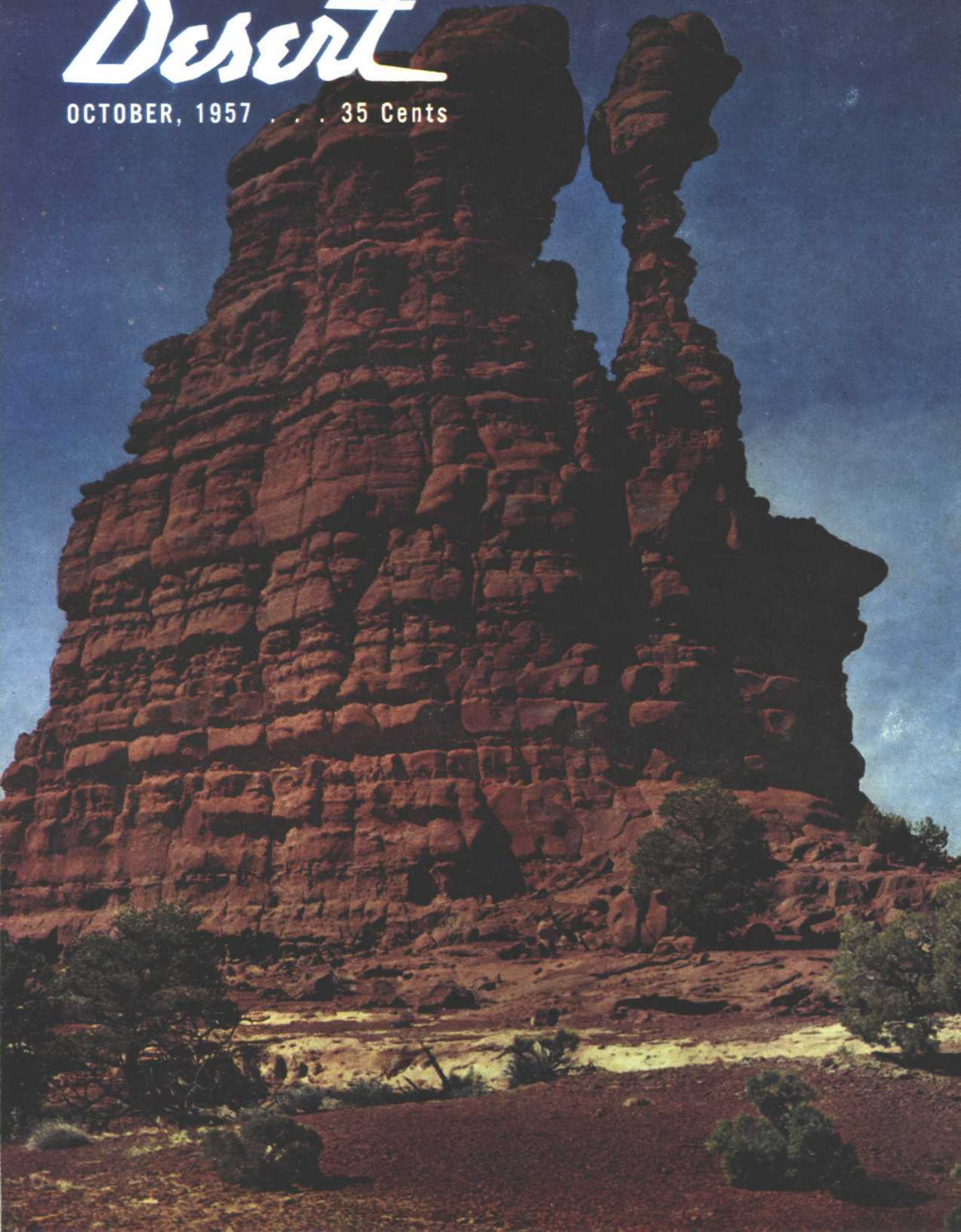


Desert

OCTOBER, 1957 . . . 35 Cents

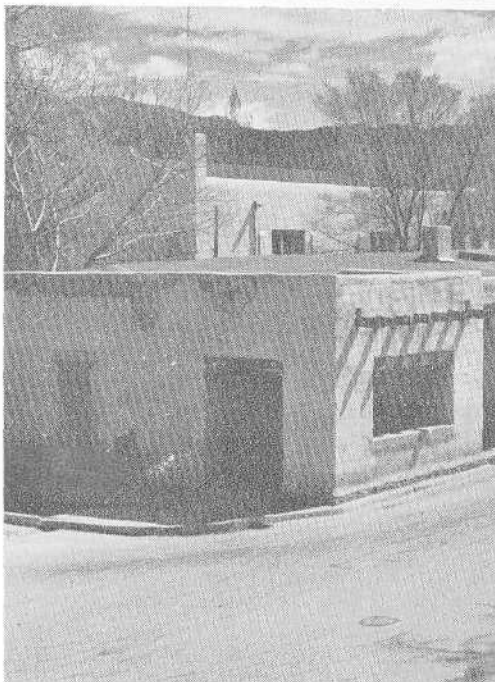
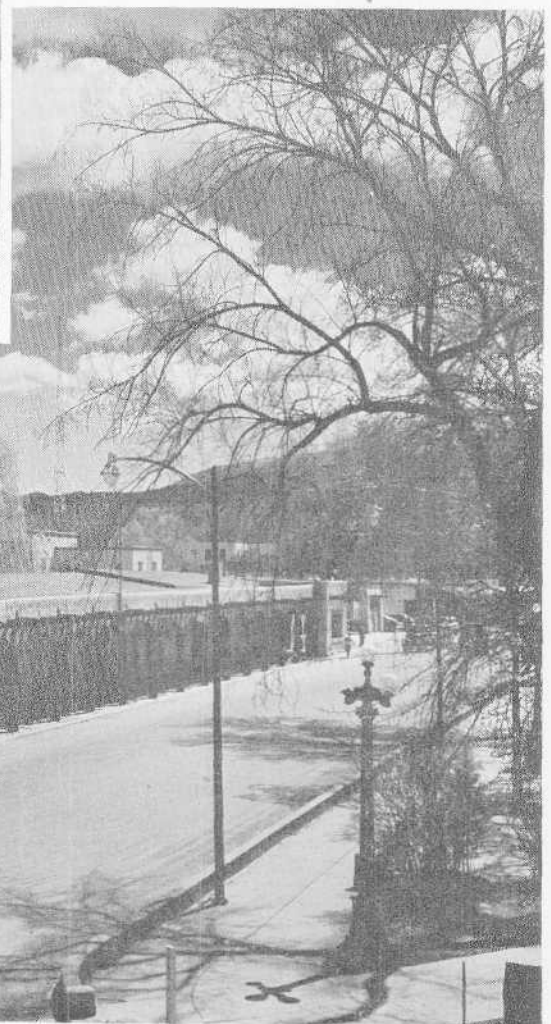
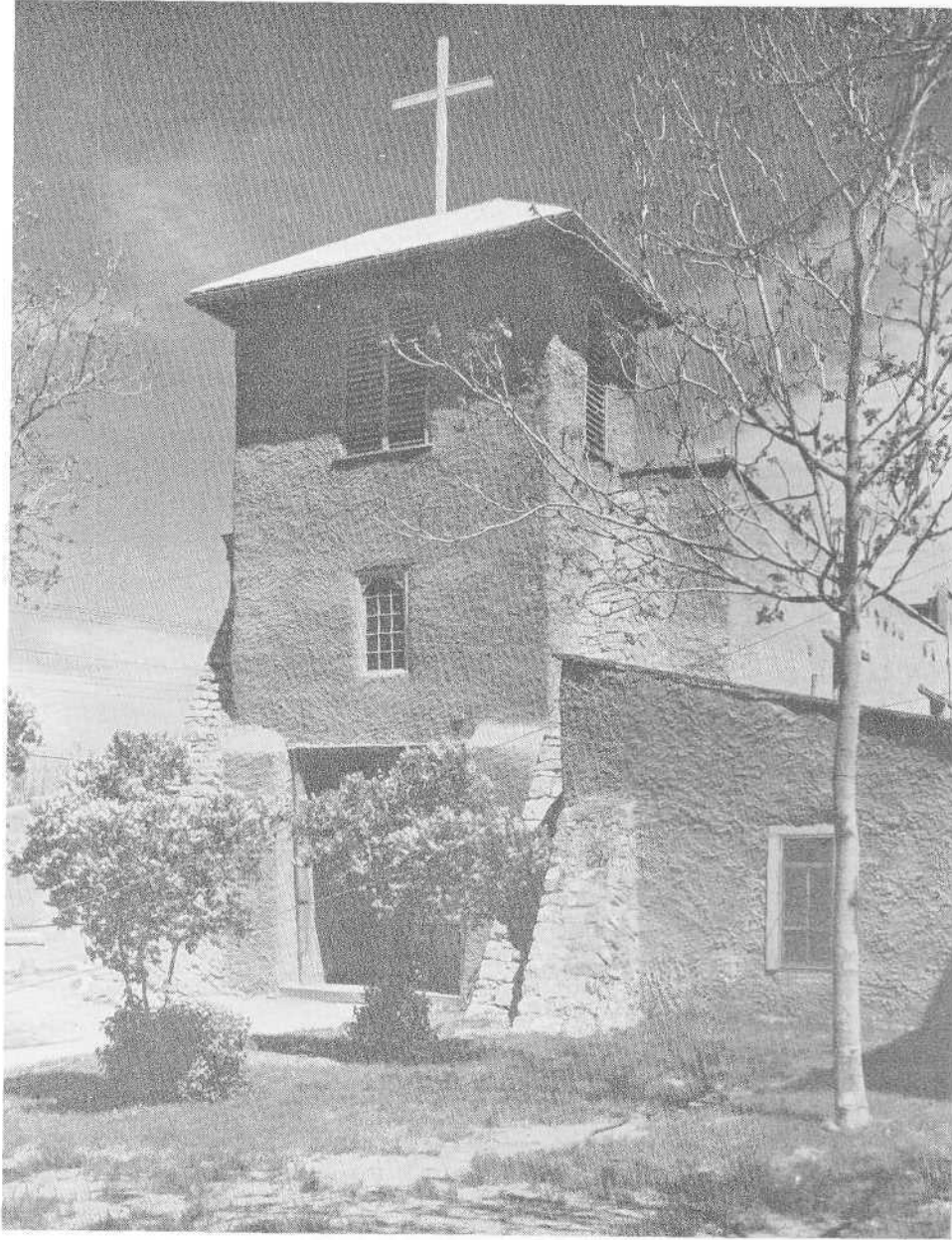


Old Town, Santa Fe

By JOSEF and JOYCE MUENCH

One of the oldest churches still standing in the United States is San Miguel in Santa Fe (photograph at left). Originally constructed in 1636, the old mission has been rebuilt and restored several times. Originally intended for use by Indian slaves of Spanish officials, today it serves the Christian Brothers and students of St. Michael's College.

Pictured below is the Palace of Governors in Santa Fe. Since 1609 this adobe structure has served as a seat of government for four nations: Spain, Mexico, the Confederacy and the United States. For 12 years revolting Indians controlled the Palace. The edifice recently was converted into a museum.



DESERT CALENDAR

September 28-October 6—New Mexico State Fair, Albuquerque.

First week in October—Aspencades from Alamogordo, Santa Fe, Taos and other New Mexico communities.

October 2-6—San Bernardino County Fair, Victorville, California.

October 3-4—Feast Day of St. Francis de Assisi, Santa Fe.

October 3-4—Candlelight Procession, Ranchos de Taos, New Mexico.

October 4—Fiesta and Dance, Nambe Pueblo, New Mexico.

October 5-6—Apple Days, Julian, California.

October 5-6—Second Annual Ridge-runners' Jeep Cruise from Desert Center (write to A. Thomas, 1110 N. Magnolia, El Cajon, Calif., for information).

October 7-13—Nevada State Amateur Golf Tournament, Las Vegas.

October 9-13—Eastern New Mexico State Fair, Roswell.

October 10-12—Cotton Carnival, Las Cruces, New Mexico.

October 10-13—Seventh Annual Desert Empire Fair, Ridgecrest, Calif.

October 10-13—Tri-State Fair and Ranch Hands Rodeo, Deming, N.M.

October 11-13—Days of the Dons and Pegleg Smith Liar's Contest, Borrego Springs, California.

October 11-13—Fourth Annual Colorado River Cruise and Rodeo, Blythe, California.

October 12-13—World Championship Junior Rodeo, Phoenix.

October 12-13—Second Annual Sahara Cup Races, Lake Mead, Nev.

October 12-13—Imperial Valley 50th Anniversary Celebration, El Centro, California.

October 17-19—Four Corners Geological Field Trip and Convention, Gallup, New Mexico.

October 18-20—Hellorado, Tombstone, Arizona.

October 18-20—Annual Pioneer Days, Twentynine Palms, California.

October 20—Ranch Fiesta, Yuma, Arizona.

October 22-24—Southwest Cattle Festival, Clovis, New Mexico.

October 25-27—Seventh Annual Trailer Rally, Palm Springs, California.

October 25-28—Pima County Fair, Tucson.

October 26—'49ers Celebration, Socorro, New Mexico.

October 31—Annual Chaves County Youth Parade and Hallowe'en Festival, Roswell, New Mexico.

October 31—Nevada Day, Parade and 1864 Ball, Carson City.



Volume 20

OCTOBER, 1957

Number 10

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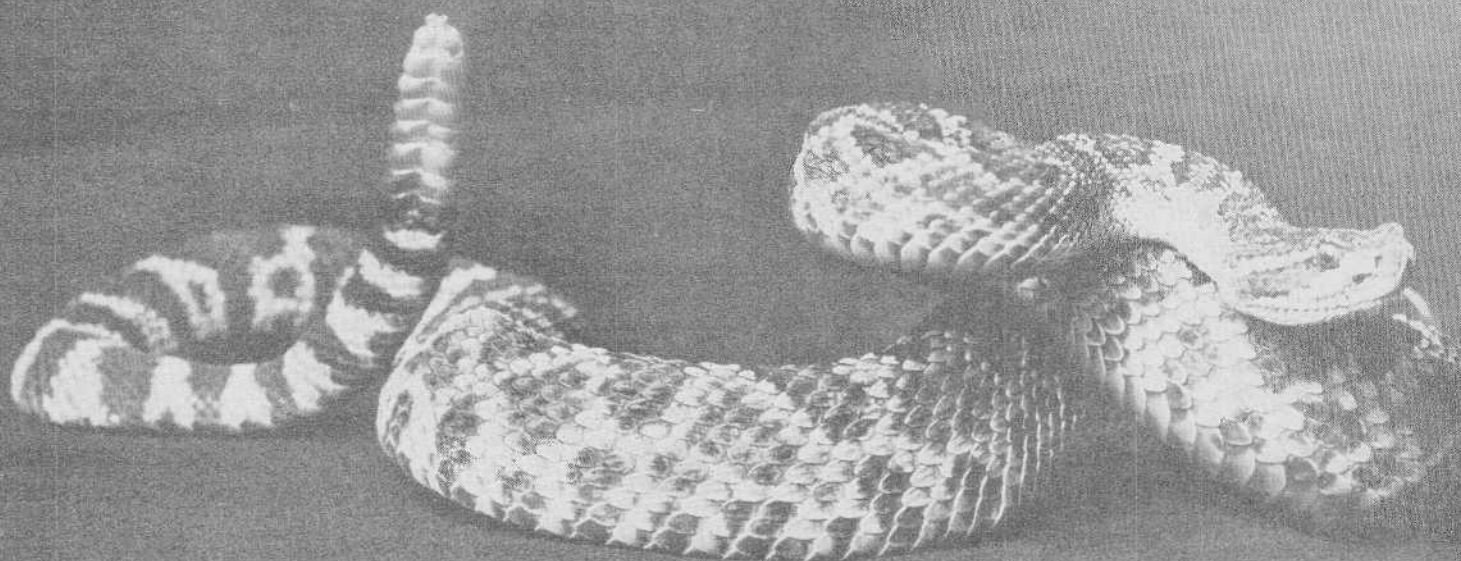
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THE PAINTED DESERT

By MERLE BLINN BROWN
Piedmont, California

Far out on the Painted Desert
Where the sandy wavelets play,
And the distant purple mountains
Don amethystine gray;
Where all is calmly quiet
As the days flow swiftly by,
We have found peace supernal—
My turbulent Soul and I.

• • •

DESERT GARDEN

By MABEL BANKS PIPER
Bloomfield, Nebraska

The desert stretches out, a living green,
To purple mountains, sharp against the sky,
Each plant and thorny bush bedecked with
flowers
Of rainbow colors to delight the eye.
The deep-blue lupine borders every trail,
And poppies blanket desert sand with gold.
From spiny leaves of yucca, stalks arise
Called "candles of the Lord" in days of old.
Tall fluted pillars of saguaro stand
In majesty, each crowned with blooms of
white,
While lesser growths of cactus all around
Flash red and orange and yellow blossoms
bright—
A vast mosaic pattern planned for all
Who answer to the sun-drenched desert's
call.

• • •

LOST MINES

By GRACE BARKER WILSON
Kirtland, New Mexico

The sun shines alien and aloof
Across deserted space,
Where ancient hills stand weather-proof
With scars upon their face.
While here and there on barren wall
Where winds are dry and hot,
Or where refreshing showers fall,
Are mines that men forgot.
Prospectors' holes that held the dreams
Of patient, weary men,
In the white quartz with golden seams,
And nuggets now and then.
The hillsides keep their secret store
For future men to find,
Where pioneers failed to explore,
And left their dreams behind.

Glides the Rattlesnake

By PAUL WILHELM
Thousand Palms, California

I know delight here, close to earth.
There is a warmth within this sand,
There is a whisper in the wind
That draws me crawling over land
Alert for wayward mouse and rat;
And often, coiled beneath a bush,
Apart from fox and civet cat
I call the gods to send my way
The choicest gopher from the earth.
Though sand gods long have cleansed my
scale
I've dreamed—and sought—from earliest
birth—
This whim—of flying in the sky!
Riding the silver sun-flecked clouds
Chasing wild birds above the hill—
But sand gods are the jealous gods,
In white dunes I must hunt and kill
And be content here, close to earth.

• • •

UTAH DESERT

By VESTA P. FITZPATRICK
Fruita, Colorado

Oh! little brown seed asleep in your nest
Cosily fondled by Earth's soothing breast
You lie there asleep in the desert so dry
Till the sun slips away and the clouds start
to cry.

Then you stir about softly with never a
sound
But you waken your neighboring seeds in
the ground.
Tread lightly, oh! Stranger. Human feet
have no room
When wild flowers are growing. The Des-
ert's in bloom.

MY WISH

By ELIZABETH L. SARGENT
Ontario, California

I do not ask for riches
Just for a tiny shack
A pot of coffee and good friends
To share my meager snack
A quiet hour beside the fire
In twilight's mellow gleam,
A bite to eat, a cup to drain
And friends to share my dreams.

JOSHUA TREES AND "BELLY PLANTS"

By GRACE PARSONS HARMON
Desert Hot Springs, California

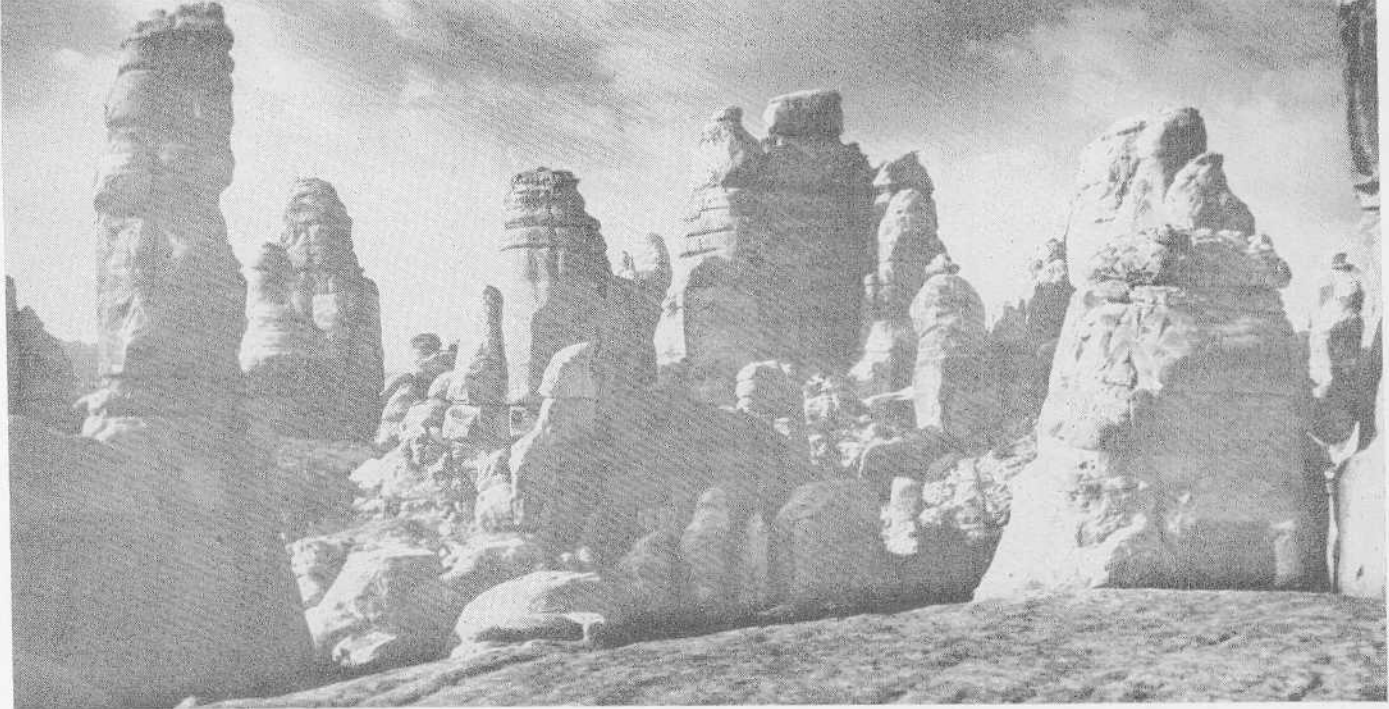
In the great, wide space of the desert West,
Where the skies are high and the clean
winds rest,
In that untamed land there is constant
strife—
Nature's age-long battle to nurture Life.
Here, the close-pored cacti, and yuccas stand,
There, the mighty Joshuas grip the land
As they stand at bay in their rugged pride.
At their feet, rare, miniature blossoms hide—
Tiny blooms, so small, so frail, they seem
Not of earthly source—but a vagrant dream!

"Belly Plants"—so dubbed, for you prone
will lie
Where those midgets of beauty enchant the
eye—
Snuggled close to the heart of old Mother
Earth,
Know her sheltering love! Do they share
her mirth
As she smiles to herself at the ways of Man,
At his foibles and whims since the World
began,
At the records he breaks, as with Nature he
vies?
Great and small—they gaze at the jet-scarred
skies—
That huge, grotesque growth of Earth's des-
ert land,
And that small, perfect bloom on the desert
sand!

To Conquest

By TANYA SOUTH

They conquer greatly who can stand
Fearless for Truth, when every hand
Is raised against them. Their despair,
Their struggles to enlight the masses
Can only strengthen them to bear
Whatever passes.
And will propel them up that goal
That wakens Truth within the soul.



Ute Indians called it the Land of the Standing Rocks.

We Camped in the Land of the Standing Rocks ...

In the 1890s Butch Cassidy and his notorious outlaws found that the Land of the Standing Rocks in southeastern Utah was so inaccessible as to be a perfect hideout. The bandits are gone now, and the uranium hunters have moved in, leaving jeep trails which make it possible to penetrate much of the region in a 4-wheel drive motor car. Here is the story of what Randall Henderson and his companions found during a week's camping trip in this area.

By RANDALL HENDERSON
Map by Norton Allen

WITH KENT FROST of Monticello as our guide, our party of nine persons in three Willys jeeps left Green River, Utah, early one April morning to see how far we could penetrate into a rugged desert wilderness area known among the Ute Indians as the Land of the Standing Rocks.

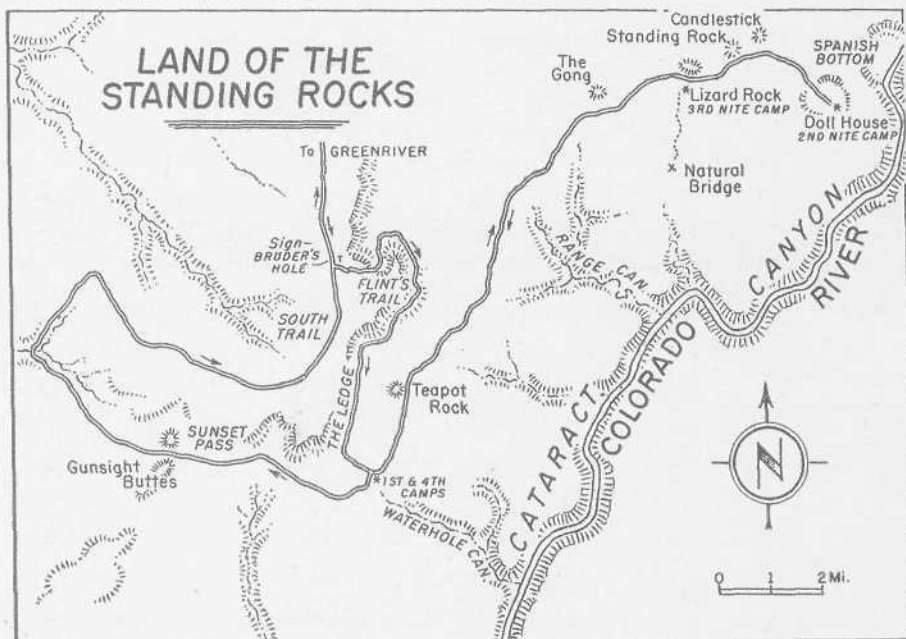
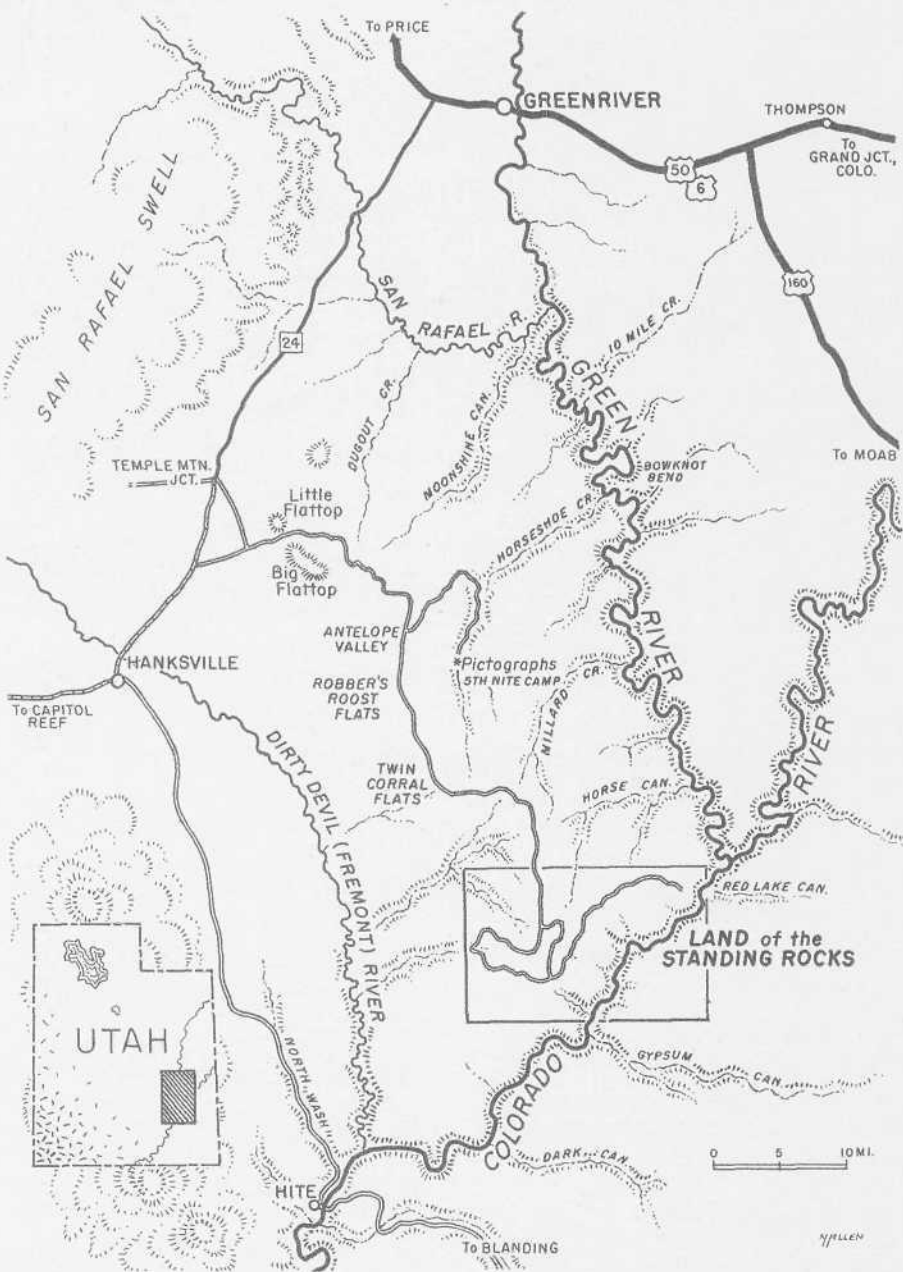
On the Utah map this region is just a blank space with the Green and

Colorado Rivers on its east flank, the San Rafael Swell on the west, and the junction of the Dirty Devil and Colorado Rivers as its southern apex.

