supplied —mottled brown Spanish grain imitation leather cloth with gold embossing. Each volume has space for 12 copies which can be easily inserted without punching or mutilating the magazine. They lay flat when open.

The current volume of Desert is No. 8, but binders can be supplied for all volumes 1 to 9, and we also have a large number without volume numbers stamped on them. Otherwise they are the same as the numbered volumes. The price is . . .

Each Binder, including packaging, postage and tax $1.25

WANTED--

To meet the constant demand for back issues of Desert, the following prices will be paid for earlier numbers. These copies should be complete with cover, suitable for resale:

November, 1937	$3.00
April, 1938	1.00
August, 1938	1.00
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February, 1939	2.00
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Complete Volumes--

While Vols. 1 and 2 are not always immediately available, we will book your order for them, and can supply all other volumes at once, at the following prices. Some of the copies are newsstand returns and not in new condition, but all of them are complete and 100% serviceable.

Volume 1, Nov'37 to Oct'38	$12.00
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Single copies to complete your Volumes 5, 6 and 7 are available at 25c each. Write for prices on single copies for earlier volumes.

Why DESERT MAGAZINE readers are keeping their back files!

Ninety per cent of all Desert subscribers are keeping permanent files of their magazines—files that contain a wealth of accurate well-indexed information always available for instant reference. These files contain—

- **Mapped trips for the weekend outing or the summer vacation.**
- **Stories of the lost gold mines of the Southwest.**
- **Maps and detailed information of the gem and mineral fields.**
- **Life and customs of the various Indian tribes.**
- **Nature studies of reptiles, birds, animals and the geology and botany of the desert Southwest.**
- **Adventures in mountain climbing.**
- **Answers to a thousand questions regarding the lore of the desert.**
- **Suggestions for acquiring and homesteading western lands.**
- **Locations of waterholes, maps for reaching oases of American desert.**
- **Personal stories of artists, craftsmen and photographers of the desert.**
- **Home-making in the arid lands.**
- **Placer and lode mining—the personal experiences of men and women who are taking gold and copper and silver and non-metallics and chemicals from the desert hills and playas.**
- **Miscellaneous subjects ranging all the way from how to milk poison from a rattlesnake's fangs to the art of polishing a desert gem stone.**

All this information is made instantly available to those who keep permanent files of Desert Magazine in their homes, through an annual index published each year in the October issue.

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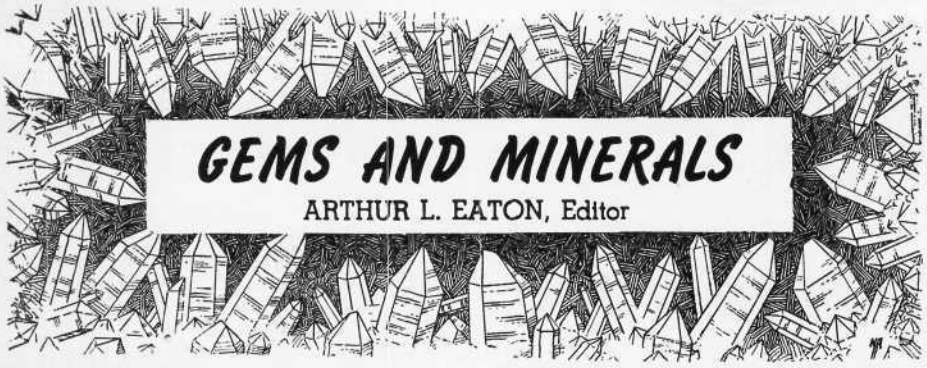
THE DESERT MAGAZINE

EL CENTRO, CALIFORNIA



BAY CLUB ESTABLISHES CIRCULATING LIBRARY

East Bay mineral society has established a circulating library. Committee in charge includes Mr. and Mrs. D. E. Cameron, R. O. Deidrick, Mr. and Mrs. Frank Miller and Mr. and Mrs. E. C. Shokal. Purpose is stated as follows:

1—To purchase books, magazines, etc., on mineralogy and related subjects and make the literature available to members on a loan basis.

2—To obtain and make available maps showing locations of mineral deposits and geological points of interest.

3—To assist members in planning field trips.

4.—To add to the mineral society's bulletins points of interest discussed by the committee.

Loans will be made to members for two week periods at the minimum fee of ten cents. Penalty for overdue books is 25 cents. Money collected will be available for purchase of new material. Several donations of books already have been received.

Mr. and Mrs. Frank Miller have donated a case for storing and carrying literature.

