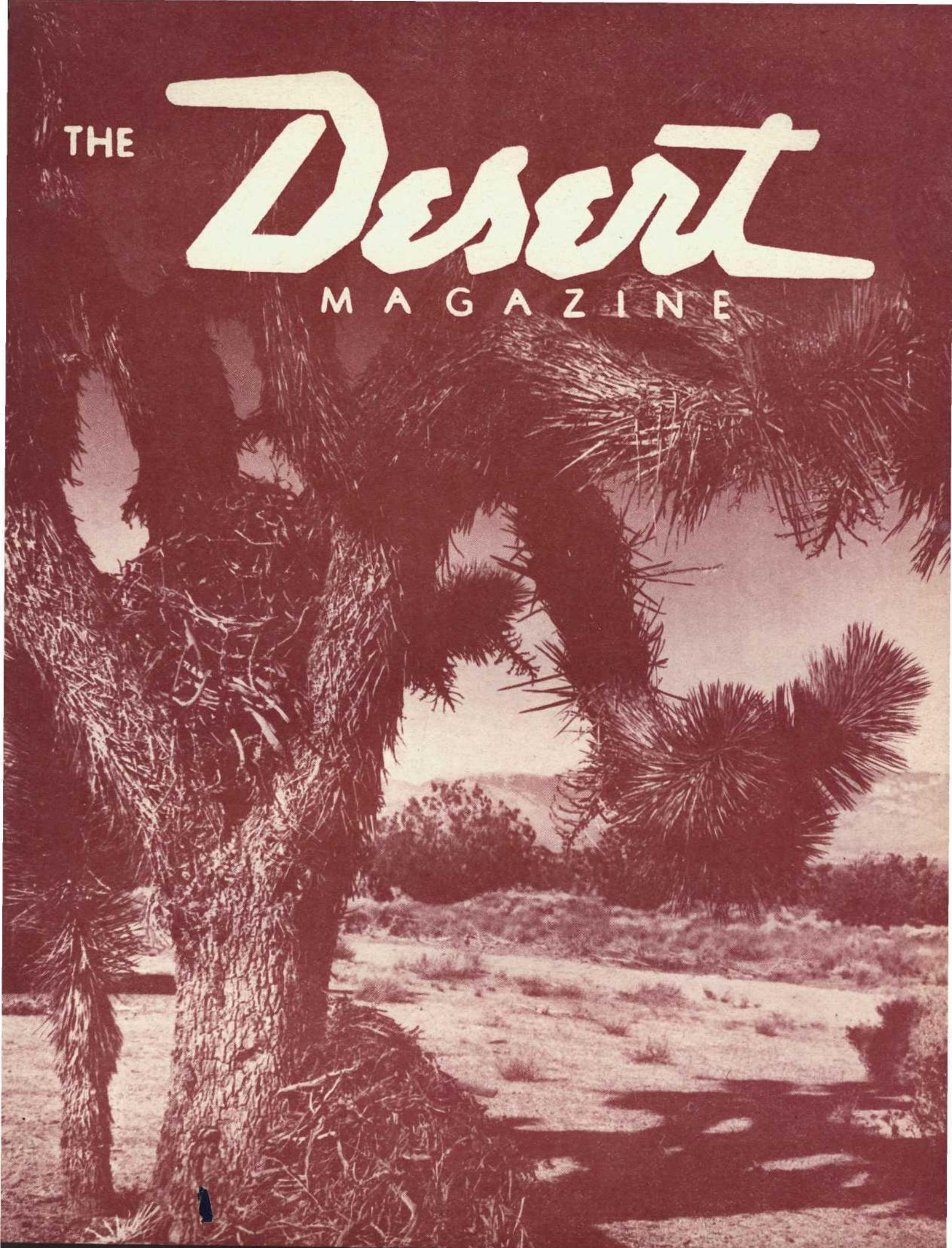


THE

Desert

MAGAZINE



FEBRUARY, 1947

25 CENTS

**PROVED BY
PUBLIC
USE!**

THE OIL YOU CHANGE ONLY 2 TIMES A YEAR!

SIX MONTHS WITHOUT AN
OIL CHANGE! HOW CAN YOU DO IT?

THE THINGS THAT MAKE ORDINARY OILS
BREAK DOWN AFTER 1,000 MILES OR SO,
ARE ACIDITY, SLUDGING AND OXIDATION.
DURING THE WAR, UNION OIL SCIENTISTS
DEVELOPED SPECIAL COMPOUNDS FOR
THE ARMED FORCES TO OVERCOME THESE
WEAKNESSES. THESE COMPOUNDS HAVE
BEEN INCLUDED IN NEW TRITON MOTOR OIL.



CHANGE TO TRITON
THIS WEEK AT ANY
UNION OIL STATION—
THEN CHANGE
ONLY 2 TIMES
A YEAR!



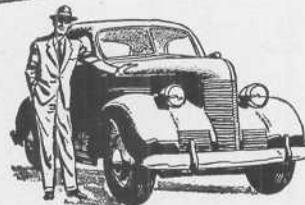
CAN YOU PROVE IT?

YES! AT FIRST, SOME PEOPLE WOULDN'T
BELIEVE AN OIL COULD BE THAT GOOD.
BUT NEW TRITON'S BEEN ON THE
MARKET OVER A YEAR NOW, AND
THOUSANDS OF PEOPLE WHO'VE TRIED
TRITON KNOW THAT THEY CAN GET
BETTER ENGINE PROTECTION THAN
EVER AND STILL ONLY CHANGE OIL
2 TIMES A YEAR!



HOW ABOUT OIL GETTING DIRTY?

TRITON HAS A SPECIAL COMPOUND
WHICH HOLDS DIRT IN SUSPENSION.
BECAUSE TRITON CLEANS YOUR
ENGINE AS YOU DRIVE, THE OIL MAY
DARKEN. BUT THAT WON'T HURT
ANYTHING—WITH TRITON, DIRTY
OIL MEANS A CLEAN MOTOR!



SUPPOSE YOU'VE GOT 80 OR 90 THOUSAND MILES ON YOUR CAR?

YOU STILL NEED CHANGE OIL ONLY 2 TIMES
A YEAR. AT FIRST, YOU MAY USE A LITTLE
MORE OIL, BECAUSE TRITON'S DETERGENT
COMPOUND CLEANS YOUR MOTOR. BUT
AFTER THAT, YOU'LL HAVE A FREER,
CLEANER MOTOR... OF COURSE, EVEN A
BRAND NEW ENGINE USES SOME OIL, SO
BE SURE AND KEEP THE LEVEL UP.



UNION OIL COMPANY

OF CALIFORNIA

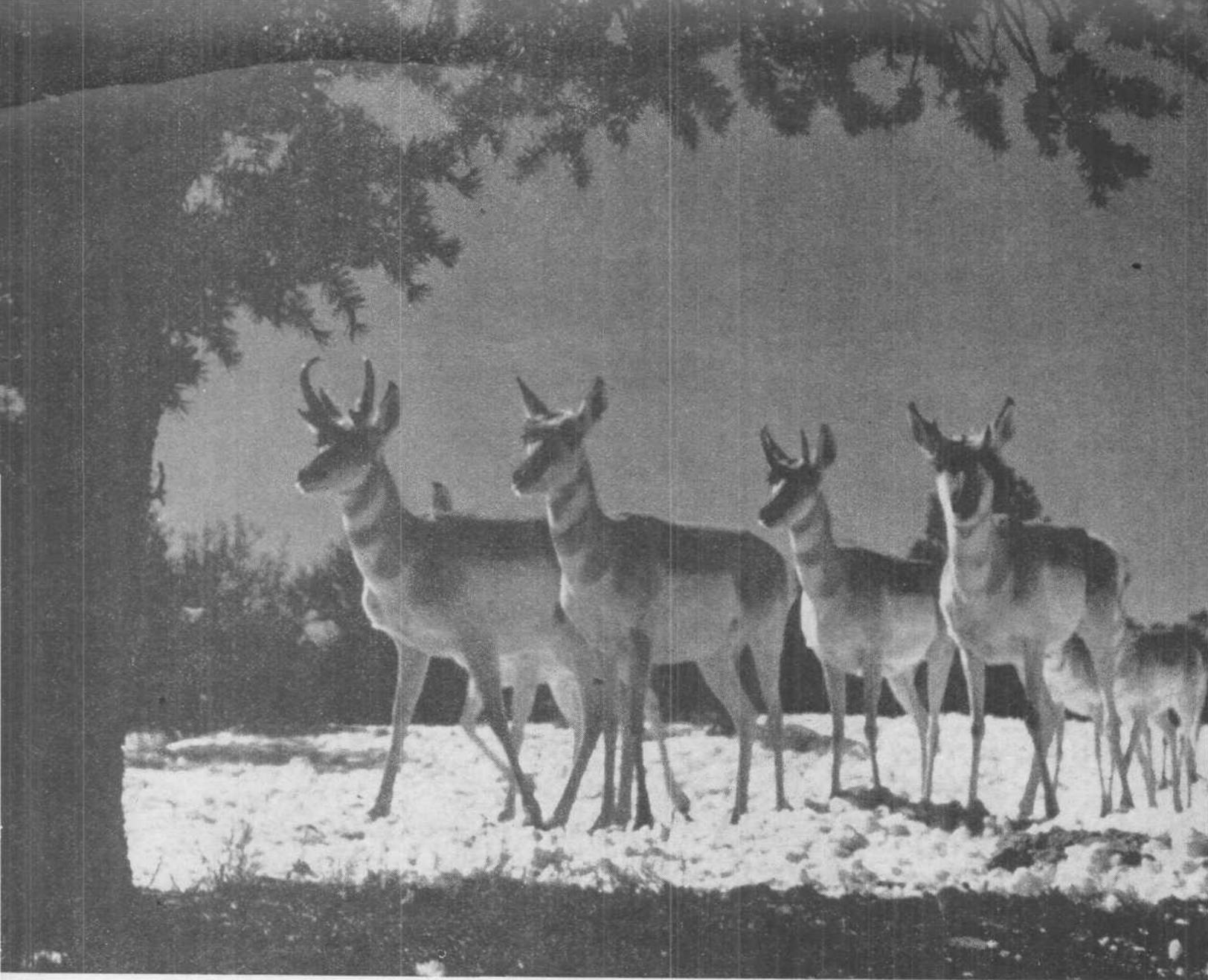
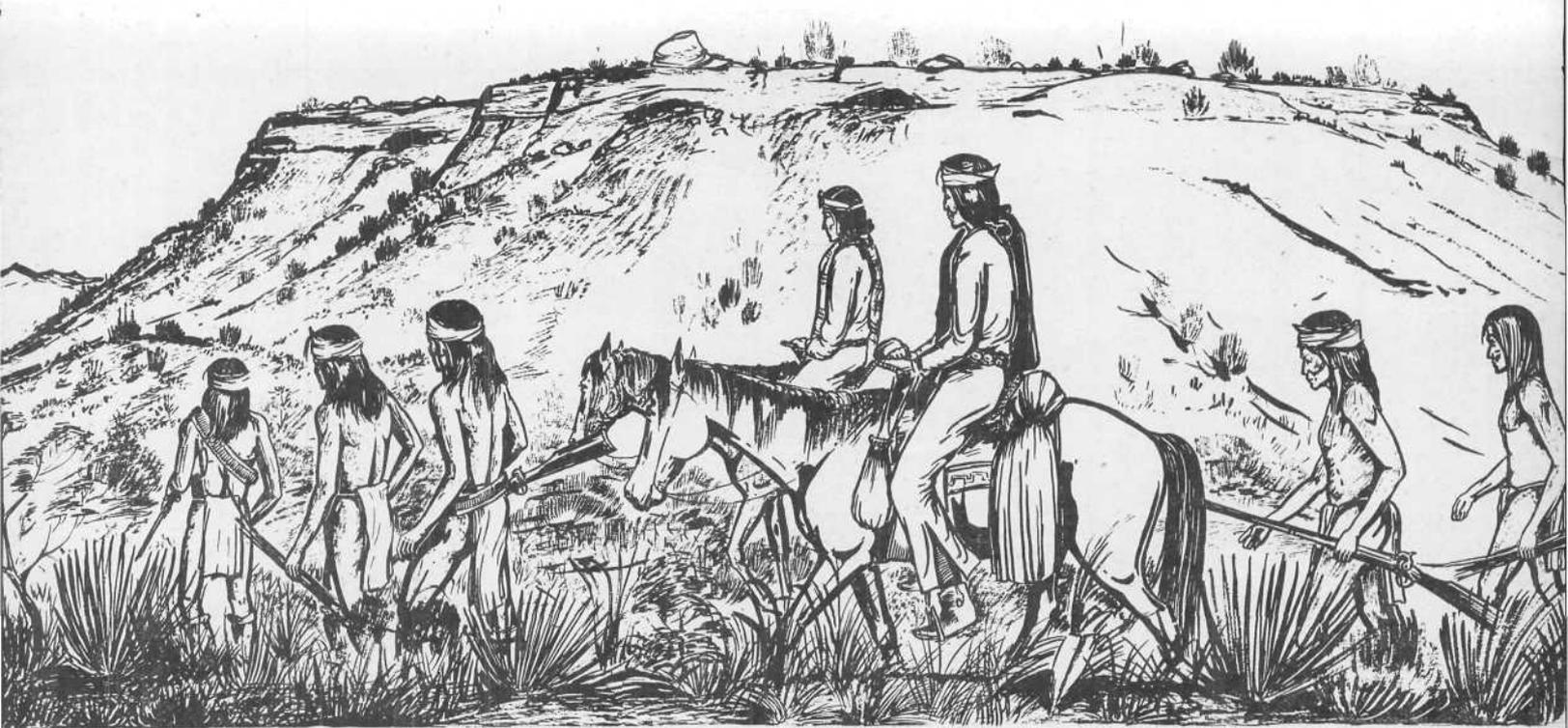


PHOTO CONTEST WINNERS



Arizona won all honors in Desert's December photograph contest in which prizes were awarded for the best animal wildlife pictures. Tad Nichols of Tucson, winner of many previous photo contests, took first place with his beautifully composed print of Arizona Pronghorn antelope on Anderson mesa. The winning print is an enlargement from a 35 mm kodachrome transparency, taken at 1/100 of a second, f4.5.

Second place winner was another Arizonan—Leon K. Kendall of Miami. His picture of a fawn in the Pinal mountains is a striking illustration of Nature's protective camouflage. It was a difficult shot for a photographer. The picture was taken at four p. m., time 1/50, stop f16. "We did not touch or disturb the fawn," writes Leon.



*The Apaches guarded well the deposits of turquoise—but did little digging themselves.
Sketch by Charles Keetsie Shirley, Navajo artist.*

Trail to Turquoise

Following a clue given him by his Navajo friend, Frank Walker, Richard Van Valkenburgh took a trail that led deep into the old Apache stronghold—and there he and his companions found the abandoned workings of turquoise mines which once were an important source of the blue gemstone for Indians of the Southwest.

By RICHARD VAN VALKENBURGH

SOME years ago while Frank Walker, my Navajo-Irish friend, and I were visiting the University of New Mexico anthropological field school at Chaco canyon, New Mexico, the discussion revolved around the sources from which Indians of the Southwest obtained turquoise.

It was fairly well agreed that much of the blue gem-stone came from the well known Cerrillos mines, some miles southwest of Santa Fe, New Mexico. Others mentioned the Nevada-California deposits. And there was much speculation about the reputed, but never discovered, mines south of Zuñi.

While traveling homeward the next day toward Fort Defiance, across the multi-colored badlands where Chaco river makes its big bend, we stopped for a visit with Joe Tanner at Tseya. As the door was locked Frank asked a Navajo lounging about as to the whereabouts of his old trader friend.

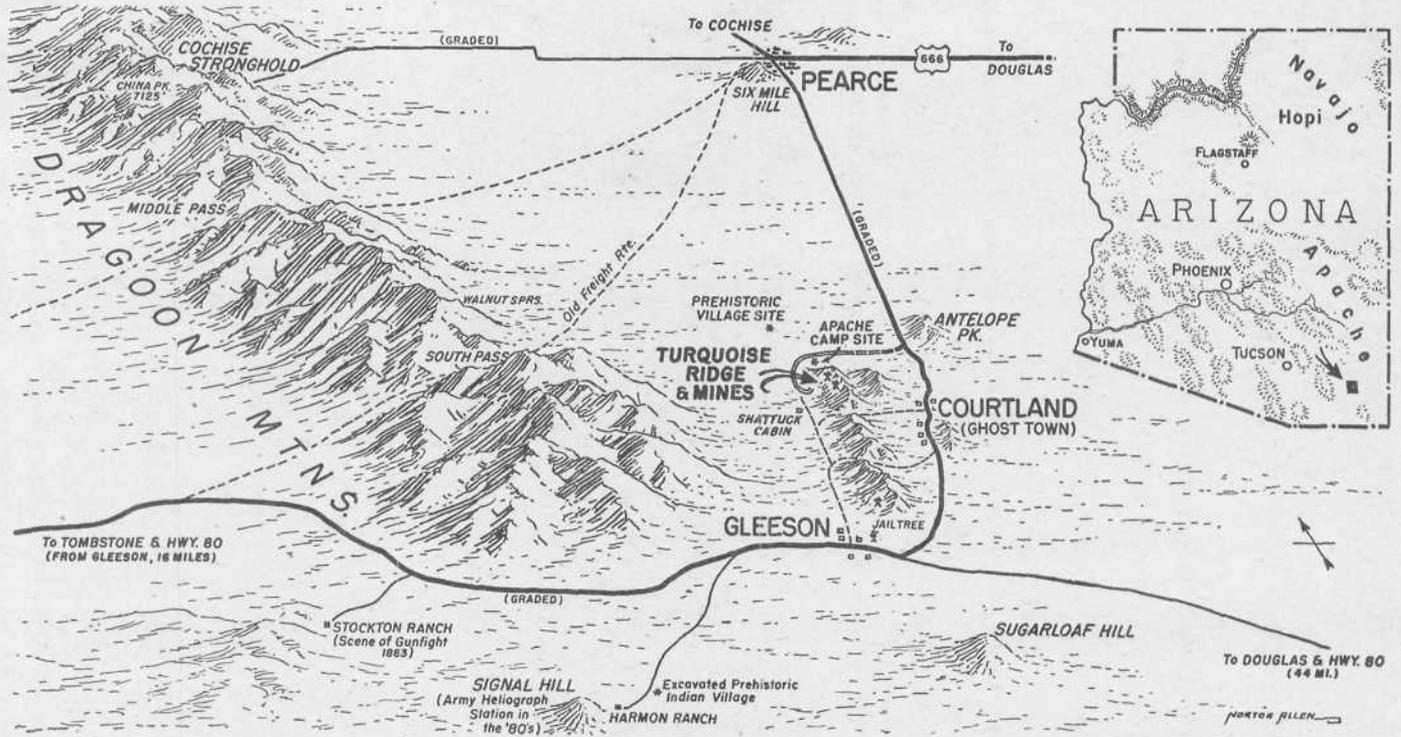
The Indian answered, "Gone! They say he went south—way down beyond the land of the Apache to dig for turquoise. *Hola?* Who knows?"

Turquoise south of the Apache habitat! That would be in southeastern Arizona. Noting the look of skepticism that flickered across my eyes Frank spoke up, "I heard the school fellows talking about turquoise last night. All day I have been waiting to tell you of something that they didn't seem to know about.

"When I was 14 years old, that was in 1884, two Navajo named Chino and Slim

Shorty Thorne and Gene Yokum, who has lived at Courtland since 1909, climbing Turquoise ridge. One of the old workings is seen in the upper right.





Chiricahua came to my father's ranch at Cheeto near present Saunders, Arizona. After feeding them, my mother who was Navajo herself, said, 'You boys look tired. You haven't been chased by the Apache, have you?'

"They didn't answer, just turned and went outside. But after lying around awhile whispering between themselves they came back and laid down a buckskin bag on the table as they said, 'There is something good in here. Open it up. Pick out what you want. You have been good to us and we want to give you a nice present.'

"Mother opened the bag. From out of it poured an assortment of brownish colored rock. Looking closer we saw in it nodules of turquoise. Some was of good color—just the deepness of the sky's blue with threads of soft amber. After picking out a few chunks she questioned, 'Where'd you boys get this nice turquoise?'

"They wouldn't answer. Finally mother got mad and threatened, 'I know you boys. You are the grandchildren of that old Chiricahua Apache woman who was a slave of Old Deschini who lived under Hosta Butte. You have been running around down there with Apache relatives killing people. What if I'd tell the agent at Fort Defiance?'

"Finally they admitted it. The autumn before, some Apache who were running from the soldiers came to hide with the Navajo. Among them was a relative of the boys' grandmother. And when the Apaches slipped off in the early winter to make a raid into Mexico the boys went south with them.

"The boys had good luck against the Mexicans. They got horses, a girl, and some cattle. These they traded to the

Apache for buckskins, alder bark, and a small barrel of Mexican liquor. Then their relative called them to him and said, 'You boys have helped us against the enemy. Now we are going to take you to something that every Navajo likes.'

"As they told it—the Apache camp was hidden deep in the rocks of a canyon that had only one entrance. And from there they could look east across a valley to a pass between two great mountains where the Apache said that the soldiers had a fort. And on top of the range to the north were two peaks that looked like men's heads.

"Taking an old trail up through the rocks the Apache guided them to some great pockets just under the summit of the ridge. Going down into these they looked around. At first they couldn't believe their eyes. For imbedded in the hard gray rock were brown veins in which there was turquoise!

"With rocks they knocked out as much of the turquoise as they could. Then they wanted to build a big fire and crack the rock. But the Apache said, 'No! There are too many soldiers around.' So all they brought away were the gemstones in the bag that lay before my mother."

It was not until several months later that mention of turquoise deposits in Cochise county, Arizona, recalled this story to me. This was one Navajo story I had not followed through. And remembering what Frank had always said, "These Navajo stories usually turn out to be the truth," I prepared to take the trail to turquoise.