If names mean anything it is not an inviting region for exploration. In addition to the Dirty Devil River—so named by John Wesley Powell in 1869 and now appearing on some maps as Fremont River—its place names include Stinking Spring Creek, Starvation Creek, Wildcat Spring and Deadman's Hill. To writers of western fiction much of this region is known as the

Members of the exploring party: Left to right, standing, Frank Wright, Mary Beckwith, Dr. Wm. L. Thompson, Dr. Melvin Hurley, Joe Dudziak and Paul Wright. Kneeling: Fern and Kent Frost, guides.





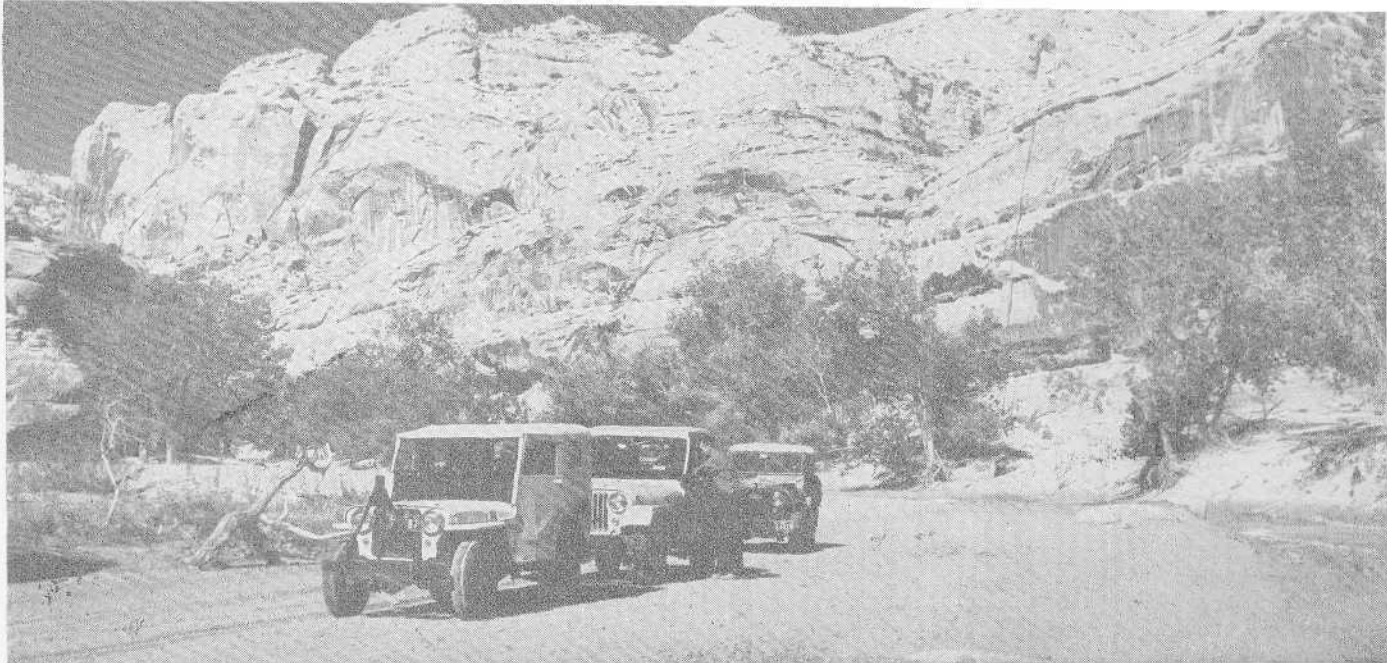
Robbers' Roost Country, for it was here that Butch Cassidy and his notorious Wild Bunch outlaws had one of their hideaways.

In addition to Kent Frost and his capable wife, Fern, our party included J. Frank Wright, famed riverman who is now running the white water rapids of the West in the same type of cataract boats used by his predecessor, Norman Nevills; Drs. Melvin Hurley and Wm. L. Thompson of Richmond, California; Joe Dudziak, general traffic manager for the Parr-Richmond Terminal Co. at Richmond; Mary Beckwith, historian and explorer, of Van Nuys, California; and Paul Wright, retired electrical engineer of Prescott, Arizona.

Leaving our rendezvous at the Book Cliffs Motel in Green River, we motored west on Highway 50 a distance of five miles, then turned south on the road to Hanksville and the Colorado River Crossing at Hite. Thanks to the activity of uranium miners in this area, the first 35 miles of the Hanksville road recently has been black-topped. The paving ends at Temple Mountain junction where a side-road takes off to a big uranium operation in the San Rafael Swell area. This same side road also leads to the fantastic Goblin Valley (*Desert Magazine*, May '52).

At this junction we left the Hanksville road and followed a typical prospector's trail between the Flattop Buttes, through Antelope Valley and across Robbers' Roost Flats. Our trail became progressively worse as we drove on. We were motoring across a plateau or flat-topped ridge from which we could get an occasional glimpse of a great basin that lay between us and the Green River. Somewhere below us in that basin were the spires and buttes and knobs which had given the name Standing Rocks to the region. Somehow, we had to get down off that ridge to the highly-eroded white rimrock basin below. But our guide had been over this part of the route once before, and we knew it could be done.

In the late afternoon we found the way down—over Flint's Trail, a newly bulldozed road so rough and steep it would have been impassable to any except a 4-wheel drive vehicle. It was a sort of slip-and-skid road, even for the jeeps. We lost 1200 feet of elevation in less than two miles, and arrived on a ledge that marks the contact of Chinle formation with the Shinarump conglomerate that lay under it. Chinle is the formation of the Upper Triassic period in which much of the fossil material found in the Southwest occurs. Where exposed it is in constant process of erosion and as we worked our way



Much of the time the Frost jeep caravan bounced over and around the rocks at three miles an hour—but occasionally a sandy arroyo provided a bit of smooth going.

slowly between the boulders strewn on the top of the ledge we frequently saw chunks of petrified wood beside the trail.

Eventually the trail dropped down off the bench on a sandy causeway so steep the passengers off-loaded and hiked while the drivers set their brakes and sledged down over the loose fill sand. This brought us to the floor of the great basin — the Land of the Standing Rocks.

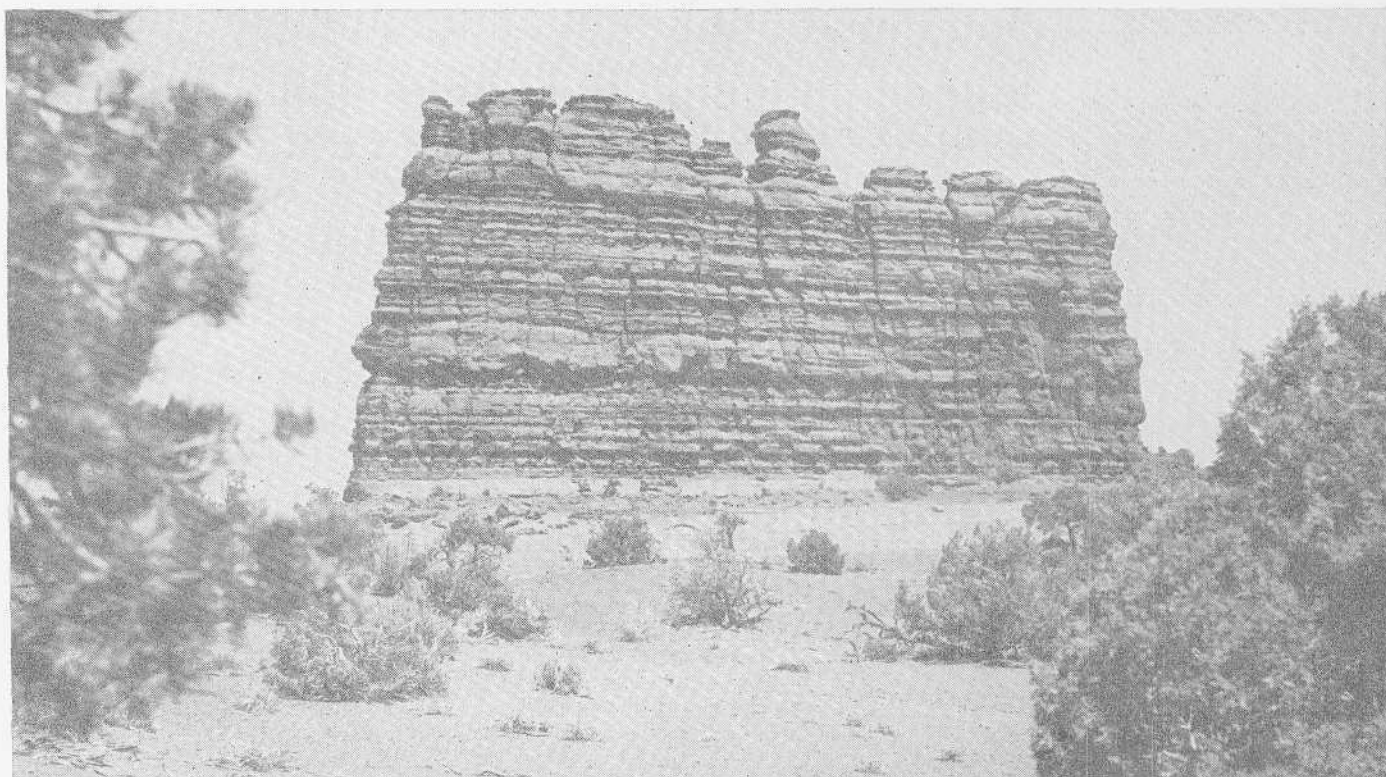
Our camp that night was in a dry wash—Waterhole Canyon it had been

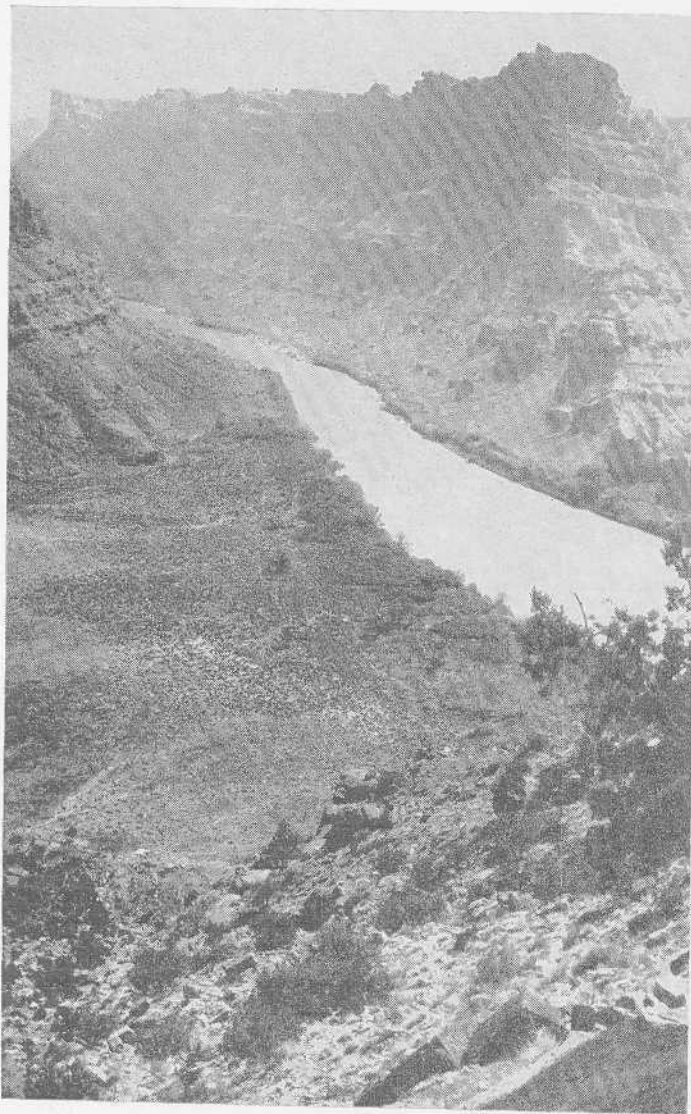
named because of some natural tanks further downstream. A passing rain-storm pelted us for 30 minutes just as we started to make camp, but the Frosts had brought a tent for such an emergency. After the storm passed we found dry wood and Fern soon had the coffee pot boiling.

The Frosts do their camp cooking according to old cowboy custom — they shun such modern conveniences as gasoline camp stoves. The traditional cooking facility of the cow trail merely is a bonfire, limited by the

available deadwood, from which red-hot embers are raked to one side and the pots and kettles placed directly on these live embers. Of course the cooking utensils soon acquire an outside coating of black carbon, but that doesn't affect the flavor of the food inside, and it is easy to carry along old gunnysacks to wrap the skillets in when the meal is over and the insides have been scoured. I am sure no Coleman stove ever yielded a more delicious meal than Fern served that evening.

Tapestry Slab reveals the fantastic erosion pattern of Moenkopi sandstone.





An old trail led down from the Land of the Standing Rocks to Spanish Bottom along the Colorado River below its junction with Green River.



Kent and Fern Frost of Monticello, Utah. Their guided jeep trips into the Utah desert wilderness are becoming increasingly popular for vacationists.

And what a setting! In the background was the great cliff of red, tan and white sandstone down which the jeep trail had brought us that afternoon. The capping of the cliff was Kayenta sandstone, with a strata of Chinle below, and this in turn resting on a thick ledge of Shinarump formation. Prospectors in this area have found that the contact of Chinle with Shinarump is a likely zone for uranium, and the trails we traveled to descend the face of the cliff had been bulldozed for jeep travel since the uranium boom came to Utah.

Early next morning we took off over a trail which zigged and zagged over and across the great broken floor of the basin—broken by countless washes and miniature canyons created by millions of years of erosion. Our rate of travel was two or three miles an hour as the drivers slowly edged their cars up and down and around the white Cutler formation sandstone which

forms much of the floor of the basin.

At noon we halted for lunch on a little plateau of red sand—and just ahead of us were the first of the pinacles which the Utes had described as Standing Rocks. The red Moenkopi or Organ Rock formation, in the process of erosion, does not fracture and slab off as does Navajo, Kayenta and other sandstones of the region. Rather it wears away a grain at a time leaving a delicately sculptured stone structure with vertical and horizontal flutings (see cover picture this issue).

Such is the character of Lizard Rock, the Gong and Gavel, Standing Rock, Candlestick Rock, the Totem Pole and a score of other spires and towers to be seen in this area. One of them—a vertical panel of red stone that stands 150 feet high, perhaps 500 feet in length and is not over 12 feet in thickness, I entered in my notes as Tapestry Slab because there was no other name for it on the maps I car-

ried. The Gong and Gavel were named by Josef and Joyce Muench when they took the picture for this month's cover.

Looking toward the Colorado, perhaps 20 miles away, we could make out the outlines of a natural stone bridge in a tributary of Range Canyon, and resolved to try to reach it before the week was over.

But our immediate destination was another area of Standing Rocks—a different type of rock—said to be near an old Spanish Trail that descended to the Colorado River. Three hours later after breaking a new trail over the floor of the basin we made camp on slick rock along an unnamed arroyo that appeared to be near the route of the old trail we were seeking.

Here on three sides we were flanked by a fantastic parade of sandstone gargoyles that rose in ordered array almost as if they were giant dolls on the shelves of a gigantic carnival booth. Since the map-makers had given no



Photos on this page show the detail of the unusual pictographs on the sandstone walls of Horseshoe Canyon. Although exposed to weather for perhaps hundreds of years, these paintings are well preserved examples of ancient Indian art.

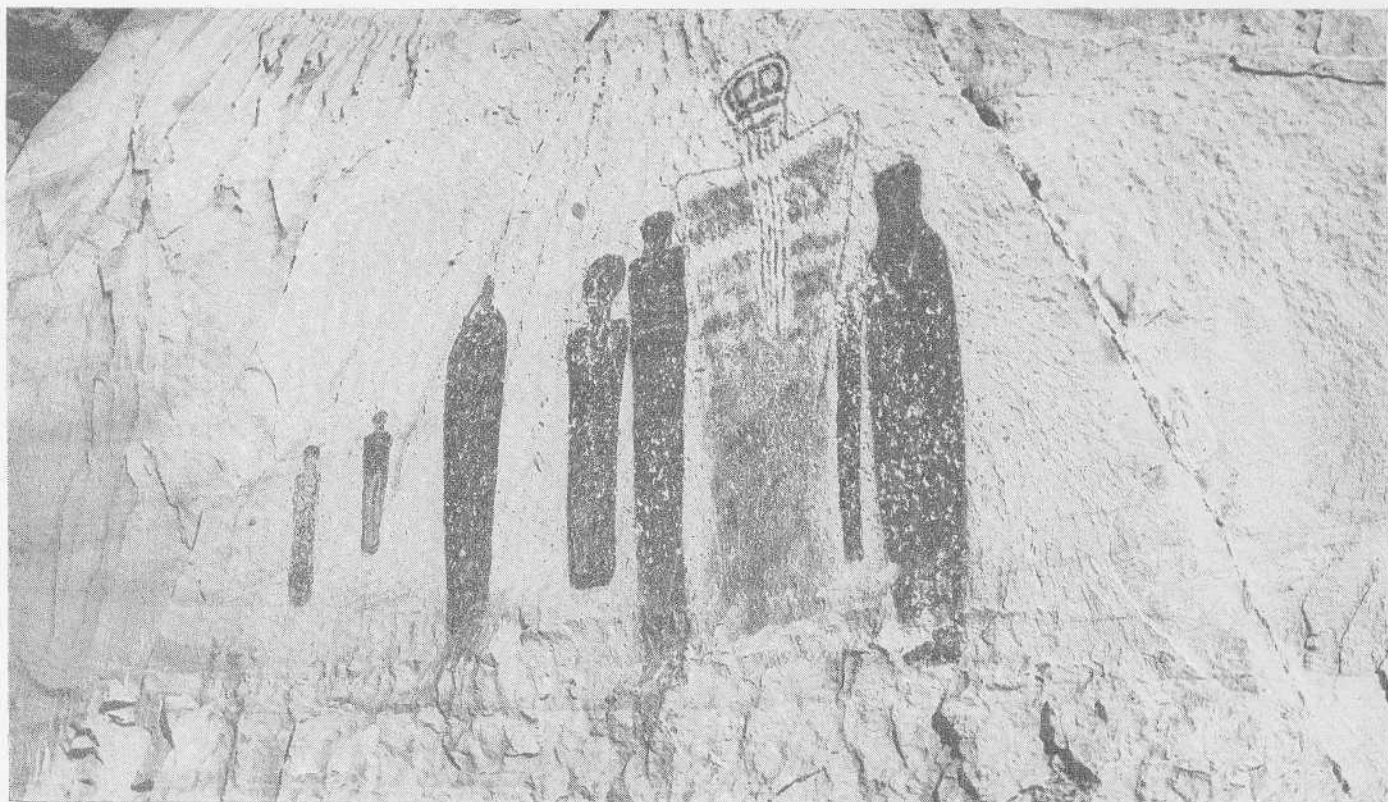
special name to this sector of the Standing Rocks region I identified them in my notebook as The Doll House.

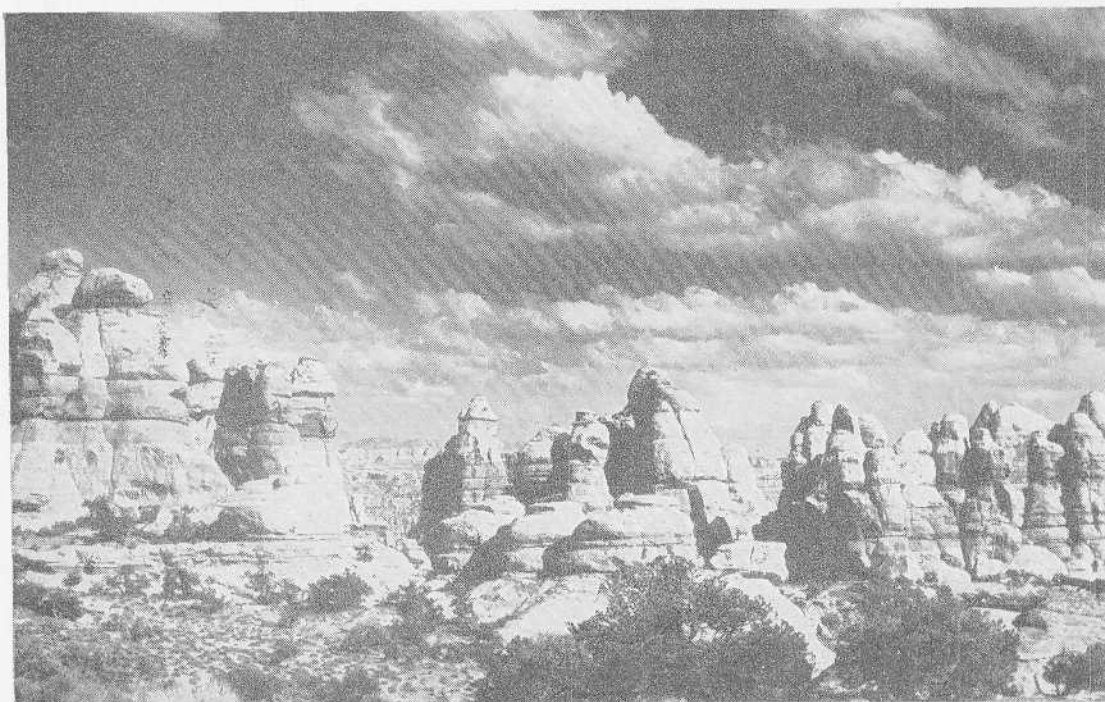
Here in the slick rock we found potholes which enabled us to replenish

our water supply, as the rainstorm of the previous evening had filled them with fresh water.

Botanically, this basin is in the Upper Sonoran zone, with pinyon and juniper as the prevailing trees. Eleva-

tions in the basin range from 4800 to 5900 feet, and while vegetation is sparse I saw many old friends growing in sand and crevice—Ephedra, Oregon Grape, Indian Paintbrush in blossom, Locoweed, Evening Primrose, Black-





One segment of the "Doll House" palisades.



The Totem Pole

bush, Wild Crabapple and a species of small Yucca generally known as soapweed, and in some places as bear grass.

Despite the fact that few springs and no flowing streams are found in the basin today, we saw many places where the sand was sprinkled with the chips of an ancient arrow industry, mostly chert, agate and jasper.

By seven the next morning our breakfast chores had been completed and we were away in our hiking togs with a corridor in the Doll House array as our immediate objective. We wanted to find the old Spanish Trail, and follow it down to the river where it led, according to the map, to a cove along the stream named Spanish Bottom. Gradually, our party spread out in all directions, climbing over slick rock dikes and through crevasses in the jumbled world of sandstone, until Frank Wright, some distance ahead, signalled that he had found the trail. It proved to be the trail we were seeking, for it dropped precipitously toward the river. We found datings on rocks along the trail as long ago as 1904, but no inscriptions which seemed to be of Spanish origin. So far, none of my history books have yielded any clue as to just when and why the Spaniards were identified with this river crossing.

The trail led down to Spanish Bottom, and then was lost. It is said that a similar trail leads down Butler Canyon on the opposite side of the stream, to connect with a crossing at this point. Apparently the trail is used occasionally by cowboys and perhaps by geologists who mapped the area. At this

point we were less than five miles downstream from the junction of the Green and Colorado Rivers.

The Colorado at flood stage was flowing a great volume of muddy water, and it is just below this point that the 41 miles of tumultuous rapids for which Cataract Canyon was named, begin their descent.

Members of our party who hiked down to the river reported finding at the lower end of the trail a stratum of conglomerate in which great quantities of crinoids, coral and other forms of marine fossils occur.

By 3:30 we were back at camp, and immediately packed for a return trip over the trail we had blazed to this point. We camped that night at the base of Lizard Rock.

Next morning we detoured off the trail as far as we could take the jeeps, and hiked along the rim of Range Canyon to a point where it was possible to get pictures of the natural bridge we had seen two days previously. Actually, there are many hundreds of these natural arches and bridges in the great sandstone land of southern Utah and northern Arizona, only a few of them having been mapped and given names. They range from little openings hardly larger than an ordinary window to mammoth arches which would overshadow a 10-story building.