• • •

PAST PRESIDENTS OF PACIFIC MINERAL SOCIETY GIVE TALKS

Pacific mineral society, Los Angeles, held past presidents' night in a new meeting place—Asbury apartment hotel, 2501 west sixth street. Past presidents present each gave a short talk as follows: Victor M. Arciniega—Copper minerals of Arizona; R. J. H. Mittwer—Tin ores of Mexico; R. H. Milligan—Selenium; E. Burris Bingham — Minerals with a personality; Dean M. De Voe; N. L. Martin—Manganese.

Each speaker illustrated his talk with specimens, making a good mineral display. Labeled specimens were exchanged as gifts.

• • •

Los Angeles lapidary society reports an attendance of more than 100 at December 4 turkey dinner in Friday Morning clubhouse. Each member contributed a beautifully wrapped surprise gift, a polished stone of some description. Letters of the alphabet were put into a box and as they were drawn members whose names began with the selected letter chose gifts. Stones were of wide variety and size from a beautifully faceted gem to a four inch cube of Death Valley onyx, as well as much jewelry.

• • •

M. D. Killdale, geologist for International smelting and refining company spoke on geology and mineralogy of Tintic district at December 5 meeting of Mineralogical Society of Utah. H. H. Hayes gave a ten minute talk on the recent meteor find in Millard county.

• • •

East Bay mineral society enjoyed motion pictures December 7, shown by George E. Duff, through courtesy of Standard oil. December 21 a potluck dinner was held in main building at Lincoln school with a program, motion pictures and exchange of gifts following the banquet.

FLUORESCENT MINERALS

SALTON SEA HALITE

Many of those persons interested in fluorescent minerals have missed entirely the significance and beauty of halite—common salt. Around the edges of Salton Sea, or at the salt works on the north shore of that body of very saline water, often are found small clusters of salt cubes. These cubes, a common isometric crystal of salt, are small, seldom more than one half centimeter in diameter, but their fluorescent quality is excellent. When placed under a cold quartz lamp, they fluoresce a brilliant red, fully equal to that of the best calcite.

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NEW PROGRAM ARRANGEMENT FOR L. A. MINERAL CLUB

Christmas party of Los Angeles mineralogical society was held at West Ebell club December 16. Presidents and wives of all mineral societies in the area were invited, and also all those who were speakers during the year. Gifts of specimens were exchanged.

Study classes are postponed for the duration but a series of short talks will be given at regular meetings dealing with the tools of the mineralogist—such as specific gravity balance, hardness set, blow pipe, goniometer, etc.

A different arrangement has been made for awards in the regular mineral identification contests. All making a score of more than 70 per cent will have a chance to draw for the prize, and those with ten per cent or better will draw for a consolation prize.

Cañon City (Colorado) geology club began its 17th consecutive year with election of Robert Romans, president; Earl Roberts, vice-president; F. C. Kessler, secretary. Past activities of the club have included gifts of nonmetallic minerals to state museum in Denver and to municipal museum in Cañon City. The society also discovered and excavated complete remains of a dinosaur which have been placed in Museum of Natural History, Denver.

AMONG THE ROCK HUNTERS

J. G. Ennes spoke on Grand Canyon at December 20 meeting of Northern California mineral society held at public library, civic center, San Francisco. Kodachromes depicted the colors and formations of the region.

Mrs. Ralph U. Gustafson, secretary Seattle gem collectors' club, states that really good quality plume agate is scarce. Out of 26 people who dug ten days at Priday's ranch only one found gem quality material.

• • •

John Albanese, member New Jersey mineralogical society serving in the Marine corps, sent the society a large collection of volcanic formations. They are on display in Plainfield library.

Mrs. Arthur Foss talked to Seattle Gem collectors' club at November 21 meeting about C. N. Clinesmiths' find of petrified hickory nuts near Ellensburg, Washington. The fossil nuts were found in the heart of a petrified sycamore log—possibly the store of some prehistoric squirrel.

• • •

University of Arizona has just issued bulletin 152 on Arizona nonmetallics. Price 30 cents—free to residents of Arizona. It discusses composition, occurrence, commercial uses and present operations of nonmetallics in the state. Comprehensive and comprehensible.

• • •

Annual Christmas potluck dinner and party of Long Beach mineralogical society took place in the new clubrooms, Belmont recreation center, 4104 Allin street, December 13. Board meetings also will be held at the clubhouse fourth Wednesdays. They are open to the membership but not to visitors.