After hearing the story told to me by the Navajo, my prospector friend, Shorty Thorne, was eager to make the trip with me. In addition to being a useful companion Shorty would follow a mirage if in it were reported to be some "colors."

As we dropped from the divide into the San Pedro valley we could see, far to the east, smoke spiraling up in the still spring sky. Sixty years ago this would have been Apache smoke-signals. But today it was only the peaceful puffing of the locomotives as they pulled their heavy trains up through Texas canyon into historic Draagoon pass.

Taking the right fork at the junction town of Benson we crossed the San Pedro river and were passing through the lush green lane of cottonwoods planted by the pioneers of St. David. Founded during the hectic 1880's of Tombstone, this Mormon settlement was one, if not the only peaceful spot in the whole San Pedro valley.

At Tombstone we stopped at the Crystal Palace for an early supper. While Shorty visited with old mining friends I took a walk through the historic town. With its new medical center this shrine to Arizona's pioneer days is now in the business of healing the sick rather than shooting it out at the OK Corral.

Swinging east off the highway we soon were traveling over the well graded road that covers the 16 miles between Tombstone and Gleeson. To our right, just out of sight in a low cluster of hills, was the old Stockton ranch. It was here, in 1883, that Deputy Sheriff Billy Breckenridge shot it out with Zwing Hunt and his gang.

Rounding the southern tip of the Draagoon mountains we were soon in the old mining camp of Gleeson, boomtown of the early 1900's. We stopped to see the oak tree that served the camp as a jail. On the gnarled trunk there were still marks of the log chain that once held the shackles of those who disturbed the peace and quiet of the camp.

As night was coming down in long mauve shadows cast by the 7000-foot skyline of the Dragoons we moved on towards Courtland. Looping around the southern end of Gleeson ridge we meandered north for three miles. Pulling up a canyon through the ghostly quiet of a deserted town, we made a sharp turn to the east and came to a weathered sign which read:

"Courtland, Arizona. Best town in the Southwest. 100 M.P.H. Pearce 10 M. Gleeson 5 M. Joe T. McKinney, Mayor."

Across from us sagged a row of ancient buildings. On the porch a black cat eyed us curiously. As we moved nearer, a man stepped from the doorway of one of the stores. And that is how we met Eugene Yokum who has lived in Courtland since 1909.

As we sat on the veranda of the old building, one of the few left standing in the ghost town that Gene said once had boasted of some 5000 population, a newspaper called the *Courtland Times*, and a railroad, we felt Gene out on the possibility of guiding us to the old turquoise workings.

With a rattling of pots and pans and the mewling of the black cat and her family, Gene had us out at the crack of dawn. And just as the sun was poking its head from behind Chiricahua mountains we were traveling northward toward Pearce, once one of Arizona's greatest silver camps.

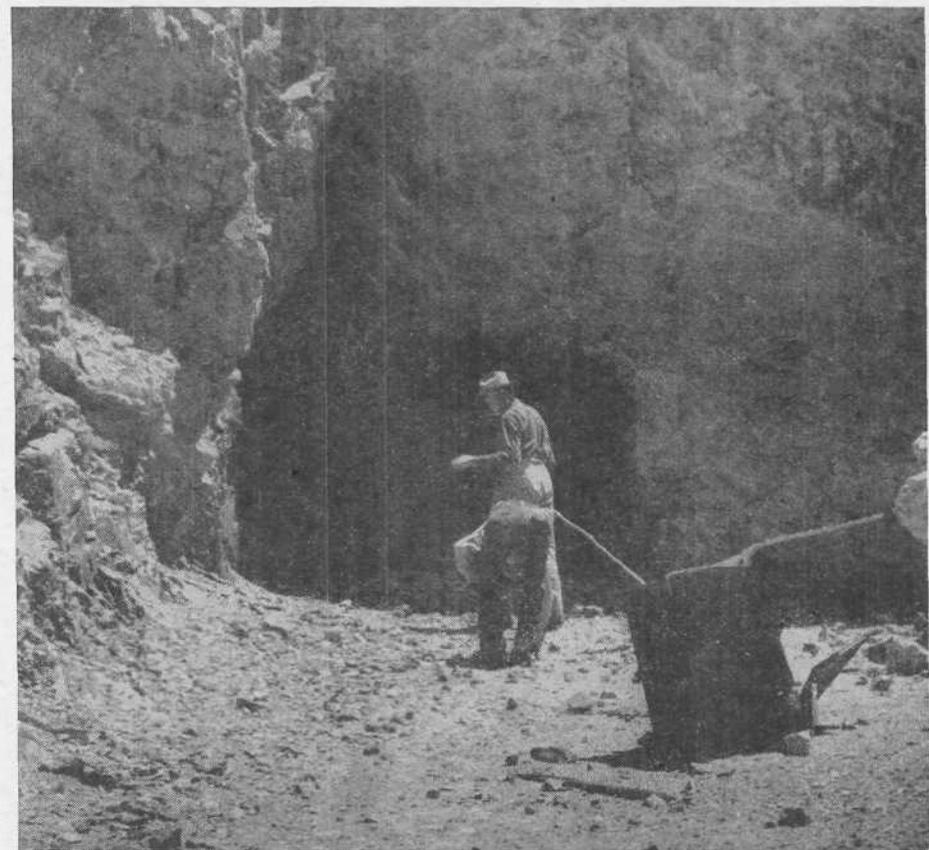
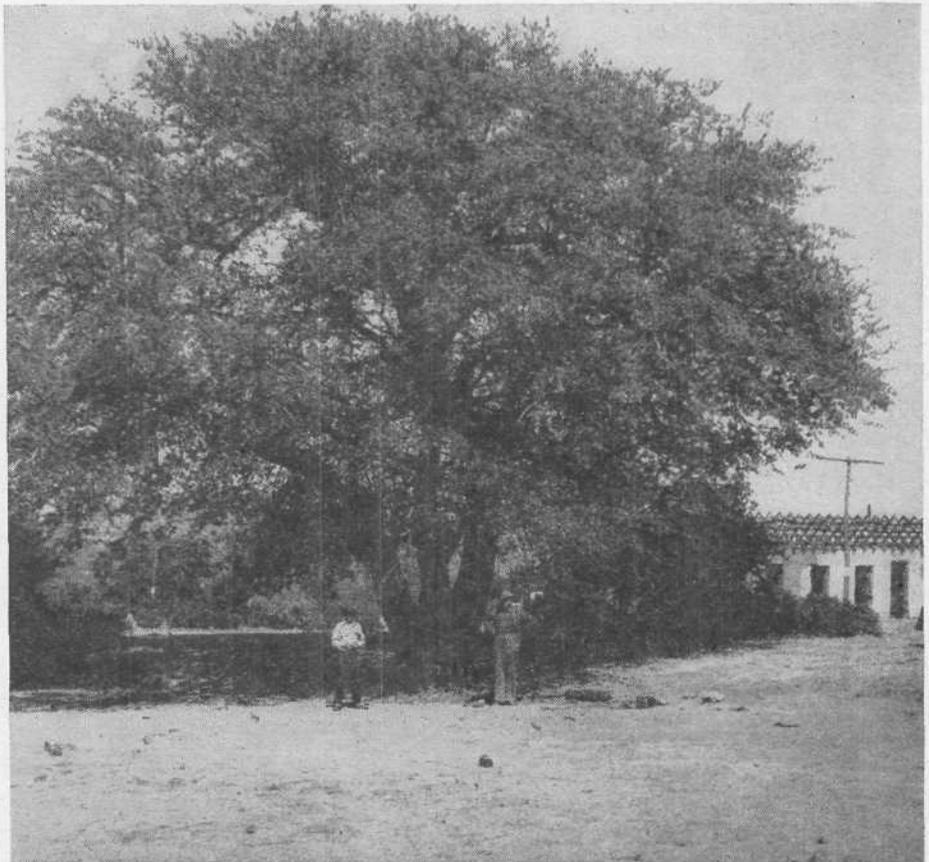
After two miles of travel we left the main road. A dim trail cut westward through the desert to round the end of a razor-back ridge. When we started to pull up an arroyo lined with hackberry and desert willow Gene said, "Here we are. This is Turquoise ridge!"

As we picked our way up slowly through the sotol, mescal, and flowering Spanish bayonet which grew abundantly on the hillside, Gene told us something about the history of Turquoise ridge. Although discovered by prospectors in the early 1870's the deposits were not worked owing to proximity of the Apache.

That was easy to understand. For just a few miles to the north and west lay the deep indentation in the Dragoon mountains which marks the entrance to the stronghold of Cochise, the Apache chieftain. It was he who carried on a bloody warfare against intruders until his death in 1872.

The first prospectors got their leads from workings of prehistoric Indian miners. Even today a few of the shallow pits excavated by stone picks, mauls, and fire, are to be seen. From early accounts they turned the whole hillside over in their search for the sky-blue stones they prized so highly.

Near one of these shallow diggings Shorty found an Indian pick. It was



Above—Jail tree near Gleeson. On its gnarled trunk may be seen marks of the log chain once used to shackle those who disturbed the peace.

Below—Entrance to Avalon turquoise mine of Kelso and Petty of Tucson. It was from this mine that Lynn Shattuck took a 3-pound nugget of fine quality turquoise.

spindle-shaped from basaltic rock and was 14 inches long. Other picks and mauls from Turquoise ridge are reported to be in the Arizona state museum at Tucson,



Above—Shorty Thorne, companion of the author, trying to pick up a turquoise vein in an old Indian working.

Below—Here are two of 32 bedrock morteros in the old Apache camp at the north end of Turquoise ridge.

but we have been unable to locate them.

That prehistoric Indians dwelt in the region is without question. For later in the day Gene guided us to a vast 13th century site of the desert Hohokam and rim-country Mogollon. And in Gene's collection we examined a small red-clay-buff bowl, characteristic of the culture, which came from a site just northwest of the ridge.

We visited and explored an Apache campsite just north of the ridge in which there were 32 very fine bedrock mortars. There was no evidence of the litter of spalls and cores characteristic of an aboriginal workshop. I suspect that while the Apache guarded the mines jealously, they did little or no digging.

While we inspected the chalk-blue colors appearing on the copper-stained out-

croppings, Gene gave us a beginner's lesson in the mineralogy of the ridge. He believes that the best turquoise was obtained by the Indians from their shallow pits long before the white men entered the region.

Guiding us into a shaft, one of the deepest on the ridge, Gene explained that white men's diggings follow an inclined quartz-granite contact and do not go down to depths of over 60 feet. After a little prowling we picked up a vein in which there was showing a faint stringer of turquoise.

While in this case the stringer occurred in a rather porous vein of light brown kaoline, sericite, or limonite, the gemstone also turns up in nugget-like nodules. These brownish veins which carry the turquoise appear in fractures and lenses between the grayish quartzite and granite country rock of the region.

White men first started these workings in 1890 when Henry Durant located claims. Before he completed his assessment work he sold out to Raskum & Tannenbaum, merchants of Tombstone. They in turn sold to G. S. Goode who produced turquoise for several years in the late 1890's.

Some years later Goode sold his claims to Lynn Shattuck. And during the 1920's when the demand for the gemstone increased he devoted his entire time to its mining and sale. In 1926 he sold his entire output of 50 pounds to a trader in Gallup, New Mexico.

Shattuck made the greatest known find on Turquoise ridge. He struck a particularly rich stringer which yielded around 80 pounds of the finest quality. And in this turquoise bonanza there was one stone that weighed nearly three pounds. Its disposal and whereabouts are unknown today for Shattuck died some years ago in Bisbee, Arizona.

At the time of our visit there was no work being done on Turquoise ridge. The last known stones mined in any quantity came from the Avalon claim of Kelso & Petty of Tucson in the 1930's. But just the week before we had run into a Mexican miner who was outfitting to start work on claims down the ridge from the Avalon.

While there are no rich veins left open for the occasional visitor to pick out a pound or two of turquoise, there is an abundance of beautiful rock on the dumps. This is the grayish country rock coated with very thin lenses of sky-blue, the sight of which would gladden the heart of any rock garden enthusiast.

After spending the better part of the day prowling the ridge Shorty and I climbed to the narrow summit. It was not until then that I recalled the clue that had started this long trail to turquoise. I began to search for the landmarks given Frank Walker by Chino and Slim Chiricahua.

It was not hard to associate Cochise's Stronghold with that of the Apache camps where Chino and Slim Chiricahua stayed. For even after the death of the great Apache chief, this natural rock basin in the Dragoon mountains was an Apache rendezvous until the time of the tribe's surrender in 1886.

There was no question in my mind that the mines on Turquoise ridge were those visited by Chino and Slim Chiricahua in 1884. And then as I looked north to where the Pinaleno range lay as the first landmark in the 300 miles to the Navajo-Hopi-Zuñi country I wondered:

The Navajo were down here. And early Spanish chroniclers tell of the trade between the Zuñi and the Sobaipuris of the nearby San Pedro valley. Could these ancient mines on the ridge have been the "lost" mines from which the Zuñi in the prehistoric days obtained their turquoise?

Meditations

From a Rocky Ledge

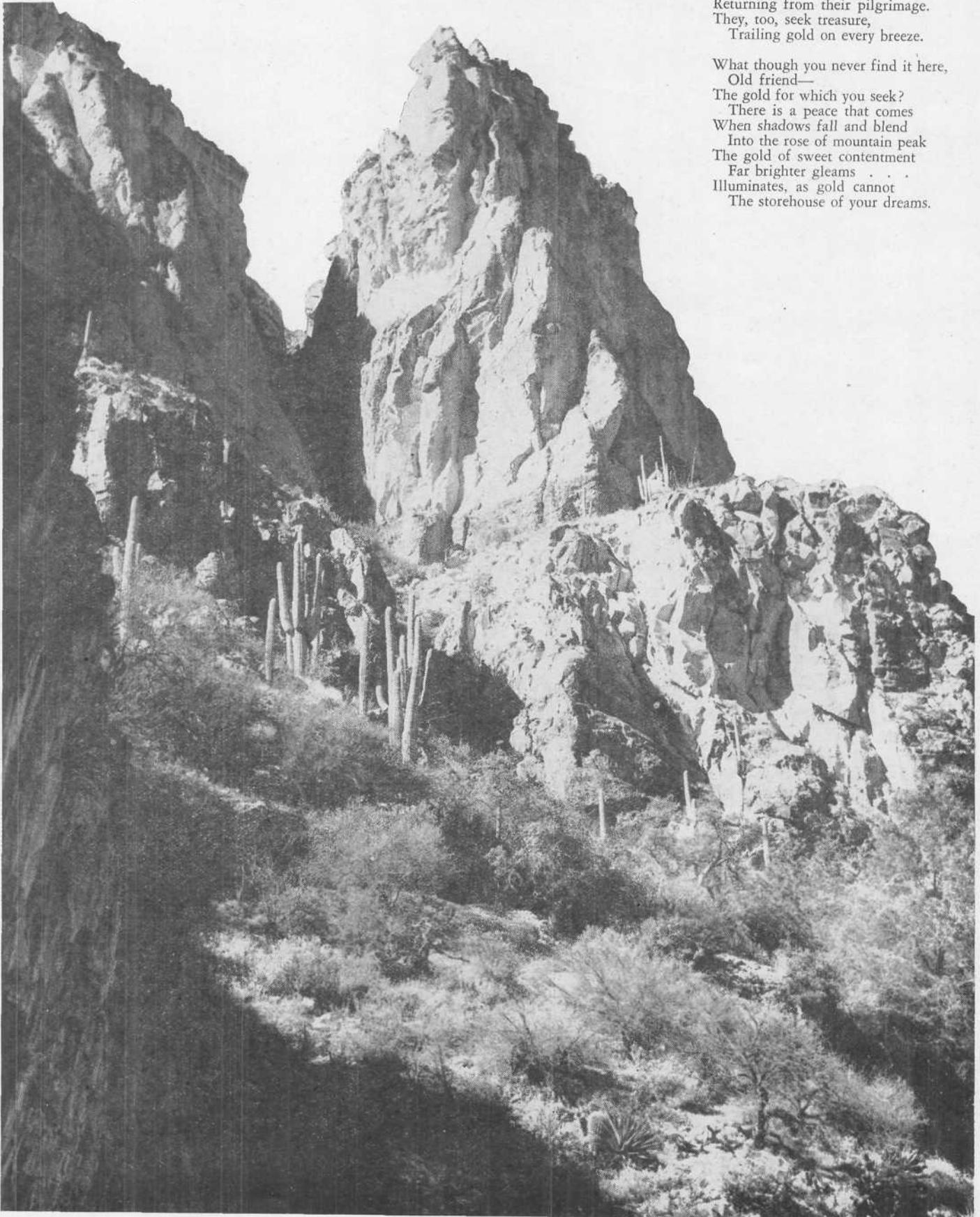
By LOIS ELDER ROY

Was it gold that lured you here,
Old friend,
Dreaming in your cabin
Of the rainbow's end?

Photo by John L. Blackford.

Here, upon this rocky ledge
You've staked your claim.
Tall saguaros guard your doorway;
Ocotillos burst with living flame.
Around your cabin, solitude;
A few wild bees
Returning from their pilgrimage.
They, too, seek treasure,
Trailing gold on every breeze.

What though you never find it here,
Old friend—
The gold for which you seek?
There is a peace that comes
When shadows fall and blend
Into the rose of mountain peak
The gold of sweet contentment
Far brighter gleams . . .
Illuminates, as gold cannot
The storehouse of your dreams.



The new road isn't feasible yet for ten- playgrounds in the West. Here, Charles derfoot tourists, but a pilot route has been Kelly describes the 194-mile trip from Capi- opened which eventually will make the tol Reef to Blanding by way of the recently little-known red rock desert wilderness of installed ferry across the Colorado river at Southern Utah one of the most popular Cass Hite's old homestead.

By CHARLES KELLY



Here is an improved section of the new road completed by Art Chaffin.

New Road into the Utah Wilderness

ARTHUR Chaffin wiped the sweat from his brow, took a long drink of tepid water, and moved to the shade of a big sandstone boulder. Resting a moment, he looked up and down the canyon of North Wash, a dry tributary of Colorado river, surveying his work with deep satisfaction. With a small crew of men he was completing the last day's work on a new road through one of the wildest sections of Utah, a project he had dreamed of for 11 years. It was to be officially opened on September 17, only two weeks away.

Suddenly Art jumped to his feet as a faint rumbling came to his ears, an ominous sound to one who knew what it meant. After listening a moment he yelled to his men.

"Hit for the rocks, boys, there's a flood coming down the wash!"

They didn't need a second warning. Hardly had they reached the safety of high ground when a wall of thick red water swept down the canyon, followed by another and another until the torrent was 15 feet deep. Traveling with high velocity it

soon gouged deep channels in the wash, undermined the banks and piled boulders on many sections of the new road.

This was the biggest flash flood in Art Chaffin's memory. He surveyed the damage with sinking heart. Would the official opening have to be postponed? He and his crew were marooned in the canyon, but they had a bulldozer and plenty of gas. They began cutting down steep banks and removing boulders in order to get their own cars out. By working long hours they finally repaired all the worst places. They were grimy and weary when I passed them on the morning of September 16. But the road was open.

Art Chaffin, who promoted and built this new scenic highway, has farmed, panned for gold, or built boats on the Colorado most of his life. As a young man he knew Cass Hite, whose story appeared in *Desert* in December, 1940. Hite, hermit of Glen canyon, first located at Dandy Crossing, as the place was then known, in 1883. He panned for placer gold and started a small ranch. A postoffice was established there during the gold rush of

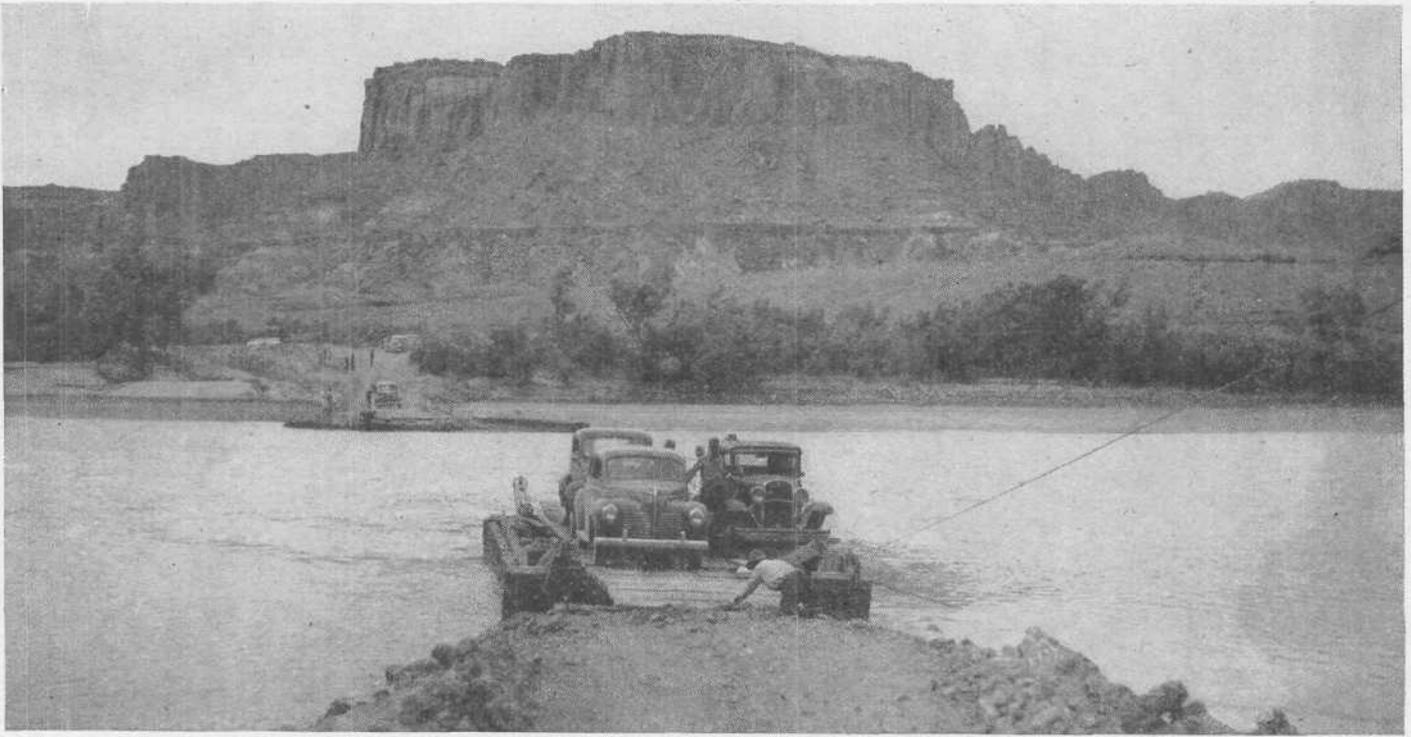
1898. After his death the camp at Hite was abandoned.