Our return trip out of the Land of the Standing Rocks was over the old South Trail through Sunset Pass—a trail which probably was used originally by the Indians of this region, and later by Butch Cassidy and his outlaws. This route in several places occurs in or close to Chinle strata, which

is nearly always productive of fossil material. We saw much petrified wood and also at various places good specimens of agate, jasper and beautifully tinted quartz.

The last day of our week in this region was reserved for a visit to Horseshoe Canyon where we found some remarkable Indian pictographs. Horseshoe is a tributary of Green River. It is an amazing gorge—a great chasm big enough to carry a stream like the Colorado River, and yet for the most part as dry as a typical desert arroyo. It is quite obvious that at some prehistoric period the rainfall in this region was much greater than it is today, for it has required the erosive action of a great volume of water over a long period of time to carve out so great a gorge.

Descent into the upper reaches of this canyon has been made possible in recent years by cattlemen who installed a pipeline and pump to lift water from a spring on the floor of the canyon to the top of a thousand-foot sidewall. It is a steep sandy road, but the jeeps had no difficulty making the grade. Today the road is maintained by miners prospecting the area.

We camped that night on a sandbar along the floor of the canyon—and on the great Navajo sandstone wall above us was an amazing display of well-preserved Indian paintings, like nothing I have seen elsewhere in the Southwest. These are all robed figures—the kind of costuming one ordinarily associates with a Chinese mandarin. Of the 56 human figures, 24 are life-size, 31 less than the normal stature of a human being, and one a 9-foot figure



Unnamed natural bridge in upper Range Canyon—one of hundreds of similar formations found in southern Utah and northern Arizona. Photo by Mel Hurley.

with an intricate crown design on his head. There are also 24 small animal figures, which appear to have been sprinkled over the wall as an afterthought.

Presumably the Indians used a hematite ore to get the dark brown pigment, and then no doubt from some natural source had obtained a bonding fluid which would give great permanency to their artistry.

There was ample deadwood for campfires all through the area we were exploring, and our evenings beside blazing juniper logs were always productive of interesting discussions that included the history and geology of the land we were in, as well as topics of national and international interest.

I was especially interested in learning more about Kent and Fern Frost, who for the last five years have been conducting jeep expeditions into the desert wilderness of southeastern Utah. Most of their trips have been into the

Needles country, a name given to an almost inaccessible region of fantastic rock formations south of Moab and east of the Colorado River.

I first became acquainted with Kent in 1947 when he was a member of one of Norman Nevills' boat trips through Grand Canyon. Kent was boatman and cook on this expedition—and won the admiration of our party for the capable manner in which he handled both jobs. Between boat trips he was, and still is, a rancher.

Kent and Fern are devout Mormons, residing at Monticello, Utah. Fern is a competent jeep driver. She drives one of the cars and manages the commissary while Kent is guide and maintenance man for the equipment. They make a good team—efficient and congenial.

Most of their expeditions are charter trips, arranged for the convenience of groups who may want a two-day or a two-week excursion for archeological

research, color photography, exploration, geological study or merely a vacation outing into that colorful land which is southern Utah.

Our journey into the Land of Standing Rocks was in the nature of a scouting trip, so this terrain may be added to the region which is within the range of Kent Frost guided trips.

Our expedition confirmed the fact that the Land of the Standing Rocks—rich in history, geology, botany and photographic possibilities—is a delightful area for those who prefer to spend their vacation days in a colorful uncharted wilderness. But until roads are improved and sign-posts added, I would not recommend going in there without a guide. For it is a region of few waterholes, and many hazards for motorists and campers not equipped for the emergency of a mechanical failure. It is truly an untamed desert wilderness.

Painter of Taos ...

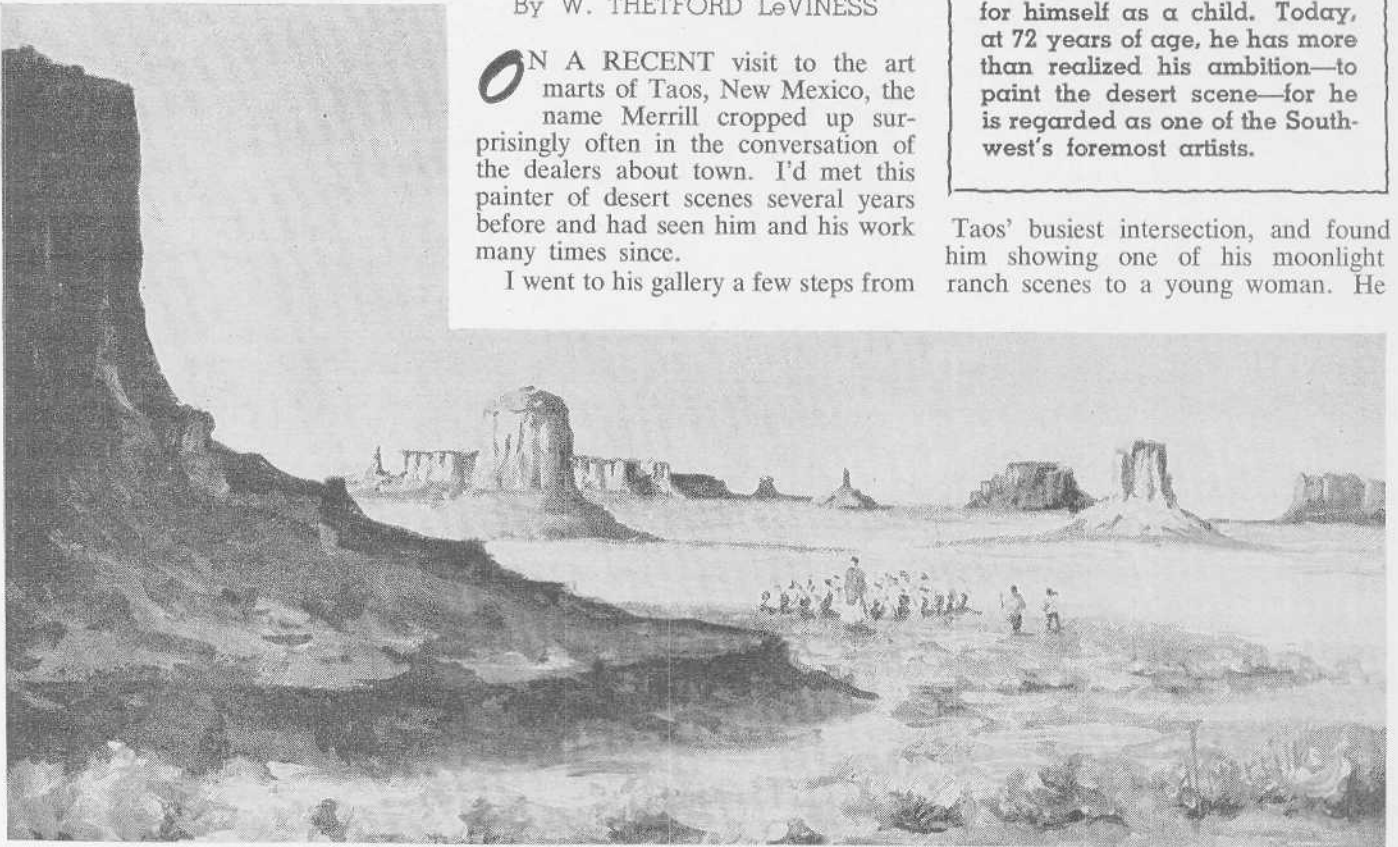
By W. THETFORD LeVINNESS

ON A RECENT visit to the art marts of Taos, New Mexico, the name Merrill cropped up surprisingly often in the conversation of the dealers about town. I'd met this painter of desert scenes several years before and had seen him and his work many times since.

I went to his gallery a few steps from

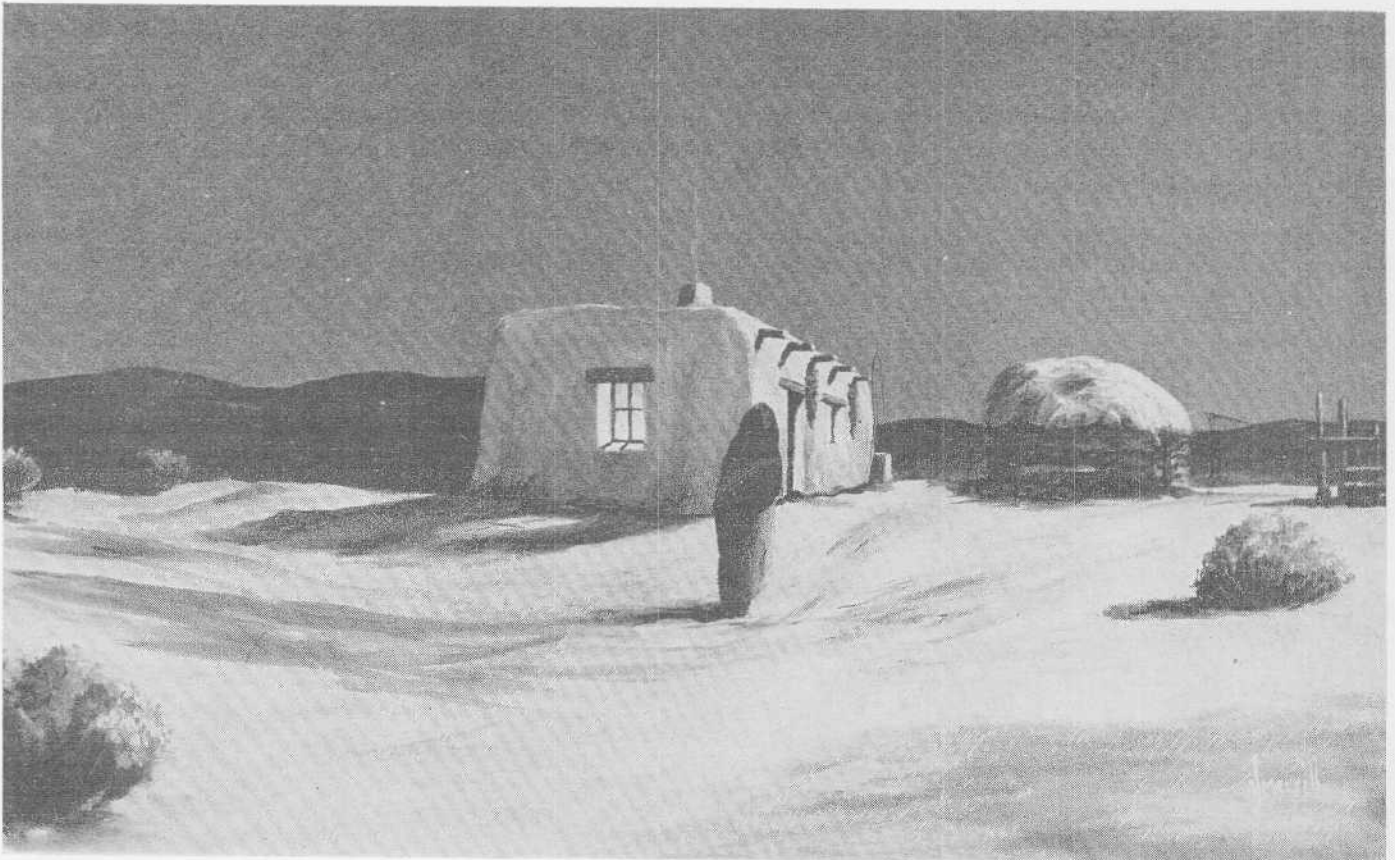
Through a lifetime of study, hard work and the pursuit of a livelihood, Art Merrill never lost sight of the goal he had set for himself as a child. Today, at 72 years of age, he has more than realized his ambition—to paint the desert scene—for he is regarded as one of the Southwest's foremost artists.

Taos' busiest intersection, and found him showing one of his moonlight ranch scenes to a young woman. He



One of the artist's favorite subjects is Monument Valley.

A Merrill painting of a bleak rural scene.



greeted me with a broad smile and asked me to browse around the place a bit.

Arthur J. Merrill's gallery is an outlet for his own work as well as for that of a few other select New Mexico artists. Paintings are arranged one above the other in long parallel rows along lengthy walls, and there is a studio in the rear. The customer — a school-teacher from Indiana—didn't buy the moonlight study he had been showing her, but purchased instead a painting of a California mission. She left with her painting, and Merrill had time for me.

I found him outgoing and warm, and eager to talk. Merrill believes he was born to be an artist, and his decades of struggle to arrive at this vocation justify the belief.

Merrill is considered eccentric among artists because he doesn't fit into the pattern portrayed by Hollywood. He tucks his shirt into his trousers, doesn't grow a beard, gets a haircut three times a month, and even has his fingernails manicured regularly. He has never owned a pair of levis, but often will wear a beret sent him by an artist friend in Spain. He's fastidious about eating, with a definite preference for Mexican food.

Merrill and his wife, the former Marie Scott, enjoy the quiet of their adobe-style home a few blocks from the Taos plaza. He plays golf, and looks forward each summer to his winter trips with Marie—usually to interesting places in the United States, Canada or Mexico. Many of these are made in the interest of painting — especially those among the flora, fauna, rocks and old adobe missions of the Desert Southwest.

The Merrills moved to Taos in 1946. There Mrs. Merrill has a curio shop around the corner from her husband's gallery. Now in his early 70s, Art Merrill has come to symbolize the intellectual and business life of this little city's famous art center. Paintings signed "A. J. Merrill" are enjoying tremendous popularity, and are fast becoming a part of regional Americana.

Painting became a consuming interest with Merrill when, as a child, he acquired his first paintbox and found he could draw. Unfortunately, he couldn't get the early training in art which he needed, so it was not until fairly recently—after many years in other occupations—that he took up painting full time.

Soon after he was born, the Merrill family migrated to Montreal. A grandmother in St. Louis early recognized the boy's creative talents, and when he was 15 she tried to send him to Paris to study painting. Art's parents



Taos Artist Arthur J. Merrill.

sternly overruled her. Merrill vividly recalls the reasons they gave. "Pa didn't want a so-and-so nut for a son, and Ma, who had seen the opera *La Boheme*, didn't relish the thought of my living in an attic, half-starved and in rags. This was a far cry from what either of them had planned for their 'Little Lord Fauntleroy'."

So, with only his grandmother objecting, Merrill began studies which led to a scientific career instead.

He worked at odd jobs while attend-

ing Montreal College of Pharmacy, and was graduated with the degree of Bachelor of Pharmacy in 1906. Later he took an additional degree, B.Sc.A., from Montreal's McGill University where he majored in chemistry and geology.

Merrill spent several summers with the Canadian Geological Survey in northern Quebec and Ontario, and in 1911 was sent on a scientific mission to Alberta. Later he went to Manitoba, and opened a private office in

Winnipeg for a gold mining syndicate.

But Merrill never forsook painting. When he finally visited Europe he spent most of his time touring the famous art centers and studying directly from the works of old masters. He was allowed special privileges at the Vatican, and he did special research in technique among the art treasures there.

Merrill was now more determined than ever to become an artist, and upon his return to Canada he attended private painting classes while continuing his career in geology.

In Winnipeg he painted a series of ikons in oil on moire silk, for the garment of a local Ruthenian bishop. His

historical painting, "Winnipeg in 1871," is in the archives of the Hudson Bay Company there.

Merrill began to specialize in landscapes and his success was immediate. The desert in its varying vicissitudes has been a particular challenge to him. He has done many versions of the old missions of California and Arizona. Shiprock, the majestic sandstone formation in northwestern New Mexico, is a favorite subject for his versatile brush. "My feeling for geology made me marvel at Shiprock's graceful blending of strata," he said. "It took chemistry to portray this blending in color, and the close attention I'd given to

perspective in my art lessons gave the finished product the rich depth it deserved."

After Merrill left Canada he began an 18-year residence in New York. He occupied a studio in Manhattan's Greenwich Village where he did poster, calendar, greeting card and fine arts work on a large scale. His Christmas cards have been reproduced by prominent publishers throughout the United States and Canada.

In 1930 he migrated West and placed some excellent sketches of early Winnipeg in the Charles Russell Museum at Great Falls, Montana. He rarely sends work to exhibitions, but has held one-man shows of his paintings, etchings and lithographs in the United States, Canada and Mexico.

Indian pueblos, crumbling adobe missions, rocks of many descriptions and semaphore-shaped saguaro cacti are among Merrill's best-known desert subjects. In southern Arizona in the winter months he gives on-the-spot coverage to the life-with-little-water there. Strictly conservative, Merrill achieves a realism in some of his paintings that is lost even to the photographer's art. Seeing a Merrill interpretation of a desert scene is like reading a book by Joseph Wood Krutch; owning one is like reliving, day by day, the experiences recorded in such a book.

Merrill donates time to teach art classes at the Central Catholic High School in Taos, and to instruct Indian children in the rudiments of painting at the Taos Pueblo Day School. He is a member of Kiwanis and the Taos Artists' Association. Before all these groups he enjoys telling of his experiences in painting, especially about his first encounter with cactus—"when," he says, "I sat on it. I picked up enough spines that time to paint an abstract with the seat of my pants!"

He didn't know a sidewinder from a saguaro when he first came West, but his big smile and friendly manner have won him a multitude of friends in Taos and vicinity. There is a never-ending flow of anecdotes in his conversation, and topping them all perhaps is the one about the dear old lady whom he found peering over his shoulder one day while he was doing a desert scene. Sensing a sale, he said, "What will you give me for it?"

"Thirty-five cents," she replied.

Flabbergasted, he asked, "How on earth did you ever arrive at a price like that?"

She answered with surprisingly cool logic: "I can buy a picture all framed at the five-and-dime store for twenty-five cents, but you seem to be a good artist and should get more."

TRUE OR FALSE:

The human mind has a great capacity for learning — and blessed are those who retain active minds as long as they live. The desert offers a great field for acquiring added knowledge, and the questions in this True or False touch many phases of this interesting land—botany, mineralogy, geography, history and the lore of the Southwest. Twelve to 14 correct answers is a fair score, 15 to 17 good, and 18 or over superior. The answers are on page 38.

- 1—Rainfall is unknown in some parts of the Great American Desert. True _____. False _____.
- 2—The blossom of datura, or "desert Jimson" is red. True _____. False _____.
- 3—Yuma is closer to the Mexican border than Tucson. True _____. False _____.
- 4—The Great White Throne is a landmark in Bryce Canyon National Park. True _____. False _____.
- 5—A National Monument may be established by Presidential Decree. True _____. False _____.
- 6—Halite is the mineral name for common salt. True _____. False _____.
- 7—Chief industry of the White Mountain Apache Indians in Arizona is weaving. True _____. False _____.
- 8—Death Valley's Ubehebe crater erupted within the memory of living people. True _____. False _____.
- 9—Nevada was admitted to statehood before Arizona. True _____. False _____.
- 10—Paul Jones is chairman of the Navajo Tribal Council. True _____. False _____.
- 11—Ores of copper may be red, blue, green, gray or black. True _____. False _____.
- 12—Native palm trees of the California desert have a long tap root which will go to great depth for water. True _____. False _____.
- 13—The sidewinder has no rattles. True _____. False _____.
- 14—Taking the most direct route from Jerome to Flagstaff, Arizona, the motorist would pass through Sedona and Oak Creek Canyon. True _____. False _____.
- 15—The Grand Falls of the Little Colorado River are in Arizona. True _____. False _____.
- 16—The Virgin River of Nevada and Utah flows into Lake Mead. True _____. False _____.
- 17—Woodpeckers sometimes drill their nesting holes in Saguaro cactus. True _____. False _____.
- 18—The Chiricahua Mountains are in Utah. True _____. False _____.
- 19—A Hopi Indian never kills a snake. True _____. False _____.
- 20—Leader of the expedition in quest of the Seven Cities of Cibola was Juan Bautista de Anza. True _____. False _____.

LIFE ON THE DESERT

Cooking for Twenty At a Mercury Mine

Feeding 20 miners in an isolated desert camp was a new experience for Betty Washlake, but despite the hard work made even more difficult by the primitive facilities at the mine, she would do it all over again any time her husband needs her services. There's something about a challenging job—and there's something about the desert—that turns hard work into a rewarding experience.

By BETTY WASHLAKE

THE FEVER thermometer is a common household article today. Mothers automatically reach for one at the first sign of illness, the doctor's bag is not complete without several, and most drug stores sell them for as little as 97 cents.

However, few people are aware of the danger, toil and sweat that goes into obtaining that little bar of mercury reposing so smugly in its glass tube.

I learned about it the hard way last summer when my husband, Ray, took over the supervision of a mercury mine in a remote sector of the Superstition Mountains in central Arizona. Because a temporary camp cook was needed at the mine, our nine year old son, Jim, and I went along too.

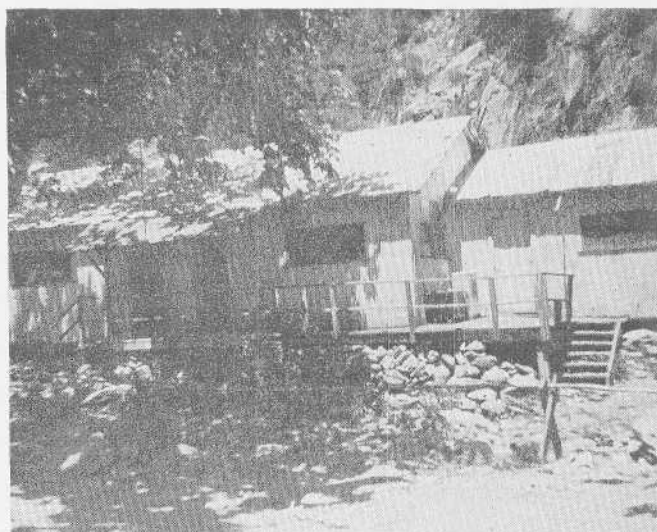
The camp was 5000 feet above sea level and 60 miles from the nearest phone. Our only neighbors were rattlesnakes, scorpions, tarantulas, rats and javelinas. Surveying this hot desolate terrain where mesquite, cactus and rocks abound, I felt a little panic-stricken at first—but to Jim it was a grand adventure, and to Ray just another job supervising a cinnabar mine.

Equipment and food had been packed in before we arrived, and the camp was fairly well established. A steel corrugated shack under the comforting shade of sycamore trees served as our sleeping quarters and mess hall. Nearby was our bathhouse.

The cook shack held a long table, several benches, a work table and an antiquated sink. There was no electricity or refrigeration. A huge formidable six-burner butane gas stove took up one end of the shack. One look at this iron monster and I was ready to leave—but I wasn't fast enough. I was put right to work getting breakfast.

Cooking for 15 to 20 men presented some very unique problems. Besides making dozens of pancakes each morning, there was no end to the bacon and eggs I fixed. Coffee was prepared by the gallon and I opened box after box of cereal, which the men ate with canned or powdered milk. Fortunately, everything we ate came packaged in cartons, jars, crocks or tins—and bless those gallon cans of vegetables and fruit!

Keeping the eggs fresh was a job in itself, and I was



Top—the shaded cook shack and sleeping quarters.



Middle—the author with her son, Jim, and husband, Ray.



Bottom—steps leading to the mine shaft. At the left is the tool shed.

not always successful. Towards the end of the week the eggs would get a bit strong, even though I stored them in a dark cool cave in the side of the hill. The egg situa-

tion finally became so acute I had to use the powdered kind.

Water from the nearby well was pumped into a galvanized storage tank by means of a gasoline motor. One of the men would start the pump each morning, and it was my job to turn it off before the tank overflowed. Water was precious and we needed every drop.

During the day the temperature sometimes reached 120 degrees, and water from the storage tank was hot enough for dishes or bathing. To cool it for drinking, Jim and I filled bottles and buried them in the cave. One day the tank became clogged and Jim watched some of the men draw out the water and remove a foot of mud and silt plus dead reptiles and rodents from the tank's bottom. After that I added to my chores the boiling of all water before we used it.

The miners usually packed their own lunches, and that took a considerable amount of bread. Once a week we drove the precarious one-car-at-a-time road to Mesa for supplies. We could only buy enough bread to last a few days, so towards the end of the week it was my job to bake more. Baking 15 big loaves was an all day job, but I guess I didn't do too badly for I never heard any grumbles from the men, unless they grumbled in Spanish which I do not understand.

For supper I usually made tortillas from flour, salt, shortening and water. I rolled them so thin I could almost see through them, then cooked them on the griddle. Big pots of chili beans, canned meats and vegetables completed the meal. As I grew accustomed to this type of large-scale cooking, I added variety by combining the meat and vegetables with different canned gravies and sauces. Soon I was concocting some tasty stews that even the chef at the Plaza couldn't beat.

Having mastered the cooking problem so that no one was suffering from starvation or malnutrition, I turned next to battling the wind and sand that beat a steady staccato against our camp. Cleaning became an exasperating chore, but finally I found a workable solution for the floors. I merely poured the soapy water over the rough boards and swept it down through the knotholes.

Washing clothes over a washboard was a hard backbreaking job, and I never was able to make it any easier. Fortunately, the miners took care of their own laundry.

I felt that I had shared some of the toil that went into mining mercury, but Ray and the miners not only worked hard, they also faced a great deal of danger.

The miners had built a long steep flight of steps to the shaft. Pneumatic drills, run by compressors, were used to remove the ore, which was sent down in buckets operating on a rope slide. Then the ore was sorted and placed into retorts for baking at 400 to 700 degrees Fahrenheit, depending on its grade. As the ore baked, mercury vapors were released and condensed in cool pipes leading from the retorts. The metal dripped from the pipes into cast iron pots. After the soot was removed by straining, the mercury was poured into flasks, each holding 76 pounds of liquid metal.

The miners must wear heavy gloves, high boots and thick clothing—not exactly the most comfortable garb for hot weather—when processing the ore. Constant contact by the ore dust on bare skin, or breathing the deadly fumes could result in mercury poisoning. The miners are required by law to take a shower every night after work to remove any ore dust that might have penetrated their clothing. Even the wildlife would run for safety when Ray emptied the baked ore ash from the retorts. The sour acrid fumes would bellow out in an ominous gray-green smoke cloud, and Ray would watch his sterling silver belt buckle for signs of tarnish. This was the signal that the fumes were too dense and he would immediately retreat to safer ground.

When Jim and I had a spare moment, we would watch Ray and the miners, or else explore the surrounding country. We found it to be a rockhound's paradise for specimens of copper pyrites, mica and turquoise.

In the evening the men would gather in the yard and sing and play their guitars. I usually heard their gay rhythms over the dish pan, but it made for pleasant listening and broke the monotony. More elaborate entertainment was nonexistent for everyone was too tired. When darkness closed in, we went our separate ways—the miners to their cabins in the hillside, and the three of us to our comfortable galvanized home.

Late in August the camp cook returned and my job ended, which caused mixed feelings with me. Looking at my rough red hands, I was glad to go—but then there is an unexplainable tranquility about the desert that seeps into one's being. I knew I would miss this place, hard work and all.

Jim returned to school with a wonderful experience few boys can have, and though I had toiled hard, I learned a great deal that summer. One thing for sure: should another opportunity come to accompany Ray on a mining venture, I will not hesitate to go—and this time there will be two experienced miners—one who bakes and one who stews.