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January issue of Rockpile, monthly publication of East Bay mineral society, Oakland, lists distinguishing characteristics of metamorphic rocks, including gneiss, schist, phyllite, slate, serpentine, soapstone, quartzite and marble.

• • •

Ben Hur Wilson spoke on meteorites at December 2 meeting of Marquette geologists association, Chicago. Dr. Ball gave a short talk and president Stevens T. Norvell showed kodachrome movies of Big Horn mountains. Members exhibited new specimens acquired during the year. Auction and raffle in November enriched the treasury by $45. The most interesting item raffled was a hand carved and polished agate necklace sent by Sgt. Steve Gulon from India.

• • •

Second December meeting of Mineralogical Society of Arizona brought a program of educational films presented by Standard Oil of California. Member Marie Kennedy of Newton, Kansas, sent gifts of barite roses and limonite pseudomorphs after magnetite for each member.

• • •

W. Scott Lewis talked on geology of the High Sierras from Mammoth to Ritter at December 11 meeting of Mineralogical Society of Southern California held in lecture room of Pasadena public library. Mrs. Lewis assisted the speaker in showing colored slides. Study of new Dana system continued and minerals classified as sulfosalts were on display.

• • •

Minnesota mineral society of Minneapolis has joined Midwest federation of geological societies.

QUIZ ANSWERS

Questions are on page 8

1—In its upper jaw.
2—Trail shrines are built of rock.
3—Its scent.
4—Its herd of buffalo.
5—Arizona.
6—Turquoise.
7—Writer.
8—An Indian dwelling.
9—J. W. Powell.
10—Obsidian.
11—Chant of the Navajo.
12—Harry Carr.
13—Petrified Forest is east from Holbrook.
14—Ocotillo.
15—Mesquite.
16—Virgin River.
17—Arabian desert.
18—Nevada.
19—Name of a Hopi village.
20—California.

Geological Society of the Oregon country, Portland, Oregon, lists the following officers: E. N. Bates, president; Mrs. Mildred P. James, vice-president; Miss Ada Henley, 2015 S. E. Pine Street, secretary; Mrs. Mildred H. Stockwell, treasurer. The group meets second and fourth Fridays in the auditorium of Public Service building, 920 S. W. 6th avenue at 8 p.m. Luncheons are held Thursday noons in Victory room of Winter Garden restaurant, 425 S. W. Taylor street. Dr. Evert M. Baldwin talked at November 10 meeting on some of the aspects of the pliocene and pleistocene history of the Oregon and Washington coasts.

Cogitations . . .

Of a Rockhound

By LOUISE EATON

Yu'd think there wouldn't be eny jurms at all on th desert on account uv all th powerful sunshine a-bakin th land evry day. But jurms 'n flyz r nacheral associates, 'n did yu ever pitch camp enywhear that sum curious flyz didn't immediately visit yu?

• • •

Nothin smells much sweeter 'n cleaner than greasewood after rain. Sorta like naptha soap.

• • •

Even bright moonlight doesn't make rockhouns regret no-fieldtrippin these nights when th mercury drops below zero centigrade. Mutch.

• • •

New rockhouns most generally starts out to study th subject right. They gets along swimminly at furst. But pritty soon they encounters so menny new wurds whitch even th dictionary doesn't know that gets lost in a maze uv not-comprehendin. So finally they just settles back 'n absorbs all they can uv what uther rockhouns already knows.

Robert Ripley of Dallas at November meeting of Texas Mineral society, showed colored slides of Big Bend national park, scenes from Royal Gorge, Colorado, and flower pictures taken in Mexico and locally.

• • •

Fred Stein made and presented to Mineralogical Society of Arizona an ironwood gavel and anvil.

• • •

Texas mineral society has elected the following: Dr. L. A. Nelson, president; R. H. Hassell, vice-president; C. L. Doss, 8138 Eustis, Dallas 18, Texas, secretary-treasurer; A. L. Jarvis, G. E. Shackelford, Thomas D. Copeland, Dr. H. A. Trexler, board of directors.

• • •

California federation of mineralogical societies plans to hold 1945 nominations and election by mail through Mineral Notes and News, official federation bulletin.

• • •

Imperial Valley gem and mineral society met January 6 at home of Mr. and Mrs. Cecil Searcy, Holtville. Arthur Eaton discussed coming of Aztecs to Mexico, showing drawings and stone figurines.

• • •

Sequoia mineral society held its eighth annual banquet and mineral show January 2. Sequoia club draws membership from Parlier, Dinuba, Selma, Fresno and Reedley. Each group took the responsibility of some phase of the meeting such as display arrangements, favors and decorations, etc.