Eleven years ago, after mining in Nevada, Art Chaffin decided to move back to the river. He selected Cass Hite's old homestead as his permanent home. It was 55 miles from Hanksville, nearest town, and could be reached only by team and wagon down the rocky bed of North Wash. Everyone thought he was crazy; but he had a definite idea in the back of his head. Some day, he believed, a road would be built to Hite and thence east to Natural Bridges national monument, opening a vast new scenic wonderland. When that time came he planned to operate a ferry at Hite.

Starting from scratch, Art Chaffin and his wife did a real job of pioneering. First they built a home, all of native materials. Then they planted an orchard, beginning with cuttings from a fig tree, lone survivor of Hite's old orchard. New ditches had to be dug, fences built, land cleared of greasewood and plowed. A huge waterwheel was constructed from old auto frames to lift water from the unruly Colorado.

After five years of hard work the Chaffins had created a beautiful and productive little oasis in the desert, lacking only a road to make it perfect. Art persuaded federal road officials to make a survey, and in 1940 funds were set aside to build a road to Hite. But when everything seemed rosy the war intervened and the new highway was forgotten.

Art is a patient man; but after another five years of waiting he decided to do



Arthur Chaffin's new cable ferry across the Colorado at the place once known as Dandy Crossing.

something about his road. Single-handed and alone, without backing from any organization, and representing a district in which there were but two possible votes, he went to Salt Lake City to interview the governor and any other state officials who would listen. After many disappointments he found a friend in the person of Ora Bundy, head of the state publicity department, which had been allocated certain state funds for development of scenic areas. Eventually \$10,000 was appropriated for building 70 miles of road through

the roughest country outdoors, and Art was told to supervise the work.

That first \$10,000, of course, did not last long and Art went back for more. By sheer persistence he got \$80,000 and completed his pilot road on the day set for its official opening.

To understand the importance of this new connecting road, take a map of Utah and with Mt. Pennell in the Henry mountains as a central point, draw a circle to include Greenriver on the northeast, Blanding on the southeast, Richfield on the

northwest and Lee's ferry on the southwest. Within that circle, enclosing nearly half Utah's length, no road crosses from east to west. There has been no crossing of Colorado river between Moab on the north and Lee's ferry on the south, a distance by river of over 300 miles.

Airline distance between Capitol Reef national monument and Natural Bridges national monument, two of the state's scenic attractions, is about 90 miles; but visitors to Capitol Reef have had to travel by way of Greenriver and Blanding, a dis-

Harry Aleson and Ralph Badger at ruins of Indian fortress on the Colorado opposite mouth of White canyon. This relic first was seen by Major Powell in 1869.





Arthur Chaffin, who promoted and built the road to Hite.

tance of 291 miles, in order to reach the Bridges. The new road by way of Hite shortens this distance by 100 miles while adding the attractions of a gorgeous wonderland previously inaccessible to motor travel. When brought up to federal standard it will provide a new scenic loop unsurpassed anywhere. Travelers may turn east from U. S. 89 at Richfield and drive directly to Mesa Verde and other Colorado points, or turn south at Blanding to pass through Monument Valley to U. S. 66. By this route a National Parks loop will include Grand Canyon, Zion, Cedar Breaks, Bryce, Capitol Reef, Natural Bridges, Hovenweep and Mesa Verde, embracing in one trip a desert and mountain wilder-

ness almost unparalleled on this continent.

In order to report on this new route I attended dedication ceremonies at Hite September 17, crossed the Colorado on a ferry and continued east to Blanding. Since many *Desert* readers will be interested in the area opened by this connecting link, a detailed log of the road might be helpful.

From Sigurd, Utah, just north of Richfield on U. S. 89, Utah state highway 24 runs 60 miles east to Torrey, where the pavement ends. From Torrey to Fruita, headquarters of Capitol Reef national monument, where my trip started, are 12 miles of dirt road winding through an area of highly colored cliffs. East of Fruita

the road passed through Capitol Gorge 3.5 miles, a deep slit in the Reef so narrow that in places two cars cannot pass. Beyond lies a more open country where the Henry mountains come into view, with a foreground of painted desert and weirdly eroded buttes. Continuing across a colorful desert, Hanksville is reached at 45 miles from Fruita. This village, once a supply station for Butch Cassidy's Wild Bunch, has a gas station and lunch room but no tourist cabins. Fill your gas tank here, then turn south across a wide desert with the Henry mountains close on your right. In the broken country far to the left is Robbers Roost, famous outlaw hideout.

At 72.4 miles a small sign reads "Hite 30 miles." Turn left, leaving the older road, which continues three miles to Trachyte ranch, a place to remember in case of difficulty.

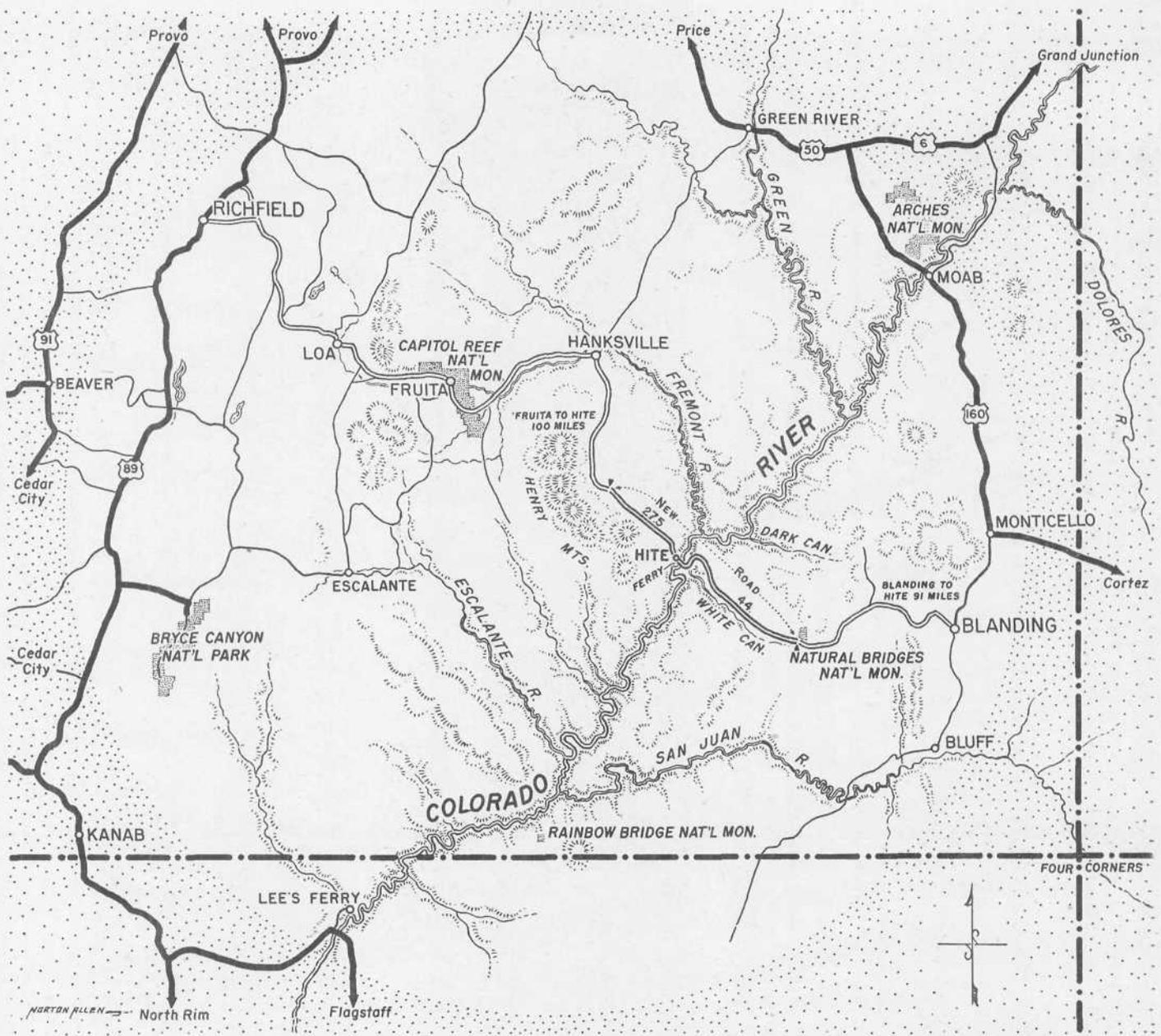
Between Capitol Reef and this turnoff (27.5 miles from Hanksville), the dirt road is winding and sometimes rough, but safe for travel except when wet or during August floods. The remaining 27.5 miles to Hite are over a new road recently made passable for cars but in no sense a motor highway. It soon enters North Wash and follows that red walled gorge to the Colorado. Some sections are rough, others are sandy, and in places one must travel down the dry stream bed. Sand gave me no trouble although a car coming up grade might have some difficulty. Rains and additional travel will soon compact this sand, making travel less hazardous.

At 83.7 miles a small tributary gorge called Hog canyon enters North Wash from the right. Here a spring furnishes the only water between Hanksville and the river. Near this water are Indian petroglyphs, and just below Hog canyon is a large cave containing painted designs and other traces of ancient man.

North Wash rapidly becomes deeper and wider, providing a better roadway. Near the river some spectacular buttes appear. Just beyond them at 93.5 miles the Colorado comes into full view and if it happens to be in flood the sight will take your breath. Here the road turns downstream for six miles, hugging the walls of what Major Powell named Glen canyon. This magnificent drive alone is worth the trip.

At 99.5 miles Trachyte canyon joins Glen canyon, forming a small valley in which Hite is located. At the left an old log cabin may be seen, last survivor of several built by Cass Hite. Nearby is the stone floor of his original home, later Hite post-office. On a ledge not far beyond (right) is this inscription: "Cass Hite, Sept. 19, A. D. 1883." Half a mile from the river (100 miles from Fruita) I reached the home of Art Chaffin.

During the afternoon and evening of September 16, over 100 cars and trucks



arrived at Hite, with 350 people, largest gathering ever to assemble at this isolated outpost. Twenty cars came in from Blanding bringing the San Juan county high school band. Charles J. Smith, superintendent of Zion national park, and his charming wife, invited me to camp with them under a pomegranate tree in Chaffin's orchard, where we spent a very pleasant evening.

Next morning at 10 o'clock dedication ceremonies were held with Ephraim P. Pectol of Torrey, Utah, as master of ceremonies. Among the speakers was Zeke Johnson, first custodian of Natural Bridges national monument, famous guide and authority on the San Juan country. Chief speaker of the day was Herbert B. Maw, governor of Utah, who announced a new state policy of building roads to purely scenic areas without regard to cities and towns. This road to Hite, he said, was among the first such projects and he hoped

many other areas, now inaccessible, would soon be opened to travel.

Ceremonies were concluded on the ferry barge, after which Harry Aleson, famous river rat, pushed off in a rubber boat with Ralph Badger of Salt Lake City, for a voyage through Glen canyon to Lee's ferry.

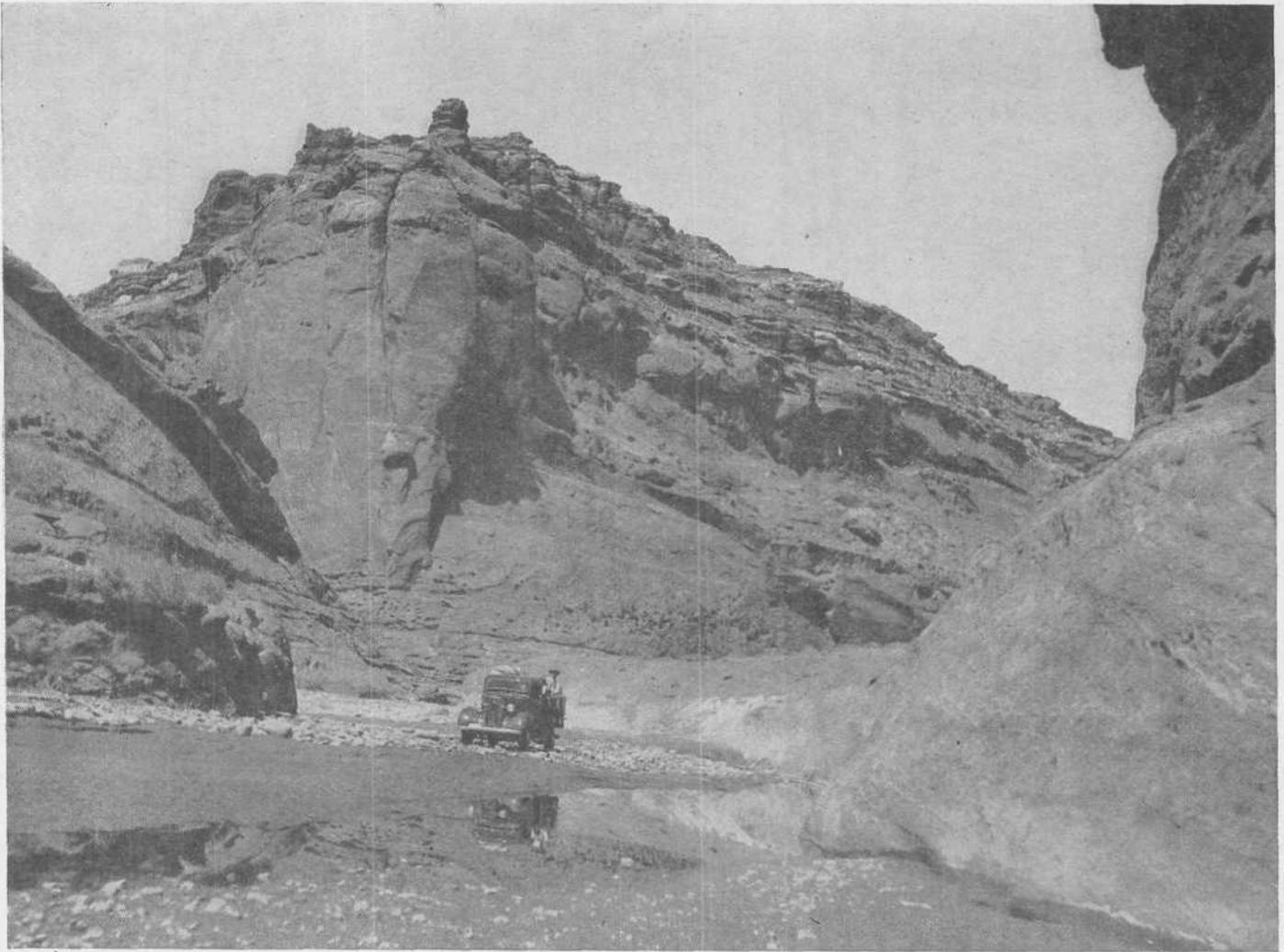
Twenty cars had lined up for the river crossing and these were soon being ferried over on the barge, accommodating two cars and powered by a Model A Ford motor. This place, known as old Dandy Crossing, was used after 1885 as a ford for wagons bound for San Juan county, after Hole-in-the-Rock crossing had been abandoned as too difficult. A ferry for wagons was operated at one time, but this occasion marked the first crossing by automobiles between Greenriver or Moab, Utah, and Lee's ferry, Arizona.

On the east bank the road runs along a cliff for about a mile to White canyon, passing beneath ruins of an Indian fortress

first described by Major Powell in 1869. Near this ruin is an inscription of the Powell expedition dated June 27, 1872, probably made by Frederick S. Dellenbaugh. Other rocks nearby contain names of many early visitors.

Crossing White canyon on a bridge the road continues a short distance to Farley's canyon, then turns east, intersecting White canyon several miles above. On this side it is good and appears safe for travel most of the year. White canyon provides a good roadbed with only minor danger from flash floods. There is no water on this route and a supply should be carried from Hite.

At 42.7 miles from Hite ferry a sign reads "Natural Bridges 1½ miles." Accompanied by Dr. L. D. Pfouts and Dr. W. H. Hopkins, I spent one day in the monument; but since these bridges are well worth a separate story I will not attempt to describe them here. Wiley Redd,



There was no road down North Wash in 1938 when the Julius F. Stone expedition drove this truck to the Colorado river.

custodian, has a camp just above Owachomo bridge which he and his wife occupy from May to October each year. He furnishes horses for the 8-mile circuit to Sipapu and Kachina bridges. Courtesies extended to us by Wiley and his wife were greatly appreciated.

Leaving this beautiful spot we continued toward Blanding over a road which has been in use for several years and is well maintained. It passes directly between the Bear's Ears, prominent landmark visible for many miles. From this high point one may look down into Monument valley, 50 miles south; to Navajo mountain dimly visible on the southwestern horizon and to the Henry mountains sharply outlined in the west. Toward the northeast are the Blue mountains, while between is an immense country of highly colored cliffs and canyons. Hidden in those canyons are thousands of cliff dwellings. From Grand Gulch alone museums have collected truckloads of relics. Many other ruins remain to be explored. Here occurred the last Indian uprising when Chief Posey was hunted down and killed.

After passing through part of La Sal

national forest we arrived at Blanding on state highway 47. Speedometer reading here was 93.8 miles from Hite or 194 miles from Capitol Reef. New construction between Hanksville and Natural Bridges totaled 70 miles but saved 100 miles between Capitol Reef and the Bridges. Turning north I visited Arches national monument, then returned to Fruita by way of Greenriver and Hanksville.

Within a few years the government is expected to build a standard highway over a route already surveyed, shortening this road and making it safe for all year travel. The present pilot road will be open nearly all winter between Capitol Reef and Hite but should be avoided during August floods. Due to high elevation snow will close Bear's Ears pass in winter. Otherwise the section between Hite and Blanding can be traveled with reasonable safety. There are no permanent residents along this road except at Trachyte ranch and Hite, so until travel increases it is advisable for two cars to travel together in case of breakdown. When materials are available Art Chaffin expects to build cabins at Hite, furnish horses for pack trips and a motor

boat for those who enjoy river trips. There is no gas station at Hite, but emergency gasoline usually can be obtained there. Chaffin has a good machine shop where necessary repairs can be made.

For those who like to get off the beaten path, I know of no road of equal length offering so many attractions to the rock-hound, color photographer, archeologist, historian or experienced desert rat. A week could be spent profitably at Hite. Natural Bridges alone are worth the trip, with Capitol Reef and the colorful Henry mountain country thrown in for good measure. In time this will become one of the most traveled loops in the West. Those who made the first automobile crossing at Hite on September 17, 1946, will then have the right to call themselves pioneers.

• • • Boy Scouts Will Make '47 Trek . . .

Utah's two ranking Boy Scouts, who are descendants of Utah pioneers, will be guests of Sons of Utah Pioneers on their centennial trip westward from Nauvoo, Illinois, along the Mormon trail. Scout executives will devise programs to select outstanding boy in each council.

Wild Pie Plant

By MARY BEAL

ON SANDY mesas, dry washes and river bottoms, the desert provides a satisfactory substitute for garden Rhubarb, attractive to the eye as well as useful to the larder. The stout juicy leaf-stalks in their tender stage of growth have a ruddy color and tart flavor similar to the well-known plant that has supplied pie-filling and sauce from great-grandmother's day to the present. The native tribes used these crisp fleshy stalks for sauce, stewed with sugar or roasted, and some of their white neighbors followed their example and found the food delectable. The large oblong leafblades were cooked for greens and the thick beet-like roots yielded tannin for treating pelts, the dried roots being ground and then leached to extract the tannin. These clustered dahlia-like tubers are so rich in tannin that the plant has been cultivated experimentally from Texas to California to test its value commercially as a substitute for tanbark. Success in that line spells preservation for the oak forests. The roots also were used by some Arizona Indians for colds and sore-throat remedies, and the old-time Navajo blanket weavers obtained a permanent yellow dye from the crushed roots.