Parker Indian Reservation Development Lease Signed

Signing of a 25-year lease with the Colorado River Enterprises of Phoenix for 68,386 acres of the Colorado River Indian Reservation was announced by the Secretary of the Interior.

The contract between the Phoenix concern headed by Stanford W. Barton and the Chemehuevi and Mohave Indian tribes calls for an ultimate expenditure of \$30,000,000 in private funds to develop the area. Barton's firm is required under the contract terms to complete the agricultural development in the first five years of the lease. Annual rentals on the 67,000 acres to be developed agriculturally will be \$7 an acre for land actually developed and ready for cultivation. On 500 acres to be devoted to industrial plants the rent will be \$20,000 a year, as will that for a residential area of 866 lots in the town of Parker. An estimated 1500 persons will be employed in the vast project.

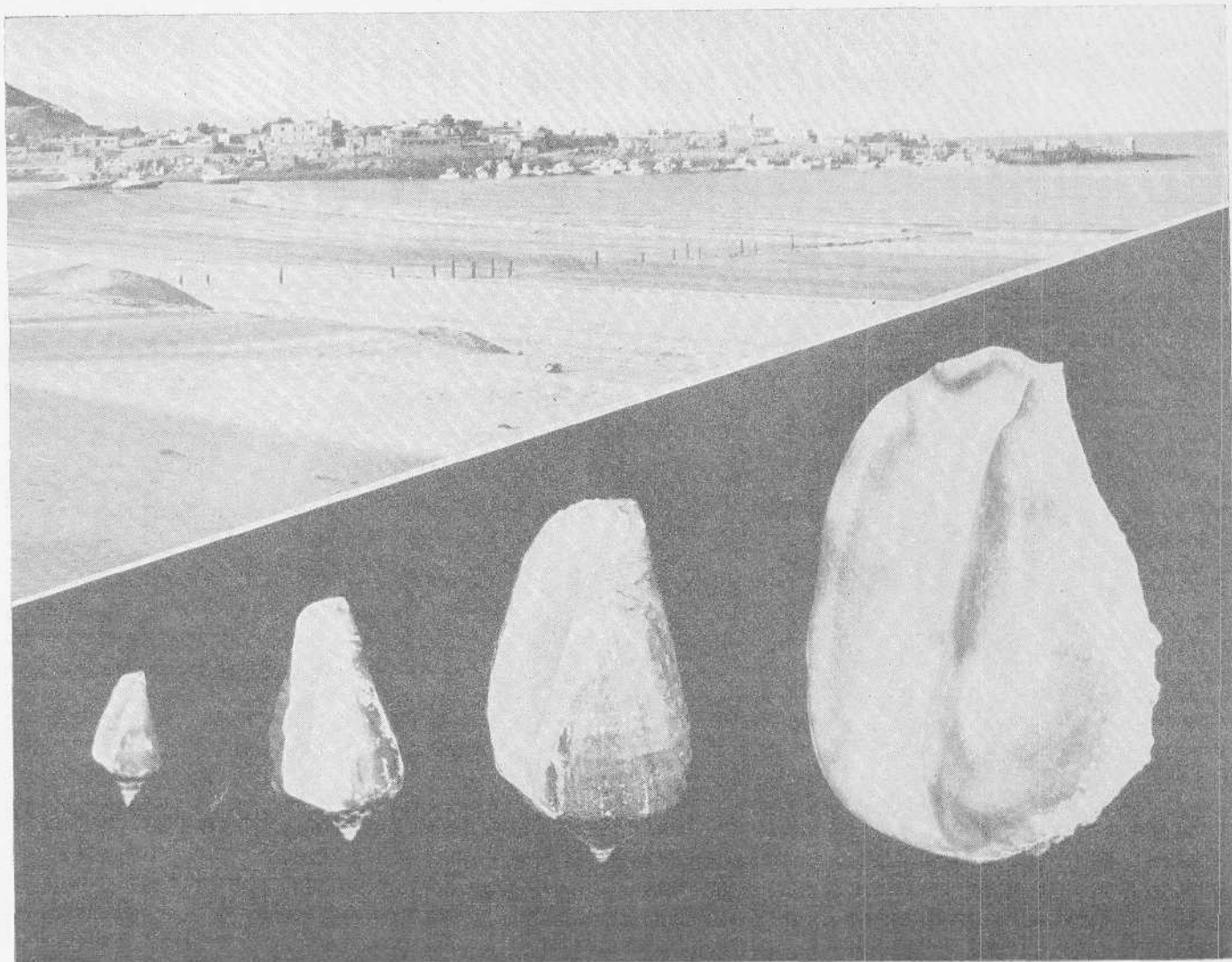
Only obstacle that might prevent the company from going forward immediately with the development would be

litigation involving use of Colorado River water on Indian lands.

Indians will have employment priority on the project, according to terms of the lease. The agreement calls for further deepening, widening and lining work on three miles of main canal, installation of several pumping plants, installation of 230 miles of laterals, 374 miles of farm ditches, and necessary drainage and wasteways, and clearing, leveling and fine-grading the land for cultivation.

In the 500-acre industrial area is to be a frozen food processing plant, a soybean oil mill, an alfalfa dehydration plant and cotton gins.

Pete Homer, chairman of the Colorado River Tribal Council, outlined four specific benefits that will be derived from the project by his people: (1) raised economic standards; (2) availability of more jobs for those who can work; (3) protection of the Indians' water rights through beneficial use; and (4) placing the Indians in a position to become first-class citizens.



Fishing village of Punta Penasco and some of the beautiful Strombus shells found on its beaches. Largest specimen is eight inches long.

Marine Treasures From the Beach at Punta Penasco . . .

Nature's most delicate sculpturing and exquisite coloring are often found in sea shells, and Punta Penasco on the northern shores of the Gulf of California is one of the world's best shell hunting beaches. Only 64 miles by paved road from the U. S. Border at Sonoyta, each year finds more and more Americans discovering the charm of this desert shoreline and the fun in collecting its marine treasures.

By HELEN DuSHANE
Photographs by the author
Map by Norton Allen

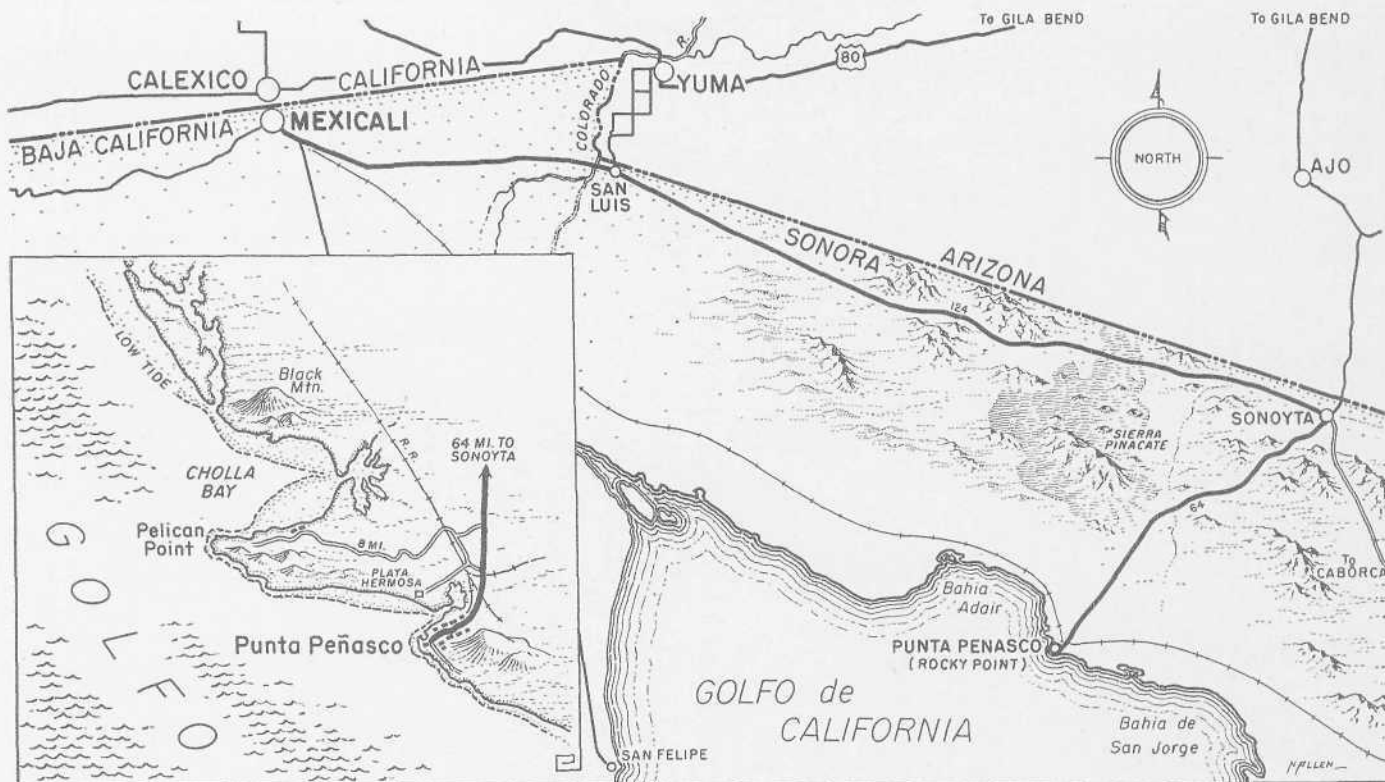
IN THE early days of Spain's dominion of Mexico, it was accepted as fact that Alta and Baja California were separated by a body of water known as the Strait of Anian. The King of Spain sent several ex-

ploring parties to this part of the world in futile attempts to find this non-existent waterway.

It remained for an indefatigable Jesuit padre, Eusebio Kino, to prove to the world that Alta and Baja were

one. In December, 1684, while visiting the west coast of Baja California, he observed the Indians utilizing a certain shell of brilliant iridescent shades of blue. It was the abalone, *haliotis fulgens*. Later along the west coast of Mexico he noticed the same blue abalone shells in use by the Indians, but discovered they were not native to this portion of the mainland. When he questioned the Indians, they gestured and drew maps in the sand. They explained that they had procured the shells in trade with other Indians a long walk to the north, then west over high mountains. No mention was made of crossing a waterway.

Bit by bit Kino gathered his infor-



mation until he felt he had enough evidence to confirm his conclusion that Upper California and Lower California were a continuous land mass, with no water course separating them, and he so reported to the King. This information was received dubiously by the throne. Actually, it was many years before maps were changed to agree with Kino's conclusions.

Although Kino's interest in shells cannot be considered a hobby, he collected as assiduously as any present day conchologist, amateur or professional. His is the earliest historical record of shell collecting on the West Coast.

Today, there are over 1000 professional conchologists listed in the *International Conchologists Directory*, and for every professional there are at least 10 amateurs. Two of the largest collections in the country are housed at the National Museum of Natural History in New York City and at the National Museum in Washington, D.C. The latter institution has 5,000,000 classified shells. With all the established public collections, plus the private collections and accumulations, I often have wondered how there can be any shells left in the sea. Yet each returning tide sweeps new treasures onto the beaches. The supply is inexhaustible.

Shells belong to a large group of animals known as Mollusca. Unlike humans, Mollusca carries his skeleton on the outside, and unlike our skeletons, his usually is far more attractive.

My husband and I have collected

shells for many years, not avidly as do some of our friends, but as an adjunct to wandering the beaches. We discovered long ago that Nature is the master craftsman, casting beauty, usefulness and even surprises at our feet.

Recently we returned to our favorite shell collecting area, Punta Peñasco (Rocky Point) on the Gulf of Mexico, 64 miles by paved road southwest of the Mexican Port of Entry at Sonoyta. We had made reservations at the Playa Hermosa Motel, owned and operated by Andy Chersin.

Although we drove from our Southern California home to Sonoyta by way of Yuma, Ajo and the Organ Pipe Cactus National Monument in Arizona, there is another and more direct route to that community. This recently paved road links the Mexican border cities of Mexicali, San Luis and Sonoyta, following in part the route of El Camino del Diablo—no longer the potentially dangerous road it was in the past, although the service stations and other supply points along it are few and far between.

Eight miles by dirt road from Punta Peñasco is Cholla Bay. As the name suggests, cholla cactus is a common ground cover here, but the main attraction is the water, that great expanse of blue which turns to red in the setting sun. This phenomenon caused the early Spaniards to name this the Vermillion Sea.

There is much sea life in the Gulf of California. Fish, swept from the open sea by the current moving up the west coast of Mexico, are trapped

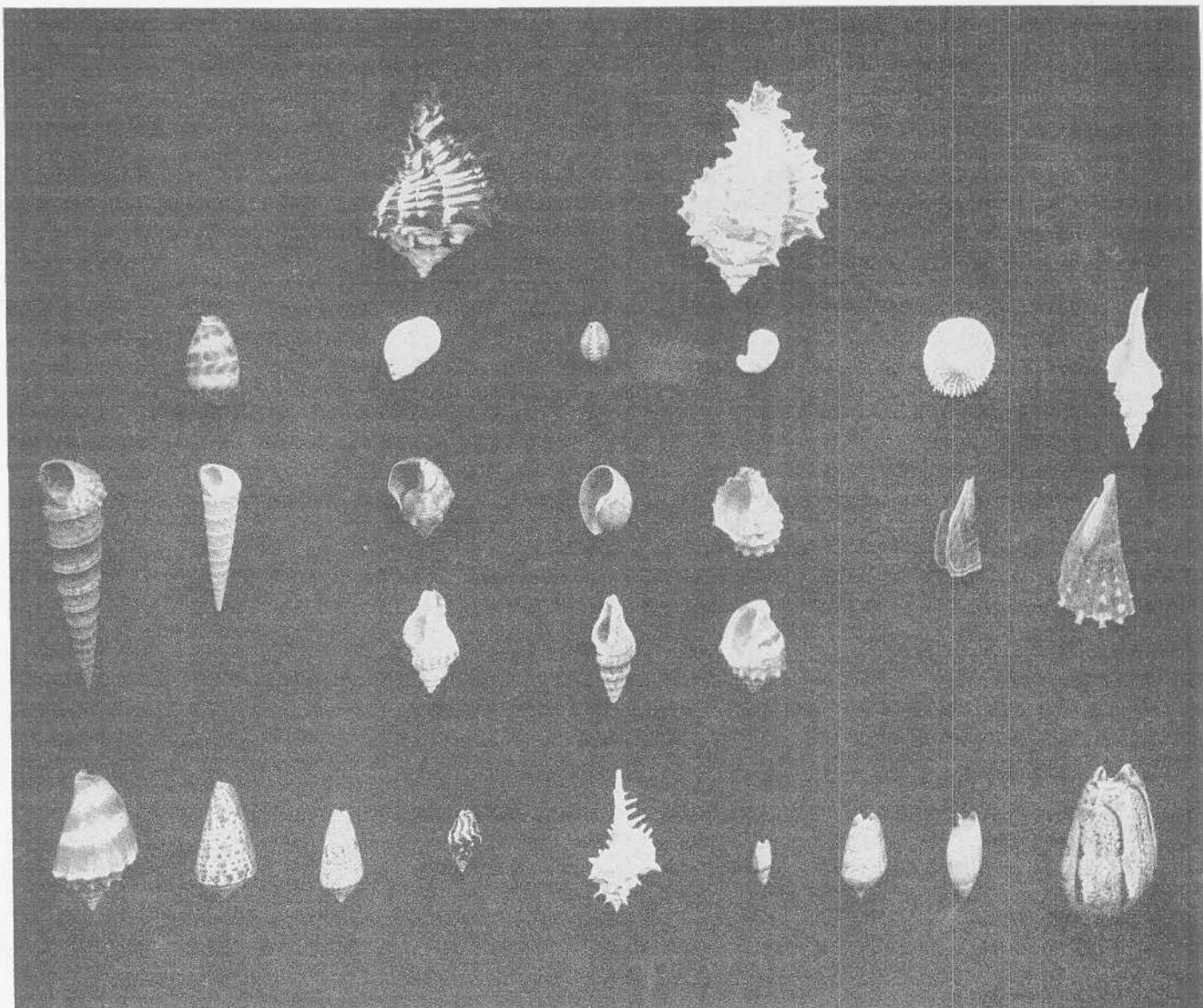
in the Gulf's 12,000-foot-deep trough. Entire movement of the water within this 700-mile-long gulf is counterclockwise, and this is said to be the richest fishing water in the world.

There is an enormous tidal rise and fall along the Gulf's northern shores. The merging waters of the intruding sea and the Colorado River produce a tidal bore that often reaches a height of 50 feet, second only to the bore of the Bay of Fundy in Nova Scotia.

A wonderland of mollusks is uncovered with each receding tide. In the briny water of the shallow tide pools are found single shell univalves and bivalves. Mussels, oysters, limpets and snails cling to the rocks while crabs and other crustacea swarm over them. Strands of seaweed, the ferns of the sea, undulate with every movement of the water. Behind us was the vista of rocks and desert land, before us a new world to explore.

Conchology is no respecter of age. The young and old alike find reward in wandering the isolated shores of the bay in search of shells. My father, 82 years old, rolled up his trousers and waded into the Sea of Cortez looking for one of the elusive *caracolles*. He had as carefree a time as the rest of us—perhaps more so, for behind him was a long life of bull and bear markets, with their attendant worries.

We could hardly wait for the sun to rise on the second day of our visit. The tide was out very early and we were down on the beach in front of the motel at 5:30 to look for the treasures of the sea. As the waters receded,



Shells from Punta Penasco. Top row, from left: Black and White Murex, Pink Mouthed Murex; Second row: Cowry, White Moon Shell, Trivia, Cap Shell, Cup and Saucer, Giant Panama Spindle; Third row: Turritella goniostoma, Turritella, Channeled Dog Whelk, Bubble Shell, Acanthinun lugubros or angelica, Pen Shell, Pen Shell; Fourth row: Kellet's Whelk, Turris sp., Cancellaria cassidiformis; Bottom row: Fighting Conch, Conus regularis, Conus ximenes Gray, Pyrene stromaformis, Spiny Murex, Olivella dama, Oliva spicata, Panama False Olive, Angulate Olive.

more and more of the flat rocky reefs where the teeming colonies of sea life exist, were exposed.

These first days of collecting were disappointing and very tiring, however. We city people are not accustomed to walking barefooted over rocks, nor are we in the habit of stooping to the ground 200 times a day. I strongly recommend this hobby for waistline reducing.

On the following day we drove the eight dusty unpaved miles to Cholla Bay to try our luck. The low tide is one hour later each day. Here it is that most of the professional concholo-

gists come to collect throughout the year.

On the beach we met the Poorman family, Roy and Forrest and their two children, Teri and Ronnie. They have come with their trailer for many years to enjoy the peace and tranquility of the calm waters of Cholla Bay. Together with our own Rene, we set off as a small but imposing force to conquer Crustacea and Mollusca. Our destination lay half a mile across the mud flats to the very water's edge. Here it is that the Fighting Conchs bump. "Bumping" is a term used to signify the cracking of the sand at the top of a small mound under which

lies the conch, about six to eight inches below the surface. Thanks to the experience of the Poorman family we found several specimens.

For sheer beauty the Angulate Olive stands alone, we believe. It leaves a trail the width of its body in the mud flats near the water's edge. At the end of this furrow in the wet sand it lies buried just out of sight. Three types of olive shells are collected here: Angulate, Panama False and Netted Olive. The long-spined Turritellas and Augers of several varieties also are found at Cholla Bay.

Extreme low tide lasts only a short hour so hunting must be brisk during

this time of golden opportunity. When the tide turns in *El Golfo*, it really turns and in no time at all what was wet sand and mud becomes a calm blue swimming pool five or six feet deep.

This is an ideal place to swim for there are no waves or undertow to frighten timid swimmers or children. We spent the long leisurely afternoons swimming, taking siestas or fishing from the rocks. After dinner, small groups eluster around campfires to discuss the day's catch of fish or shells. While most of the visitors are in bed by nine o'clock, the avid conchologists follow the night tide out with gasoline lanterns. Late at night their lights can be seen bobbing along the tide flats.

Early one fine morning we started off along the sands for Norse Beach, four or five miles away. A lone man was a mere dot on the reefs ahead of us. When we caught up to him a white toothed smile from his dark face greeted us. This was our introduction to Arturo Peralta M., a full-blooded Pima Indian. With his wife and five children he has lived in Punta Penasco for many years. Tragically, he had not worked for 25 days.

Even in some parts of Mexico there is discrimination, and apparently Punta

Penasco prefers Mexican to Indian laborers. It is a sad plight to be 44 years old with six dependents and with no opportunity for betterment — but there was the sea, and Arturo was gleaming food from it when we met him. As is always the case, those who have the least material wealth live closest to Nature. His eyes lit up when we explained in our lame Spanish that we wanted only *las conchas y caracolles* and cared nothing for the meat within them. Right then a pact was made. Joe would give him the meat from the beautiful Strombus he had just found, if Arturo's wife would cook and remove the interior and return the shell to us.

We spent the morning searching together. Arturo showed us how to look under the ferny seaweeds in the tide pools for the elusive cowries. He found seven shells of the Strombus ranging in size and maturity from a two-inch baby to a mature eight-inch adult with its flaring orange lip. We were chagrined on asking where the Murex were, only to have him pick six off the rocks at our feet. They were both the pink-mouthed and black and white varieties. Nature has a way of hiding some of her most beautiful possessions with an unobtrusive coating, and Mu-

rex is no exception. But the keen eyes of the Pima saw them immediately. How much we miss when our city eyes see only red and green traffic signals and have forgotten how to attune themselves to Nature!

The Scotch Bonnet we could not locate alive, although several cracked and bleached shells were found among the rocks. But, if we collected all the species in one trip there would be no excuse to return, and we want to see again and often the long eight mile half moon of sand stretching away to the northwest to its terminus of rocky hills. The sea, sand and shells at Punta Penasco are superb.

Here are some requirements and suggestions for your trip to Punta Penasco:

TOURIST CARD is a necessity—costs \$3.00 at any Mexican Consulate Office or Mexican Tourist Bureau in all larger cities of Southern California. Good for six months. A new ruling requires that a member of the immediate family procure the permits. Show this card to the Mexican authorities at port of entry.

AUTOMOBILE INSURANCE is not a necessity but a wise precaution. In Mexico an accident comes under criminal, not civil law. Car insurance rates are the same at all agencies licensed by the Mexican government to do business in our country. May be obtained at Tijuana or Mexicali. Mr. Zamora, International Travel Insurance, 354 S. Spring St., Los Angeles, 13, will issue the necessary insurance by mail. Send engine number, make and model of car and amount of insurance coverage wanted. Rates are about a dollar a day for a month's insurance, more nearly two dollars a day for a week's coverage.

SMALLPOX VACCINATION certificate is needed for a re-entry into the United States.

PINK SLIP for car is not a necessity but a wise precaution. It is most difficult to defend one's honesty in another man's language.

GASOLINE is less expensive at the border towns in Mexico than in the United States. Sometimes stations are out of ethyl. There are no gas stations or stores along the 120 miles between San Luis and Sonoyta at present. There are gasoline stations at Sonoyta and Punta Penasco.

WATER—be safe and carry your own. If this is impossible take Halazone tablets (40c per 100). One tablet in a pint of water renders it fit to drink in 30 minutes. Do not use Mexican ice in beverages.

FOOD—the dining room at Playa Hermosa is fair in quality, but safe. Most foods come from Phoenix, Arizona. They have their own well and the water is chlorinated. It is claimed to be safe, but use your own judgment in this matter.

PLACES TO STAY are few. Playa Hermosa has air conditioned rooms at \$8.00 for a double or \$6.00 with no air conditioning. Hotel Penasco is right in town with about the same rates and no dining room. Make reservations in advance to avoid disappointment.

CAMPERS may stay just outside the grounds of Playa Hermosa or at Cholla Bay which is frequented by *norteamericanos*. Ice is available at Punta Penasco and Cholla Bay.

Cash For Desert Photographs . . .

For many, the desert is a magic place. Its wonders can lie in the exquisite beauty of a minute mineral specimen—or fixed in a sweeping vista. Here is a land with something for everyone, and if a camera is standard equipment on your trips into the desert, you should regularly enter the best of the photos you take in the Picture-of-the-Month contest. Two cash prizes are awarded each month, and there is no limitation to subject matter so long as it is of the Desert Southwest.

Entries for the October contest must be sent to the Desert Magazine office, Palm Desert, California, and postmarked not later than October 18. Winning prints will appear in the December issue. Pictures which arrive too late for one contest are held over for the next month. First prize is \$10; second prize \$5. For non-winning pictures accepted for publication \$3 each will be paid.

HERE ARE THE RULES

- 1—Prints must be black and white, 5x7 or larger, on glossy paper.
- 2—Each photograph submitted should be fully labeled as to subject, time and place. Also technical data: camera, shutter speed, hour of day, etc.
- 3—PRINTS WILL BE RETURNED WHEN RETURN POSTAGE IS ENCLOSED.
- 4—Entries must be in the Desert Magazine office by the 20th of the contest month.
- 5—Contests are open to both amateur and professional photographers. Desert Magazine requires first publication rights only of prize winning pictures.
- 6—Time and place of photograph are immaterial, except that it must be from the desert Southwest.
- 7—Judges will be selected from Desert's editorial staff, and awards will be made immediately after the close of the contest each month.

Address All Entries to Photo Editor

The Desert Magazine

PALM DESERT, CALIFORNIA



Cicadas, singers of the hot sunny hours. Drawing by Morris Van Dame.

Insects That Sing in Desert Summer Heat ...

During the summer months the normally peaceful desert often is filled with the clamor of seldom seen and relatively tiny insects, the subject of this month's discussion by Dr. Jaeger. Often startling, the songs of crickets, katydids and the especially piercing note of the cicada reveal still another facet of the living desert.

By EDMUND C. JAEGER, D.Sc.
Curator of Plants
Riverside Municipal Museum

EVERY DESERT has its insect musicians. On the Colorado Desert in both California and Arizona, we have the large gray and black Mexican ground cricket, a most excellent chirper. Often in the spring and summer it is exceedingly plentiful and a real pest. Nocturnal and semi-migratory, it may suddenly appear in great swarms, eating everything green before it. Houses, stores and public buildings are invaded.

In arid parts of Sicily and North Africa people are bothered by the big-headed cricket (*Brachytrypes megacephalus*) whose shrill note can be heard a mile away!

Many think they are listening to crickets when actually they are hearing the slow-moving musical katydids. Along the ditch-bank shrubbery of the Imperial Valley of California, the shrill but pleasing song of the male cicada-

singing katydid is heard soon after dusk. It is a pale brown species, two to two-and-a-half inches long. Its stridulatory sounds are made by rubbing a file at the base of the left outer wing cover against a scraper on the right side.

The small long-horned tree-crickets are the real musicians. On warm summer evenings their charming pulsating almost bell-like song, kept up almost without break for hours, is certain to be heard near oases or desert streamlets where there is low brush or a few trees. It is said that the intervals between notes are correlated to the temperature—the more rapid the stridulations, the hotter the day. Thus cricket song specialists can pretty accurately determine night temperatures without recourse to thermometers.