• • •

Cora Hamer, publicity chairman of San Fernando mineral and gem society, reports election of the following officers at annual Christmas meeting, December 14: Erick Stone, president; Charles Mikesell, vice-president; Louise Iverson, secretary; Charles Clark, treasurer. The group has just concluded one of its most successful years. Membership has nearly reached its goal and a building fund is well under way. Establishment of a sales table not only added funds to the treasury, but helped members enlarge their collections despite lack of field trips.

More than 100 members and guests celebrated ninth anniversary of Mineralogical Society of Arizona, December 7. President Flagg received a gift of merchandise order on Ward's natural science establishment. A brief history of the society's activities was read. Feature attraction was a fluorescent display loaned by Fred Wilson.

• • •

Umpqua mineral club, Roseburg, Oregon, features a box into which members put any specimens they can spare. When the box is filled it is sold for a dollar and the proceeds used to buy books on gems and minerals for the public library.

• • •

Mrs. D. H. Clark spoke on lost mines at December 7 meeting of Orange Belt mineralogical society, telling the story of Peg Leg Smith. She displayed gold specimens and ores. R. H. Ells told of a field trip taken in the mother lode district near Placerville, and Dr. Warren F. Fox displayed Chocolate mountain geodes.

• • •

Long Beach mineralogical society has chosen the following officers for 1945: E. F. (Bill) Carlson, president; Leslie Axtell, vice-president; Sam Christensen, 1069 Gaviota, Long Beach 4, California, secretary; J. E. Webb, treasurer, and Fritz Schmidt, board member.

AMATEUR GEM CUTTER

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

By LELANDE QUICK

There is an antipathy in some quarters among professional gemologists and commercial jewelers to the amateur gem cutter. Fortunately this is rare and usually is caused by misunderstanding and the feeling that the occasional sale of a homemade ring for a few dollars interferes with the sale of valuable merchandise like diamonds. This is not true any more than the handy man with a home work shop who makes a coffee table for a friend interferes with the sale of a grand piano.

Most amateur gem cutters, like most laymen, are intensely ignorant of gems until they begin cutting themselves and then their interest is stimulated and they glean knowledge about gems which they willingly pass on to others until their circle of friends becomes an informed group. Good merchandisers of jewelry have nothing to fear from knowledge possessed by the customer; those who prey upon the ignorance of the public deserve to be exposed.

Probably no country more than ours possesses as many people with the means to acquire fine gems. The fact that these people are interested, and admittedly ignorant of the subject, is evidenced by the acute interest engendered by this page and in the numerous talks I have given to clubs. Sooner or later amateur gem cutters reach the stage where they yearn for something better than material they dare cut themselves and they are faced with the problem of seeking a reliable jeweler. That is when amateur gem cutters help the jewelry trade by stimulating business. The wise jeweler will cultivate the amateur and even give him special consideration as he can well become his best personal advertiser.

In choosing a jeweler it is wise to remember that with such things as diamonds there are no bargains. Diamonds and all precious stones should be purchased from the best establishments for the prices are well standardized. They should be purchased from merchants whose staffs include registered jewelers and at least one certified gemologist. Registered jewelers are salesmen well trained in the knowledge of their business and qualified by study to give accurate and reliable information. They are licensed by the American Gem society with headquarters in Los Angeles. This society is to the jewelry trade what the American Medical association is to the practice of medicine—a regulatory body controlling ethics and standards. Certified gemologists are specialists, highly trained in the knowledge and testing of gems, although more often than not they have never cut a gem in their lives. They are certified only after an intensive course in gemology at the Gemological Institute of America which is located in Los Angeles and Boston.

The American Gem society now includes most of the foremost jewelers in America. There are, of course, some who do not belong, not because they cannot qualify, but because they follow the healthy American custom of not desiring to be regimented by any group just as there are many worthy doctors who do not belong to medical associations. I do not mean to imply that a jeweler who is not registered is not reputable but if he is registered you know that he has to live up to established high standards of ethics and you can feel safe in his recommendations.

The Gemological Institute publishes an excellent loose leaf quarterly on gem cutting and testing similar to the "Shop Notes" of the Los Angeles Lapidary society (and fitting their binders) which is excellent for the advanced cutter. It is of particular value to anyone who facets. The subscription is $3.50 a year and it can be obtained from the institute's headquarters at 541 South Alexandria avenue, Los Angeles. They also publish many interesting and authoritative books on gems at reasonable prices. All of these activities are under the guidance of Robert Shipley, the founder of both the society and the institute, who has become to gemology almost what Osler was to medicine. Students at the institute have come from every quarter of the globe.