Almost everyone knows this interesting versatile species as Wild Rhubarb or Wild Pie Plant. Occasionally you'll hear it called Canaigre, especially by those interested in its rich tannin content. Scientifically it bears the name

Rumex hymenosepalus

Usually a foot or two high but under superior conditions the plant may reach 3 feet. The oblong leaves are mostly near the base, 6 to 12 inches long, with somewhat undulate margins, the veins and thick petioles red or reddish, the stalks with the sheathing stipules typical of Rhubarb. The showy rosy panicle of numerous tiny flowers is about a foot tall. The blossom has no corolla but the sepals substitute for it so well that the cluster reminds one of Begonia blossoms. These 6 sepals on thread-like pedicels are disposed in two sets, the outer ones being very small and reflexed, the 3 inner ones much larger, roundish-ovate, strongly cordate, of a very thin texture in beautiful soft shades of rose color, notably ornamental against the pale sands they inhabit. The fruit is a small triangular achene. This species is common on dry washes and plains of the Southwest and very abundant across the border in Lower California, in places covering large areas like a planted field. Another similar species is

Rumex crispus

Curlyleaf Dock, or Curly Dock, as it is known in everyday parlance, is naturalized in most of temperate North America, having emigrated from Europe, most frequently found in low places, along ditches and streams, but reported up to 8000 feet in Arizona in similar environments. It is a smooth, hairless plant 1 to 4 feet high, with dark-green herbage, growing erectly from a half-fleshy, deep-yellow taproot. The stems are rather slender, sometimes with erect branches above or merely simple stems. The larger lower leaves are 6 to 12 inches long, oblong to lanceolate, the margins strongly wavy-curved, the upper ones being smaller and narrower. The small greenish flowers are arranged in crowded dense whorls to form a narrow panicle, the mature round-cordate sepals reddish in color. The root has astringent and tonic properties for medicinal use, and the tender young leaves can be cooked for greens, but the bitterness must be eliminated by parboiling the leaves and then changing the water to finish the cooking. Curly Dock is identified easily by its extremely wavy leaves and where the desert provides its fav-



This species of Wild Rhubarb, *Rumex hymenosepalus*, is common on dry washes and plains of the Southwest.

orite habitat of moist ground you may make its acquaintance in any of our Southwest deserts.

Rumex violascens

Mexican Dock as it commonly is called, is another Rhubarb that prefers low moist ground and has crossed the Mexican border wherever suitable conditions invite immigration, all along the line from Texas to the Colorado desert of California, the Colorado river valley presenting an especially desirable lure.

From an elongated taproot the dark-green, red-tinged stem ascends a foot or two, sparingly branched or simple. The lower leaves are spatulate to narrowly oblong, 2 to 4 inches long, obscurely wavy-margined; the upper ones linear-lanceolate and reduced in size. The leafy-bracted flower panicle is rather narrow, made up of dense flower clusters arranged in interrupted ascending racemes. It may not display a lively radiance but it adds a noteworthy interest to its surroundings for a longer period than do most of the more brilliant flowers, its soft reddish hues being in evidence throughout spring and summer.

New Fish, Game Laws Suggested . . .

Nevada Associated Sportsmen, newly organized group, met in Babbitt, government community built near Hawthorne during war, to perfect a new fish and game code for state. Code will be presented to next legislature. Many changes were advocated. Anti-game waste law would make it an offense to shoot game birds or animals, or catch fish, and let them lay on the open range. Deer hunter would be required to present carcass, hide and antlers before having his tag validated. Hunting big game with .22 caliber rim-fire rifles, fully automatic guns, pistols, shotguns and 25-20 rifles would be prohibited. Hunting with bow and arrow would be legalized. Fishing law would be amended to permit using lures and up to three hooks on a line. Frogs would be included among game animals.

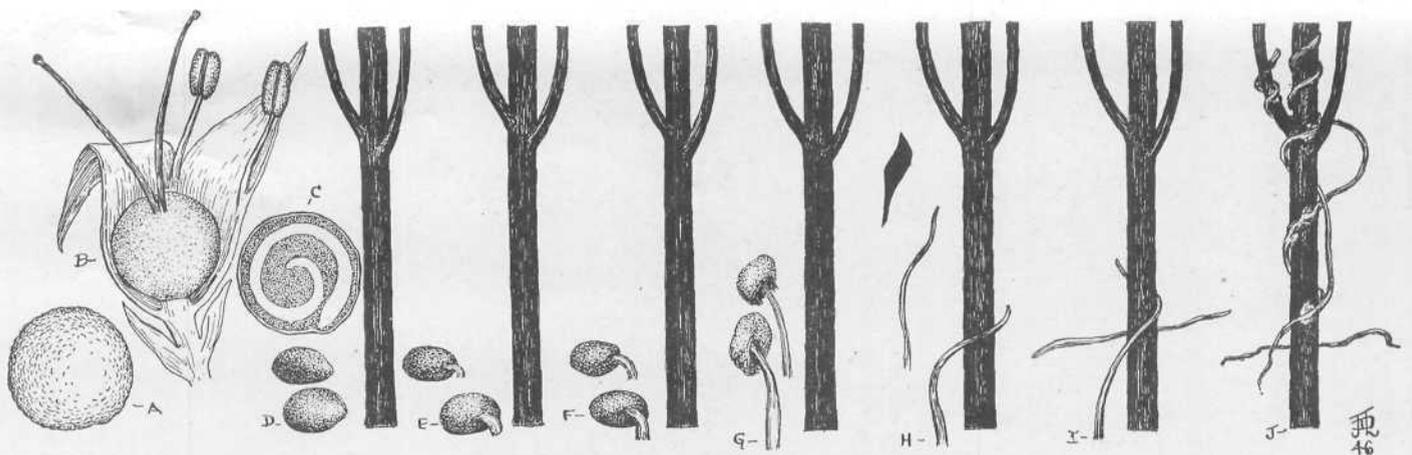


Fig. 2—Adventures of the *Cuscuta* seed. A, the seed magnified. B, the flower sectioned to show the capsule. C, a seed split to show the embryo. D to J, career of a lucky seed; in background one that never found a victim to cling to.

Career of a Botanical Thief!

I AM about to reveal the true character of an attractive malefactor that hides a thoroughly despicable nature beneath a golden exterior. Most folks are completely deceived by this vegetable thug. It certainly fooled me and it wasn't until I came to the desert that I learned the fantastic story behind the tangled masses of yellow threads we frequently see festooning the roadside shrubbery in summer.

Back in Missouri we called the growth "love-vine" and its uses were extremely limited. According to rural folk-lore, if you doubted your qualification as a cavalier you could settle the point by tossing a strand over your shoulder, being careful not to look at it again for a week. If it "caught hold" and grew everything was O.K. otherwise your rating as a Lothario was practically zero.

We hardly thought of the stuff, actually the twining stems of any of several species of dodder or *Cuscuta*, as being a plant at all. I knew farmers cursed it up one strand and down another whenever they saw its yellow blaze in a clover field.

But I never became seriously love-vine conscious until I came to Arizona. One summer morning I rode into Wickenburg with a neighbor who owned a piece of alfalfa land along the Hassayampa. It was about ready to cut and the combination of lavender flowers and silvery-green foliage looked very pretty, especially at one place where nature had spread herself artistically and the love-vine ran riot among the alfalfa. The combination of gold, green and lavender made me ache for watercolors and a sketch block. I said something to this effect and my companion's answer came as a withering look and a complete exposé of this plant's underhanded way of life. His discourse can be boiled down to the statement that "this is one of the ornriest parasites in the State of Arizona." He might well have added "or anywhere else."

It is a curious fact that several of the

It belongs to a very respectable family, this botanical outlaw called dodder, but sometime in the prehistoric period its ancestors devised a scheme for living off the sap produced by other plants—just as humans occasionally do. Now it has become not only a first rate nuisance, but a costly parasite when it invades alfalfa and clover fields. Jerry Laudermilk tells us how this thief of the plant world carries on its parasitic existence.

By JERRY LAUDERMILK
Drawings by the Author

higher plant families—ten at least—show a sort of human streak in their makeup and are only too ready to live at the expense of some more industrious host-plant. These retrogressive types have developed certain peculiar methods for stealing sap and so are freed from the necessity of making their own starch and sugar and other food materials. Some of these vegetable pirates, of which the desert plant, white ratany, *Krameria grayi* is a good example, rob their neighbors through curiously specialized outgrowths on their roots. Others such as mistletoe, *Phoradendron* of several species, penetrate the stem-bark of their victims by way of modified absorptive structures or "sinks." It is remarkable how this leaning toward parasitism crops out among members of some of the best families of the vegetable kingdom.

Take for instance the grapes or *Vitaceae*. This old and noble race would seem to be a shining example of vegetable integrity. But persons who know something of the private lives of grapes are apt to say "H-mmmm" when a novice brings up this aspect of the subject. The fact is that grape seedlings take to parasitism like ducks to water.

A regular practice in certain phases of grape culture as followed in France, is to start new plants by inserting seeds under the bark of old stock just above the ground level. The seeds soon sprout and send their roots down through the tissues of the stock and the young plant lives as a parasite until the roots reach the soil when it reforms and lives as any decent grapevine should.

Several years ago this whole subject of parasitism was investigated by experts at the Desert laboratory at Tucson and some strange things discovered about respectable plants whose tendencies toward parasitism come as a shock. Several species of prickly pear, *Opuntia*, including the common staghorn cholla, *O. versicolor*, were made to grow as parasites on the melon cactus, *Echinocactus* sp. and on saguaro, *Cereus giganteus*. Even the mescal, *Agave* sp. could be coaxed from the straight and narrow path. But some of the most sensational results were obtained when a rather rare Arizona plant, first cousin to the grapes, called Ivy treebine, *Cissus* sp. grew on several species of cactus with great abandon.

Several conditions were found to favor parasitism. One of the most important was ability of the cell-sap to pass through the cell walls by diffusion or osmosis; a plant with cell-sap of a greater osmotic strength might become parasitic upon the cells of a host with weaker cell-sap. The subject is very complicated to treat properly without a great deal of detail, so I will move along with the love-vine case.

There are more than 160 distinct species of this plant, which has representatives in all parts of the earth between latitudes 60 north and 45 south. *Cuscuta* is a member of the morning glory family or *Convolvulaceae* where its nearest relations, the bind-weeds, grow as perfectly honest if troublesome weeds. But *Cuscuta* long ago threw all self respect overboard along with most of its ability to manufacture chlorophyll, the green coloring substance necessary for

any plant's self support. I'll have more to say about this later.

In Arizona and California there are about 20 species of *Cuscuta*, most of which show preferences in their choices of victims. One common species, *C. californica* shows a liking for wild buckwheat, sagebrush, scale-broom and greasewood. *C. denticulata* favors creosote bush, burroweed, etc. *C. campestris* is especially bad and causes considerable damage to clover and alfalfa. In the absence of its favorite victims, *Cuscuta* is ready to steal from practically any plant it can cling to.

The life history of *Cuscuta* is peculiar and indicates that it chose a parasite's way of life ages and ages ago. Since this life history really is a cycle it is something of a problem to know just where to begin. We may as well commence by having a glance at *Cuscuta's* physical make-up.

The plant grows as a tangle of orange or yellowish threads that look as if a ball of yarn had been blown into a bush. But if you look closely you notice that the threads have a certain system. They not only are draped over twigs and branches but in many places they twine around the stems. In early summer all you see are the tangled strands but later—about the first of September—the flowers develop and then you find an arrangement such as that shown at F in Fig. 1. The flowers themselves are insignificant white things about three-sixteenths of an inch long in most of our common species. But they are perfect flowers with stamens and pistils as shown in Fig. 1 from A to E. Now, to return to F again, we see a piece of the stem of a host, here scale-broom, *Lepidospartum squamatum*, with the entwined stem of *C. californica*. The leaves have been reduced to tiny scales without any familiar leaf structure except the stomates: microscopic valves for ventilating the tissues beneath the epidermis. The most remarkable structures are the haustoria by which the parasite penetrates the bark of its victim. As shown at X the haustoria grip the stem firmly, almost like the feet of a caterpillar. At G is a cross section of an haustorium and the stem of the host at the point of contact. At H the section is more highly magnified to show the specialized cells at J; these are the ones that actually steal the sap. Now for the life history:

The ripe *Cuscuta* seeds, Fig. 2 A, are tiny brown objects about half the diameter of a pin head. The embryo is a simple filament coiled once or twice but without any sign of cotyledons or seed-leaves—just a simple strand of tissue. After the seeds fall they show no sign of life until late spring or early summer of the next year. Apparently they wait until the neighboring plants are far enough along for victims to be plentiful and handy for the young *Cuscutas*. The seeds finally sprout and the club-shaped ends of the seedlings sink into

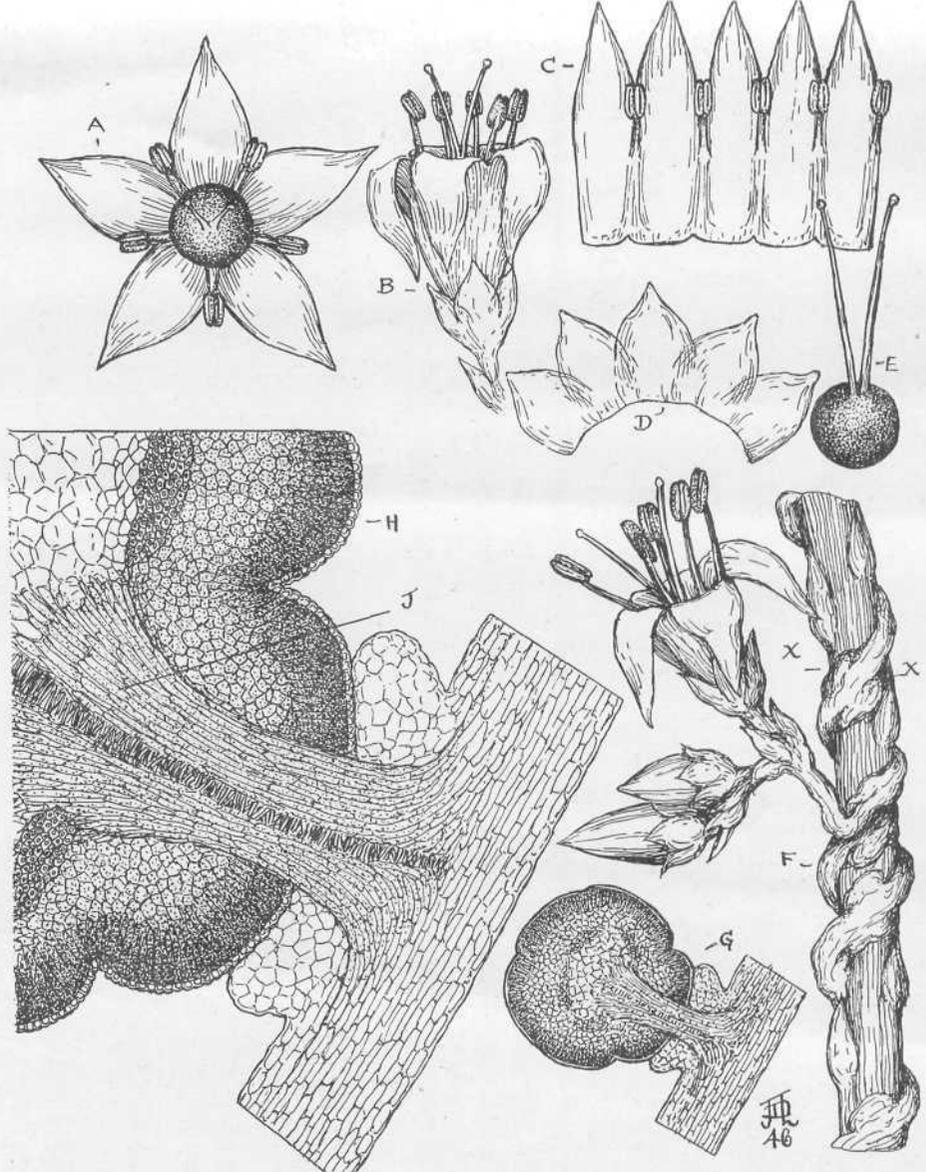


Fig. 1—Physical make-up of love-vine or *Cuscuta californica*: A to E parts of the flower: A, B the flower in two views. C is the corolla spread out, D the calyx, E seed capsule. F is part of the stem of a host-plant with *Cuscuta* entwined. Haustoria or robbing organs shown at X, X. Section through host and haustorium shown at G. Same more highly magnified at H. Robbing cells shown at J.

the ground and hold tightly but do not take root. Next they begin to elongate and seem to feel around for a victim. After such a luckless plant falls into its clutches *Cuscuta* grips it with a stranglehold and at the first turn develops an haustorium and its career is firmly established. The section of the seedling below the haustorium sometimes entwines another stem but usually dies. In any case, the young *Cuscuta* now has no connection with the ground; its sole support being the stem of its host. Soon the familiar tangle of yellow love-vine results. The adventures of the seedling are shown in Fig. 2 from D to J.

Any seed that fails to find its victim goes through all the phases of sprouting, etc., but finally topples over helpless. Its vitality is remarkable but unless something favorable develops it gives up the fight after three or four weeks.

Although chlorophyll normally is produced by the developing seeds, *Cuscuta* must have the sap of a host in order to live. If forced to do so some species can make

a little chlorophyll and so show the beginning—or maybe the last traces—of honorable enterprise. I once tried some experiments along this line using shoots of scale broom overgrown with *Cuscuta*. When these were furnished with an ample supply of water and sunlight a remarkable thing occurred: As the parasite used up the reserve sap in the twigs it began to consume more and more water and the strands changed from yellow to green indicating that the urge to make a go of things had not been entirely lost. So far as my experiments went this was all there was to it. The plants died without making good their promise to behave. But here would seem to be a golden opportunity for some experimenter to coax *Cuscuta* back into respectable plant society. What would such a self-supporting plant look like? It might be worth trying to find out if a vegetable black sheep could become an upright member of its family—the family in this case being the useful and highly respectable morning glory.

LETTERS...

Bugs of the Desert . . .

San Fernando, California

Dear Mr. Henderson:

The mention of the desert insect, "Baby Face," on the Letters page of your January magazine, brought to mind the following incident and I wondered if there could be any connection.

Some years ago while surveying on the Cascade ranch at the northwest corner of this valley, we uncovered what we first thought to be a Jerusalem Cricket. The coloring was the same and it was a little more than two inches long. Later in the day a ranch hand brought us a Jerusalem Cricket and then we noticed quite a difference in the bodies and heads of the two insects. The round face of the first one did attract our attention although we didn't think of a baby at the time. The ranch foreman placed them in different bottles to show them to a man in the Farm Bureau office who was versed in such things. He reported back that the first insect was called Vinegarones or Sun Spider and supposed to be harmless.

At the ranch we were told that on the Mexican border there was a similar insect that is supposed to be poisonous.

S. G. CHAMBERLIN

More Fossils from Afton . . .

Concord, California

Dear Sir:

The letter by Donald Ingalls in the December issue about finding petrified dung at Afton canyon parallels an incident that occurred last year.

In October, 1945, I picked up a silicified bone in Afton canyon.

Dr. V. L. Vanderhoof, paleontologist of the University of California identified the piece as being the toe bone of a prehistoric camel.

CHARLES W. PARK

When Snake Kills Snake . . .

Los Angeles, California

Desert Editor:

Addison Clark's story of his friend Bill, the king snake, in your January issue recalls my experience with another killer snake, the red racer. Not everyone knows that a racer also will kill a rattler.

The racer is long and slender, very swift and graceful—and it has teeth. I know, because I caught one once too far from his head, and he cut a gash in my finger.

In 1886 my Indian friend Andreas Trahulio and I were out on the reservation north of Temecula, California. We were sitting on a rock waiting for the bucks to complete an encircling operation in a rabbit drive. There was a commotion in a nearby patch of weeds and when we went

to investigate we saw a large red racer holding a rattler by the throat. It had coiled around him and was gradually tightening its coils. Soon the buzzing of the rattler ceased, and the racer uncoiled and released its victim. We examined the rattler—and it was dead.

To confirm a hunch, I made a careful examination of the grass in the area, and saw two baby racers glide away. The mother racer had attacked the rattler to protect her young.

T. P. TOWER

Another Field for Rockhounds . . .

Hollywood, California

Dear Mr. Henderson:

In the honorable and ubiquitous fraternity of rockhounds, I would probably rate no more than an associate membership. However, on occasion, I do pick up rocks; and on one of those occasions recently I stumbled onto something that might be of interest to others.

In Mono county, California, is a road (a portion of State Highway 120) that cuts across from U. S. Highway 395 to U. S. 6, a distance of roughly 50 miles. At its westerly end it joins U. S. 395 about five miles south of Leeving. Its easterly end joins U. S. 6 at a point about 36 miles north of Bishop.

A few miles of each end have been oil-surfaced; the intermediate portion is graded—and that is all. The soil is sandy and the sand has a tendency to be deep in spots. The western portion of the road skirts the hills south of Mono lake, affording some interesting views of that most unusual body of water—a lake in a desert.

I traversed the road from west to east, and had reached the surfaced portion at the eastern end when I noticed a scattering of coal-black pebbles in the lighter colored sand along the road. Their appearance was so striking that I stopped to investigate.

The pebbles had a dull surface and appeared water-worn. Looking about for a clue as to what they might be, I found one that had been broken. It showed the vitreous lustre and conchoidal fracture that is typical of obsidian.

A mile or so farther on I stopped again, this time on a hump that gave a view of the road for considerable distance in both directions. About a quarter-mile ahead and to the left was a windmill for watering stock. Two or three miles away, also on the left, was a dry lake bed that gleamed pure white in the sunlight. This appears on some maps as Adobe lake.

On top of the hill the pieces of obsidian were larger and more broken, and also in greater variety. Many of the chips were translucent with darker markings. In some

the markings were without form, resulting in a mere cloudiness; in others they were gathered in groups producing an effect somewhat like that of moss-agate; in still others the marks were in narrow, parallel bands. Another type was opaque, but mottled black and brown. All these were in addition to the ordinary jet black variety.

This spot also provides something of interest for the pebble-puppies. Scattered about are numerous pieces of pumice, a rock so light that it will float on water.

If you choose to enter the road from the west, the junction is posted, and is further identified by the presence of a large stock-coral and loading chute. In entering from this end, be sure there is gasoline in your tank, for there is none along the road. And water—but then, you know about that.

A. W. STEVENS

Gold in Every Badger Hole . . .