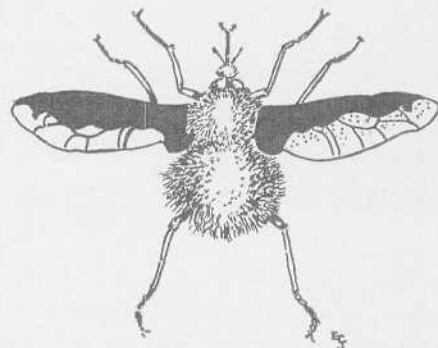
Tree-crickets are expert ventriloquists. You may listen to one singing

and think you can go directly to where he is. To your amazement and frustration he is not there at all, but perhaps 10 feet away and in the opposite direction! My old friend Morgan Hebbard, the great orthopterologist, was very expert at locating them, and could walk right up and pick one off its perch on a tree limb. Indeed, he would collect 10 to my one.

The loudness of a tree-cricket's note is quite out of proportion to its small size. In China and Japan tree-crickets often are caged for their song. One of the favorites is the black tree-cricket which looks like a watermelon seed. In Japan it is known as the bell cricket, in China, the golden bell, because its notes remind people of the small bells worn by the Shinto priestesses in their sacred dances.

In the Panamint, Grapevine, Inyo and Charleston mountains of the Death Valley region there is a rather large dull-gray grasshopper with bright pale-blue membranous underwings which show up when the insect is on the wing. During the hot sunny hours this grasshopper has a curious way of suddenly flying upward in dramatic vertical circles eight to 10 feet in diameter, making in flight a very loud, startling and prolonged clattering noise. This has earned for it the appropriate name, firecracker grasshopper. If these stridulations are accompanied by the shrill crackling notes of cicadas, it gives one a new sense of the strangeness and wildness of the arid pinyon forests where they dwell. The firecracker grasshoppers are most plentiful in early summer. They begin their wild gyrations about 10 in the morning and keep them up at frequent intervals until about three in the afternoon. This too is the favorite time for voluble singing of the cicadas. The grasshopper's strange crackling noise is made by suddenly rubbing the front margin of the

Beefly, so named because of its resemblance to a bee. Drawing by the author.



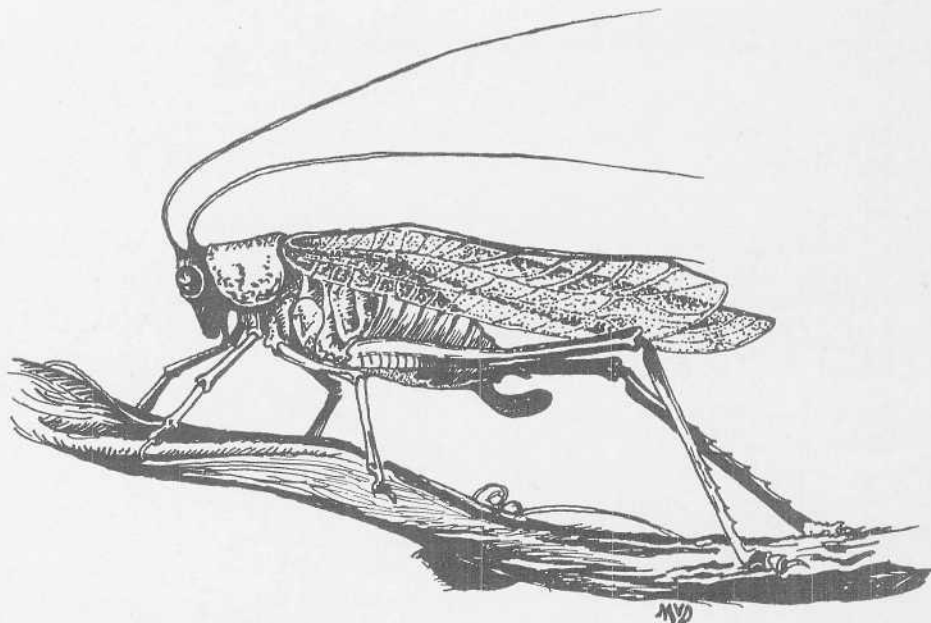
inner wings against the thickened veins of the tegmina or outer leathery wing covers while in flight.

In the hot southern deserts where the creosote bush grows is a small slant-faced grasshopper, colored a rich green with minor markings of brown, black and silvery white. This is *Boottettix argentatus*, the creosote grasshopper. Those who have good ears can hear its frequent wispy clicking both during the day and late warm evenings. It clings lengthwise to the creosote stems, and because of its camouflage is rather difficult to see. It can be very lively and stays out of sight by quickly retreating to the opposite side of the twig as you approach. Try hunting it sometime and get some real exciting pleasure. There is a katydid with similar markings that also lives on creosote bushes.

A sound quite similar to that of the creosote grasshopper is made by the peculiar yucca clicker, *Aglaothorax armifera*, found feeding among the spiny leaves of the tree yucca. It too is difficult to approach because of its keen eyesight and movements; moreover it is an expert ventriloquist. Although at times locally abundant, it is rarely collected. I caught some in early June in the Lava Mountains of the northern Mojave Desert. It is well worth looking for. The insect is pale green with brown markings and about one to one and one-half inches long.

The cicadas are the desert's best insect noise makers. There are many kinds — some comparatively quiet, others exceedingly vocal. Aldous Huxley, in his recent book *Tomorrow and Tomorrow and Tomorrow*, mentions a species he met on a Mojave Desert walk. The sound they made reminded him of the crackling noise of a rapidly burning brush fire.

In May and June the Apache cicada comes forth in unbelievable numbers on the Colorado Desert. During the warmest part of the day they sing in unison, making a very loud noise, harsh and annoying, one that scarcely



Katydid, rival singer to the cricket. Drawing by Morris Van Dame.

can be called musical. Always when I hear them I am reminded of the lines of Hesoid, the Greek poet of Nature, in his didactic poem, *Work and Days*: "And when the dark-winged whirring cicada perched on green shoot, begins to sing of summer to men. His food and drink is the dainty dew. And all day long from dawn he pours forth his voice in deadliest heat, when Sirius scorches the flesh."

The male cicada is the singer—perhaps the noisiest of all animals without backbone. The effective instrument of sound is an apparatus made of tymbals or "drum heads" and tymbal muscles. The former are convex and are pulled inward and suddenly released by the muscles. This action produces a sharp click and when the clicks are rapidly repeated they make up the cicada's song.

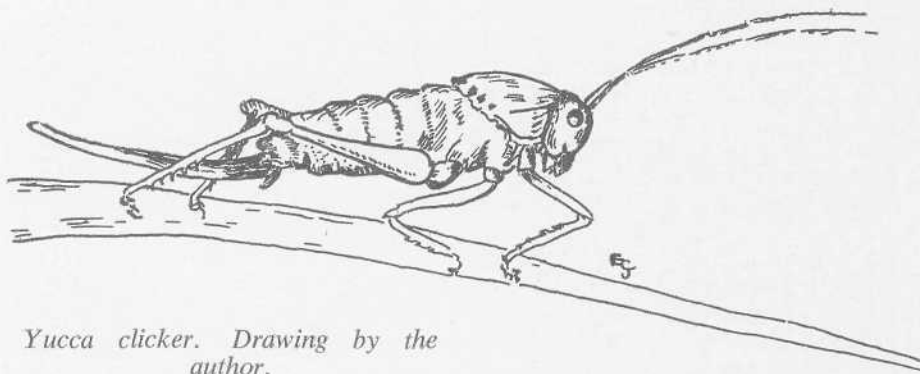
The female lays her eggs in slits made by her sharp ovipositor along the length of tender twigs. Soon after the

young nymphs hatch they go underground to feed on the roots of plants. They may stay in their subterranean hide-outs for several years (17 in the case of the seventeen-year cicada), then, some late spring, emerge. There always is a skin moult just before the adult stage, and often we see these cast-off exuviae on the ground or on shrubs—hollow duplicates of the living nymphal insect.

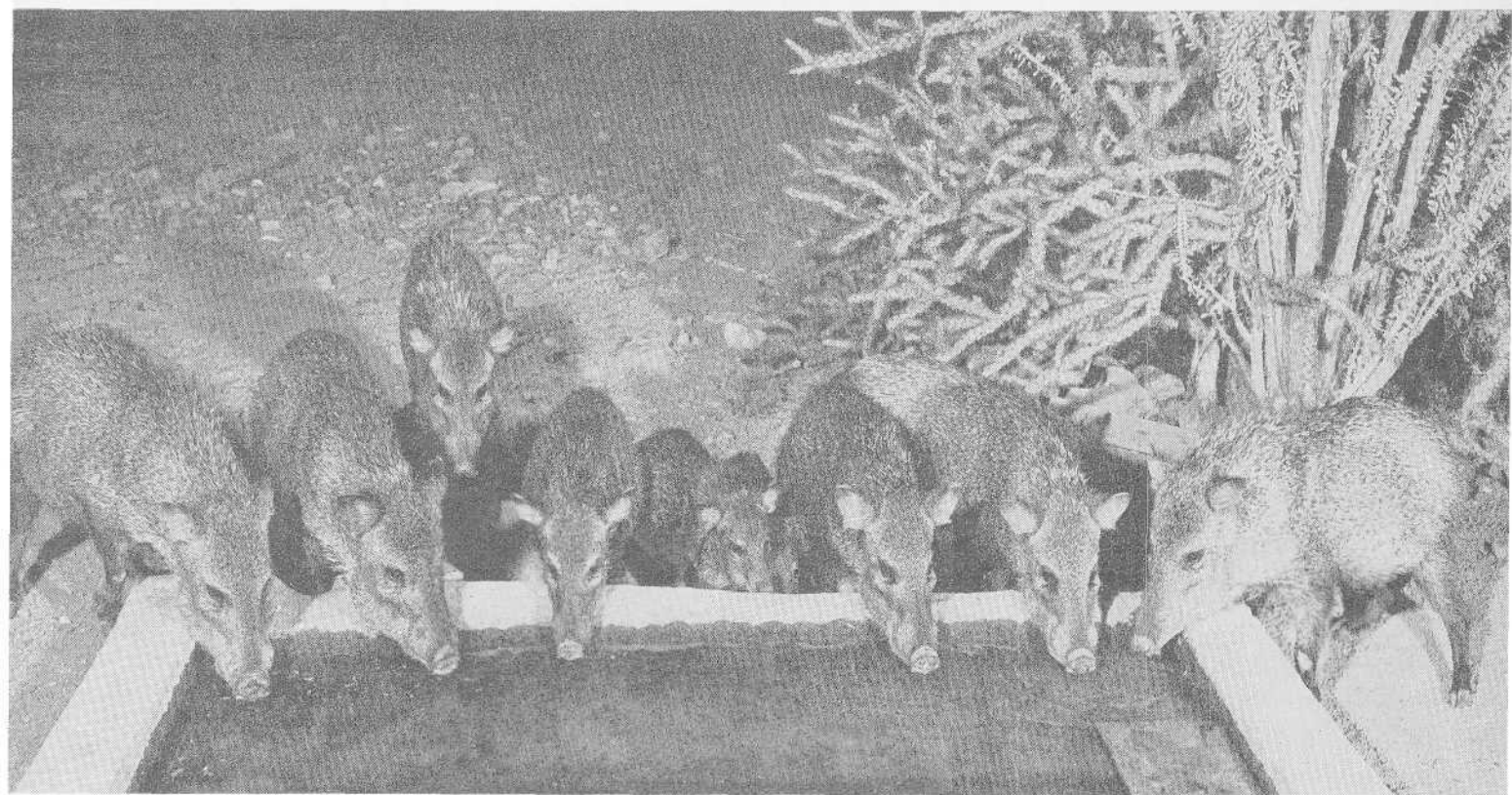
There also are singers among desert flies. Some of their songs are pleasing, others very annoying because of their high pitch. I often enjoy lying down in the open, listening to minor musical notes of the active big-winged tachinid flies. These insects are rather large as flies go and given to buzzing as they take wing. The head, thorax and rear abdomen and legs of these somber-colored flies are covered with very noticeable long stiff black bristles. The larvae are internal parasites of other insects, often causing their death.

Another group of fly noise-makers sometimes seen on deserts are certain of the handsome beeflies, so called because of their close resemblance to bees. They are swift fliers, darting from flower to flower to feed on pollen and nectar. These flies produce a pronounced, rather pleasing penetrating high note when captured. The larvae are parasitic on the larvae of wild bees.

The summer concerts of insects are well worth listening to and studying to learn their differences and the quality and range of their notes, especially those of the musical cicadas. If you can, slip up on the musicians and watch them produce their charming stridulating songs.



Yucca clicker. Drawing by the author.



Thirsty Javelinas ...

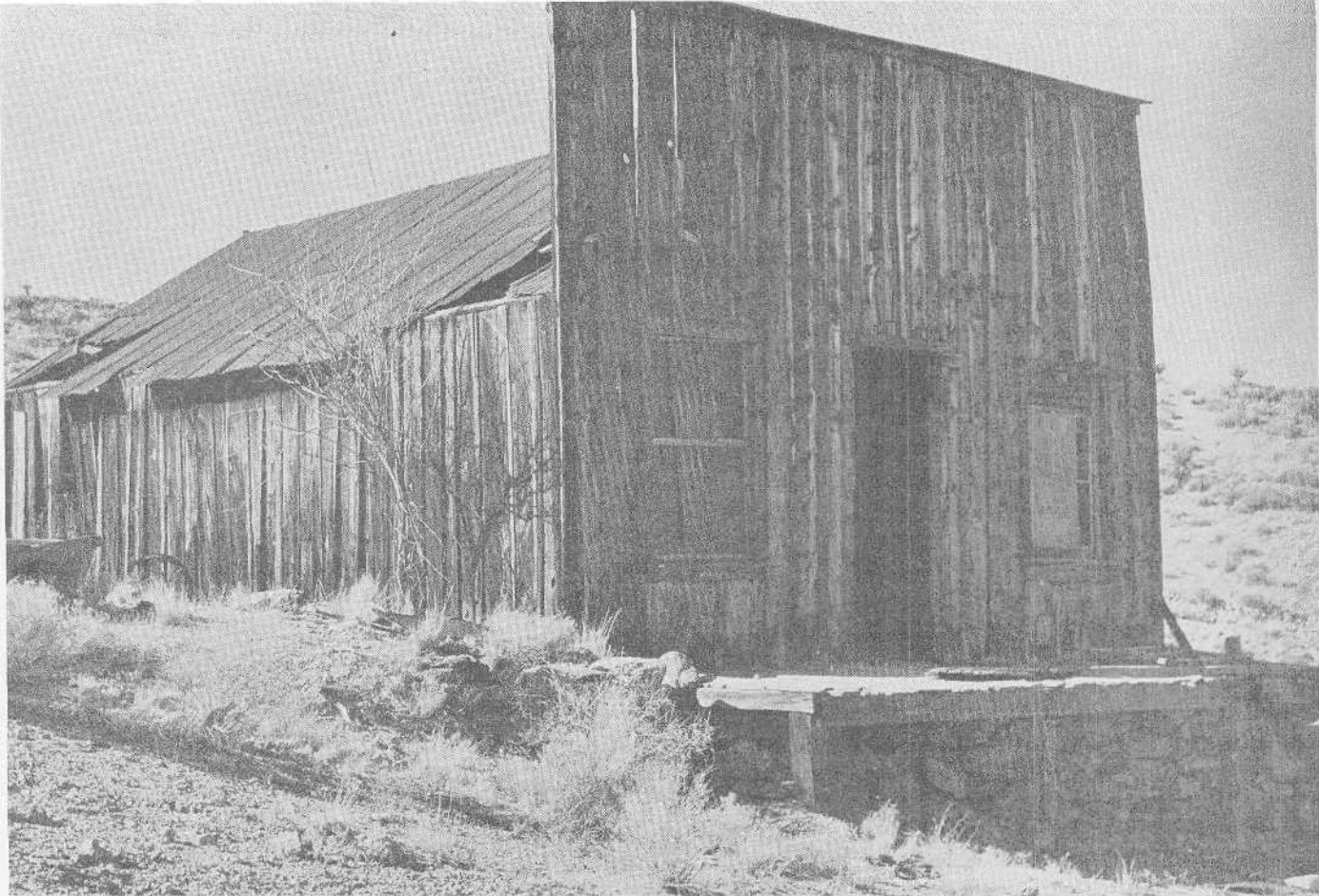
Hiram L. Parent took this first prize photograph of javelinas (peccaries) at a water trough on the desert near his Tucson home. These pig-like animals spend most of the daylight hours in hiding among cacti and other plants. They feed in the morning and evening hours—and are not too particular as to diet. The Colorado River acts as a natural barrier to the westward migration of these interesting animals, and they are not found on the deserts of California. Parent's camera data: 4x5 graphic camera with 5¼-inch lens; royal pan film; 1/100 seconds at f. 26 with two press 40 bulbs.

Pictures of the Month

Date Palms ...

While other palm tree species are native to the Southwest, the date palm was introduced from North Africa and Arabia at the turn of the century. In several locations on the desert, principally at Indio, California, descendants of these first imports grow today in neat well-cared-for gardens, adding unusual charm to the desert scene. Ladders nailed to the palm trunks are used by workers to hand pollinate the date bunches and to thin and pick the ripe fruit. This month's second prize photograph was taken by John A. Singer of Gardena, California, on super XX film, f. 16 at 1/50 second.





Former office of the Gold Bar Mine in Vanderbilt, California.

Sleeping Ghosts in the New York Mountains ...

Gold, and the steel tracks of the railroad—these were the life forces of Vanderbilt and Manvel on California's Mojave Desert. When the ore could no longer be mined and the hard-pressed railroad abandoned its line, existence for these towns ended.

By NELL MURBARGER
Photographs by the author
Map by Norton Allen

SWINGING WIDE around the bleached skeleton of Ivanpah Dry Lake, my road cut through the small Mojave Desert station of that same name and started up the long alluvial fan that fringes the New York Mountains on the north. My destination lay just below the range's summit where I hoped to find two ghost towns I had never seen—Vanderbilt, a former gold mining center, and Manvel, one-time railroad supply point. Both had died in the closing years of the 19th Century.

The scorched brown hills and canyons spreading around me did not look as if they could have supported even

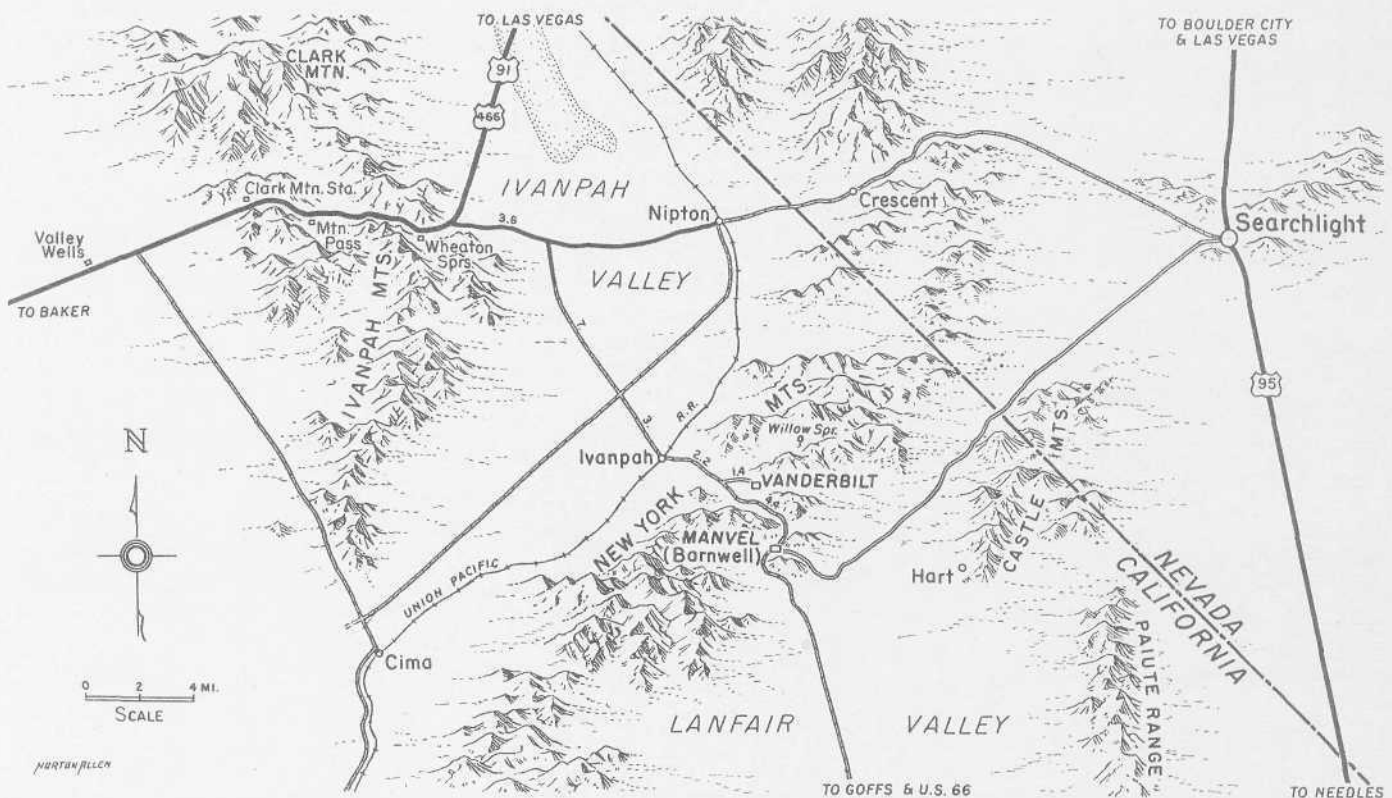
one town, much less two. Situated in southeastern California near the Nevada line, the New Yorks are lashed by terrific heat in summer and even the most charitable spring day finds them grim and sunburnt and wholly barren of brooks, forest glades and meadows. Niggardly scattered over their lower levels are thin-leaved creosote bushes and Mojave yuccas. Near 4000 feet this lowland desert growth is replaced by Joshua trees and, finally, by scrub junipers. With the junipers comes slightly cooler air and a sprightlier breeze and I suspected I would find my old towns near this merging place of Joshuas and junipers.

Two miles south of Ivanpah a rutted trail branches left where a peeling signboard reveals ghostly traces of lettering: "Vanderbilt Mines." This side road is what remains of the old grade of Isaac Blake's California and Eastern Railroad, a short line built in 1902 from Vanderbilt to a borax shipping point on Ivanpah Dry Lake. Stripped long before of its rails and cross ties, the old grade is so narrow that meeting cars only can pass at a few points, and where fills have sloughed away, the roadbed was barely wide enough to permit the passage of my wheels.

I spotted the old camp in the adjacent hills, its few weathering brown shacks in perfect camouflage against the weathered rocks of the mountain-side half a mile to the south. Leading toward those somber remnants were a pair of badly eroded wheel tracks.

As I eased my car over the rocks and ruts of the ascending trail, the headframe of a mine and the concrete foundation of a large mill came into view. And then, in quick succession, came tailing piles and waste dumps, a false-fronted building, crumbling foundations, leaning walls, rubble, ruin and sun-purpled glass.

The false-fronted wooden shell had been the office of the Gold Bar mine, whose shaft yawned open beside it. Walking around the hill to the west I found the hoist house of the rich Bonanza King—its site further marked



by a collapsed headframe, a length of hoist cable and a trio of heavy iron buckets. From the top of a low ridge east of town, I looked down upon the skeletal remains of the shafthouse and headframe of the Gold Bronze mine. Here my friend Jim Fisk of San Bernardino had been hoist-man 60 years before.

It was Jim who told me about Vanderbilt. He had come to the New York Mountains in 1890, soon after ore values had been spotted here by Bob Black, a Paiute Indian, who had brought them to the attention of "Old Man" Beatty, then owner of a ranch at the present site of Beatty, Nevada. The several gold claims located by Beatty soon were purchased by A. G. "Green" Campbell, who had accumulated a sizeable stake at Silver Reef, Utah. Naming his new California property "The Boomerang," Campbell installed a 10-stamp mill brought from Utah, and in a few weeks a boom camp sprang up in the vicinity. Because Cornelius Vanderbilt II was one of the wealthiest men of that day, founders of the new town thought it would give their newborn city a measure of prestige and security to name it in honor of the Eastern tycoon.

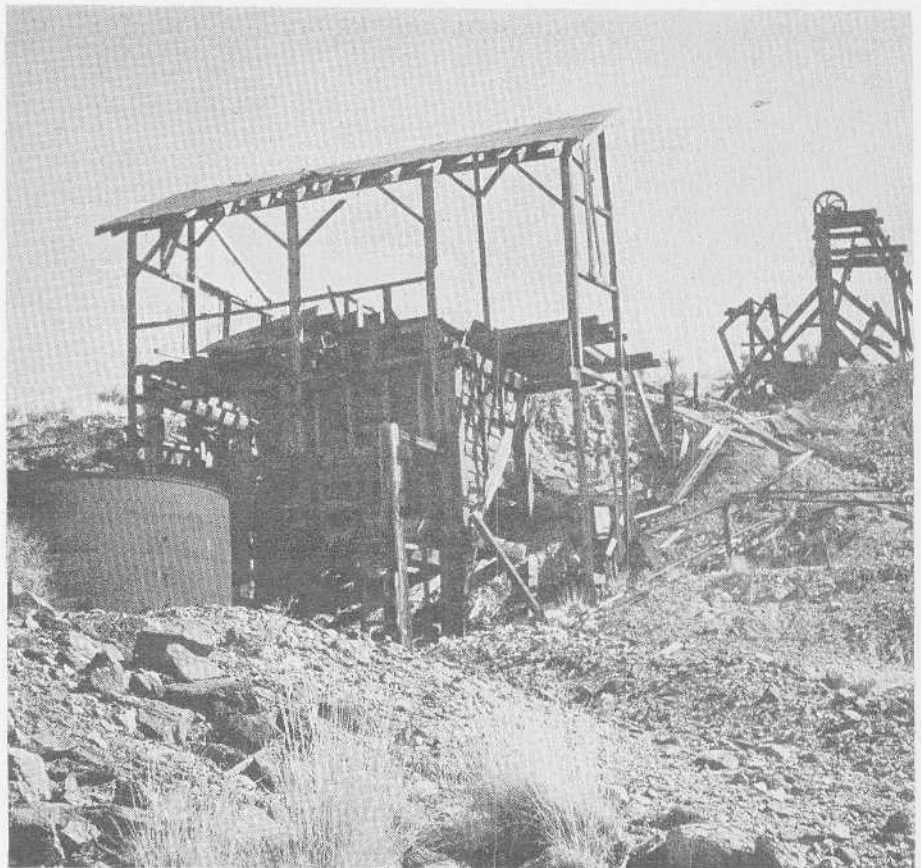
Vanderbilt developed rapidly and soon the surrounding hills were blanketed with mining claims. Several of these properties, including the Gold Bronze, Gold Bar, Boomerang and Bonanza King groups, were producing substantial quantities of gold, and with other important developments rumored for the immediate future, Vanderbilt

saw lack of a railroad as the only obstacle to metropolitan status. That any place so favored by Fortune should be hamstrung by the medieval transportation of stagecoach and mule

freight grew into a spectre that haunted her by day and night.