The society's recent activities include the confirmation of a new deposit of good quality lapis lazuli in Colorado and the identification of the Wyoming jade as good quality nephrite, particularly the black variety which is probably the best in existence. They also exposed "Mexican jade" as fake and ruled out the use of the terms "blue white" and "perfect" diamonds which have been declared as misleading and meaningless. They have eliminated the policy of "caveat emptor" in a profession long suspect in the minds of the public so that registered jewelers should be favored with your custom. They can be identified by the term "Registered Jeweler—American Gem Society" on their show cases and windows. If readers desire more information about the protection afforded them they should send to the society for their booklet "Jewelry and Jewelers."

• • •

These are boom times for jewelers and probably more than any other class of merchants they are profiting out of all proportion to the real value of the merchandise they sell. When it comes to diamonds, rubies and emeralds, prices are as stabilized today as they were years ago but when it comes to an item like moonstones, what OPA price fixer is qualified to set a ceiling? For instance I recently looked at a costume piece that was a gold spray set with about 15 moonstones that should show a fine profit at $400 but the asking price was $1100. I saw a pin set with four small kunzites of poor color on which the price tag was $350, at least $200 too much. I had a clerk show me a cameo carved from an agate on which the ridiculous price was $300. I gave away a half dozen opals to my friends last year that probably would have brought $1000 over the counters in these times. Jewelers are in the unique position of being able to sell anything for any price but I hold them almost blameless for a characteristic of the American temperament is the belief that money was made to circulate—and there is nothing to buy.

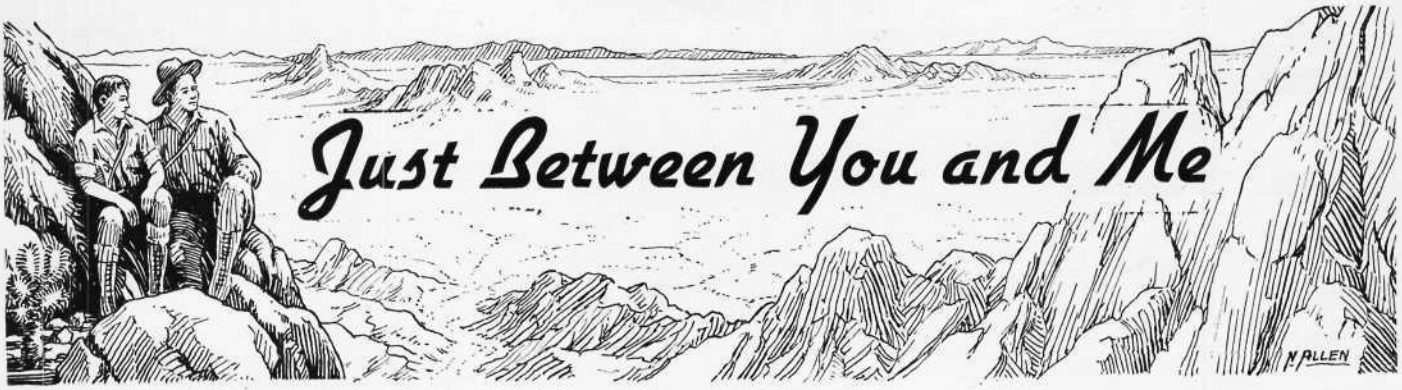
• • •

At a recent meeting of the Los Angeles Lapidary society it was decided to hold the fourth annual exhibition of their work in the spring. No show was held in 1944 so that there is every indication that the next show should be 100 per cent larger and probably several hundred per cent greater in quality as most of the amateurs have vastly improved their technique during the gasless years.

• • •

DID YOU KNOW . . .

- German silver contains no silver at all.
- Pressed amber (made of small pieces pressed together) turns white with age.
- Coral experts recognize 100 shades of pink.
- Turquoise should never come in contact with soap or grease or it will gradually discolor.



By RANDALL HENDERSON

THANKS to the extra gasoline which my status as a reporter permits, I was able this year to resume an old custom, I spent New Year eve camping on the desert—the first desert New Year party in three years. Last year I was in Algiers, in a blacked-out city where war-making was too intensive an occupation to indulge in New Year festivities. The year before that it was Morrison field, Florida, where I was busy making preparations for the flight over the south Atlantic.