Encinitas, California

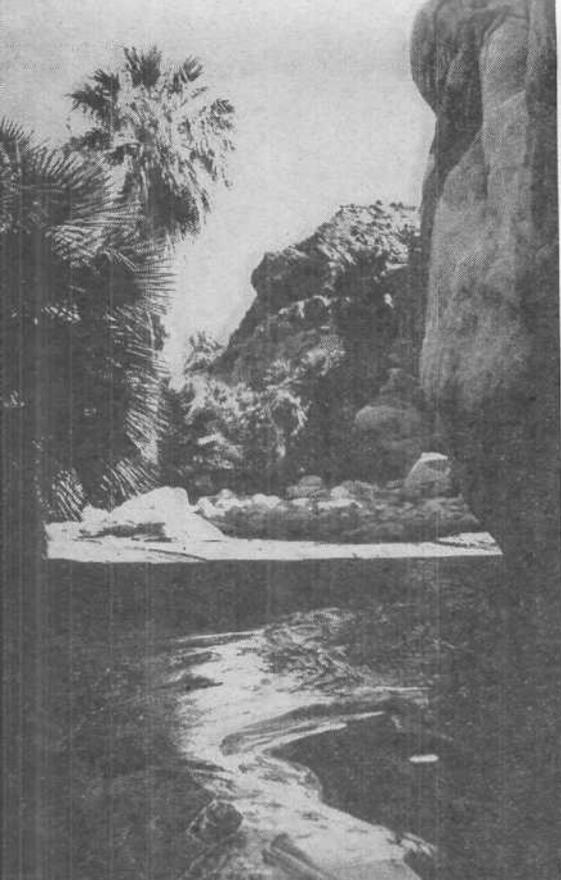
Dear Mr. Quick:

Concerning H. E. W. Wilson's article in the November number on the Pegleg gold deposit, I would like to put in my contribution. Before the war I was parked with my rock trailer beside the highway between Boise, Idaho, and McCall lake. One of my visitors was a gentleman from Caldwell who showed me several nuggets that conformed in every way with the Pegleg gold. They were smooth, not with the erosion of water but more with the result of heat action and were covered with a coating of iron oxide, turning the outside almost black. When I asked him if he had rediscovered the Pegleg, he only laughed.

Pegleg himself was delirious when he gave his description of the mine, and I am inclined to believe it. But the story by the squaw, I view with a grain of salt. I give an example. I was prospecting in Lowery canyon, Nevada, when an Indian was supposed to have found a gold specimen dug out of the hillside by a badger. I treated that Indian like a long lost son. Filled him up with fatted burro until he resembled a base drum. Filled him up with—shall we say—tea, until he howled at the moon like a coyote, and he led me to numerous badger holes. I came to the conclusion that this specimen must have been made up of ore picked up on top of every badger hole on that hill. When my supply of tea—and patience—ran out, he drifted on to look for another sucker. So if that squaw said the Pegleg was on the west slope of the valley, I would earnestly look over the ground on the north, east and south.

I have hunted for Spanish mines all over central America. They never were bonanzas. The Spaniards had a cute little trick of grabbing an Indian, working him until he died, then looking for another. Even with mining methods in vogue in those days, you could work very low grade ore at a profit that way.

GEO. W. CHAMBERS



Looking through the rock portal in Palomar to one of the many scenic palm vistas.



The glyphs in Palomar were dim with age, and the author chalked the one on the left for photographic purposes.



The rugged terrain of the Palomar country held no terror for these sturdy little cars.

Palms of Palomar

The little jeeps which the army is now selling as surplus have made accessible some of the desert regions formerly reached only by burros — and burro travel is rather slow for ordinary weekend exploring trips. Driving ex-army cars, the author and five companions recently penetrated the desert wilderness on the gulf side of the Lower California peninsula—and found a lovely canyon in which they counted 1719 native palm trees, and many other things which will interest the clan of outdoor enthusiasts.

By RANDALL HENDERSON

FIFTY miles south of the California-Mexico border is Palomar canyon. That is, it is 50 miles by the route a pigeon would fly. If one tries to go there by car, the distance depends on how many bad guesses the driver makes in detouring sand dunes, impassable arroyos and various other topographical obstacles.

For there is no road to Palomar. One just follows a Mexican woodcutter's tracks in a southerly direction across the great level floor of Laguna Salada—and when the tracks play out at the lower end of the dry lake, one keeps on going for another 15 miles by whatever route seems most feasible. And that brings you to Palomar canyon—if you have followed the right compass reading.

I have been in Palomar three times in the last 12 years—and the route becomes more difficult each trip. But I will go there again sooner or later, for that wild canyon in Lower California has a fascination it is hard to resist.

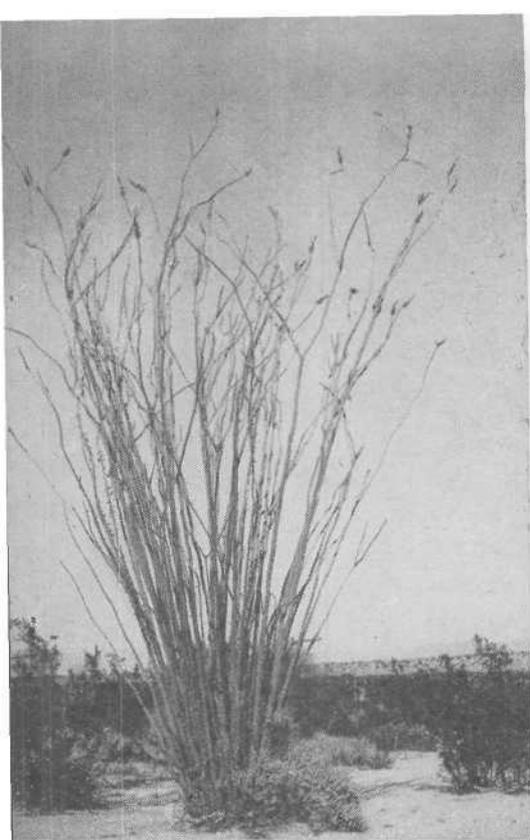
In Spanish, Palomar means pigeon house, or nesting place of the doves. It is a pleasing word, and I can well understand why the Sonora white-wings chose this canyon as a retreat for their nesting season. It is a lovely canyon—well-sheltered and in the spring of the year scented with the fragrance of a hundred species of wildflowers. Also, this canyon is all but inaccessible. I doubt if its rocks have ever echoed the blast of a hunter's gun.

It had been 11 years since I last dug my car out of the sand on a hot May day far up in Palomar canyon. On that occasion I spent so many hours shoveling sand there was little time left for exploration. And now I wanted to go back in my jeep and really get acquainted with this canyon.

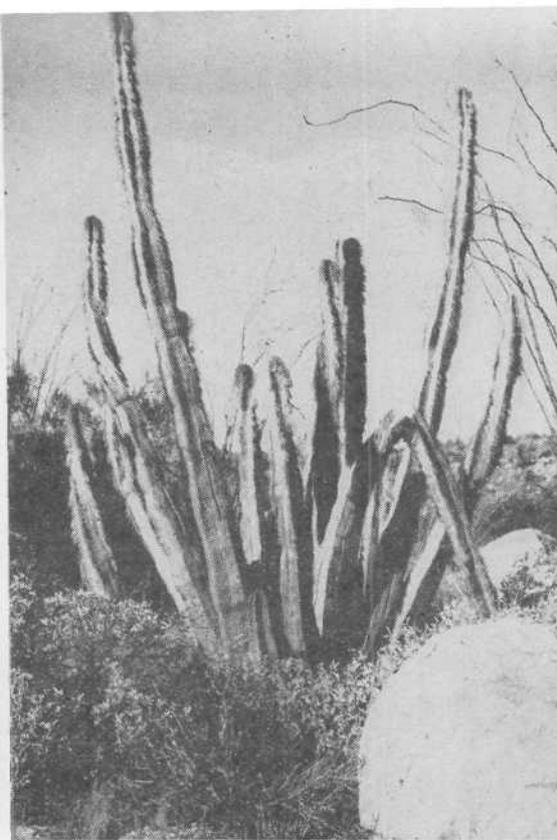
My old pal of the desert trails, Arles Adams, was eager for the trip. He had never seen Palomar. And when we broached the subject to Luther Fisher of the U. S. Border patrol his question was, "When do we start?" Luther also has a surplus army jeep—and on such an expedition two cars are safer than one. Our companions were Bill Sherrill, also of the Border patrol, Maclovio Vasquez of Mexicali, and David Larson, amateur photographer.

Thanks to the courtesy of Mexican immigration officials, we were able to cross the jeeps and our camping outfit at Calexico port with little formality. The cars carried extra gasoline, 10 gallons of water, shovels, tow-chains and a box of food—including a generous quantity of tortillas supplied by Maclovio.

Out of Mexicali we took the old Cantu road—built by a former governor of Baja California to connect the rich delta city of Mexicali with Tijuana near the Pacific coast. The first 20 miles were on graded road through the cotton and grain fields of Mexican farmers. Then we climbed to the summit of the low ridge which connects Mt. Signal with the Cocopah range. From this



This ocotillo was found in blossom in mid-winter in Baja California.



*The senita cactus, *Cereus schottii*, wears long bristles on its stems.*



This elephant tree was photographed on a slope above Palomar canyon.

elevation we could look south across the great inland basin of Laguna Salada which has been dry for the last six years, and now has a smooth floor as hard as paving.

For 18 miles we rolled across this natural roadway—our only guide being the dim tracks made by trucks of the woodcutters who scour the bajada around the old lake for dead ironwood and palo verde to stoke the fires of Mexicali.

James O. Pattie, trapper and adventurer, nearly perished on this great salty flat in February, 1828. He and members of his party had come down the Colorado river in canoes, trapping beaver as they traveled. They expected to find Spanish settlements at the mouth of the river where they could dispose of their beaver skins. But they found only Indians—the Cocopah and another tribe which they called Pípi. So they abandoned their canoes, buried their furs, and with two Indian guides started across the Lower California peninsula toward San Diego on foot. With no containers in which to carry water, they suffered critically before reaching the snow-capped Sierra Juarez range on the west side of the lakebed.

"What with the fierce sun and the scorching sand, and our extreme fatigue," wrote Pattie, "the air seemed to have extracted every particle of moisture from our bodies . . . We attempted to chew tobacco. It would raise no moisture. We took our bullets in our mouths, and moved them around to create moisture, to relieve our parched throats. We had traveled but a little farther before our tongues had become so dry and swollen that we could scarcely speak so as to be understood. In this extremity of nature we should, perhaps, have sunk voluntarily, had not relief been still in view on the sides of the snow covered mountains."

But Pattie and his companions bore their hardship, and eventually reached one of the canyons where water trickled down to the floor of desert—as it does today in nearly all the canyons which drain from the Sierra to the desert plain.

We spun over the hard smooth floor of the Laguna at 40 miles an hour, and arrived in mid-morning at the little stick-in-the-mud house where Manuel Demara, aged Mexican recluse, maintains a well for the small herd of cattle which graze on the bajada between lakeshore and mountains.

Manuel was not there, but his larder was well stocked with food. Long strings of it were drying on the clothesline back of the dwelling—a six months' supply of jerky.

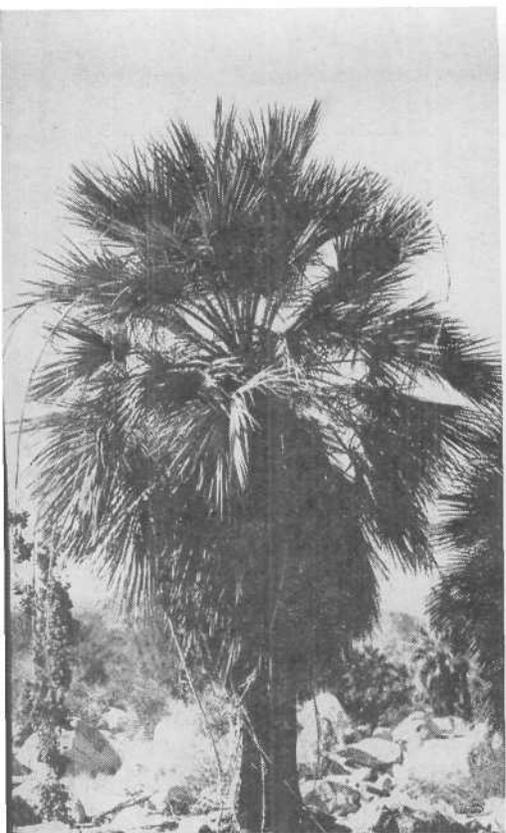
Beyond Demara's well we had to choose our own route and break our own trail. For the road which once crossed the sand dunes at the lower end of Laguna Salada has long since been covered by blow sand, and no car has crossed the barrier for many years. We decided to skirt around the dunes if possible, keeping between them and the base of the Sierra. It was a long rough detour, but after 15 miles of such terrain as only a jeep could navigate, we finally dropped down a steep slope to the floor of Palomar arroyo. After leaving the lakebed our travel had been through a forest of tree cholla, sometimes with the growth so dense the spiny stems would break off and tumble into the car as we grazed them. With three in the front seat of the jeep—the back was full of food and bedding—it was impossible to get through this garden of cactus without some scratches.

But it was a mild winter day with a warm sun overhead. And the jeeps plunged along into washes and over steep banks and through sand and rocks and cactus as if they were enjoying the conquest of this wild terrain as much as we were.

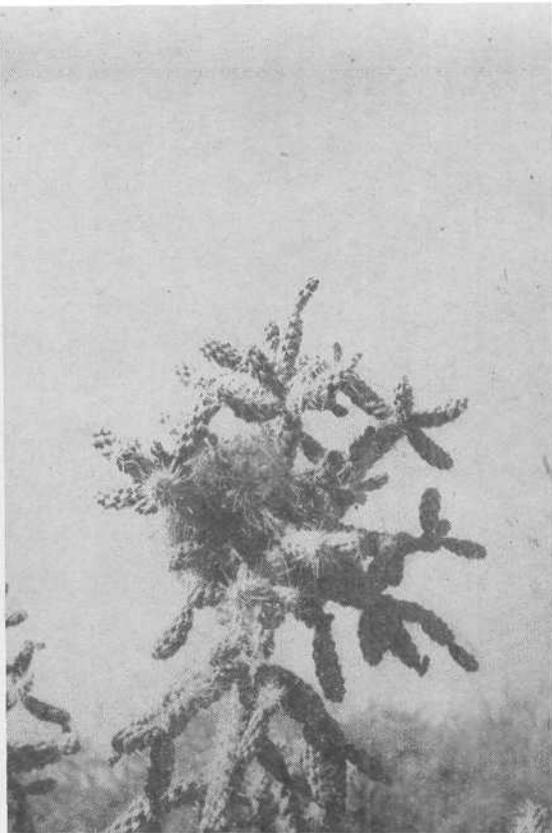
As the only member of the party who knew the location of this canyon, I was leading the way. I am sure Fisher, following my crooked and circuitous trail must have thought more than once his guide had gone completely loco. But eventually we came to the daddy of all the washes—and that was Palomar.

This canyon drains a big area of the desert slope of the Sierra Juarez. Its chasm comes down out of the mountains in a northeasterly direction, and having reached the floor of the plain, swings due north toward its outlet in Laguna Salada. We entered the wide arroyo 10 miles below the point where the canyon emerges from the mountains. The arroyo at this point varied from a quarter mile to a half mile in width. It is a huge water course, and yet there was no evidence that any great deluge of water had come down the channel in recent years. On the contrary, the floor was covered with mature desert willow, ironwood, palo verde, ocotillo, creosote and cholla which grew more densely as we approached the mountains. One of those great storm torrents which come to every desert arroyo sooner or later—sometimes after a lapse of 50 or 100 years—would sweep out much of this growth in a few hours.

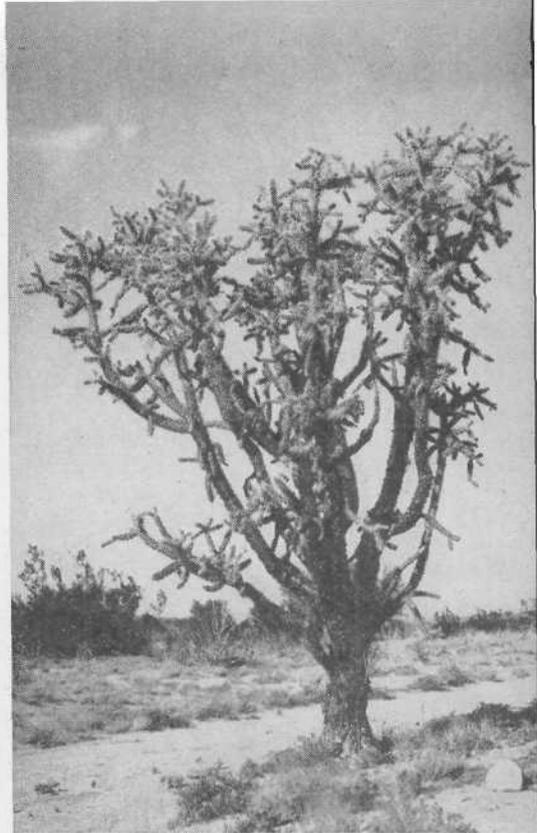
We followed a dry sandy stream course that wound among the trees, first on one side of the wadi and then on the other. Then suddenly the gently sloping banks on either side of the channel changed to vertical stone walls. Our arroyo had become



Note the heavily loaded fruit-stems of this Palomar canyon blue palm.



Not only the doves, but also cactus wrens find a nesting place in Palomar.



Opuntia cactus takes the form of dwarf trees in Lower California.

a canyon. And there we saw the first of the native palms which extend along the floor of the gorge deep into the Sierra.

A dignified *Washingtonia* 40 feet in height, stood squarely in the middle of the canyon entrance, a lone sentry on outpost duty. No—sentry isn't the right word, for a sentry is an armed guard whose presence is a warning of military authority and carries the implication of force. There was no suggestion of martial law in this grand old palm of the desert. Its mission was one of peace—it symbolized the dignity and beauty which prevail in the natural scheme of things. But it had a deeper significance than that. A palm on the desert means that water is near. We humans erect ugly signboards to clutter up the landscape. Nature's artistry is more subtle. She grows a palm. Man-made signboards are not always reliable. Sometimes they remain long after the waterhole has dried up. But if the water at the roots of that palm should disappear, its fronds would soon wither and die.

We stopped beside the friendly tree for lunch. Then we continued up the canyon, but not far. The boulders soon became too big and numerous even for our four-wheeled desert packrats. So we parked them in a pretty vista of palms growing at the base of a cliff, and continued up the canyon on foot.

Two miles up the gorge we came to flowing water—the place where the stream seeps into the sand and disappears. Here the canyon narrowed down to a rocky portal only 20 feet wide. There are many Indian petroglyphs on the cliff walls just below this portal. Most of them were dim with age, and in places the original wall on which they had been placed had fractured and broken away, leaving them incomplete. Some of them were on inaccessible rock faces. The elements and possible earthquakes have changed these walls greatly during the hundreds of years which have intervened since the Indian artists pecked their designs in the granitic schist. The predominating design resembled an Indian cradleboard. There is much wildlife in this region—deer, antelope, mountain sheep, members of the cat family, and many birds—but I found no animal design among the glyphs.

Later we saw further evidence of prehistoric Indian occupation in the morteros and metates which marked ancient campsites. In general, the formation of this canyon is schist, and the Indian utensils had weathered badly. Bill Sherrill found what

appeared to be a complete olla smashed on a rock. He gathered up the pieces to be taken home for possible reassembly with a glue pot. It is a more fascinating game than a jigsaw puzzle.

Below the point where the stream sank into the sand there were only occasional palms, but along the banks of the live stream above there were dense forests of them. We had time that afternoon only for a preliminary glimpse of the lower canyon. Before dark we returned to the cars to prepare the chicken tacos which our Mexican companion had brought along for camp supper.

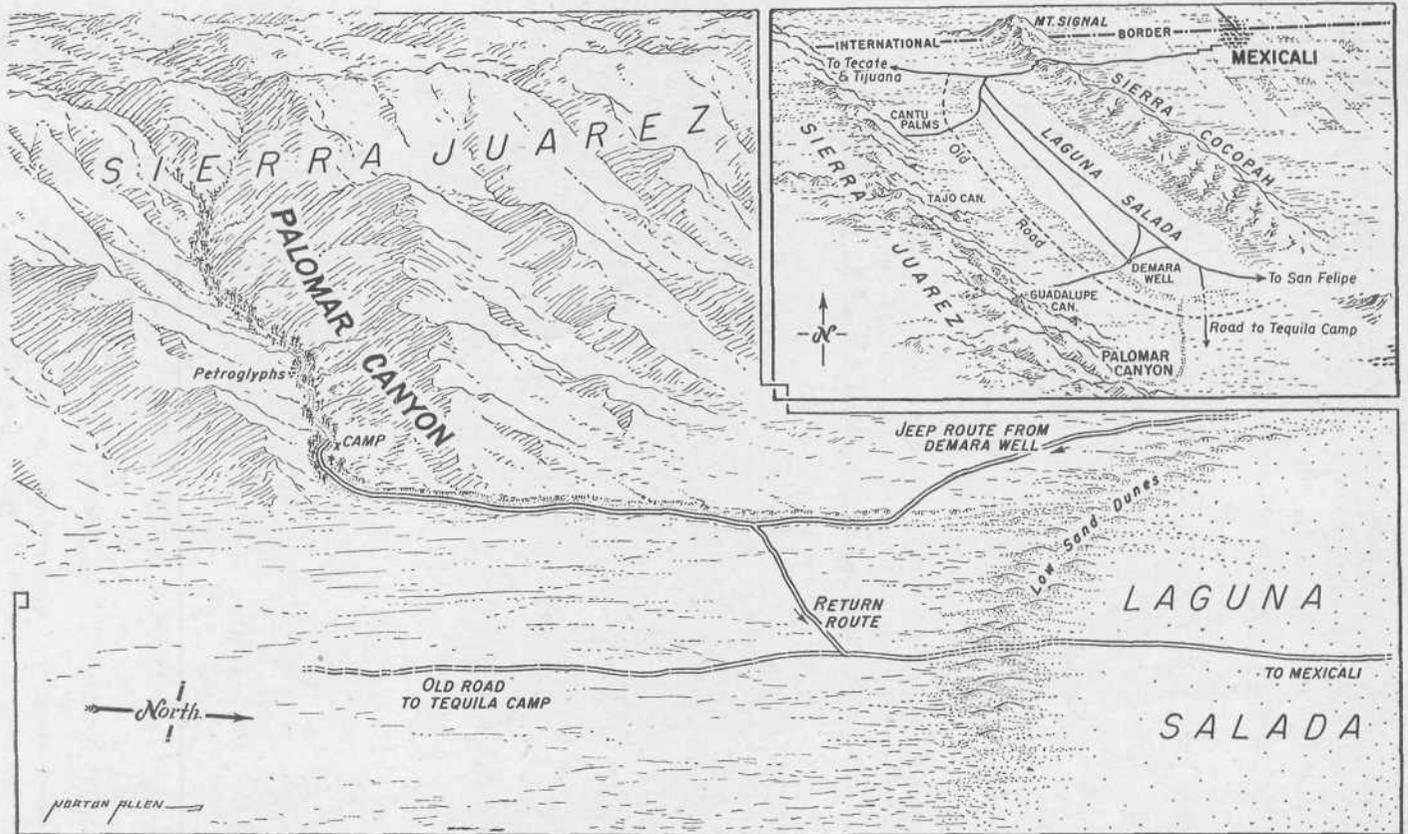
We slept that night on the sandy floor of the canyon, with a gentle breeze rustling the dead palm fronds overhead, and the next morning were away soon after daybreak for a more thorough exploration of the canyon.