Isaac E. Blake provided the answer to Vanderbilt's prayer. Denver capitalist, Standard Oil Company execu-

Shaft house and hoist of the Gold Bronze Mine at Vanderbilt. Sixty years ago Jim Fisk was employed here as a hoist man.



tive, owner of a smelter at Needles and of mining interests in San Bernardino County, Blake added still another iron to his busy fire in 1892 by launching construction of a branch railroad to tap the financially-promising New York Mountains area.

Named the Nevada Southern, the line connected with the Atlantic and Pacific (later the Atchison, Topeka and Santa Fe) at Goffs, 30 miles northwest of Needles. From this point its rails traveled the length of Lanfair Valley to a point near the summit of the New York range, where, in 1893, there came into existence the rail terminal town of Manvel, named for Allen Manvel, then president of the A & P. The next year another Blake-financed road—the California Eastern—was built from Manvel to Vanderbilt and, in 1902, extended to New Ivanpah.

Having acquired rail connection with the outside world, Vanderbilt's 3000 citizens settled down to producing gold bullion.

"We had a weekly newspaper, *The Shaft*, four restaurants and several

boarding houses, half a dozen general stores and about the same number of saloons. Two of these — The Gold Bar and The Whist Club—were open 24 hours a day in approved Wild West style," said Jim. "The Whist Club, which was housed in the town's only two-story building, was owned and operated by Virgil Earp, one-armed brother of Wyatt, the gun-fighting marshal of Dodge City and Tombstone. The upper floor of the building was used for lodge meetings and dances. We had an orchestra composed of a reed organ and a couple of fiddles, and a group of us organized a theatrical company and presented home talent plays."

Prowling about the Gold Bronze mine and mill and the gray tailings dump below it, I found an old wooden bellows—its accordion-pleated leather sides now hard and brittle; and down in the sandy wash below the tailings lay an old steel vault, its door gaping open, its interior empty.

The wash leading back into the hills from the Gold Bronze had been the

original main street of Vanderbilt. Visible on both sides of its winding course were stone foundations and dugouts. Half-buried in sand and debris in its center lay the false-front of what had been a business building, likely a casualty of some long-ago flash flood. There was much rubble in the wash—old shovels, buckets, lanterns and stew pans. I even found two white English Ironstone butter dishes and a small bowl bearing Chinese designs. Above the Gold Bronze I located the stone house Jim had described to me as the "show place" residence of Virgil Earp. Partially buried beneath debris of the fallen roof lay a woman's high-heeled slipper, its once-dainty bands of leather now dried and warped. Such a slipper surely must have danced at The Whist Club. But somehow, it seemed terribly incongruous to think of high-heeled slippers, theatrical companies, dance orchestras and literary societies in a desert boomtown where water was measured almost by the drop!

Originally Vanderbilt's water supply was packed on burros from Cuddeback Spring, but after this source was found to contain arsenic and had made several users desperately ill, the camp's patronage was switched to Willow Spring, three miles from town. Later, one of the mine shafts developed potable water. For awhile Jim Fisk hauled water to Vanderbilt at a consumer cost of \$1.00 a barrel. In 1901 he started a small ice plant at Manvel and made ice for both these towns and for Searchlight, Nevada. Since the plant's capacity was only one ton of ice every 24 hours, he was kept very busy meeting the heavy demand.

But, before the new century was five years old, few citizens of Vanderbilt were worrying about the short supply of ice. A far more ominous spectre had risen to haunt them.

After producing several million dollars in gold and silver (A. G. Campbell's Boomerang and Bonanza King properties alone yielded \$2,000,000) the mines and mills were beginning to close. It wasn't that the ore was exhausted, said Jim, it simply became impossible to work it successfully with the knowledge and equipment of that day.

"Vanderbilt was strictly a gold camp," he explained. "It wasn't a high-grade camp, either, as compared to Goldfield or Bullfrog. It had come to life when amalgamation was about the only process known for the treatment of gold ores, and amalgamation is effective only on so-called free gold, that is, ore which has been thoroughly oxidized and the gold contained in its sulphides liberated. The oxidized zones at Vanderbilt did not extend to any great depth and soon as the ore was

Hard Rock Shorty of Death Valley



The sun beat down on the little store at Inferno where the prospectors, and an occasional tourist, came for supplies. A car stopped at the gas pump and the driver climbed out and sought the shade of the leanto porch, fanning his face with his hat.

"Do you have many days as hot as this?" he asked.

Hard Rock Shorty, lounging on the bench on the porch, shifted his plug cut. "Comes the hot season it's a bit warm," he admitted. "Today's cool."

"What is the average rainfall here?" the stranger wanted to know.

Hard Rock considered the question thoughtfully. "Couldn't say," he admitted at last. "I only been here 50 years. Ain't seen no rain since I come. This here's dry country."

"But I heard of storms and cloudbursts in the desert," the tourist persisted.

Hard Rock sighed and reached for his whittling stick. "Wal, if yu mean storms, I do rec'lect one. Happened one day when it wuz

so hot yu could smell burnt feathers. An' dry! It's allus dry here. But that day it wuz so dry even the patches o' shade withered up an' disappeared.

"Long about four in the afternoon a whoppin' big thunderhead showed up, comin' over the Panamints. Looked like the makin's of a hailstorm, but I couldn't figger how it could hail on such a hot day. Still, I wuz hopin' fer a little wettin' down.

"Wal, in about 15 minutes that storm hit, an' she wuz hail all right. It wuz so hot and dry them hail stones wuz made o' dry ice.

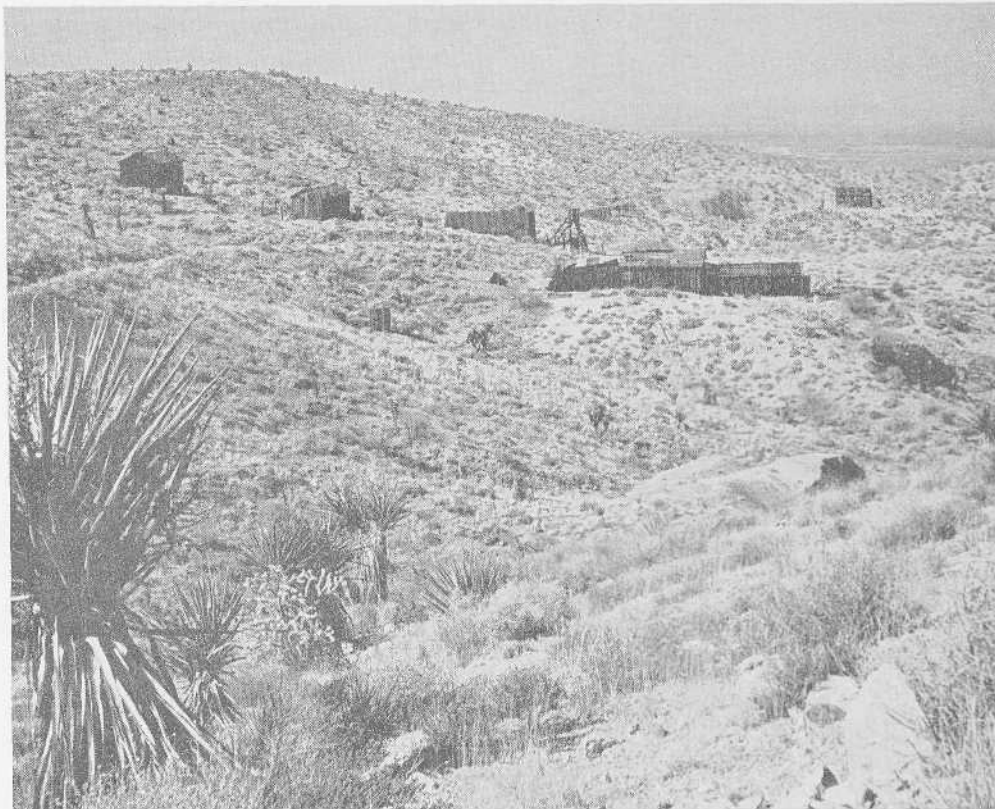
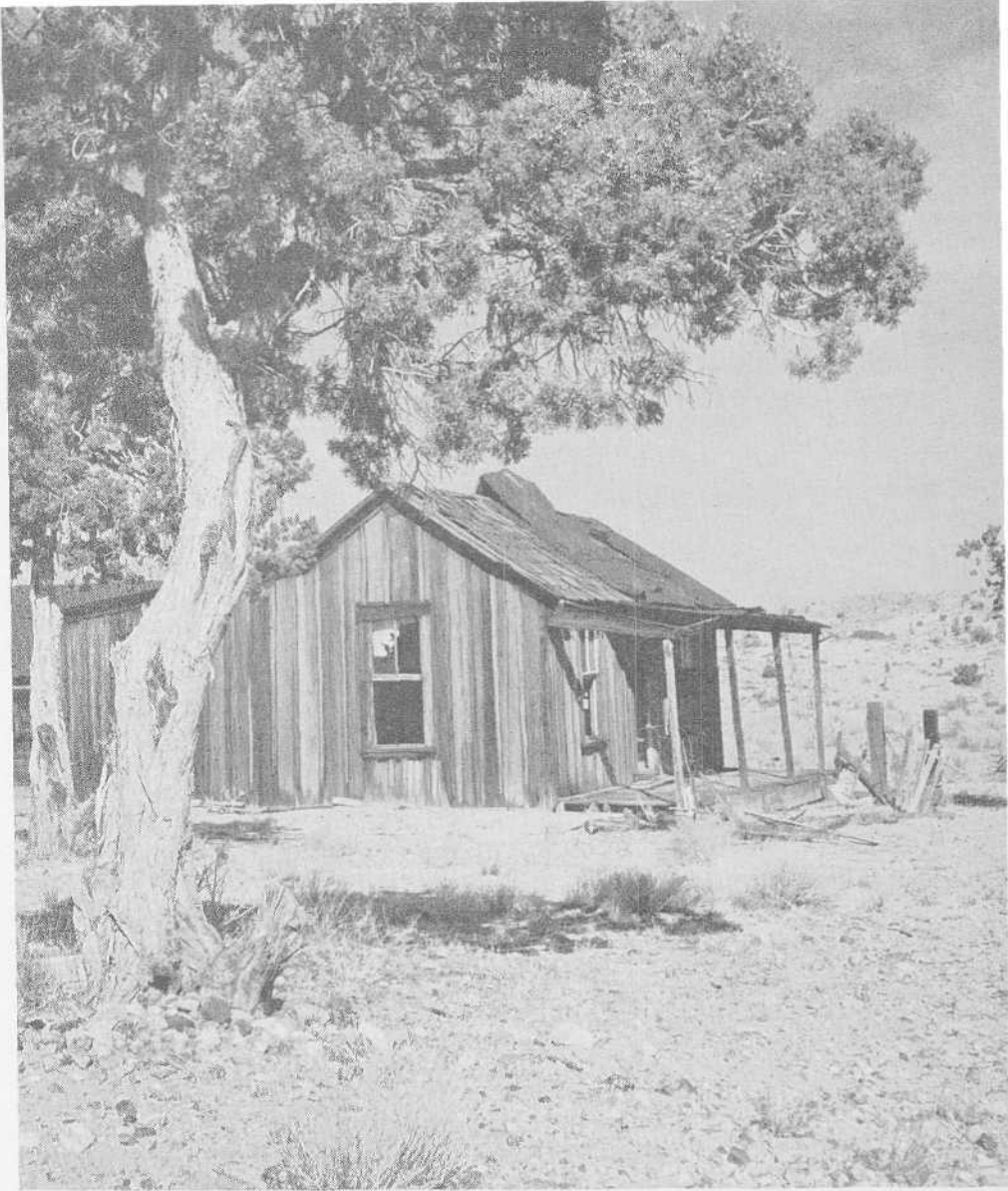
"My partner, ol' Pisgah Bill, made a good grubstake outta that storm. He gathered up all the cans and kegs around the place an' filled 'em with dry ice. Then he freighted 'em down to Barstow an' Needles an' sold 'em to the Harvey House. They put 'em with sugar in the sugar bowls so the customers could cool their coffee without saucerin' and blowin' on it."

extracted down to the sulphide zones, treatment by the amalgamation process no longer worked. Smelting or concentration—or both—became necessary. The mills at Vanderbilt tried to work the sulphides, but none could do it with success. At last, they simply gave it up as a bad job.”

Leaving Vanderbilt I drove to Manvel—or Barnwell, as it eventually came to be known. Situated four miles to the south and 700 feet higher in elevation, Manvel had been a fair-sized settlement with stores, saloons, hotels and other business houses—but it had never been a mining town. During its first decade and especially before the California and Eastern was built to Vanderbilt and New Ivanpah, Manvel was a busy place jammed with freight wagons and muleskinners, and all the bustle and ordered confusion and noise that marked a frontier railhead. Freight, brought in via Needles and Goffs, was unloaded at Manvel for wagon-freighting to the prosperous California camps of Copper World and Hart, and for the Nevada towns of Searchlight, Goodsprings, Johnnie, El Dorado, Nelson and a host of smaller camps in both states. Las Vegas and the new boom towns of Bullfrog and Rhyolite also were supplied for a short time from this railhead. The town still was booming when there arrived in its midst a 16-year-old tenderfoot telegrapher from Iowa—now Capt. R. A. Gibson of Palm Springs.

“Manvel was a well-behaved little burg,” recalled Capt. Gibson. “We even had a Sunday School! Naturally, we had occasional stabbings and shootings, but nothing too elaborate. About the most excitement I ever saw there was the day Jim McKinney rode through town after shooting two fellows in Kingman, Arizona. McKinney was headed for his home range in Kern County and because Manvel was the last place he had been seen in, it became focal point of the manhunt. We positively bristled with lawmen! Sheriff Lovin and a 16-man posse, including two Walapai Indian trackers, arrived in a special train from Mohave County, Arizona; Sheriff Frudenthal and a posse came from Lincoln County, Nevada; Sheriff Rolphs of San Bernardino County arrived in a locomotive commandeered at Goffs; and U. S. Marshal John Potts came from Arizona.”

But even with posses of three states on his trail, the killer escaped by tricking a Manvel teamster into believing he was heading south toward the Prov-



Top — one of the six cabins still standing in Manvel.

Bottom—general view of Vanderbilt, looking west.

idence Mountains, whereupon he turned north, hid his tracks by riding through a herd of cattle, and made his way over Walker Pass. Later, he was slain in a gun battle with Kern County officers—one of whom was killed in the fight.

"Jim McKinney was a bad hombre," said Capt. Gibson, "but he gave Manvel something to talk about for weeks."

Construction of the San Pedro, Los Angeles & Salt Lake Railroad in 1904-05 doomed Manvel. The new line passed through Las Vegas and the little railhead in the New York Mountains lost its lucrative Nevada trade. With only a few tottering California camps left to support it, the little branch railroad hauled freight in ever diminishing quantities. Manvel thrived with the railroad, and when rail service finally was discontinued, the town was left without further excuse for existence.

Manvel's ghost, on the day I visited it, was equally as thin and spectral as its sister ghost over the ridge. A few more cabins were standing, but of the town's one-time business district there remained only an extensive flat scat-



James and Della Fisk at their home in San Bernardino. Mrs. Fisk holds a ruffle flutter.



The author examines one of the three ponderous iron ore buckets still remaining at the Bonanza King Mine in Vanderbilt. Hoist house is partially visible at right.

tered with debris—everything from a printer's imposing stone to kerosene lanterns and wagon bolsters.

Wandering over the old town, striving to repopulate it in fancy with the teeming life it once knew, I found myself wondering which of the town's home sites had been old Dick Diamond's.

Dick had come to Manvel as a teamster in the mid-1890s. He lived here throughout the remaining years of the boom. After the excitement waned, the railroad pulled its tracks and everyone else moved to greener pastures, but the old man continued to cling to his Manvel cabin—the last of the town's original settlers. He made a precarious living doing assessment work for various mines in the area and died in 1950, close to 100 years of age.

Throughout all the years of his residence at Manvel there hung on the wall of his cabin an old lithograph of Abraham Lincoln. Dick, a Negro born into slavery, was very proud of the picture. He showed it to every miner and cowpuncher who came along, and invariably he explained that Mr. Lincoln was the man who set him free.

Ranging my eyes across the wide arid acres that rolled away to infinity and the empty blueness of the desert sky, I could imagine that during the last 40 years the old ex-slave lived in this lonely little ghost town, he must have enjoyed a greater bounty of freedom and peace than his forebears had known through all the generations of man.

LETTERS

Yaqui Well Improvements . . .

Coronado, California

Desert:

Walter Ford's "Yaqui Well" article in the August *Desert* was very interesting to me for I recently visited the well.

A waist-high concrete caisson capped by a wooden cover was placed over the well apparently after Ford made the photograph which accompanied his article. The water, which he described as being of very good quality, did not look that way to me. I would have to be very thirsty before I would drink it. Much debris was floating on the surface and I made a mental note to bring my own water into the area next time I visit it.

The State Park Service also has provided clean sanitary facilities at the well.

GEORGE COATH

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Doodle Bugs Do Not Work . . .

Independence, Missouri

Desert:

With all respect to M. A. Bernhard and his gold locating doodle bugs (*Desert*, July '57), I am forced to side with Asa Russell (*Desert*, June '57) — doodle bugs do not work!

I have seen hundreds of these machines. Most will locate any base metal that is a conductor of electricity. Usually, in gold mining districts, there are thousands of small veins and low grade ore bodies containing small amounts of gold and considerable amounts of iron. Which of these thousands and even tens of thousands of ore bodies in a 20-mile radius would the doodle bug point out? Yes, the doodle bug works — but we prospectors all die poor!

What would Bernhard's "Distometre" do if I placed him 10 miles from an ore body running \$65,000 to the ton and a half mile from one running 1768 ounces of silver and four ounces of gold to the ton? Would it tell us the distance and direction to the high grade, or point out the little 21 cent vein a hundred yards behind us?

I mined in Idaho near the two deposits mentioned in the preceding paragraph, and if Bernhard's doodle bug works we are potential billionaires for these are merely two of the many lost producers I am familiar with.

But, I'm afraid doodle bugs are worthless for finding anything of value.

H. J. GORDON

411 East Kansas Street

Gold Locator Not For Sale . . .

Los Angeles, California

Desert:

My letter in the July *Desert* has prompted people in many states to write to me asking about my depthometre and distometre locators and how they can purchase them.

I do not sell instruments. My interest is in locating minerals for clients.

M. A. BERNHARD

1833 Marney Ave.

• • •

In Defense of Rockhounds . . .

Glendale, California

Desert:

One rarely picks up a *Desert Magazine* these days without finding an article or letter containing deprecating remarks about rockhounds. First, let me say that I can appreciate anyone's feelings upon seeing real destruction, but I wonder if these writers are referring to members of organized mineral and lapidary societies, or classifying as "rockhounds" everyone who likes to tote home a pretty stone?

If they are assuming that damage done to property is the work of rockhound societies, they are wrong and not likely to find the real culprits. Societies in the Federation are informed of posted areas and also know the boundaries of mine markers. As groups they do not hunt on private property without permission.

In contrast to casual tourists, I doubt if anyone will ever find them shooting at road signs or smearing up the scenery with names, dates and obscenities.

The cliché, "hammer happy," is applied unfairly, I believe, because most of us have the tools and know-how to get what material we need without busting it up! Furthermore, the very forces of Nature which formed the rocks also break them up; the ocean and rivers are full of broken stones which rockhounds have never touched.

The finest cutting materials seem to be found in desolate places where few people care to travel. Those who cry that petrified wood and agate soon will be gone may rest assured; all the rockhounds pecking away for a few hundred years will only scratch the surface.

So, to your readers who are unreasonably antagonistic, I send invitations to join us. Discover the excitement of finding a "braggin' rock" which with a little skill can be polished and made into an exquisite object. Laugh and sing with a group of us around a campfire and go to sleep under fifty billion stars.

We are your friends; we are your neighbors; we are people!

MURIEL RATH

Glendale Lapidary
and Gem Society

Golden Rule for Rockhounds . . .

Douglas, Arizona

Desert:

After reading F. B. Terry's comments on "hammer happy rockhounds" in the July *Desert*, I became more aware than ever of this unfortunate condition in many rockhound clubs today. I would like to see a real effort made to do away with this plagueful situation.

Most gem and mineral club members are elderly people seeking a satisfying and gratifying hobby in their retirement years. I do not believe these people are the kind who go chasing over the valleys and mountains carrying dynamite to blow up what they cannot carry home. Most rockhounds are well-mannered people who know their hobby well and practice the Golden Rule.

I believe the first step would be for each club to elect its most qualified members to positions of leadership — men and women who know better than to take a group into land that is staked, or sanction blasting there without permission of the claim owner.

Conditions could be improved by giving each new rockhound a list of rules pertaining to what is and what is not permitted on field trips.

The club should never confuse prospecting with rockhounding. This does not mean, however, that we should not have prospectors in rockhound clubs, but the club must see to it that prospecting is limited to those areas where it is permitted under the law. When a claim owner gives a club permission to take certain mineral samples, rockhound and prospector club member alike should limit his activity to those minerals.

MRS. ONIE GIBSON

• • •

Indian Family Portrait . . .

Los Angeles, California

Desert:

I would like to belatedly compliment Joseph Muench for the wonderful photograph of the Navajo family shown on the cover of the August, 1956, *Desert*.

I often have studied this photograph in the past year and for me it carries a real message. Here is this Navajo family beside their meager home, and the expressions on their smiling faces indicate a contented family. Each of the six characters in the photo is a study in itself.

I believe the Bureau of Indian Affairs in Washington, D. C., should have this picture. Even in a dirt hut and despite the scarcity of water, the Indians' clothes are surprisingly clean and their faces reflect curiosity, happiness, humbleness and contentment.

LOMBARD SMITH

Burbank and Spineless Cacti . . .

San Clemente, California

Desert:

The article "Cactus Without the Thorns," by Eugene L. Conrotto in your July, 1957, issue attracted my attention. Having lived in Sonoma County for 19 years, I had heard much about Luther Burbank. Some time ago I read something relating to spineless cacti in a book by David Fairchild, *The World Was My Garden*. This book was published by Charles Scribner's Sons, 1938, and contained the following:

Page 132: "I made a special trip to La Plata to meet . . . an Italian botanist named Doctor Carlos Spegazzini, who had traveled extensively in the Gran Chaco. Among other things, he had brought back a cactus (*Opuntia*) which, being spineless, furnished an excellent fodder for the cattle of the dry plains of northern Argentina. In writing to the Department (U.S. Dept. of Agriculture), I recommended that this cactus be carefully tested in our Southwest, and consequently they sent one of the plants to Luther Burbank in Santa Rosa, California. I reported that, according to Dr. Spegazzini, many cattle belonging to the Indians of the Chaco lived almost entirely upon this spineless cactus during the summer months.

"I mention sending this material to the Department in 1899 because it was much later when Burbank announced his development of a spineless cactus which he encouraged the public to believe would solve the problem of cattle fodder for desert regions . . . As with many apparently perfect things in this life, there was a "catch" to the cactus as a panacea for deserts . . . the cactus will not actually grow without water. It can remain alive without water much longer than most plants, but it makes practically no growth. In its South American habitat, there was a short rainy season which made all the difference in the world."

Page 265: "On the first expedition with Mr. Lathrop, I had sent four forms of spineless cactus (*Opuntia*) to Burbank . . . Some years later, on my return to America from one of my trips, I heard of the "creation" of a spineless cactus by Burbank, and soon convinced myself that he was announcing that he had made the only spineless form in the world. Naturally the esteem in which I had held him suffered a shock from which it never recovered.

"One reason that I felt so keenly Burbank's abandonment of scientific horticulture, and his tie-up with journalists and exploiters, was the fact that,

at a critical moment in the negotiations, I had appeared before the Directors of the Carnegie Fund urging them to support him . . . Needless to say, my disillusionment was a severe blow. I never saw Burbank again and, now that he is dead, and so many years have passed, I prefer to think only of his lovable nature and those charming days with him in his little house in Santa Rosa, as the sun shone upon his garden friends."

David Fairchild worked for some time for the Bureau of Plant Introduction. His activities resulted in the importation of many of the useful trees, shrubs, and plants.

WILLIAM L. KENYON

• • •

71½ Miles to the Sierras . . .

Reseda, California

Desert:

May I challenge the statement which appears under the picture on the back cover of *Desert* for July wherein it is said that the Sierra Nevadas are a hundred miles from the Charcoal Kilns in the Death Valley country.

I have taken very much the same picture, and the mileage in question is considerably less than a hundred. I assume, of course, the author had air-line distance in mind and I find that the mileage is 71½.

ARTHUR C. DAVIS

• • •

\$100 for Boat's Return . . .

Amarillo, Texas

Desert:

I am offering a \$100 reward for anyone who will take my 16-foot fiberglass boat from its mooring in Cataract Canyon on the Colorado River down to Hite, Utah.

I had to leave my boat there when, after losing an oar lock, I was unable to navigate the river which was in flood stage. Paradoxically, the lack of water made my hike out of the canyon very trying. Eleven days after I abandoned the boat I stumbled across a survey team in the Beef Basin area in San Juan County, Utah.

My original plan was to cruise down the Green River from Elgin, Utah, to its junction with the Colorado and then to turn upriver to Moab—a trip against the current of 70 miles.

The Green River portion of the trip was very leisurely, but when I reached the Colorado I found it raging at flood stage from rains and melting snow.

My two outboard motors were not powerful enough to propel the heavily-loaded craft against the swift current, so I altered my plan and decided to go

down the Colorado through Cataract Canyon to Hite.

I successfully negotiated three rapids in Cataract, but on the fourth the boat crashed against a boulder. In attempting to steer to shore, the water's power sheared off an oar lock. The fifth rapid overturned the boat and I clung to the four intertubes strapped to the boat's sides. Three miles down river I beached the craft and there it remains today. Besides one outboard motor and most of my gear, I also lost my wallet containing \$250 in cash. The other motor is tied in the bottom of the boat.

BURTON G. ODELL
800 Louisiana St.

Dear Mr. Odell—I read the newspaper accounts of your misadventure just before leaving on a Georgie White-conducted river run through Cataract Canyon. We found your boat tied to the willows, but because of the swollen condition of the river, Georgie was unable to salvage it. The high waves ruled out the possibility of towing the craft behind our bridge pontoon boats, nor were we able to load it directly onto the rafts.
—R. H.

THE *Desert* MAGAZINE
CLOSE-UPS

"Love and environment do many strange things to people, and both worked overtime on me," wrote Betty Washlake, author of "Cooking for 20 at a Mercury Mine," in this month's magazine. "Little did I think when I married Ray during World War II that I would change from a fashion-conscious St. Louis brick and cement girl to a mercury mining desert rat.