But this year my daughter, Evonne, and I put our bedrolls in the car and drove out along the old Butterfield stage route to California's Anza Desert State park. That evening, with Sierra club friends who had been hoarding their A coupons for the trip, we sat around a campfire of Smoke tree logs—and our New Year wish for all readers of Desert Magazine is that during 1945 the turn of world events will make it possible for all those who like that kind of recreation to resume their camping trips.

New Year day we visited the palm groups in Mountain Palm Springs canyon, and other oases in that area. We selected that spot for our camping trip because I wanted to bring my log book up to date. My last trip there was six years ago. I am planning to write the story of those palms for the March number of Desert.

The winter night air on the desert is crisp. It was close to the freezing point when we crawled into our sleeping bags. But the bags were warm, and Evonne—in accordance with a good old camping custom—heated a rock in the hot embers and put it into her bedroll sometime before she turned in. Many of the Sierra women, who camp in all kinds of weather, have little canvas bags which they keep for the "hot rock" that warms up their bedroll on winter nights.

The 400,000 acres in Anza park have escaped the invasion of army training maneuvers. There are few roads, and much of the area is too inaccessible even to make suitable targets for aerial bombing. As a consequence, the park has had few visitors the past three years—and postwar motorists and hikers will find this desert wilderness even more rugged than it was before Pearl Harbor.

* * *

On the way to Mountain Palm Springs we stopped at the site of the old Carrizo stage station. I was glad to note that the crude headstone placed on the grave of Frank Fox by Bud Sackett of Anaheim in 1943 is still there. Twice since 1882 Fox's grave has been robbed of its roughly-chiseled tombstone. I hope the souvenir hunters will have the decency to leave the present stone in place.

In a tobacco can wedged between the rocks on the grave was this note, written by Sackett: "This stone was erected through the courtesy of one horse thief to another." Fox, accused of horse-stealing, was shot by an officer—but historians are by no means unanimous that the killing was justified. In any case the grave is a landmark entitled to the courtesy of preservation.

* * *

We made a long detour to pay our respects to the Marshal Souths at Yaquitepec on Ghost mountain. Marshal had been so busy lugging in dry mescal for the fireplace he hadn't shaved for a week—and was beginning to resemble one of those wild men of the mountains. He was very apologetic. But it wasn't necessary—for he is one of the busiest men in my acquaintance.

Many requests come to Desert Magazine from people who want directions for reaching the South home. Our staff here is under solemn pledge not to give out this information. It isn't because the Souths are inhospitable. It is mostly because at heart they are too hospitable. When guests arrive, work must stop—so that proper courtesy may be shown the visitors. But if work is delayed at Yaquitepec the family suffers actual hardship.

Folks who are accustomed to going to the store for every little gadget they want, have no realization of the time and labor involved in the rigid schedule of primitive living such as is maintained on Ghost mountain.

For instance, when I was there Marshal was wearing a belt with a buckle he had made himself. It would have taken five minutes and a few pennies for you or me to have bought such a buckle at the five and ten. Marshal probably spent a day making it. The Souths could get along with a lot less effort. But they are not that kind of people. They did not go there to escape work. It is not their creed to carry on with as little effort as possible—but rather, to accomplish as much each day as possible toward the goal of complete self-dependence.

Marshal and Tanya are artists at heart. They would never be happy just doing the routine chores of their existence. They must have time for creative work—for writing, for painting, for design in pottery and leather and wood. They could not do these things if the place was cluttered up with visitors.

And that is why the road to their mountain home is barricaded—and its location a secret. Because of the work Marshal is doing for Desert Magazine I have a standing invitation to go there. But I will confess I have a feeling of guilt every time I do so—because I know every hour I am there is delaying work they want to be doing, and should be doing for their own comfort and happiness.

* * *

The news of John Wetherill's death came too late for comment on this page last month—but I want to pay my respects

to the memory of a man who gave much and asked little during a life-time of useful service in the Southwest. In the heart of Hosteen John was more gentleness and greater courage than are often combined in one human. The Wetherills, John and Louisa Wade, were pioneers who, as John Stewart MacClary expressed it in an early issue of Desert Magazine, "helped establish goodwill in a region where previous generations of white men had brought misunderstanding and bloodshed . . . they were the trail-blazers of courage and integrity on a frontier where there was very great need for that type of character."