For purposes of checking the extent of the palms in the canyon, three of us carried mechanical counters. These recorded a total of 1719 palms in a distance of eight miles upstream from the camp. At that point the canyon divided into two main tributaries, and while there probably were more *Washingtonias* in the branches above, we lacked the time to explore farther.

In the eight-mile forest of *Washingtonias* I found four of the Sonora blue palms, *Erythea armata*, which is conspicuous among the *W. filiferas* because of its low stature and the bluish-white cast of its fronds. Only one of the four was a mature tree, but its stems were laden with an extra heavy fruit crop, as if it had conspired with Nature to increase its species as rapidly as possible, and gain a more prominent place in the tree population of this canyon.

Although we were only 50 miles south of the border, we found some botanical species never seen in a wild state on the California desert. One of these was the blue palm. Another very conspicuous stranger was the senita cactus, *Cereus schottii*, whose great thick stems grow somewhat after the manner of the organ pipe cactus in southern Arizona. The stems grow from the ground in great clusters, sometimes six or eight feet in height. The most striking characteristic of this cactus is the growth of long coarse bristles on the ridges of the fluted stem. Apparently Palomar marks the northernmost habitat of this cactus.

On one little bench above a jungle of palms, I photographed a natural cactus garden showing five species in a single picture—the senita, a species of prickly pear, buckhorn, hedgehog and



bisnaga. On the slopes overlooking the canyon was an occasional elephant tree. The botany of the area was the characteristic growth of the Lower Sonoran zone—with the mesquites, palo verde, ironwood and willow being especially prolific.

Arles hiked over a ridge to a tributary canyon and reported he found more palms there, including some of the *E. armata* species. I know of but one canyon on the Colorado desert north of the border where palms are found in greater numbers than in Palomar—and that is the famous Palm canyon near Palm Springs.

On my first trip to Palomar 12 years ago, it was more accessible than today. At that time I crossed Laguna Salada and then



Capture the Rainbow

IN 1947

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

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

CANYON VOYAGER IS MISSING . . .

Last October 26, observers at the foot of Bright Angel trail in Grand Canyon saw a rubber boat with one occupant floating downstream in the Colorado. The man in the boat waved, but made no effort to land.

This episode, told in a brief news dispatch at the time, has remained a mystery until this week when a letter to *Desert Magazine* from Harry L. Aleson, veteran river man, partly explained the circumstances.

The man in the boat, according to Aleson, is believed to have been Charles Roemer, identified only as a Hungarian engineer. On October 19 the man appeared at Marble Canyon lodge in Arizona and told the owner, Art Greene, he intended to run the Grand Canyon in a rubber boat. Greene tried to dissuade him, but when the man persisted, agreed to take him and his equipment to the river near old Lee's ferry. The stranger would not give his name, but Greene noted a luggage tag marked Charles Roemer, with a New York City address.

At a trading post Roemer bought two loaves of bread, two Bermuda onions and five small packages of raisins. With no other known food supplies and no safety equipment, he started a hazardous river trip which usually takes well-organized boat parties from two to three weeks. Distance through Marble and the canyons below is 280 miles, followed by a 75-mile trip the length of Lake Mead.

After the boat was sighted at Bright Angel trail, 89 miles below the starting point, the National Park headquarters at Grand Canyon chartered a plane at Williams, Arizona, and cruised up the river from Cataract canyon to the Bright Angel crossing.

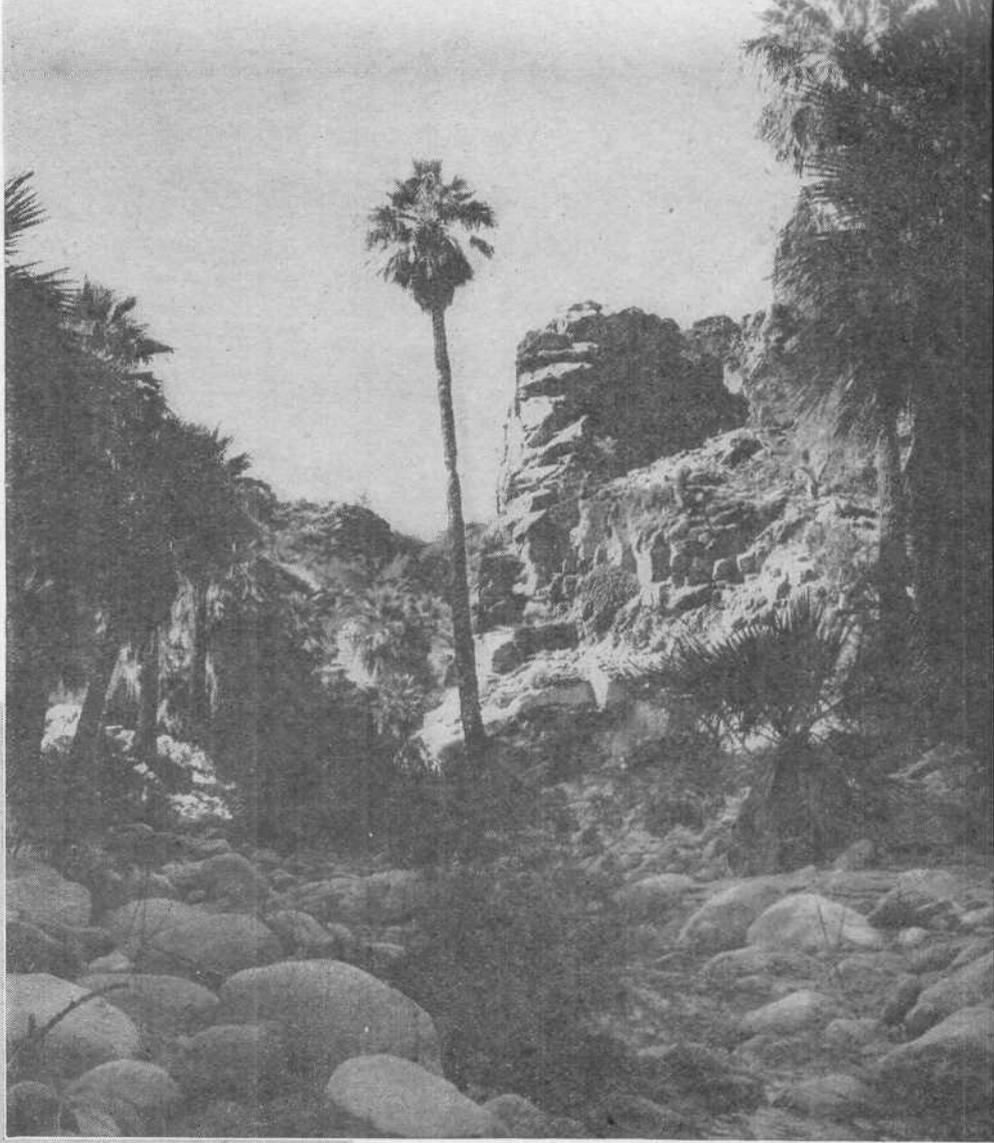
Beginning October 30 Aleson with an outboard motor traversed Lake Mead and the lower canyon in quest of some evidence of the missing man, but without success. His fate remains a mystery.

continued south over the mesa on a road that led to a place known as the Tequila camp, 25 miles south of Palomar canyon. At this camp Mexicans were making the highly potent tequila from wild maguay or century plant harvested from the hillsides. But the tequila mill was closed before the war, and the road has not been traveled by a vehicle for five or six years. Several miles of it at the edge of the dry lake have been swept away or covered with sand.

The old tequila camp road passed within two miles of the entrance to Palomar canyon. We decided to return over that route.

There was no difficulty following the old

At one place the palms grow in orderly lines along the stream as if they had been planted there.

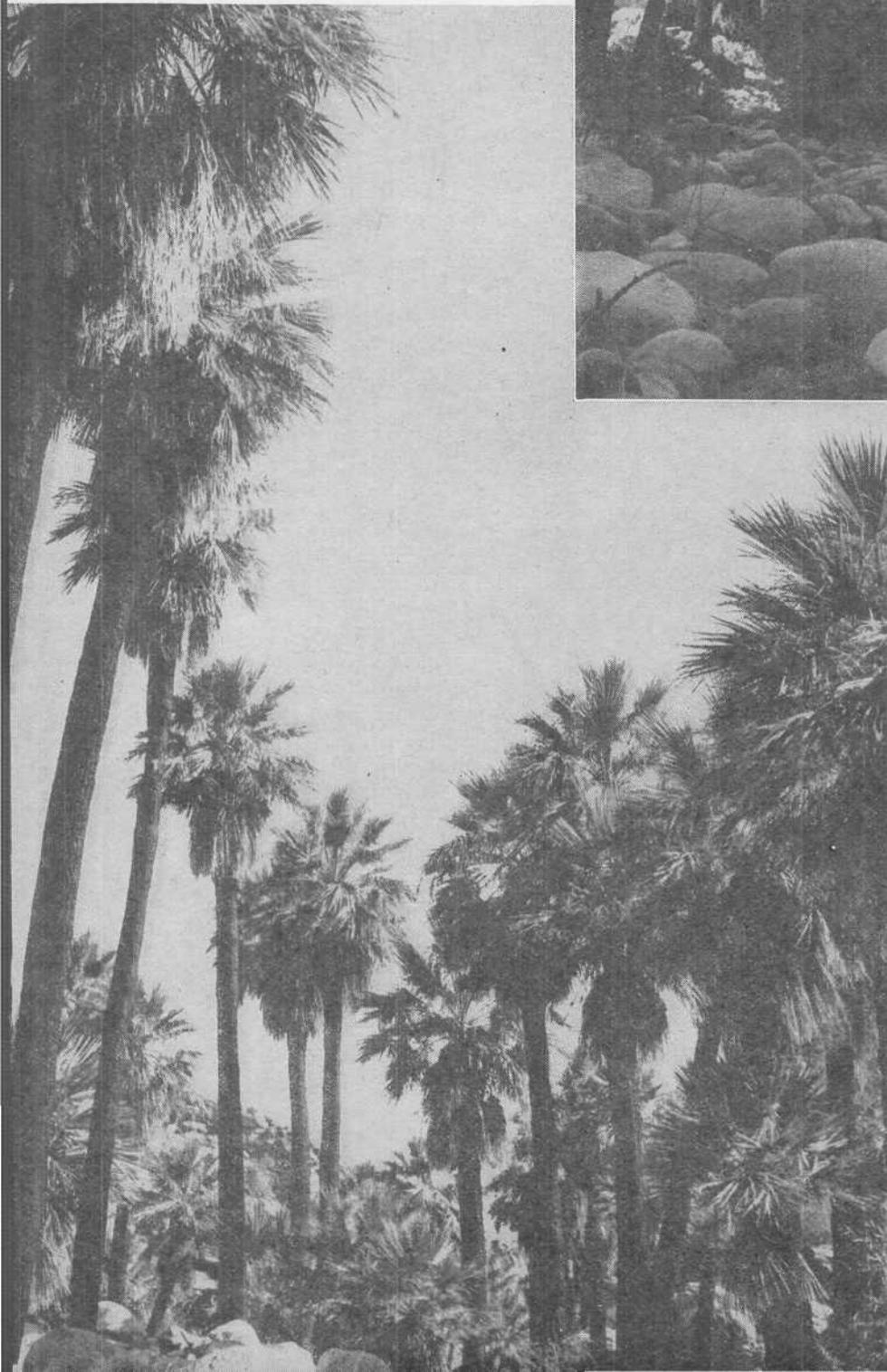


This aged Washingtonia in Palomar canyon probably is 150 years old.

ruts as long as the road remained on high ground. But when it began to lose elevation as we descended to the Laguna Salada basin it was almost impossible to follow the trail. Storm water had converted the former ruts into small arroyos, and in places we had to park the jeeps and scout ahead to see if we could pick up the road again on higher ground. As we approached the floor of the Laguna the trail disappeared entirely, and we floundered among tall salt weeds and miniature sand dunes. Again we were grateful for the extra gears in those little battle wagons.

Eventually we came to the tracks of a woodcutter who had ventured out into the area, and these led us to hard ground on the lake bottom. From that point it was comparatively smooth riding back to our starting point at the Mexicali-Calexico port of entry.

Since the trail to Palomar is too rugged for woodcutters, and the Mexicans as a rule do not venture into such difficult terrain merely for the fun of it, it probably will be months, perhaps years, before the stately palm at the entrance to Palomar witnesses another invasion of white campers. In the meantime this remote canyon will remain just what Nature obviously intended it should be: a wildlife sanctuary—a place of tranquil loveliness—a nesting place of the doves.



Mines and Mining . . .

Washington, D. C. . . .

President Truman expects the atomic control commission to operate through existing agencies, according to a letter to Senator Elbert D. Thomas of Utah. This means that United States bureau of mines will probably handle development and mining of uranium, according to Senator Thomas, who sought the information while urging action on a uranium project in southeastern Utah which has been idle since creation of atomic control commission.

Salt Lake City . . .

Assured iron ore reserves in Iron and Granite mountains and Twin Peaks regions of Iron county were estimated at 350,000,000 tons by Paul T. Allsman, chief of Salt Lake mining branch of United States bureau of mines. Speaking before Utah section of American Institute of Mining and Metallurgical Engineers, Allsman added that assumed ore in same district brings probable reserve to 500,000,000 tons. Ownership of reserve is estimated at 40 per cent each by Columbia Steel company and Colorado Fuel and Iron corporation, the balance belonging to many interests.

Mojave, California . . .

Diatom plant at Rosamond has been taken over by Gypsum Incorporated. New operators plan to produce hard wall plaster, wall board and gypsum lathe under copyright name, "Roseite." Company is said to own 12 gypsum mines in California, Arizona and Nevada. Production of perlite board, an acoustic wall board using diatomous material, and gypsum soil conditioner also is planned. Plant is expected to employ 150 men on 24-hour basis. Former operators were Hall company of Santa Ana.

Boise, Idaho . . .

W. C. Roberts, 86, of Boise is offering a gold mine to anyone who will go out and find it. Roberts told reporters that years ago, when herding sheep in Camas county, about five miles north of Corral, he picked up a rock. A later assay showed \$800 gold per ton and substantial silver values. Roberts still thinks he might locate spot where he picked up the rich ore, if he could camp out there a few days. But he is getting old and feels it his duty to tell the public of the rich deposit.

Indio, California . . .

Ownership of West's biggest iron ore deposit, the Iron Chief claims in Eagle mountains, is in litigation. The 2700 acre tract with estimated 100,000,000 tons of ore was recently sold to Kaiser interests for \$1,132,811, by Edward T. Foley. Charging that Foley was coerced and that real value of property is \$9,000,000, Foley's partner Harlan H. Bradt, president of Riverside Iron and Steel company, has refused to relinquish the land. Foley filed suit to validate sale, while Bradt filed cross-suit aimed at halting it. Deposit, 12 miles northwest of Desert Center, is said to yield ore that can be put directly into blast furnace. Kaiser plans open pit mine similar to that in Minnesota's Mesabi range, with 100 employes producing 3500 tons daily.

Fillmore, Utah . . .

Deposit of high-grade pumice in foothills southeast of Sevier lake is being worked again after lapse of 57 years. Utah Pumice company, headed by Byron A. Ray, has built a spur track and 3½ mile highway, and resumed shipments last made by Ray's father in 1889. Outcropping covers 40 acres of patented land to unknown depth. Test pits indicate minimum of 250,000 cubic yards of pumice. Pumice is used in lightweight concrete, abrasives, plastics, acoustic plasters, and manufacture of vinegar.

Sigurd, Utah . . .

Large gypsum plant will be constructed at Sigurd by United States Gypsum company, with operation scheduled to start in the spring. Plant will be located on 920 acres containing extensive deposits of superior quality gypsum, said to have enough tonnage to last 100 years. According to William L. Keady, company president, plant will manufacture plaster of all types, gypsum tile, sheetrock, rocklath and sheeting.

Bishop, California . . .

Operations at Monte Cristo mine, Mammoth, were suspended for winter after a heavy snow slide killed two mine staff members and heavily damaged office, cookhouse, staff house and other buildings. Bodies of Lloyd Young, mechanic, and Paul M. Laipple, accountant, were found under five feet of snow after two days of intensive search. Slide came from Mammoth ridge to east of buildings, splitting into two sections. One was about 75 feet wide, the other 700 feet wide and five to seven feet deep.

Tonopah, Nevada . . .

Ownership of a deposit of banded rhyolite, known as Nevada Wonder Rock, 23 miles east of Tonopah has reverted to original locators, Charles Joseph and Louis Cirac of Tonopah. Carloads of the rock have been shipped to coast points. It takes a good polish and the colorful banded structure makes it adaptable to many ornamental and decorative purposes.

Installation of 360 horsepower diesel engine brings capacity of Desert Chemical company's plant at Dale lake near Twentynine Palms to 900 horsepower, according to Ray Owen, plant manager. Finishing vats of the company, producing sodium sulphate and sodium chloride, now comprise 16 acres. Production of the expanding enterprise is expected to reach 100,000 tons of sulphate in 1947.

Carbon county, Utah, contains 29.7 per cent of total coal reserve in the United States, and 14.9 per cent of world's reserve, J. A. Theobald told members of Utah Society of Professional Engineers at recent Salt Lake City meeting.

James W. Wade, president of Tintic Standard Mining company was elected 1947 president of the Utah Mining association at annual meeting of organization in Salt Lake City, December 16.

THE COST OF LIVING HAS JUMPED!

THE USE OF ELECTRICITY HAS JUMPED!

BUT YOU'LL FIND THAT . . .

Electric Costs Don't Jump!

Before the war, butter cost less than half of what it costs now . . . and that goes for almost all commodities—except Electric power. Although electrical appliances are in use more than ever before, Imperial Irrigation District is delivering electricity at pre-war prices. District electricity is now, as always, one of the cheapest bills on the family budget.



HERE AND THERE... on the Desert

ARIZONA

Navajo Break Ancient Tradition . . .

HOLBROOK—When they attended funeral services for Indian trader Justus W. Bush, 30 Navajo Indians broke with tribal customs many centuries old. Navajo have a superstitious dread of dead bodies. Funerals are conducted with a minimum of ceremony. Prior to the war, few Navajo had ever attended the funeral of a white man. Jack Nez, Silver Star veteran, who was first paratrooper to land in Normandy, explained their presence. "We had to attend the funerals of our dead comrades, white men, in the Army. We had no bad luck from it. We all knew Mr. Bush since we were little kids. He was our friend. We are here to give him our friendship at the white man's funeral ceremony." Bush, 75, died of a heart attack while working alone to free his car from a sandy wash near Castle Butte road, five miles north of Joseph City. He was believed to have been prospecting for semi-precious stones. Bush owned the Dilkon trading post from 1913 to 1943.

Bloodhounds Find Rockhound . . .

GILA BEND—Ground search party, using bloodhounds from Arizona state prison, found Asa B. Karns, Pasadena teacher and amateur mineralogist alive and unharmed after an all night search in a wild and desolate section of the desert. The 62-year-old teacher was discovered shortly after planes from Luke army airbase had joined search. Hunt began after he failed to return from a prospecting trip to a camp which he had established with a companion. He had been missing from Saturday to Monday morning.

School Schedule Reversed . . .

FLAGSTAFF—Parks rural school, 15 miles west of Flagstaff, closed for the year on November 29, after holding its Christmas party. School will open again on April 1, 1947, and conduct classes through summer. Reason for reversal of usual school schedules lies in difficulty of transporting students over snow-clogged mountain roads in winter. Mrs. Jessie Whitney is teacher and the school has an enrollment of 50 pupils.

Flag Raising Commemorated . . .

MESA—Two hundred direct descendants of the Mormon battalion took part in ceremonies celebrating the 100th anniversary of first raising of the American flag in Arizona. Flag was raised by battalion at Tucson on December 16, 1846, after the Mexicans retreated without a battle. Ceremonies were held at Mesa, site of Arizona's Mormon temple. Speakers recounted story of battalion's march from Council Bluffs, Iowa, to San Diego, California.

Organ Pipe Cactus Park? . . .

AJO—Campaign to change Organ Pipe Cactus national monument to a national park has been undertaken by Ajo chamber of commerce. The 300,000 acre area along international border was set aside because it contains what is said to be the only stand of organ pipe cactus in United States.

No Snow Blocks at Flagstaff . . .