"Now I can spot mercury terrain as quickly as can Ray, and I have learned many ancient mining secrets handed down to Ray from his Indian-Spanish ancestors from the Almaden Mercury Mines of Spain."

* * *

Helen DuShane and her husband Joe, an Altadena, California, real estate agent, have a desert home overlooking the Salton Sea. When they get a break in their busy schedule (she classifies herself as a "combination housewife, school teacher, mother and chore girl") they head for their desert retreat or into Mexico's northern districts. Mrs. DuShane's article in this month's *Desert*, "Marine Treasures from the Beach at Punta Penasco," is based on such a trip to the Gulf of California.

Here and There on the Desert . . .

ARIZONA

Monument Valley Patrolled . . .

MONUMENT VALLEY — Indian Park Rangers, under jurisdiction of the recently created Tribal Park Commission, began patrolling the Monument Valley area in Utah and Arizona. The Commission's objective is to preserve and protect scenic and archeological treasures in the Valley and elsewhere on the Reservation. Vandalism is on the increase and the Tribal Rangers have authorization to make arrests and to enforce Federal laws and Tribal Council regulations on the Reservation. Certain prehistoric sites will be restricted in an effort to prevent repetition of a July incident in which vandals dynamited some 11th Century ruins in the Valley of Mystery. Plans are being made for the establishment of a central campground in Monument Valley.

Indian Oil Income Taxable . . .

PHOENIX — Attorney General Robert Morrison has ruled that oil and gas production on Arizona Indian tribal lands is subject to state income tax—a decision that eventually could put millions into the state treasury. The opinion was an extension of an earlier ruling in which Morrison held that individual Indian income, whether earned on or off a reservation, also is subject to state income tax. It was expected the first income tax levy imposed on tribal or individual income would promptly become a test case in the courts.—*Phoenix Gazette*

1500 Enter Solar Contest . . .

PHOENIX—More than 1500 architects, 50 from behind the Iron Curtain, have entered a contest to design a home heated by solar energy. Sponsored by the Association for Applied Solar Energy and the Phoenix Association of Home Builders, the contest's winning design will be constructed 10 miles north of Phoenix. The winning architect will receive \$2500.—*Phoenix Gazette*

Indians to Staff Factory . . .

KINGMAN—A new furniture plant is expected to open this fall in Kingman Air Field. Approximately 25 Navajo Indians will be employed at the outset of the operation according to furniture manufacturer C. A. McCarthy of Port Washington, Wisconsin. It is expected that following expansion, the plant will employ 150 Indians. The Navajos plan to invest \$18,000 in the project, most of it earmarked for the payment of employee salaries while they are learning the trade.—*Mohave Miner*

Recreation Plans for Colorado . . .

YUMA—Details of a master plan for recreational development of a 250-mile stretch of the Colorado River recently were disclosed by the National Park Service. The study area, stretching down the river from Davis Dam to the Mexican border, has been divided into 17 geographic units. The basic assignment of land use provides for wildlife development, public facilities, commercial facilities and residential facilities.—*Yuma Sun*

Alcoholism Solution Seen . . .

SANTA FE—Indian Commissioner Glenn Emmons believes the problem of alcoholism among Indians will be solved for it is broadly similar to the problem as it existed among other races. Emmons termed these problems "very largely a product of poverty, hopelessness and unsatisfactory home environments—and it is on the reservations where living standards are markedly low and opportunities for gainful employment severely limited that we usually find the problem." — *Grants Beacon*

CALIFORNIA

Power Plant in Operation . . .

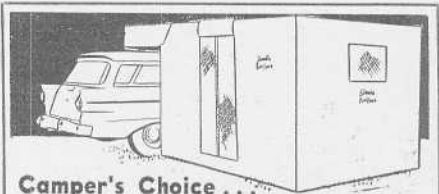
PILOT KNOB—Officials of the Imperial Irrigation District report that the recently completed Pilot Knob hydroelectric power plant is generating only 7000 of the 33,000 kilowatts it was

designed to produce because of the Colorado River's low water level. A request for the release of additional water was denied by the Bureau of Reclamation. The denial means the plant must continue to operate with the present 1500 second-feet of Mexican Treaty water per day.

Joshua Monument Trail Started . . .

TWENTYNINE PALMS — Work on a riding and hiking trail to run through Joshua Tree National Monument from Yucca Valley to a point south of Twentynine Palms recently was started. The 30 mile trail will tie in with the state riding and hiking trail extending from the San Bernardino Mountain area. It will traverse virtually unknown areas in the Monument including Smith Water Canyon and the Whispering Pines area. — *Desert Trail*

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FOR SALE—complete issues Desert Magazine from number one, volume one to date, in 20 binders. H. A. McHenry, 1282 Summit, Pasadena, California. Phone SY 4-3920.

PECULIAR PIECE of Desert. Story of Morongo Basin by Lulu O'Neal. Illustrated. 208 pages. \$7.50. Dawson's Book Shop. 550 South Figueroa, Los Angeles. (1 block from Statler Hotel.)

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MAPS

SECTIONIZED COUNTY maps — San Bernardino \$1.50; Riverside \$1; Imperial, small \$1, large \$2; San Diego 50c; Inyo, western half \$1.25, eastern half, \$1.25; Kern \$1.25; other California counties \$1.25 each. Nevada counties \$1 each. Topographic maps of all mapped western areas. Westwide Maps Co., 114 W. Third St. Los Angeles, California.

REAL ESTATE

CHOICE HOMESITES and acreage. Salton Sea vicinity. Low as \$1495, \$95 down, \$25 month. Pon & Co., Box 546 DA, Azusa, California.

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APPLE VALLEY lot, 110x175, good location, \$2500 cash or terms. Owner. 1853 Fifth St., La Verne, California.

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MISCELLANEOUS

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Historical Structure Destroyed . . .

DEATH VALLEY—Vandals have destroyed one of Death Valley's famous historical structures, the remains of the famous Eagle Borax Works. Using acetylene torches, the vandals cut up the steel vats, felled the smoke stack and hauled away the remains of the processing plant. "Such destruction is more than the theft of a few hundred pounds of scrap metal, it is the destruction of an irreplaceable bit of our American heritage," Monument Superintendent Fred Binnewies said. Eagle Borax was the first borax works in Death Valley.—*Indian Wells Valley Independent*

Indians File Claim for Lands . . .

WASHINGTON, D.C.—The Indian Claims Commission began hearing arguments in a suit of California Indians for the 1852 value of nearly all the land now making up the State of California. Millions of dollars are involved, even at 1852 prices. The Indians claim nearly 100,000,000 acres, including mountain tops and deserts. The government, through the Justice Department, has argued that "Indians of California," in whose name the claim is being pressed, has not proved its right to act in behalf of some 500 Indian groups said to have been the original occupants of the 100,000,000 acre area.—*Lancaster Ledger-Gazette*

State Approves Joshua Park . . .

LANCASTER—A decisive step in the establishment of a Joshua Tree State Park in Antelope Valley recently was taken by the State Public Works Board when it approved purchase of the site. Whittled from the 4160 acres for which "immediate acquisition" was ordered in July, 1956, the board's action clears the way for the purchase of a 2674 acre site for which \$250,000 is budgeted.—*Ledger-Gazette*

Death Valley Road Opposed . . .

DEATH VALLEY—Inyo County's campaign to secure an improved highway out of the north end of Death Valley to connect with Westgard Pass and Big Pine is receiving opposition from the National Park Service which believes the present North Entrance Road is adequate for the Monument's present and future needs insofar as public travel is concerned. "A second entrance road on the north would primarily service private and local interests and would develop an element of commercial and non-Park traffic that would be in conflict with the intended purpose for which the Monument was established," National Park Service Director Conrad Wirth said. — *Inyo Register*

NEVADA

Doctor Now Guaranteed \$1000 . . .

AUSTIN — Income equivalent to \$1000 a month will be made available to a qualified doctor who will practice in the isolated community of Austin. The money comes from private subscription and county funds. "Austin's hospital bears little resemblance to John Hopkins, the same as Austin itself would never be mistaken for Baltimore," the community newspaper declared, "but on the other hand, you can't catch mountain trout on the outskirts of Baltimore . . . Austin is by no means without its attractions."—*Reese River Reveille*

State Adds Park Sites . . .

CARSON CITY—Governor Charles Russell issued a proclamation adding four more sites to the state's park system. The new sites include Fort Churchill in Lyon County; Snyder Meadows on Clear Creek grade in Ormsby County; Ward Charcoal Ovens in White Pine County; and Ichthyosaur State Park in Nye County. Meanwhile, the State Department of Economics announced that work is progressing rapidly on a project aimed at securing for Nevada its first National Park. A movie of the desert-mountain region of White Pine County comprising the Mt. Wheeler-Lehman Caves area is being produced by the state promotional agency.

Litterbug Law Strengthened . . .

CARSON CITY — Nevada's law against dumping rubbish on or within 1000 feet of a public highway was amended by the state in an effort to make it more effective. The term "garbage" was broadened; the act of littering was declared a misdemeanor; and all peace officers in the state were given authority to enforce the provisions of the law.—*Fallon Standard*

Lake Mead Water Level High . . .

BOULDER CITY—Lake Mead's water level, highest in five years, has permitted Hoover Dam to increase power allotments over 12 percent above last year. The high water level was due to melting snow from a heavy snow pack in the Rocky Mountains. The Bureau of Reclamation said the water level rose one to two feet a day during the summer, forcing shoreline concessionaires to move equipment to higher ground.—*Nevada State Journal*

Seek Curb on Low Flying Jets . . .

VIRGINIA CITY—Storey County Board of Commissioners has vigorously protested to all nearby Navy and Air Force bases a rash of roof-level mock strafing runs over the city. Officials said some of the jets which flew over Virginia City were traveling between 400 and 600 miles an hour. Several windows were reportedly cracked by the vibration caused by the passing planes.—*Territorial Enterprise*

Geysers May Get Park Status . . .

BEOWAVE—The State Park Commission is studying the possibility of adding the Beowave Geysers (*Desert*, January '56) to the park system. Exponents of the plan point out that while hot springs are fairly common, geysers are extremely rare. They also argue that the geyser area is being allowed to deteriorate, trash has been thrown in some of them and that it is merely a matter of time before the field will be destroyed.—*Reese River Reveille*

Gambling Gross Receipts Up . . .

CARSON CITY—Nevada's gambling parlors won \$27,482,200 during the first three months of this year, the normally slow quarter, the State Tax Commission reported. The state received \$1,186,181 in taxes from these winnings. The statewide gross was nearly \$1,400,000 greater than for the same period last year. Clark County (Las Vegas) continued to lead the state with gross winnings of \$17,450,000. Washoe County (Reno) had a three-month win of \$7,167,000. —*Battle Mountain Scout*

NEW MEXICO

Best Rains in Eight Years . . .

SANTA FE—Grass is green, cattle are fat, prices are up and winter forage prospects are good over much of New Mexico thanks to the best rains in eight years. Most experts agree, however, that several more years of good rains are needed before the state can return to normal agricultural conditions. The Pecos Valley area has not shared in the heavy rainfall and still is drouth struck.—*New Mexican*

Crane Hunt Approved . . .

SANTA FE — The State Game Commission has approved an open season on cranes. Hunting dates are November 17 to January 15 and bag limit is two per day or in possession. However, federal approval for the hunt still is pending.—*New Mexican*

Aged Rancher Defies Army . . .

ALAMOGORDO — John Prather has received from a Federal court the right to live out his life on a 15-acre tract from which the Army sought to evict him. However, the 82-year-old rancher is not happy about his partial victory. He wants all of his 27,000-acre ranch—now part of the vast McGregor Missile Range in southern New Mexico—returned to him. Prather has lived on this ranch for 74 years. —*New Mexican*

Highway Safety Drive Launched . . .

SANTA FE—A new plan to hold down the state's growing highway death toll recently was announced. Officers will be stationed at leading points of entry into New Mexico. They will observe motorists as they pass through the ports, perhaps give some safety literature and try to detect drivers too

tired or too sleepy to continue safely. The officers will be given the power to order motorists off of the highways. Because of the state's high altitudes, automobile engines sometimes do not respond the way they do at lower elevations.

UTAH

Flaming Gorge Townsite Contract

FLAMING GORGE DAMSITE — Apparent low bid for construction of residences, streets and utilities at Flaming Gorge townsite at Dutch John Flat was submitted by Witt Construction Company. The Springville firm's bid was \$2,672,000. Streets and utilities are expected to be completed in about a year, with 40 permanent and 40 temporary houses scheduled for completion six months later.—*Orem-Geneva Times*

Glen Dam Timetable Told . . .

KANAB—A steady buildup of employment over the next 18 months, with a peak of about 2000 by mid-1960, is anticipated by Glen Canyon Dam contractors Merritt-Chapman & Scott Corporation. Hiring of construction workers will begin as soon as

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housing facilities are available, the company said. Under present schedules, it is planned by January, 1959, to divert the Colorado River around the damsite by means of tunnels driven through the east and west walls of the canyon. The first concrete on the dam itself is expected to be poured in November, 1959.

Reclamation Projects Listed . . .

SALT LAKE CITY—The Bureau of Reclamation has earmarked \$27,500,000 of its proposed \$180,000,000 1958 budget for work on the Colorado River Storage project. A \$19,400,000 allocation was made for continuing the Glen Canyon Dam, tunnels and project town at Page, Arizona. Flaming Gorge Dam and Reservoir will receive \$4,831,000 and Navajo Dam and Reservoir, \$1,854,000. Utah's Weber Basin Project will see \$7,434,000 spent on it in 1958 if the Bureau's budget receives final approval.

Dinosaur Park Status Sought . . .

VERNAL—Senator Gordon Allott of Colorado has urged that Dinosaur National Monument be elevated to national park status. Allott's position was hailed by conservationists who want the Utah-Colorado area to become a park mainly to lessen the chances of Echo Park Dam ever being built in the area. Senator Allott said the legislation he proposes for Dinosaur park status, unlike some of the earlier bills, will omit all reference to power project withdrawals in the area.

INTERIOR COMMITTEE SETS DESERT LAND HEARINGS

WASHINGTON, D. C.—The House Interior Committee announced plans for a series of public hearings in Southern California on major issues involving the use of desert lands.

On Tuesday, October 1, the committee will hold hearings in San Bernardino at 10 a.m. on the administration of the Small Tracts Act. Testimony from county officials and representatives of local groups will be given to the committee at this time.

On Friday, October 4, an afternoon hearing in Blythe concerning the illegal water uses of Colorado River water, squatter problems along the river, and the Colorado Indian Reservation lease is scheduled. The Blythe hearing will be continued the following morning.

The committee returns to Los Angeles for additional sessions on October 7, 8 and 9 on these and other subjects.

MINES AND MINING

Navajo Oil Development Brings Wealth to Desert Tribesmen

Oil is bringing sudden changes to the Navajo Reservation, reports John Riddick in the *Tucson Citizen*. So far the Tribal Council has received \$33,000,000 in oil bonus lease money and this fall 375,000 more acres will be offered to the oil companies in a lease sale that is expected to bring many additional millions of dollars. The Council also will receive an estimated \$15,000 a day in royalties from one pipeline alone—and three are planned for the Four Corners Area where the oil development is centered.

The Navajos are learning that money brings its problems too, and there is some difference of opinion among tribal leaders as to how funds should be spent. Maurice Macabe, executive secretary of the Council, calls \$50,000,000—probably the sum the Council has in the bank—an "awkward" amount.

"Spread over 80,000 people on a per capita basis (\$625 for each tribesman), the money would pay a few grocery bills and liquidate a few debts—then we'd be back where we started," he said.

Typical of the problems confronting tribal leaders was the question of clothing for school children. Many of the children do not go to school because of inadequate clothing. Last year and this, half a million dollars were spent on clothing. Some complain that the purchased goods are of an inferior quality, others that the children are too hard on shoes and that tribal money should be spent to set up a shoe repair shop.

The Hopis, torn within themselves, still are holding out against the oil companies. Tribal conservatives believe oil development of their lands constitutes a threat to the Hopi way of life. Observers believe, however, that it is only a matter of time until the Hopis invite the oil companies to bid on their lands.

Representatives of the Navajos, the U. S. Indian Service and the State of Utah recently met to discuss ways of collecting and using, for the Indians' benefit, the state's share of royalties on oil and gas production in the Aneth extension of the Reservation. The conferees agreed on most points, except the key one: a 1933 act which extended the Navajo Reservation to An-

eth, provided that the state receives 37½ percent of the net oil royalties. The group disagreed on the meaning of the term "net royalties," and an opinion from the Utah attorney general will be sought.

Carson City, Nevada . . .

Employment in Nevada's tungsten mines has dropped from about 1100 men in January, 1956, to about 100 today, State Mine Inspector Mervin J. Gallagher reported. Present level of production has dropped to less than 100 tons of tungsten per day. Gallagher blamed the Federal government's failure to provide funds authorized last year to carry on the tungsten program as the cause for the reductions. — *Pioche Record*

Washington, D. C. . . .

A 12 percent increase in the United States' uranium ore reserves between November 1 of last year and June 1 of this year was announced by the Atomic Energy Commission. Most significant increase was noted in Wyoming where reserves rose 143 percent, ranking the state third behind New Mexico and Utah in proved uranium ore reserves. New Mexico still leads the other uranium producing states in the total reserves with a 7,000,000 ton increase, up 14 percent. Utah ranks second with 6,500,000 tons. Arizona showed the greatest decline—53 percent to 1,200,000 tons. Proved reserves for the nation now total 67,240,000 tons. — *Salt Lake Tribune*

Las Vegas, Nevada . . .

El Paso Natural Gas Company has scheduled construction of a 500-mile natural gas transmission line from Twin Falls, Idaho, south through eastern Nevada to a point below Las Vegas. Cost of the 34-inch transmission facility, which would serve eastern Nevada communities, is estimated at about \$50,000,000. Principal purpose of the line is to take Canadian natural gas purchased at Twin Falls from Pacific Pipe Line Corporation to a point on the Nevada-California state boundary for delivery to Southern Counties Gas Co. and Southern California Gas Co., both affiliates of Pacific Lighting Corp.—*Salt Lake Tribune*

Salt Lake City . . .

General policies to be followed by the Utah State Land Board in issuing leases for oil shale lands recently were outlined: (1) the Board will prevent tying up large areas of shale lands for long periods by lease speculators whose purpose it would be to hold the lands until they might acquire a sale value through the research work of others; (2) holders of leases will be required to submit to the Board plans for research and development work and failure to do so would constitute grounds for lease cancellation; (3) lease applications will be considered on a basis of priority, but priority will not guarantee the granting of a lease on large acreage, or any land unless specified conditions are met; (4) the Board will take into consideration when considering lease applications, the financial ability of the applicant to perform the work required by the Board; (5) because oil shale leasing is a new field, the Board will grant leases on terms which venture capital can accept, but it will retain the right to review and change royalty terms as experience warrants; (6) leases will not be subjected to competitive bidding.—*Salt Lake Tribune*

Henderson, Nevada . . .

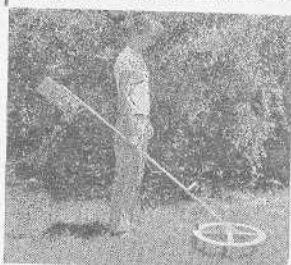
Products valued at over \$100,000,000 annually are shipped to all parts of the world from Henderson industrial plants, a recent survey of the major industries revealed. The products range from weed killers to guided missile propellants. One of the city's major products is titanium. Annual payroll for the four plants located here is over \$12,000,000, and the present employment is approximately 2350 men.—*Pioche Record*

Cannonville, Utah . . .

A \$50,000 mill to process bentonite is being built by the American Mud and Chemical Company at Cannonville. The plant capacity is expected to be 120 tons of material a day. Exploration has revealed over 50,000,000 tons of high grade bentonite in the area.—*Garfield County News*

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Dearborn, Michigan . . .

Use of vanadium pentoxide may lead to the relief of smog conditions due to automobile exhaust gases, Ford Motor Company chemists announced. Vanadium pentoxide pellets would be used in automobile exhaust pipes to oxidize the hydrocarbons. Since vanadium is a uranium mining by-product, vanadium pentoxide is in excess supply at costs which make an exhaust device look more economically attractive than ever before, the scientists added.—*Salt Lake Tribune*

Kimberly, Nevada . . .

Installation of a new skip system at the Tripp Pit is scheduled for completion by April 1, 1958. Estimated cost of the project is \$1,050,000. It will eliminate the necessity of hauling the ore out of the pit by truck and will speed operations and effect a substantial economy, company officials said. After five years of operation, it is expected that the entire skip may be moved to another portion of the pit.—*Ely Record*

Bonanza, Utah . . .

Impressive dedication ceremonies in August officially marked the start of one of America's newest industries—the extraction of fuels from oil shale. Raw ore from the mines at Bonanza began flowing 72 miles by pipeline to the American Gilsonite Company's \$16,000,000 refinery at Gilsonite, Colorado. Approximately 300 men are employed in the operation.—*Salt Lake Tribune*

Lone Pine, California . . .

Approximately \$120,000 has been invested by the S.I.T. Corporation in the dolomite and marble mines and mill six miles east of Lone Pine. The new mill has a capacity of 150,000 tons per day of dolomite and marble.



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Washington, D. C. . . .

Senator Alan Bible of Nevada believes the Federal government should encourage exploration for minerals in the United States and its territories and possessions. Bible is sponsoring legislation which would allow the Secretary of Interior to enter into contracts with applicants, and provide Federal assistance to prospectors or private industry for production of minerals deemed in the national interest by the secretary. When such minerals are produced or sold by the miner, a royalty will be repaid to the Federal government on the value of production and applied toward repayment of Federal funds. Funds would be available to those who are unable to finance exploration activities. — *Tonopah Times-Bonanza*

Los Alamos, New Mexico . . .

The Atomic Energy Commission predicted that by the end of next year New Mexico mills will be processing about half of this country's uranium ore. Nearly all of the state's uranium production will be in the Ambrosia Lake area near Grants. The state's continued prominence in atomic affairs was emphasized by the AEC which said work was going ahead at Los Alamos Scientific Laboratory on nuclear propulsion as well as weapons and power reactors. Progress toward nuclear-powered aircraft was hinted. It is believed that some of the work on atomic-powered aircraft and rockets is being carried out at Holloman Air Development Center and White Sands Proving Ground, both in New Mexico. — *New Mexican*

Las Vegas, Nevada . . .

Pahrump Mining Company claims that it has hit the biggest gold strike in southern Nevada since 1907. Officials reported that at least 1,000,000 cubic feet of gold-containing placer ground has been assayed at being worth \$1.74 per cubic foot and gold ore deposits have been assayed at an average of \$49 a ton. It is believed that the gold deposits are located about 19 miles north of Pahrump at the old Johnnie Mine and the old Congress Mine. — *Nevada State Journal*

Phoenix . . .

Arizona's copper industry is in a serious economic situation, with many plants threatened with complete shutdown, Frank P. Knight, director of Arizona Department of Mineral Resources, declared. Knight said low-cost copper imported from South America and South Africa plus increased domestic yields have forced the price of copper close to a point of ruin for the industry. The price of copper has dropped from 40 cents a pound in June, 1956, to 29 cents a pound in September of this year. Knight urged quick tariff action by the Federal government to protect the domestic copper industry. — *Phoenix Gazette*

Acton, California . . .

A lost gold vein in the Don Mining Claim No. 1 at the Gage Mines recently was found by mine owner Francis Gage. When the vein was lost workmen drifted in several directions trying to hit it—but to no avail, so the mine was shut down. After several months in Arizona, Gage returned to Acton and tracked down the lost vein. He uncovered it with a bulldozer. The general ore run is expected to be \$50 to \$60 a ton, but indications are that high grade will bring from \$60,000 to \$90,000 a ton. — *Palmdale Valley Press*

Montrose, Colorado . . .

An estimated 2000 uranium prospectors participated in the opening of 500-square-miles of Southwestern Colorado to the staking of claims. The potentially uranium-rich section of the Colorado Plateau interested the big mining companies which joined in the rush with crews of surveyors, claim stakers and land agents. Many of them used helicopters to get around. — *New Mexican*

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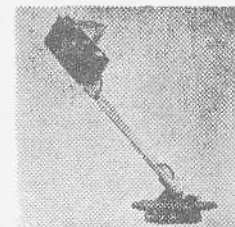
Benson, Arizona . . .

A "million dollar deal" involving uranium claims in the Whetstone Mountains reportedly was under negotiation between a group of prospectors and a New York mining syndicate. The Whetstones are eight miles from Benson, recently hit by the closing of the Coronado Copper mine, and 24 miles from the historic mining town of Tombstone. The uranium strike was made in high grade pitchblende, the prospectors said. — *Tombstone Epitaph*

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AMATEUR GEM CUTTER

By DR. H. C. DAKE, Editor of The Mineralogist

The Mohs scale of hardness, commonly used in mineralogy and gemology, is inadequate in many respects in giving a true picture of hardness differences. We have generally regarded agate as being harder than steel, but according to the Knoop scale "hard tool steel" (whatever that may mean) is given a hardness superior to agate. We would be inclined to question this point, but we give the Knoop scale here for some very hard substances.

Boron carbide (Norbide)	2800
Silicon carbide (green)	2000
Sapphire (synthetic)	1800
Garnet	1360
Topaz	1340
Spinel (synthetic)	1270
Hard Tool Steel	740
Agate	600

The Knoop table does not state the locality of the agate. Many cutters claim there is a slight variation in hardness of agate from different localities, or a marked difference in toughness. Montana agate generally is regarded as harder (or tougher) than that of South America. Works on mineralogy, using Mohs scale, have always rated the garnet group as $6\frac{1}{2}$ to $7\frac{1}{2}$, and topaz at full 8. Knoop gives garnet (variety not stated) a superior hardness rating. Garnet is certainly tougher than topaz, the latter gem has a marked cleavage (basal), while garnet does not have any marked cleavage, and is very tough when in the cryptocrystalline form.

Toughness and hardness are two different properties, but a very tough material may simulate hardness. For example, jade has a hardness inferior to agate, but a much greater toughness. Hence jade is harder to break, saw, work and polish than agate and many other gems of superior hardness.

* * *

Cabinet size specimens with large flat polished surfaces can be finished in a number of ways. Polishing a large flat surface is obviously much slower than similar work on a curved surface, for a deep scratch is much more difficult to remove from a plane surface.

The first step in finishing a large flat surface is to reduce the specimen on one or more sides. This can be accomplished in a number of ways. Generally, sawing is the easiest and this can be done by either the "mud" or diamond charged saw, or for some materials "cut-off" saws are suitable. If a reasonably flat surface already is present, coarse silicon carbide grits can be used on the horizontal running iron lap, or the side of a regular silicon carbide wheel can be used.

After a suitable flat surface has been obtained on the specimen the finer grits can be used on the horizontal running iron lap, starting with 120, then 320, and finishing with 400 or 500, when the specimen is ready for the polishing buff.

In the use of horizontal running iron laps, it is advisable to have a separate lap for each grit to avoid contaminating the fine grits with coarse material. The specimen should, of course, be washed in running water before passing to a finer grit operation. This same principle holds true in every lapidary operation.