* * *

I have seen the name of the State Flower of Arizona—the Saguaro cactus—spelled in many ways. But it remained for Richard J. Hinton, writing a handbook on the history and resources of Arizona in 1878 to reduce the word to phonetic perfection. Thumbing through the old volume the other day I ran across this description of the Castle Dome mining district in that year:

"There are a few horses, mules and burros in the vicinity. There are no facilities for raising produce. Barley is worth $4.00 a 100. Alfalfa, wheat, corn, oats, sugar-cane, vegetables, cotton, fruits and wild hemp can be produced at Yuma. The varieties of timber are cottonwood, ironwood, willow, mesquite, *suwarrow.*"

Not so bad, at that. If we would adopt that spelling for use in English, it surely would save Arizona's tenderfoot visitors from a lot of blunders they now make in pronouncing the word.

* * *

Many letters are coming from rockhounds asking about the present status of California's geode fields in the Chuckawalla mountains. The answer is that the entire region between the Chuckawalla and Chocolate mountain ranges is now reserved as an aerial bombing range for the marines, and probably will remain closed until the end of the war.

* * *

A letter from Guy Hazen, desert rat who turned paleontologist, tells me that in ranging over the Southwest in quest of fossil bones he has located several new fields of semi-precious stones which will interest the rock collectors. Also, Guy has promised that when field trips can be resumed he will pass this information along to Desert readers who are interested.

* * *

Two years ago President Roosevelt set aside 222,000 acres in the Jackson Hole country of Wyoming as a national monument. There was opposition, and during the last session of congress in 1944 a bill was passed annulling the president's action. Then Roosevelt killed the bill with a pocket veto—and the monument remains. And now certain organized groups in Wyoming and elsewhere are up in arms not only against the president, but in opposition to the general program of federal ownership of public lands.

All of which merely is a renewal of the traditional conflict between those Americans who believe in the conservation of the natural resources, and those who would release such national assets to the exploitation of private citizens for personal gain. Virtually every national park and monument in the United States was established in the face of opposition.

One of those who testified in behalf of the Jackson Hole monument was Horace Albright, former director of the National Park service. He pointed out that much of the land in the new monument is above 7500 feet in altitude and not suitable for raising crops. Also, that 173,000 acres of the total area already had been owned and administered by three federal agencies previous to the establishing of the monument.

While the Jackson Hole issue has been settled temporarily by the president's veto, the broad question of public ownership of natural resources vs private development will remain a subject of recurring controversy.

Stripped of all confusing details, the issue is whether Jackson Hole and other scenic and recreational areas shall remain accessible as a playground for all American people, or revert to the ownership and profit of individuals and limited minorities.

If the time ever comes when the privately owned soil of USA is incapable of producing sufficient food for the normal needs of the people of this country, then there may be some justification for plowing up the parks and planting them to wheat and potatoes. But until the war created an emergency, one of our most troublesome economic problems was the disposition of surplus agricultural products. And there is every reason to believe we will have that problem with us again when the war is over. If that is true, then why should anyone with the public interest at heart wish to recapture the park lands for agricultural production?

* * *

Last month I suggested that after the war there would be many partly disabled veterans on pension who would be available at nominal salaries for the custodianship of landmarks and scenic areas which have never had guardians because the duties would not justify the services of a regular full-time ranger.

There is already one application on file in Desert office. Roy A. Keech writes from the hospital at Tucson saying that as soon as he receives his discharge he would like to have one of those jobs—with no compensation except the use of a small cabin and fuel for his stove. "I will be drawing full compensation," he said, "and can get along very nicely. I am taking up the study of watercolor painting, and will not mind living alone."

While only county supervisors and park authorities can pass out such jobs, Desert Magazine would like to hear from other veterans who are interested. For those men who are physically and temperamentally fitted for that kind of assignment it will provide a useful niche in a world that has not too many opportunities for the partly disabled.

* * *

Many thousands of new names were added to the Desert Magazine mailing list through gift subscriptions during the Christmas season. Some of the new readers are old-timers on the desert, many of them have never seen a beavertail cactus or a chuckawalla.

To all of them the staff of Desert extends greetings—and the hope that in the pages of this book each month you will find some of the peace and understanding which derives from close association with God's outdoors.

Since it is not feasible just now for most folks to go out and indulge in such glorious pastimes as exploring the desert canyons, hunting for gemstones, trading with the Indians or seeking lost gold mines, the staff of Desert endeavors as accurately as possible to bring this charming land of pastel-colored mountains and vivid sunsets into your own home in word and picture. In the meantime the desert will be waiting with all its mystery and charm for that day when final victory will make it possible for Americans to seek relaxation from the intensive duties of waging war. Then the copies of Desert Magazine you have been saving will become a guidebook to many places where only peace and beauty abide.