FLAGSTAFF—Big snow plows are going to keep Highway 66 near Flagstaff clear of snow all winter, according to Andy Matson, president of Arizona unit, Highway 66 association. So sure is the association that highway will be usable 24 hours a day, it is offering to pay all expenses of motorists stopped by snow at Flagstaff, for period of their delay.

Prospects for Camels . . .

QUARTZSITE—Bill Keiser, retired prospector and one of the few remaining residents of Quartzsite, plans to spend winter months hunting wild camels in the Arizona desert. Bill is certain that descendants of some of animals Jeff Davis brought over for his camel brigade experiment still roam the wastelands. "Just a few days ago," he declared, "a prospector found fresh camel tracks in the hills a few miles from here."

Water for the Wastelands . . .

PHOENIX—From Washington comes the suggestion that atomic energy may eventually be harnessed to turn the western deserts into fertile farmlands. Economists in the department of interior do not regard the idea as entirely visionary. One of the possibilities is that nuclear power might be used to purify ocean water which would then be pumped inland to the desert wastes. President Truman recently created a research board "to insure that scientific personnel, training and research facilities of the nation are used most effectively in the national interest." Practical application of atomic power will be one of the main considerations of the new board.

IN BORREGO VALLEY . . .

Having sold our interest in the Desert Lodge, Rancho Borrego, we wish to advise old friends and guests that we no longer are at the Lodge. As soon as building conditions permit we plan to provide guest accommodations at our Tub Canyon ranch in Borrego valley, where we are now living.

. . . Noel and Ruth Crickmer

Arizona Baptists have put in a bid for surplus Thunderbird field No. 1, near Phoenix. They want former army installation as site of denominational college.

DESERT COLOR SLIDES . . .

Beautiful 35mm 2x2 color desert slides of Colorado Desert Area: Palm Springs, Seven Palms, Coachella-Indio Palms, Borrego Desert in breath-taking verbenia bloom, and restful, peaceful California Painted Desert. Six gorgeous slides \$2.50—with Professional Viewer \$5.00.

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PALM SPRINGS, CALIF.

CALIFORNIA

Desert Area Wants Supervisor . . .

RIVERSIDE—Revision of supervisorial districts of Riverside county to place all desert area in one district has been proposed by Palm Springs chamber of commerce. Chamber's plan calls for moving western line of the fourth district, in which entire eastern two-thirds of the county lies, from a point west of Beaumont to vicinity of Cabazon or Whitewater. There never has been a supervisor from desert section, and the Palm Springs group points out that desert country has risen to \$37,576,750 of the county's total assessed valuation of \$138,157,480.

Caretaker Supplied By Air . . .

BISHOP—Jim Carnahan, 82-year-old caretaker of Gold Standard mine in Saline valley, is now well supplied for the winter. Carnahan, marooned for two months by impassable roads, was down to his last handful of beans when Mrs. Cleora Monteith became queen for a day on a radio show. Mrs. Monteith who, with her husband A. E. Monteith, owns the mine, requested that supplies be sent to the caretaker by air. Pilot Harland Ross made several landings in a small Cessna at mine and furnished startled caretaker with food and publicity.

Incorporation Fight in Court . . .

BARSTOW—State supreme court was scheduled, on January 7, to ask San Bernardino county board of supervisors to show cause why board should not incorporate Barstow. Barstow residents charge that county illegally threw out more than half of 586 signatures on an incorporation petition. County ruled that property of Santa Fe railroad was part of the land involved, and included improvements valued at several million dollars. Court is expected to clarify whether land means real property alone, or includes improvements.

Suspension Bridge Started . . .

BLYTHE—Construction on 1020 foot suspension bridge which will carry 30-inch gas line across Colorado river, is under way. Work started on Arizona side in mid-November, with completion planned for May, 1947. Foundation of bridge will be sunk 100 feet below level of river. Back span of 410 feet on Arizona side and 425 feet on California side will be erected and two 900 ton anchors will hold the bridge. Pipe will be 45 feet above water at mid stream, carried by 2¾ inch suspension cables. Pipe line will carry natural gas between Santa Fe Springs, California, and Jal, New Mexico.

Valley Income Highest . . .

INDIO—Coachella valley's per-acre income was \$803 in 1946, first among irrigated areas in the southwest, according to Bureau of Reclamation crop report. Specialty crops, such as dates, grapes and citrus were largely responsible for high returns. Per-acre 1946 income from other areas listed were: Salt River valley, \$195; Yuma project, \$185; Imperial Valley, \$175; Gila project—\$172 for north and south Gila valleys and \$91 for Yuma Mesa project. All areas had higher incomes than in 1945.

Rubber Made on Desert . . .

BANNING—Between 1,000,000 and 1,500,000 pounds of guayule rubber are now being produced in plant of Grand View ranch, between Banning and Beaumont. Eleven hundred acres were planted to guayule four years ago. Rubber plant, installed in a barn on the ranch, uses a new process in extracting the rubber.

Aleman Promises Railroad . . .

CALEXICO—Peninsula of Baja California will be connected by railroad to interior of Mexico within one year, according to sources close to newly inaugurated president Miguel Aleman. Line will run from Mexicali to Santa Ana, Sonora, to connect with main Southern Pacific line. Completion of line would end centuries-

old isolation of the peninsula from rest of Mexico. At present, shipment by rail from interior of Mexico must travel to Nogales and come in transit through the United States to Baja California.

Improve Joshua Monument Roads . . .

TWENTYNINE PALMS—Road construction and improvement costing \$7000 was com-

pleted in Joshua Tree national monument in December. Chief item was rerouting of section of road from highway 60-70 to Twentynine Palms, in Cottonwood pass area. Road has been taken out of wash and swung from fan to fan. Much grading and repairing has been done in Wonderland of Rocks and Pinto basin areas. Custodian Jim Cole has submitted a tentative budget of \$35,520 for 1947 road work.

DESERT QUIZ

The desert Southwest is a great recreational area to which nearly every American goes sooner or later. Since much of it is still public domain, it belongs in part to every American citizen. Your enjoyment of this great natural resource can be greatly increased by a better knowledge of its geography, mineral resources, history, people and flora and fauna. And that is the purpose of Desert Magazine's monthly quiz—to help you become better acquainted with the desert country. The average non-desert dweller will not answer more than 10 of these questions correctly—but it is no disgrace to be wrong. And after reading Desert a few months your score will improve. Fifteen correct answers is a high score. Eighteen indicates an exceptional knowledge of the desert. The answers are on page 35.

- 1—Lowest natural elevation in the desert Southwest is in— Salton Sink.....
Death Valley..... Humboldt Sink..... Grand Canyon.....
- 2—Indians of the Southwest found the Chuckawalla lizard useful as— Food.....
Household pets..... A source of poison for arrows.....
Skins to be used for making war drums.....
- 3—Most conspicuous mountains to be seen from Springerville, Arizona, are—
San Francisco peaks..... Funeral range..... White mountains.....
Superstition mountains.....
- 4—The old Chisholm trail became famous as— The route of westbound gold-
seekers..... Spanish trail from old Mexico to Santa Fe.....
Trapper's route down the Gila river..... Cattle trail from Texas to Kansas.....
- 5—Wupatki is the name of— An Indian tribe in Utah..... A town on the Hopi
mesas..... A famous Apache Scout..... A National monument in Arizona.....
- 6—United States park service is in the— Department of Interior.....
Department of Agriculture..... Department of Treasury.....
Department of Commerce.....
- 7—Most expert dry farmers among the Indian tribesmen of the Southwest are
the— Papago..... Navajo..... Hopi..... Yuma.....
- 8—Capital of Utah is— Provo..... Salt Lake City..... Ogden..... Cedar City.....
- 9—One of the following species of trees found in the Southwestern desert is not
a native of North America— Smoke tree..... Elephant tree.....
Tamarisk tree..... Mesquite tree.....
- 10—Granite is a— Sedimentary rock..... Igneous rock.....
Metamorphic rock..... Conglomerate.....
- 11—To travel from Phoenix to Los Angeles by the shortest paved route one
would take— U. S. Highway 60..... U. S. Highway 66.....
U. S. Highway 80..... U. S. Highway 99.....
- 12—The name Dellenbaugh is best known because of its association with—
Capture of the Apache Chief Geronimo..... Construction of Boulder dam.....
Navigation of the Colorado river..... Discovery of silver at Tombstone.....
- 13—Hematite is a form of— Copper ore..... Iron ore.....
Silver ore..... Tungsten ore.....
- 14—El Tovar is the name of a famous hotel at— Las Vegas, Nevada.....
Grand Canyon..... Palm Springs..... El Paso.....
- 15—Arrastre is a Spanish-American word associated with— Mining.....
Pottery making..... Irrigation..... Hunting.....
- 16—Desert mistletoe never grows on one of the following trees—
Mesquite..... Ironwood..... Catsclaw..... Palm.....
- 17—The infamous Oatman massacre took place in— New Mexico.....
Southwestern Arizona..... Southern Utah..... Near Salton sea.....
- 18—John Slaughter was a famous sheriff in the old mining camp of—
Tombstone..... Goldfield..... Rhyolite..... Calico.....
- 19—If you wanted to visit the Uintah mountains you would go to—
Nevada..... Arizona..... Utah..... California.....
- 20—An Indian Kiva was used as a— Burial ground.....
Weapon for hunting game..... An underground ceremonial lodge cham-
ber for men..... A watchtower.....

Indian Will Keep Land . . .

PALM SPRINGS—Mission Indian Lee Arenas has no intention of selling the 94 acres of Palm Springs land which will become his own property as the result of a decision of the federal court of appeals in San Francisco. The land, allotted to him in 1927, will be legally his sometime in 1952. Court battle was to determine whether area should be tribal land or be owned by Indians individually. In original division of land, government gave alternate sections to Mission Indians and to Southern Pacific railroad. Resort city of Palm Springs is built upon railroad sections and upon land leased from the Indians, so ruling does not affect status. Arenas, 68, is one of four Indians still living of original 56 settled by government in Palm Springs area.

Airport in Death Valley . . .

FURNACE CREEK—Death Valley monument airport opened on November 19, with accommodations for 70 to 100 aircraft. Flying facilities include 80 and 91 octane gas, and overnight tie-downs or hangar storage. There are two all-weather gravel packed runways, the north-south one 4000 feet long, northwest-southeast, 2600 feet. Arrangements have been made for transportation from airport to various scenic and historical spots in Death Valley. Mel Stevick, airport manager, extends cordial invitation to flyers to try new field.

Seldom Seen Slim of Ballarat reported improvement of road from Trona through Ballarat and Wildrose to Death Valley. Grading was done by a highway crew from Inyo county, and Slim made Ballarat-Trona trip in 45 minutes.

Construction of Mt. San Jacinto winter park tramway has been postponed until material, tools and labor become more plentiful, according to Earl Coffman, president of park authority. Tramway, when completed, will be longest and highest in the world.

Alberto V. Aldrete, business man of Tecate, has been appointed governor of northern territory of Baja California. He will succeed General Juan Felipe Rico Islas.

Lights on Palm Springs airstrip were put out by coyotes who had been chewing on insulation of surface lighting cables, and who pulled plug connecting the system. CAA advised a policy of appeasement, suggesting that food be left out for coyotes so that their appetite for cable insulation would be dulled.

Coachella became an incorporated city on Friday, December 13. John Westerfield, local banker, was named first mayor at an election held December 21.

NEVADA

Gabbs Magnesium Plant Surplus . . .

GABBS—Proposal of War Assets administration to dispose of \$13,000,000 magnesium industry at Gabbs as junk, is being fought by Nevada interests. Charging that huge plant and townsite would not bring more than \$500,000 if scrapped, commissioners of Churchill, Mineral and Nye counties are asking that Gabbs be leased to responsible operators. Magnesite and brucite ore reserves in area are estimated at 80,000,000 tons and commissioners declare deposit would be worthless if present plant is scrapped, due to enormous cost of building another.

No Longer Tenderfoot . . .

GOLDFIELD—A tenderfoot, according to Editor Robert A. Crandall of Goldfield News, is a person who does not have following items in the trunk of his car: tire chains, pump, water canteen, shovel, overshoes, extra gas, jack, compass, canned food and flashlight. With only the shovel, Crandall and some friends took a Sun-

day afternoon drive into the Silver Peak country. Nightfall found them, as the result of road misinformation, attempting to dig their way out of snow on a little-used trail near Lida. Giving up the effort at 9:30 p. m., the editor and his friends survived the night by keeping motor running enough to operate heater. With road frozen, they made their way out in the morning, and Crandall immediately stocked the trunk of his car properly.

Frontiers Unlimited Organized . . .

CARSON CITY—Frontiers Unlimited, statewide, non-profit organization to encourage tourist business of Nevada and develop state's resources and industry, has filed articles of incorporation at the state capital. Governor Vail Pittman will serve as honorary president of the new group, which will be much like a state chamber of commerce.

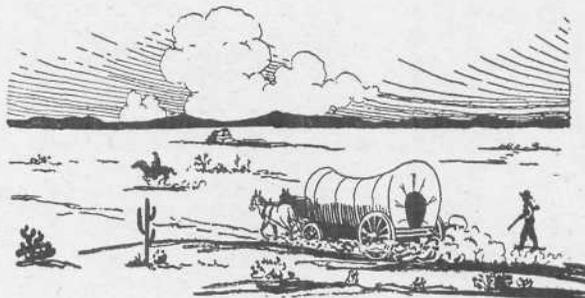
Snow and Vote Against Candidate

GOLDFIELD—H. P. Berg, candidate for assemblyman, lost to his opponent by one vote in the recent election. For 17 days, Berg was unable to protest or approve the count. Snowbound in the hills near Lida and short of food, he and a companion cleared away 900 feet of snow a day and finally reached highway.



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- Reclamation of Imperial Valley and the coming of the first settlers—and the disaster that threatened when the Colorado river ran wild in 1905-6-7

The Cavalcade festivities start Thursday, March 13, with the international Governors' dinner and Parade of the School Children.

Friday, the 14th, is Mexicali day, with the Cavalcade pageant at 8:00 in the evening.

Saturday, the 15th, the Big Parade will occupy the afternoon, with a second showing of Cavalcade Pageant at 8:00 in the evening.

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**29 PALMS
INN**

Divorces in Nevada will be taxed, marriage license fees doubled, if recommendations of taxation committee of Nevada association of county commissioners are accepted. Committee is attempting to find means of meeting expected \$2,000,000 deficit. Increased taxes on gambling were also suggested.

The Godchaux ranch comprising 15,773 acres in Paradise valley north of Winnemucca, has been sold to Henry F. Bennett of Reno for \$60,000.

Las Vegas Morning Tribune has been purchased by James H. and Charles K. Dooley and James W. Scott, all of Southern California. New owners will rename paper Nevada Courier, and publish five times weekly.

Governor Vail Pittman has purchased weekly Ely Record from Congressman-elect Charles H. Russell. Pittman already owns Ely Daily Times, but will publish newspapers separately and continue their present policies.

Fallon Standard, celebrating its 43rd birthday, offered life subscription to person who had subscribed longest. It found two, Mrs. W. W. Sanford and A. W. Lofthouse, had been on the subscription list since first issue, December 12, 1903. Lofthouse was the one who gave the paper its name.

NEW MEXICO

Franciscan Receives Award . . .

MESCALERO—Father Albert W. Braun, peace-time padre to the Apache Indians has received the Legion of Merit for his devotion to American soldiers on Corregidor and in Japanese prison camps. Father Albert, who served in the first world war, laid aside his Franciscan robes before Pearl Harbor to become chaplain with 1600 New Mexico men of 200th Coast Artillery in the Philippines. Between wars Father Albert erected, with occasional help of a few Indians, beautiful St. Joseph Catholic mission. The mission, overlooking the Indian agency and planned as a memorial to soldier dead, was dedicated in 1939.

Newspaper 98 Years Old . . .

SANTA FE—Advocating election of General Ulysses S. Grant as president, the first issue of the Daily New Mexican, oldest daily newspaper in the Southwest, was published on July 14, 1868. Publishers of the New Mexican claim, however, that the lineage of their paper goes back to Santa Fe Republican, first weekly in New Mexico territory, which published its first edition with a September 10, 1847 date-line. The New Mexican, starting its 98th volume in November, published excerpts from early editions.

Return to Tribal Ownership . . .

DULCE—Apaches of Jicarilla reservation in northwestern New Mexico have returned to tribal ownership more than 300,000 acres of land which had been allotted by government to individual tribal members. Only about 43,000 acres of 745,509 acre reservation are still held by individuals. Jicarilla Apaches are mostly stockmen, and prefer having grazing lands held in tribal ownership and used in common. Indian service is encouraging such action. In the past, government forced allotments upon Indians who were not trained to earn their livings on small areas of land.

Celebrate Matachina Dances . . .

BERNALILLO—Jemez pueblo celebrated the acquisition of a new image of the Virgin on Guadalupe day, December 12, with traditional Matachina dances. Governor Manuel Chewiwi announced that the event would become an annual fiesta at the pueblo. After church services, image of the Virgin was carried into pueblo plaza. Matachina dances began at 11 o'clock and lasted through the day. The Turquoise clan danced with violin accompaniment and the Pumpkin clan with drum accompaniment, the two alternating.

Navajo Vets Offered Education . . .

GALLUP—Navajo veterans of world war II who have not completed the eighth grade, can attend day schools for as few as six hours a week and receive subsistence payments for it, according to Dr. George A. Boyce, director of Navajo schools. Veterans can attend during day, evenings or weekends, with teachers authorized to give individual tutoring. Course of study will be worked out according to each person's needs, and will include English, reading and writing, arithmetic and other standard subjects. Maximum subsistence for married veterans attending 25 hours or more per week will be \$90 a month.

Desert Fever Studied . . .

SANTA FE—Coccidioidomycosis, the disease first noticed when contracted by troops training in San Joaquin valley, California, and later reported in New Mexico, Utah, Arizona, Texas and North Africa, has been subject of two year study by Major Sol R. Rosenthal and Lt. John B. Routien at Bruns general hospital. The officers learned that the disease, called desert fever and valley fever, is communicable from man to man and from animal to animal. Fungus responsible is breathed in and may cause either a harmless, self-limiting lung disease or a progressive, chronic and malignant disease spreading to all organs.

Shalako Visit Pueblo . . .

ZUNI—On the 40th day after the tenth full moon of the year, six towering Shalako gods visited Zuni pueblo to dedicate new homes and bring their blessings to village. Their coming was announced in advance by arrival of ten Koyemci gods, eight days before the event, and the Council of the Gods four days later. Shalako time is a period of thanksgiving and happiness. Apparent ending of years of drouth with abundant fall crops, made occasion unusually festive.

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—DESERT MAGAZINE

UTAH

Groups Work for Pioneer Trail . . .

SALT LAKE CITY—Representatives of five organizations agreed, at their first meeting in December, to work for speedy completion, beautification and memorialization of a highway along last 36 miles of old Mormon trail. Groups involved were Utah Pioneers Trails and Landmarks association, Daughters of Utah Pioneers, Sons of Utah Pioneers, This Is the Place monument commission and Young Men's Mutual Improvement association.

Airport at Mexican Hat . . .

MEXICAN HAT—Norman Nevills, noted Utah river boatman, has completed an airport at Mexican Hat. Main runway is 2300 by 100 feet, and cross runway is 1000 by 100 feet, and a hangar has been built. Nevills also had two short landing strips smoothed out at Bluff. Nevills, flying his own Piper J3, found the flight time from Mexican Hat to Bluff 12-15 minutes, and to Monticello, 50 minutes.

Strong-Box Wanted . . .

SALT LAKE CITY—State monument commission is searching for a heavy strong-box of type carried by stage coaches of Utah pioneer days. Box, if found, will be placed inside cornerstone of the "This Is the Place" monument, to be laid in the spring. List of monument donors with copies of daily newspapers and other historical material, will be placed in the box. John D. Giles, executive secretary-treasurer, said that donor of such a box would be given full recognition for the gift.

Akeah Visits Salt Lake . . .

SALT LAKE CITY—Sam Akeah, 52-year-old chairman of Navajo tribal council, and Lee Tom and Joe Duncan, also council members, visited Latter-day Saint church welfare projects in Salt Lake area, with view of establishing similar cooperative efforts among the Navajo. Akeah said he favors granting a request by L. D. S. church authorities for establishment of schools and missions on the Navajo reservation.

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Church Operates Coal Mine . . .

ORANGEVILLE—A modernized coal mine, six miles northwest of Orangeville, opened in December operating under welfare program of Church of Jesus Christ of the Latter-day Saints. Coal mined and hauled away by truck, is being produced by men working without wages and goes for the use of the needy, and to church hospitals. Property was bought to enlarge holdings of Deseret Coal company unit of church welfare program, which has been operating for eight years. Shirl McArthur, mine foreman, notified near-by church stake presidents of the number and kind of workers needed during modernization program, and volunteer workers arrived when needed. Mine production now can be maintained at 100 tons per day.

River Rights Withdrawn . . .

SALT LAKE CITY—In the most sweeping water withdrawal order ever issued in Utah, Governor Herbert B. Maw suspended rights of public to appropriate surplus and unappropriated water of streams and tributaries which will be affected by proposed Central Utah project. Streams were: Green river in Daggett and Uintah counties; Little Brush creek, Brush creek, Ashley creek, Uinta river, Yellowstone creek, Lake Fork creek, Rock creek, Duchesne river, Strawberry river, Provo river, Spanish Fork creek, and all tributaries of those streams. Withdrawal will not endanger little, legitimate water users, but will prevent large power filings which could undermine Central Utah project, according to Ed H. Watson, state engineer.

Mrs. Amelia Leicht Temple, 90, widow of John Temple who first discovered silver at Silver Reef, died in St. George on December 14. Temple was believed to be first man to discover silver in sandstone, and \$10,500,000 was taken from district he found.