The final polishing can be done on a vertical felt buff, or a felt can be applied to the surface of a horizontal lap and the polishing carried out in this manner. The principal point to keep in mind is that deep scratches cannot be removed by polishing, unless a very long time is spent at this op-

eration. Hence it is advisable to remove them with the fine grit silicon carbide.

Once the surface is properly prepared for polishing, the final operation will not take long. Most of the time will be spent in lapping down the surface to remove deep scratches left by the saw. A diamond saw generally will leave a better surface than an irregular running mud saw.

Horizontal laps can be fitted with quite large cast iron laps, free of any projection in the center, to enable working a large specimen back and forth across the surface. "Gray iron" castings generally are used and these should be kept wet with a thin mixture of abrasive grit and water. The specimen will tend to stick if the lap surface becomes dry. With a lap having a diameter of from 10 to 15 inches, large specimens can be ground and polished.

* * *

Among the many gem minerals of California, benitoite has no scientific rival, it has not been found elsewhere, and has filled an empty place in crystallography. This gem was discovered in San Benito County in 1907 by two prospectors looking for mineral deposits in the Coast Range.

A Los Angeles jeweler, who first examined the material, pronounced it to be a volcanic glass of doubtful value. Specimens sent to San Francisco for cutting were thought to be sapphire, but it remained for G. D. Louderback of the University of California to classify it as a new mineral.

The Franciscan schists, exposed in the Coast Range, are often intruded by various types of basic igneous rocks and large masses of serpentine. It is in a glaucophane schist lens which cuts through a hill of serpentine that benitoite is found. The mineralized zone in the schist is about 400 feet long and 60 feet wide.

The most abundant mineral associated with the benitoite is natrolite, which is seen in fine white coatings and fillings. Neptunite in fine dark red crystals is also found imbedded in the natrolite matrix. The benitoite and neptunite crystallized prior to the final deposition of the natrolite and where cavities occurred very fine specimens were obtained.

Before the discovery of benitoite, no mineral either artificial or natural belonged to the ditrigonal dipyramidal class of the hexagonal system. A crystal of this class had been derived mathematically from the principles of symmetry, hence it was indeed a triumph to have this "theoretical" crystal take real form. Most crystals of benitoite are of pyramidal habit though tabular ones are found.

Benitoite is a titanio-silicate of barium having a vitreous luster and conchoidal fracture. Its rich blue color (due to small amounts of titanium in the form of the sesquioxide) rivals that of sapphire. The color is stable, the cut gems never fade nor can the color be driven out by heat. Only a small portion of the crystals are suitable for cutting because of the uneven or zonal distribution of color.

The mineral is uniaxial, optically positive

and shows marked pleochroism (shows different colors when viewed in the direction of different axes). The extraordinary ray is blue and the ordinary ray is colorless. Gems should be cut with the table parallel to the crystallographic axis in order to best bring out the fine color. Surpassing the sapphire in fire and brilliancy, benitoite is easily distinguished from that gem by its higher indices and lower specific gravity.

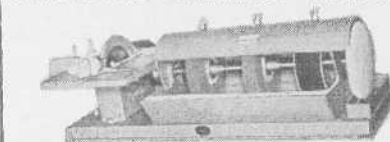
The gem has not been mined for many years, and the locality has long since been obsolete, hence there are comparatively few of the cut gems or rough specimens of the crystals in the matrix. The crystals were never found in large sizes, hence there are few stones in existence weighing over six carats. The smaller gems of one or two carats or less were once sold for about \$5.00 per carat or less. However, the cut gems ranging over about four carats in weight have always been highly prized, and are now seldom available at any price. The gem is regarded as a rare collectors' piece, seldom offered anywhere.

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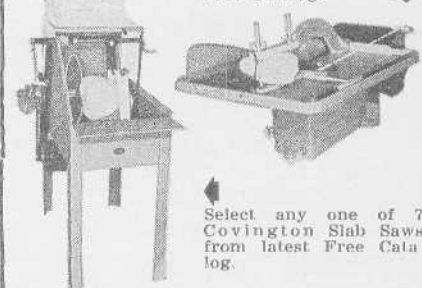
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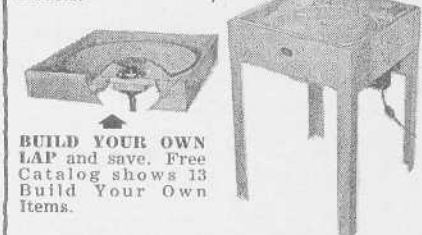
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GEMS AND MINERALS

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Phoenix will be host city to the 1958 Rocky Mountain Federation convention and show on March 7-9 as part of the Arizona Gem and Mineral Fiesta. The Fiesta opens with a gem show at Tucson on February 28, March 1-2. Field trips throughout the state are planned for the following week

and the Phoenix convention will be the closing event.

Federation officers, recently elected at Denver, are Russell Trapnell, president; Agnes Host, vice president; Earl Campbell, secretary; Mrs. Frank Zimmerman, treasurer; and Mrs. Muriel Colburn, historian. All are residents of Phoenix except Mrs. Colburn, who lives in Denver. — *Quarry Quips*

OCTOBER SHOW DATES

October 3-13 — Fresno, California. Gem and Mineral Society's Fall Show held in conjunction with District Fair.

October 5-6—Los Angeles. Lapidary Society's annual show at Van Ness Playground Auditorium, 5720 2nd Avenue.

October 5-6—Seattle, Washington. Regional Gem and Mineral Show at Civic Auditorium.

October 12-13 — Hollywood, California. Lapidary and Mineral Society's 10th annual exhibit at Plummer Park, 7377 Santa Monica Blvd.

October 12-13—Topeka, Kansas. Gem and Mineral Society's annual rock and mineral show at City Auditorium.

October 12-13 — Napa, California. Napa Valley Rock and Gem Club's Fall Show at Fairgrounds.

October 19-20—North Hollywood, California. San Fernando Valley Mineral and Gem Society's annual gem and mineral show at Victory-Van Owen Recreation Building, 12240 Archwood Street.

October 19-20—San Francisco, California. Gem and Mineral Society's annual show at Scottish Rite Auditorium.

October 19-20—Trona, California. Searles Lake Gem and Mineral Society's annual show at Recreation Center.

October 19-20—Whittier, California. Gem and Mineral Society's show at Palm Park.

October 26-27—Burbank, California. Lockheed Employees Rockcrafters Club's 2nd annual show at 2814 Empire Ave.

These shows are scheduled for November: November 2-3 — Long Beach, California. Mineral and Gem Society's annual show at Women's City Club of Long Beach, 1309 E. 3rd St.

November 2-3 — Sacramento, California. Mineral Society's annual gem and mineral show at Turn Verein Hall, 3349 J. St.

November 30-December 1—Yermo, California. Mojave Desert Gem and Mineral Society's annual Swap Day at Mule Canyon in the Calico Mountains.



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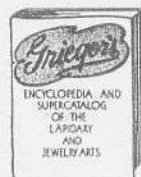
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TRUE OR FALSE ANSWERS

Questions are on page 14

- 1—False. Some rain falls in every desert locale.
- 2—False. Datura blossoms are creamy white.
- 3—True.
- 4—False. The Great White Throne is in Zion National Park.
- 5—True. 6—True.
- 7—False. Chief industry of the White Mountain Apaches is cattle raising.
- 8—False. Ubehebe Crater has been dormant since prehistoric times.
- 9—True. 10—True. 11—True.
- 12—False. Native palm trees have many roots, but all comparatively shallow.
- 13—False. The sidewinder has a tiny set of rattles.
- 14—True. 15—True. 16—True.
- 17—True.
- 18—False. Chiricahua Mountains are in Arizona.
- 19—True.
- 20—False. Coronado led the quest for the Seven Cities of Cibola.

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LOST WAX CASTING GIVES DELICATE RESULTS

The "Lost Wax" process of casting in silver and gold dates back to the 11th century, but a modern innovation is the use of a centrifugal force casting machine which throws molten metal into the most delicate lines of the mold. Thus the finest hairlines in the wing of a bee or the most delicate veins of a leaf can be reproduced in metal.

Here is the order of operation for casting by the lost wax method:

First, the article to be cast is impressed on a special wax. Attached to this pattern is a stem-like projection called a sprue, also made from wax.

Second, the wax pattern is placed in a circular sleeve-like metal frame, known as the flask, into which is poured a heat-resistant paste-like substance that hardens as it dries. The pattern is completely enveloped in this material, known as the investment.

Third step is to remove the wax from the mold, which is done by placing it in an electric oven which melts the wax, allowing it to drain off through the opening left by the sprue.

Fourth, the flask containing the investment and the now hollow mold is attached to the outer end of the casting arm of the machine where it rests against the container, called the crucible, in which the metal is placed and melted by an acetylene torch. Then the arm is spun. Centrifugal force created by the spinning arm throws the molten metal into every part of the mold almost instantaneously. Then the flask is removed from the machine, dropped in cold water which disintegrates the mold, leaving the clean casting ready for final finishing by the craftsman.—Glenn Fahrion in the Miami, Florida, Mineral and Gem Society's *Chips and Facets*

COMMON QUARTZ FOUND IN MANY COLORS IN NATURE

Quartz, the hardest of the common minerals, is found in a variety of colors in Nature. A patchy distribution of iron colors amethyst a delicate orchid to royal purple hue. Rose quartz derives its color from the presence of manganese.

Smoky quartz gets its black to hazy brown color from radiation. Tiger eye is produced by an asbestos-like material called crocidolite which has been oxidized to a golden brown from its original blue color and then completely replaced by quartz.

Rutilated (shining) quartz is composed of penetrations of fine needles which emit rays of light. Tourmaline, hornblende, actinolite and other minerals have this distinctive acicular characteristic.

Silicon, the second most abundant non-metallic element in Nature next to oxygen, combines with oxygen to form quartz. Silicon itself is brown in color, but is never found in a pure state.—*Orange Gulch Gazette*

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CALIFORNIA FEDERATION NOW HAS 9000 MEMBERS

Eleven gem and mineral clubs have joined the California Federation of Mineralogical Societies. The Federation's 131 club affiliates now have a combined membership of 9000 persons.

Clubs recently joining the organization were: Camp Pendleton Rockhounds; Centinela Valley Gem and Mineral Club of Inglewood; Consolidated Electrodynamics Corporation Earth Science Club of Pasadena; Del-Air Rock Club of Sun Valley; Napa Valley Rock and Gem Club of Napa; Pajaro Valley Rockhounds of Watsonville;

Valley Independent Petrologists of Reseda; Walt Disney Productions Employees Club of Burbank; Hughes Aircraft Club; Riverside Mines; Slover Gem and Mineral Club of Colton.—*Rockhound News and Views*

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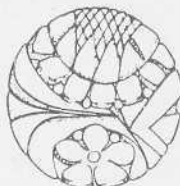
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MISCELLANEOUS

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Often even those who make a hobby of mineralogy fail to appreciate the wide use made of some minerals and metals. Chromium, for instance, not only coats the fixtures in the bathroom and glorifies the bumpers of family automobiles, it gives color to masterpieces hanging in the world's great art galleries.

Combined with zinc, lead and barium, it forms the pigments that color the artist's paints — chrome yellow, chrome orange, chrome lemon, chrome red and zinc green.

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Chromium metals also refuse to melt at low temperatures. Chromite, the ore of chromium, is used to make furnace bricks. Still another use for this metal is in a blend with potassium, creating a gelatin-like material. This is used as a sensitive coating for film.—Puget Sound Gem and Mineral Club's *Pebble Pages*

SHOW VISITORS PICK MOST POPULAR DISPLAY

Officials of the recently held Northwest Federation of Mineral Societies show added a new classification for display competition — most popular case in the show. Votes were cast by visitors in a special ballot box which remained open during the event's duration. A trophy was given to the displayer whose work most pleased those attending the show.—*Pebble Pages*

Both sapphires and rubies, when exposed to high temperature, lose their color. However, the sapphire will not regain its original color while the ruby, upon cooling, will.—*Stone Age*

Dates for next year's Gem and Mineral Festival were announced by the East Bay Mineral Society of Oakland, California. The event is scheduled to take place May 17-18 at the Scottish Rite Temple, 1547 Oak St.

Kilian E. Bensusan, well known Southern California gem and mineral dealer, is now operating his Bensusan Brazilian Lapidary shop at 13703 Ventura Blvd., Sherman Oaks, California, a block from his former place of business in that city.

RUBY'S BRILLIANCE STEMS FROM FLUORESCENT QUALITY

The ruby is a member of the corundum family with a hexagonal system, absolutely no cleavage and only a slight tendency to fracture. It is a heavy stone with a high specific gravity.

Ruby is a brilliant stone with a high refractive index, and a hardness of nine on Mohs' scale. It owes much of its brilliance to the fact that it is highly fluorescent, even adding to its color in daylight.—*Rockhound News and Views*

LITTLE NATIVE TIN FOUND IN NATION

While traces of tin have been found in various places in this nation, few deposits have been discovered that are sufficiently large for commercial development. The outstanding deposits are: massive in andalusite near Spokane, Washington; massive with columbite in white albite, Rumford, Maine; masses in greisen, Kings Mountain, North Carolina; stream tin, small botryoidal form, Beaverhead, New Mexico; and stream tin, Tinton, South Dakota.

"Tin" can manufacturers in the United States last year used over 4,100,000 tons of steel in their products—and only 28,000 tons of tin.—*SMS Matrix*

GRINDSTONE SPARKS GIVE CLUE TO METAL WORKED

According to some experts, color, shape and size of the sparks from a grindstone indicate the metal being ground. For example, wrought iron sparks are long and straw yellow; alloy steel sparks also are yellow at the start, then white; cast iron emits red sparks, ending in yellow; high carbon steel sprays white sparks; and nickel produces short orange sparks.—*Matrix*

Frank Dunn of North Hollywood, California, has an interesting variation of the rockhound hobby. He collects sandstone concretions and paints faces of important personages on them. Dunn seeks rocks shaped with an outline of a face, and then paints over them. The rock is not altered in any way except for the paint.—*SMS Matrix*

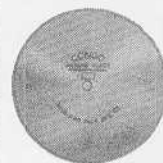
So-called oil shale is not shale at all, but a much harder marlstone. The rock contains a solid partly decomposed organic matter known as kerogen.—*Mineralog*

GEM AND MINERAL HOBBY OFFERS MANY ENJOYMENTS

The gem and mineral hobby has a purpose: it offers a release from tension; it offers an opportunity of expressing a dormant skill; it offers the satisfaction of being active; it offers the satisfaction of being useful; and it offers the pleasure derived from meeting kindred minds. The ultimate expression of the hobbyist is the jewelry he enjoys making, set with a stone he enjoys cutting from a mineral he enjoys prospecting for and finding—all enjoyment from beginning to end.—Miami Mineral and Gem Society's *Chips and Facets*

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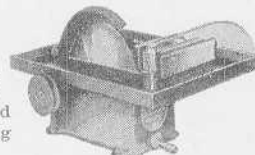
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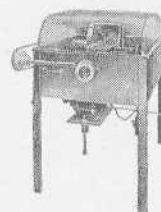
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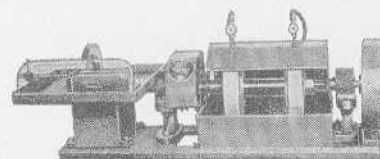
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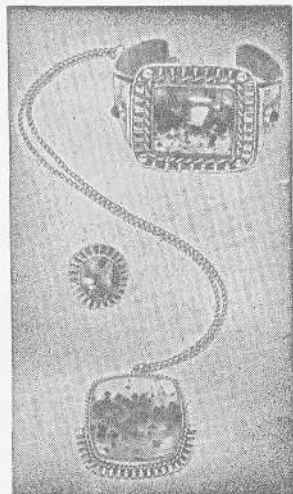
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By RANDALL HENDERSON

7HANKS TO THE efforts of the Desert Improvement Association with headquarters at Yucca Valley, California, the auction sale of 5-acre Jackrabbit homesteads under the Small Tracts Act of 1938, has been discontinued pending a congressional investigation of the policies of the Bureau of Land Management insofar as the disposal of Small Tracts is concerned.

Congressman Clair Engle of Red Bluff, California, has announced that a sub-committee from the House Interior committee will hold a public hearing on the subject at San Bernardino, California, October 1.

Most of the federal land available for Small Tract disposal is on the desert, hence all of us who are interested in the protection and orderly development of vacant desert lands are concerned as to the policies governing the lease or sale of these lands.

We opposed the auction sales because such method of disposal opened the way for speculative buying, and virtually removed all governmental control as to the use of the land. Even under such restrictions as were originally established under the leasing program which preceded the auction sales, we have seen the desert landscape in some areas cluttered with ugly shacks and discarded junk.

The Small Tract Act of 1938 specifically provides that the tracts may be sold or leased by the Secretary of Interior after he has classified the land as "chiefly valuable as a home, cabin, camp, health, convalescent, recreational or business site."

Such is the wording of the Act. Quite obviously it was never the intent of Congress that the land should become the pawn of speculators.

Congressman Engle and his committee have every right to assume that those who are opposed to the auctioning of the Tracts will have constructive proposals to offer by way of an alternative. Perhaps my ideas would not be practicable in all parts of the United States, but insofar as the desert Southwest is concerned, I would favor regulations approximately as follows:

1—That the Bureau of Land Management dispose of the Tracts only under a lease of not less than one year, with the requirement that certain improvements be made before patent is issued.

2—That the classification of lands available for lease be limited to counties in which the county authorities have established zoning and building ordinances which will govern the improvements, and that no government patent be issued until the county's requirements are complied with.

In other words, the local people through their local government would determine what type of buildings are to be erected, and what use is to be made of the land. I am well aware that not many counties in the desert region are qualified at present to assume this responsibility. Sooner or later they will recognize the need for such ordinances, for the wild and woolly days when an isolated desert dweller was a law unto himself are past. If we cannot insure the orderly development and improvement of our desert landscape, then let's keep it as the Creator made it, until the time comes when man's improvements will beautify it—not foul it up with bad architecture and sloppy construction.

My criticism of Jackrabbit homestead construction is not directed at all homesteaders. Some of them have designed and built very attractive cottages, and have worked diligently to beautify their dooryards. It wasn't an easy job and they deserve credit for the obstacles they have overcome. They have a sense of pride and artistry which requires neither prodding nor county ordinances. They are the kind of people we will welcome as neighbors in our desert land.

* * *

There's a tang of autumn in the air this mid-September morning. To those of us who remain on our desert jobs throughout the year, except perhaps for a week or two at the beach or in the mountains, these cool mornings are a refreshing harbinger of the delightful desert winter months ahead. We on the desert look forward to the coming of winter just as folks in the more frigid zones look forward to the passing of winter, and the swelling fruit-tree buds which are symbolic of the arrival of spring.

I have met people who say they like the summer heat. I always discount such an assertion. There are many of us who have work so interesting we regard high August temperatures as no great hardship. But I am unwilling to believe that anyone can step out of an air-cooled home into 115 degrees of direct and reflected sunlight and actually enjoy the experience.

There are many compensations for desert living, even in summertime. The evenings out under the stars are always delightful. We live more leisurely when the thermometer passes the 100-degree mark, and in these days when life in the competitive world has become a nerve-racking contest, a change of pace is good tonic. One of the chief attractions of desert living, especially in summertime, is the informality of it all. We dress for comfort—not for style, and within the bounds of common decency do as we please. The desert is a good place to live—even in summer.

BOOKS of the SOUTHWEST

AMERICAN GAME REFUGE MISSION IS VITAL

A handsome well illustrated book, *Seeing America's Wildlife in Our National Refuges*, serves the dual purpose of providing the Nature lover with informative entertainment as well as an immensely helpful guide for vacation planning.

Here is a comprehensive book about America's wildlife refuges which the author, Devereux Butcher, believes must become better known and appreciated among the citizenry if their work is to succeed. The preservation of individual wildlife species is becoming an ever increasing challenge in this nation. The danger from hunters, expanding urban and agricultural areas, polluted waters and disease is a real one and Butcher is convinced that public education is the answer. The overwhelming weight of logic and moral obligation is solidly on the side of conservation.

The author is editor of *National Parks Magazine* and has visited most of the refuges described in this book during the course of his work. *Seeing America's Wildlife* was prepared under the auspices of the Defenders of Fur-bearers, an organization established in the 1940s and successor to the Anti Steel Trap League.

One of the noteworthy suggestions presented by Butcher is that communities large and small establish their own wildlife sanctuaries as supplements to the programs undertaken on the national, state and county levels. An area of only a single acre can be useful, Butcher believes.

Outstanding are the 350 wildlife photographs, many of full page size, illustrating this book.

Published by Devin-Adair Company, New York; illustrated; index; bibliography; 338 pages; \$2.50 paper cover; \$5 cloth cover.

Desert Best Seller List*

1. *Ghosts of the Glory Trail*
Nell Murbarger \$5.75
2. *Lost Mines and Buried Treasure*
John Mitchell \$5.00
3. *Lost Treasure, The Search for Hidden Gold*
Robert G. Ferguson \$2.75
4. *The Story of Bodie*
Ella M. Cain paper \$2.50
cloth \$4.00
5. *Lost Desert Gold*
Ralph L. Caine \$1.50

*Based on August sales by Desert Magazine Bookshop.

SEARCH GOES ON FOR PEGLEG GOLD

For over 100 years men have searched for the black gold nuggets which Thomas L. (Pegleg) Smith reported he had found on the Southern California desert somewhere west of Yuma. So persistent is the story that the search continues today.

Wilson McKenney, former publisher of the *Herald at Calipatria*, California, devoted his leisure days for years camping and rock-hunting in the Pegleg desert area, and eventually through an odd acquaintance with a veteran prospector he took up the hunt himself. But it was a fruitless quest—like that of scores of other prospectors and gold seekers. The Pegleg gold has not yet been rediscovered.

It was during his years as reporter and editor on the desert that McKenney accumulated the records which enabled him to write the latest Pegleg book—*On the Trail of Pegleg Smith's Lost Gold*.

McKenney writes about some of the men who for years have sought the legendary black nuggets. Some, like Henry E. Wilson, believe the gold is still there, awaiting a lucky prospector. Others, like Al Benson, are skeptical—and yet cannot resist the urge to make another try, and so they roam the hills, perhaps more out of habit than because of any hope that they will ever strike it rich.

No two prospectors agree as to the most likely locale of the three hills with the gold nuggets, and so the search has ranged far and wide.

Published by Desert Magazine Press. 50 pp. Paper cover. Map and many photos. \$1.50.

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GERMAN DOCTOR'S 1853-54 WESTERN TRIP TRANSLATED

In 1853 Congress ordered six survey parties into the wilderness to determine the practicability of a transcontinental railroad route.

Surgeon-geologist on one of those expeditions was a German, Dr. James Schiel, who wrote about his American adventure after returning to his native land a few years later. The translation of this rare manuscript affords a unique look at the frontier through the eyes of a well-educated European. *The Land Between* was translated by Frederick W. Bachmann of the Department of Modern Languages at Texas Western College. William S. Wallace, associate librarian and archivist at New

Mexico Highlands University, has supplied introduction and notes for the book.

Dr. Schiel was a member of the Gunnison-Beckwith Expedition which took the "Central Route" across the continent through the heart of the highest sections of the Rocky Mountains and across the deserts of the Great Basin.

His relatively short book is not the usual day-by-day log that has come from such journeys. Rather, it was written in a somewhat popular vein with an eye on the European audience. And to these readers, the most interesting phenomena between the Mississippi River and the Pacific Ocean in those days were those strange-acting members of that radically new sect, Mormonism. The last quarter of the book is devoted to the activities of the Saints and in the main Dr. Schiel does not give a very sympathetic appraisal of New Zion. The narrative ends after the expedition leaves Salt Lake, and the party's California adventures are not mentioned.

This book takes on added interest from the fact that the Central Pacific Railway made extensive use of Lt. Beckwith's surveys west of Salt Lake, and on the other side of the Rockies, the Santa Fe Railway made use of Capt. Gunnison's work. Much of his surveys in the Rockies were used by the Denver and Rio Grande Western Railway.

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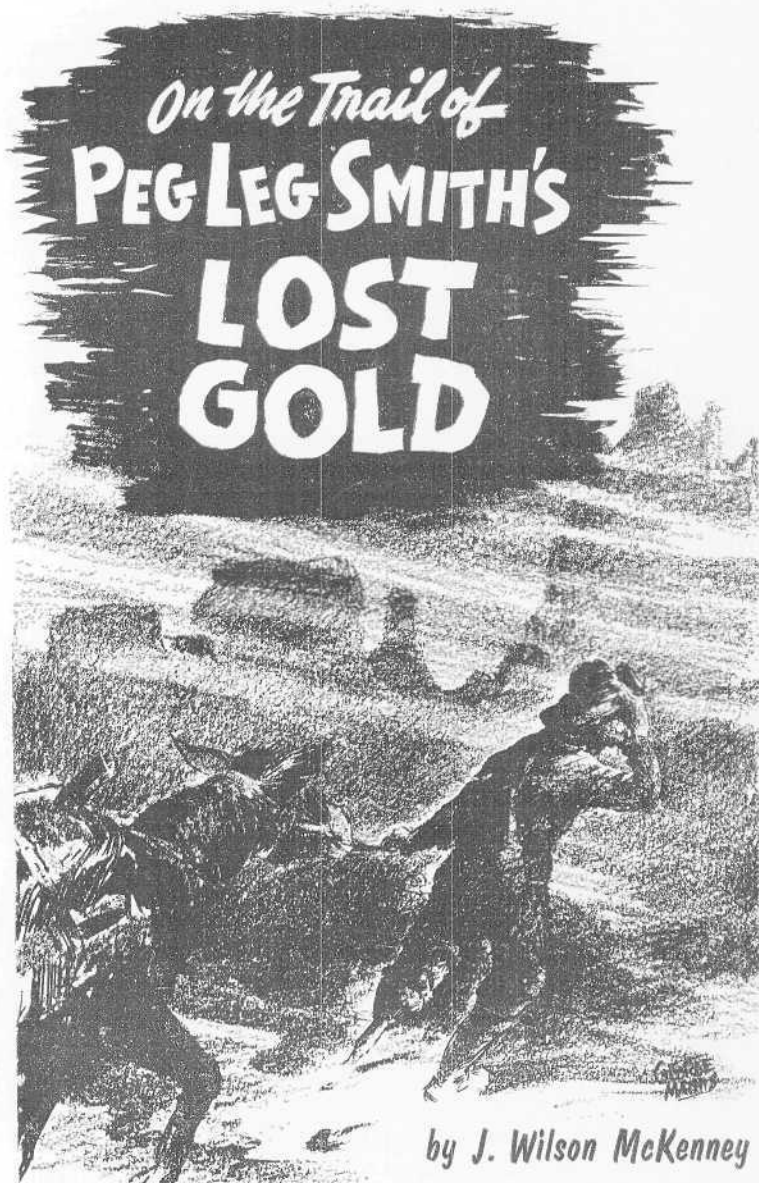
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