WHEN BOATS CAME UP THE COLORADO RIVER

It was in 1852 that paddle-wheel boats were first brought to the Colorado river. And it was the building of the Southern Pacific railroad to Yuma in 1877 that ended the heyday of river transportation in that area. Between those two dates several flat-bottomed paddle-wheelers carried on a profitable transportation business on the Colorado despite floods and sandbars.

While the history of boat freighting on the river of the Southwest occupies only a few pages in Jerry MacMullen's PADDLE-WHEEL DAYS IN CALIFORNIA, the author has given an accurate picture of that brief span when miners and traders in the lower Colorado basin depended largely on river transportation for their supplies.

Paddle-wheelers played an important part in California following the discovery of gold—and the author has compiled a long-neglected chapter in the history of this state. The foreword is by Phil Townsend Hanna of Westways magazine.

Published by Stanford University Press, September, 1944, ink sketches by the author. Appendix, index. 134 pp. $3.00.

—R.H.

• • •

BELIEVE INDIAN PAPER NOT MADE FROM AGAVE

Students of Pre-Columbian American civilizations are aware that at the time of the Conquest, the Aztecs and Mayas used a high quality paper of native make for their pictographic records. For more than 400 years the composition of this material has remained unquestioned since historians declared, through misinterpretation of a native term, that the ancient paper was produced from Agave, or Century plant fiber.

Recently, the entire subject has been scientifically investigated by Victor W. Von Hagen who shows this idea to be a classic example of perpetuation of an error. In all cases he studied, the ancient material was found to have been made from tree bark prepared by a process still in use by certain Indian craftsmen of Mexico. The result of Mr. Von Hagen's research is set forth in an entirely satisfactory book, AZTEC AND MAYA PAPERMAKERS.

Published by J. J. Augustin, Inc., N. Y., November, 1944. 120 pages, 39 plates, $6.00.

—J. D. LAUDERMILK

GEM DEALER'S ADVENTURES TOLD IN JEWELED TRAIL

If you are a lover of gems you should not miss Louis Kornitzer's books about his adventures, which have appeared serially in the Saturday Evening Post. His latest book, THE JEWELED TRAIL, relates more of his adventures in the gem marts of the world.

Few men ever had Kornitzer's luck in being on the spot in any quarter of the globe when unbelievable happenings occurred. When my mother questioned the truth of my statements as a child she would inquire if I was telling a "story"—and in the same sense a reader could legitimately question the fascinating adventures of Kornitzer. For the impression grows that such things really could not happen.

For instance, he tells how he sold an antique ring in Paris and then suddenly remembered in the middle of the night that it had come from Venice. The Borgias used poisoned rings to eliminate their enemies centuries ago. What if this was one of those? Frantically he sought and found the purchaser just in time to save her life, for the ring did have a tiny needle that injected poison with the pressure of a hand clasp.

Then there was the time he purchased a jade ring—a jade ring whose very composition was hardly credible. One third was pale lavender, one third brick red and one third emerald green, and it cost "less than the price of a Chinese dinner." Of course, it turned out to be the long lost wedding ring used for generations in the family of a later business acquaintance who offered "anything at all" for its return . . . Kornitzer asked for the life of a condemned criminal. He was spared, but the authorities beheaded an innocent man so the expectant crowd would not be disappointed.

There are dozens of these adventures delightfully told, during the reading of which one is unconsciously educated in the knowledge of gems. The book is illustrated with famous jewelry pieces and phases of the lapidary art.

Sheridan House, New York, 1941. 280 pages. $2.00.

—LELANDE QUICK

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LIMITED EDITION CORRECTS ERRORS IN CABRILLO STORY

JUAN RODRIGUEZ CABRILLO, by Henry R. Wagner, is a small but valuable collector's item in which is set down all that is known today of the Portuguese navigator who discovered what is now the state of California on September 28, 1542.

Although the original narrative of the Cabrillo voyage is lost, there remain in the archives of Spain the summary and an account of the voyage made by Antonio de Herrera in his *Historia General,* published in Madrid in 1601. It was from these two sources that Mr. Wagner gathered the facts for his book. Beyond these facts, the story of the conquest remains a mystery.

Conflicting bits of evidence and conclusions drawn from the facts as far as they are known are assembled in a section of the book devoted to notes. Errors in translation, too, are pointed out. Altogether, this account of a short but important chapter in the life of Cabrillo forms the opening chapter of the history of California and as such it is a real addition to Americana.

The edition is limited—only 750 copies being printed and 250 of those, we understand, were reserved for members of the California Historical society under whose sponsorship the book was published.

Published by George Fields, San Francisco, 1942. $2.50. —MARIE LOMAS