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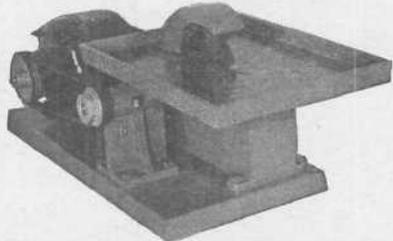
MONTANA AGATE . . .

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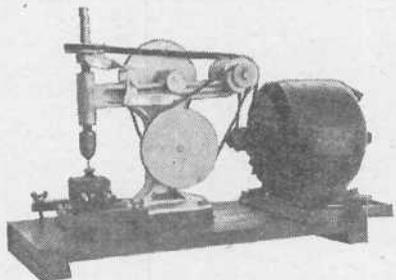


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AMATEUR GEM CUTTER

By LELANDE QUICK

I have referred to the lack of lapidary schools where interested persons can learn the craft as a vocation rather than a hobby activity. It seems that such a school now is operating in a small way at Loveland, Colorado. Lenore Markwitz of Berthoud, Colorado, writes that she stopped there and that "the owner was exceedingly gracious and, I believe, would be a congenial instructor. He must be a proficient one for the workmanship of the pieces made in his shop was exquisite. He had two or three veterans working there under the government plan and learning the business. His course covers jewelry making and all phases of lapidary work and he has both a short rudimentary course and a long one." I received a communication from the owner of the school, M. J. Stickle, in which he confirms the foregoing information and invites correspondence from interested people. It therefore appears there are two schools qualified under the government school plan to teach veterans, who will accept others for a course in gem grinding, metalcraft and jewelry making. They are Science Park Lapidary and Metalcraft school at Loveland, Colorado, and New Mexico State Teachers college at Silver City, New Mexico.

. . .

Groups in Centralia, Washington, and El Paso, Texas, have requested advice in organizing lapidary societies. Having organized three lapidary societies in the past year, I believe the plan I use is good. Some interested party should secure publicity, through the local press and lapidary pages of mineral magazines, that such an organization is contemplated. Interested people should then file their names so that they can be notified when an organization meeting will take place. After the accumulation of 20 to 30 names, a dinner meeting should be arranged at a local restaurant and notices sent to those interested, followed by additional press publicity.

As each guest arrives he should be asked to register his name, address, occupation, items of lapidary equipment he possesses and particular lapidary interests. A chairman should carefully peruse this information. After the dinner and a discussion of the hobby by himself, he should appoint an organizing committee to select a slate of officers, a meeting time and place, and report at a future meeting. Since organizing committee members usually predominate on any slate selected, it is important that the committee be selected from the list with regard to their occupation. The venture is certainly destined for an early success if the list includes an attorney, a stenographer and an accountant, for then you have a perfect officer set-up for the first year.

After permanent organization is effected the president should appoint a committee to draw up a set of by-laws. He should appoint an excursion chairman, usually called a field trip chairman. I think the word "excursion" is a better one as it includes trips to museums, picnics, etc. There should be a vice-president whose duty it is to act as chairman of a program committee. This is the most important job in such a society, for if an officer cannot originate programs of a lapidary nature there is no good reason for attendance. Another chairman should head the important mineral sales and display committee whose purpose it is to see that gems in the rough are for sale and finished gems are displayed at

each meeting. If a society always can see rough material and finished material displayed at every meeting and hear something of both, it will be an active society. To this end it is therefore wise to include a provision in the by-laws that every member must at some time during the year display evidence of his current work in order to remain a member. There should be no rule about applicants having lapidary machinery. Get them interested and they'll get equipment. When they get equipment teach them how to use it and then insist that they show evidence of their work.

It is not necessary for a small group to have the specialized committees of some of the larger societies. A library, a hospitality committee, etc., always can be added as the need becomes apparent. The more members serving in some official capacity the better working organization you have—and doers keep the ball rolling. It is the drones that kill off many organizations. A person who has served in some active capacity always is a more loyal member than one who has remained on the side lines.

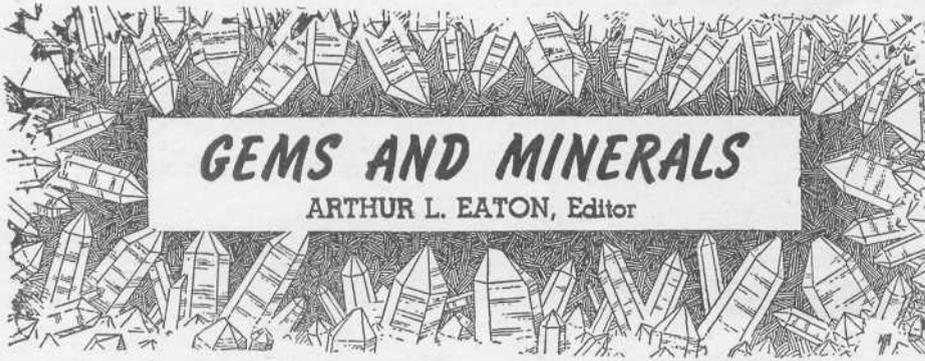
As time goes on I am more inclined to the belief that a combination of gem and mineral study is necessary to a group in a small community, because of the lack of purely lapidary subjects that can be covered. After a time you will find that you have covered all phases of lapidary procedure in lectures and demonstrations. Then you will be loath to start all over again unless you are constantly adding novices. When a society reaches a point where all members are proficient in the lapidary art you have a sterile society. Interest lags unless there is a well balanced program of kindred subjects, such as jewelry making, geology and mineralogy, that tie in with the lapidary art.

First activity that should be planned is a field trip. When people get out together and lick rocks in field or desert, a mutual understanding develops that is never matched in the meeting room. Novices particularly have to get the feel of the outdoors to be bitten by the rock bug, which usually develops a fever that never leaves a person quite the same. There are too many unsatisfied souls and neurotics in America, who would be happier folks if they could hold a rock in their hand some place away from their daily scenes. It would call from their subconscious things related to their forebears of thousands of years ago. While they wouldn't understand this new feeling, they would find that subsequent trips would develop an understanding that would affect their thinking and feeling for the better.

If any one is interested in joining the proposed groups in Washington and Texas they should communicate with Ralph Waldo at 712 "E" street, Centralia, Washington, and D. T. Harris at 2401 Pittsburg street, El Paso, Texas, respectively.

. . .

The catalog containing lapidary instruction, mentioned in December Desert Magazine, is no longer supplied by the Lapidary Equipment Co., Inc., of Seattle. They have a free catalog, but lapidary instruction has been divorced from it and is supplied for 25c or furnished free with an order for equipment. However, they have supplied the instruction booklet to more than 100 inquirers who wrote me about it.



GEMS AND MINERALS

ARTHUR L. EATON, Editor

SAN FERNANDO SOCIETY HOLDS THIRD ANNUAL EXHIBITION

San Fernando Valley Mineral and Gem society held its third annual exhibition at North Hollywood recreation center, November 30 and December 1, under chairmanship of Dan Hamer. Nearly 1000 visitors viewed displays of 50 members. Wall decorations of Indian artifacts were arranged by Mrs. Glenn Craig. Fluorescent minerals were shown on the stage by Larry Higley. Society's library and other equipment also were on display. Kilian Bensusan, in charge of grab bags, took in \$130.

Faceting and polishing demonstrations were given by Charles Clarke and L. E. Watson. Mrs. Geo. McPheeters and Mrs. L. M. McClure showed methods of mounting gems in silver.

Judges were Herbert Monlux, Los Angeles Lapidary society and Ernest Chapman and Jack Streeter, both of Mineralogical Society of Southern California.

Ribbon awards were as follows:

General display—1, Geo. Parker; 2, Mrs. J. B. Clarke; 3, E. L. Newkirk.

Minerals in general—1, E. L. Newkirk and Geo. Parker; 2, Larry Higley and Wm. Taylor; 3, John Chase and J. L. Mikelsell; honorable mention, Mrs. Alva Lynn and Mrs. Glenn Craig.

Jewelry, mounting and stones—1, Mrs. Geo. McPheeters; 2, Mrs. H. M. Whetsel; 3, Mrs. Lawrence McKinley. Jewelry, mounted stones—1, J. B. Clarke; 2, Chas. Clarke; 3, Mr. Peterson.

Lapidary: Cabochons—1, L. McKinley; 2, J. B. Clarke; 3, L. E. Watson; honorable mention, Kenny Mead. Faceted stones—1, Chas. Clarke; 2, R. Byxbee; 3, M. G. Sandaker.

Polished flats—1, Geo. McPheeters; 2, Geo. McPheeters; 3, E. L. Newkirk; honorable mention, R. Byxbee.

Polished nodules—1, Geo. McPheeters; 2, Joe Iverson; 3, Mr. Peterson.

Jr. members general display—1, Guy Bensusan; 2, Barbara McKinley; 3, James Higley.

Crystals—1, E. L. Newkirk; 2, Peyton Randolph; 3, L. W. McClure.

Novelties—1, J. B. Clarke; 2, Geo. McPheeters; 3, Mrs. L. McKinley; honorable mention, R. A. McKrack.

Fluorescent—1, Joe Iverson; 2, William Taylor; 3, Dan Hamer; honorable mention, Larry Higley.

Petrified wood—Mr. and Mrs. Alva Lynn.

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PROGRAM, EXHIBITS PLANNED BY SOUTHEAST HOBBY SOCIETY

Mineralogy division of Southeast Hobby society announces a program and exhibits to be held January 28, 8 p. m., at Southeast YMCA, 3365 E. Gage avenue, Huntington Park, California. John A. Jones will talk on meteorites and will explain a few common field tests which can be used to determine certain minerals. C. L. Matteson will discuss lapidary work and fluorescence. A. E. Allard will show colored slides of minerals and of fluorescence. A brief description of the slides will be given. Door prizes of silver work fashioned by members will be awarded. All persons interested in gems and minerals are invited to attend.

• • •

Desert Gem and Mineral society, of Blythe California, combined its regular meeting with a Christmas party December 9 at home of Mr. and Mrs. Guy Emery. Plans were formulated for second annual show and field trip to be held Feb. 7-8-9. Field trip to Hauser geode beds will get under way at 7 a. m., February 9.

SAN JOSE LISTS COMMITTEES FOR APRIL GEM SHOW

January bulletin of San Jose Lapidary society listed committee members for second annual gem show to be held in city armory April 19-20. Executive chairman of show is Russell Grube. Other chairmen include: finance, Mr. Murphy; property, Mr. Addison; electrical, Mr. Gardiner; entries, Mr. Maudens and Mr. Holmes; judges and awards, Dr. Harris; hospitality, Mrs. Pendleton; equipment, Mr. Murphy; fluorescent display, Mr. Reinhart. January meeting of the club was to feature a lecture on plastic work in relation to the lapidary field, by Morton J. Bachrach.

NEW ROCK CLUB FORMS IN VICTOR VALLEY

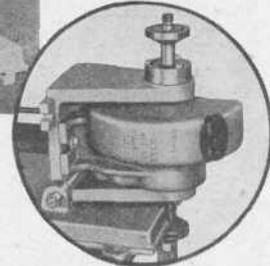
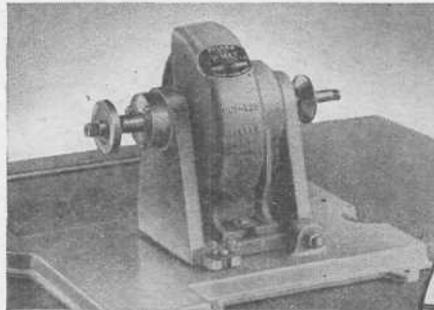
Victor Valley Mineral club was organized at Victorville, California, December 19. Officers for club during 1947 are: B. R. Dunham, president; M. M. Wills, vice-president; Mrs. Arthur Pratt, Victorville, secretary-treasurer. Club directors are R. L. McKim, Fred E. Herman and Axel Johnson. Meetings will be held first and third Thursdays of each month at Community Center, Victorville.

MINIATURE SETS, Asst'd per doz.	\$6.00
50 RING STONES, including genuine and synthetic	\$7.50
SYNTHETIC RUBIES or GENUINE GARNETS, per carat	\$1.25
CAMEOS or OPALS—Genuine—12 for	\$3.75
100 JEWELRY STONES removed from rings, etc., \$2.40; 50 large ones	\$2.40
12 ARTICLES ANTIQUE JEWELRY, rings, pins, etc.	\$3.00
500 COSTUME JEWELRY STONES	\$2.00
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MINERAL SETS guaranteed by the Old Prospector. The Student set, fifty mineral ores size one inch plus, \$10.00. Collectors set of 100 mineral ores, size one inch plus \$20.00. Fluorescent set of fifty fluorescent mineral ores, size one inch plus \$20.00. Above sets in wooden box mounted or loose in compartments in cardboard box. The Prospector set of fifty mineral ores size 3/4 inch plus in cardboard box mounted or loose in compartments, \$4.00. State preference, loose or mounted. All specimens identified and described in booklet. Postage paid. Mineralight in beautiful case, weighs 2 1/4 lbs., works off of lantern battery, quickly identifies fluorescent minerals. Postpaid with battery \$35.00. Old Prospector, Box 21A38, Dutch Flat, Calif.

SOMETHING NEW. The chances are ten to one that you do not have any of the following in your collection. Chrysocolla in Hematite. Chrysocolla in Garnets. Quartz colored by Chrysocolla. The three large chunks sent postpaid, including folding magnifying glass for only \$1.75. K. Otoupalik, 640 River St., Missoula, Montana.

JUST PURCHASED collection of gold nuggets. Priced at \$4.50 to \$25.00. Pyromorphite—green crystals on matrix 85c to \$1.60. Babingtonite with prehnite and calcite \$1.35 to \$2.60. Thompson's Studio, 385 West Second Street, Pomona, Calif.

BEAUTIFUL BANDED Fluorspar in 3 colors green, purple and white. These specimens are very beautiful for cabinet display. Approximate 2" specimens 50c, 3 to 4 inch \$1.00, 5 to 6 inch \$5.00. Address D. V. Satterlee, Benson, Ariz.

25 COLORFUL Arizona specimens, including quartz crystal geodes, thunder eggs, chalcidony roses, amethyst crystals, agates and others \$2.00 postpaid. Bacon agate in deep rose and white with tinge of blue, small wavy bands, first grade, \$1.00 per pound, postpaid. Maricopa Gem and Mineral Mart, Box One, Morristown, Arizona.

ALL BRAZIL and Ceylon gem faceting minerals now in stock, Australian shipment on the way. The Desert Rat's Nest, P. O. Box 1123, Encinitas, Calif.

TEN BEAUTIFUL mineral specimens, \$5.00, 10 beautiful fluorescent specimens \$5.00. Write for list and prices on other specimens now in stock. Jack the Rockhound, P. O. Box 86, Carbondale, Colo.

CAMEOS such as Tigereye, Rose Quartz, Blue Agate, Vesuvianite, Mother of Pearl, rare Lapis Lazuli, rare Burma Jade, \$5.00 to \$10.00 each. India Sapphires of many colors, same in tourmalines and native Ceylon and Siam Zircons. 12 rough garnets, 36 gram \$2.00. Rare green Garnets and other types. Nice Emeralds 1 to 3 carat size, \$10.00 per carat. Aquamarines different sizes, \$2.00 per carat. 50 year old Mosaic stones, \$8.00 each. 100 carat lot of Amethysts for \$25.00. 100 carat lot of nice Hessonite Garnets \$80.00. 100 carat lot of Ceylon Zircons \$80.00, different colors including green. Rare or finest Sardis from Uruguay 50c to \$5.00 each. String of coral beads \$1.50. Quartz-Topaz 50c per carat. Rare precious Topaz \$8.00 per carat. Moss Agates, different sizes, 35c and up each. Nice synthetic Ruby cabochons 10x8mm for \$4.50 each. Persia Turquoise cabochons \$4.00 per dozen. Ask for my approval selection. Ernest Meier, P. O. Box 302, Church St. Annex, New York 8, N. Y.

OREGON SAGENITE AGATE. Colors white, golden brown, brown, and black needles in bluish vein agate. Also black in clear agate in full pattern nodule slices. 50c to 75c per square inch. Send deposit of \$5.00 or \$10.00 for approval assortment, give preferences. If you desire we will also send an assortment of agate slices which we believe are brand new types. A. W. Killick, Post Office Box 574, Baker, Oregon.

NEW MEXICO AGATE—Wide variety of choice cutting material. Red and Black Plume, Golden Plume, Red and Black Combination (Fortification) agate, Black Sagenite, Black Dendritic sprays in Opal Chalcedony, and Green Moss at \$5.00 per lb. Red Moss and Golden Moss at \$2.00 per lb. Cutters assortment of small but select pieces at 50c per lb. All orders will be shipped on approval. Burdick Hills Gem Supply, P. O. Box 629, Deming, New Mexico.

ROCKS—Twenty specimens (obsidian, petrified wood, quartz crystals, fossils). Send \$2.00 to Davis, 503 Emerick, Ypsilanti, Mich. Will trade. Will cut and polish for one half specimen. Specialize in Michigan Agates, Quartz Crystals, Conglomerates, and Alabaster. Finished alabaster ashtrays.

HAVE YOUR FAVORITE cabochons mounted in hand-made sterling or 10K gold mountings. Old prices still in effect. Satisfaction guaranteed. Your correspondence invited. K. K. Brown, Beaver, Utah.

BUY FROM the man who mines and digs rough gems. Arizona Agates, Jaspers, Petrified Wood, Amethyst Crystals. Rare and Beautiful—Vivid, rich, high colors. Just as nature made them. Makes beautiful gems and cabinet specimens, and are very hard. Also takes a beautiful high lustrous polish that will last for years. Pictures are flowers, moss, ferns, trees, plume, mountains and many beautiful scenic views. These are now available in slices, sawed, blocks or rough. The pictures are there, you do not have to take a second look. Pictures and colors go all the way through each chunk. Colors are reds, all shades, purple, amethyst, green, golden, pink, white, clear, black and beautiful, rich high colored rainbow banded. Mine run agate, jaspers, or petrified wood. 10 pounds \$25.00 or \$3.00 per pound. Arizona gem amethyst crystals. Extra fine new stock. Only fifty-four pounds. Sold by the pound and mine run only. Mine run is \$10.00 per pound; 2 pounds \$19.00; 5 pounds \$40.00; or 10 pounds \$70.00. Australian precious gem opal in the rough. Large and small chunks. Only three pounds. Write for prices on the size of chunk and play of colors you would like. One pound of agate jaspers, picture, high color and rainbow petrified wood in mixed slices for \$15.00; 2 pounds \$25.00. Arizona banded onyx now available in 100 pound lots. Book end petrified wood now available. No price list. Just send the amount you wish to spend and tell us what you want—agate, jaspers, petrified wood, the colors and so on. We will slice and chunk to order. Satisfaction or your money back. Postage and express extra. Chas. E. Hill, 2205 N. 8th Street, Phoenix, Ariz.

MINERAL AND FOSSIL COLLECTORS! Read The Earth Science Digest, a monthly publication reaching thousands of collectors the world over. One year subscription \$2.00. Sample copy 25c. Write: Dept. D., Box 57, Omaha 3, Nebraska.

BEADS, BUTTONS. Cut from your own gem materials. Drilling, any size or quantity. For fine gem cutting try us. Lapidary work since 1904. H. M. Samuelson, 1012 El Camino Real N., Salinas, Calif.

ABALONE SHELLS; suitable for polishing or cameos, 25c each plus postage. Dale Dorge-loh, Atascadero, Calif.

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

\$2.50 brings you prepaid six rare and beautiful crystallized Arizona minerals. Vanadinite, Diopside, Wulfenite, Willemite, Chrysocolla, Azurite. Specimens 1 1/2 x 2 or larger. Wiener Mineral Co., Box 509, Tucson, Arizona.

MONTANA MOSS AGATES in the rough for gem cutting, \$1.00 per lb. plus postage. Elliott's Gem Shop, 26 Jergins Arcade, Long Beach 2, California.

MINERALS, GEMS, COINS, Bills, Old Glass, Books, Stamps, Fossils, Buttons, Dolls, Weapons, Miniatures, Indian Silver Rings and Bracelets. Also Mexican. Catalogue 5c. Cowboy Lemley, Las Cruces, New Mexico.

ROCK COLLECTORS—ATTENTION. Back home in the desert. As you drive Highway 111 this winter be sure and stop at the big yellow trailer and see the finest variety of rock and mineral specimens in the West. The Rockologist, Box 181, Cathedral City, Calif.

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

MINERAL SPECIMENS, slabs or material by the pound for cutting and polishing, RX Units, Felker Di-Met Saw Blades, Carborundum wheels, Cerium Oxide, Preform Cabochons, Indian jewelry, neck chains. Be sure and stop. A. L. Jarvis, Route 2, Box 350, Watsonville, California, 3 miles S. on State highway No. 1.

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

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

AUSTRALIAN FIRE OPALS—Large stocks of cut and polished doublers and solids. Small quantities rough cutting material as available. Shipment inquiries welcomed. Woodrow A. Oldfield, Cr. Whitehorse and Union Roads, Mont Albert, Victoria, Australia.

CABOCHON BLANKS: Jasper, mixed, 6 for \$1.00. Moss Agate and Rhodonite, 4 for \$1.00. No flaws. Al Thrower, Box 305, Santa Cruz, Calif.

SPECIAL INTRODUCTORY Offer: To introduce our new find of fine red and pink, lace and moss Agate, I am offering a limited amount of sawed slabs at 20c per sq. inch, rough at \$1.50 per lb. Good heavy vein material, little or no waste. Lee Phelps, 1104 Portland Ave., Bend, Oregon.

FOR SALE: Petrified Palm Root, black and grey with eyes. Also fibers and cattails, \$1.00 per lb. plus shipping fees. Rates on large pieces. Sawed pieces by request. Write for prices on sawed material. From original location. Maida Langley, Box 331, Needles, California.

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

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

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

FINE AGATE ring cabochons—\$8.00 and \$10.00 per dozen. Silver mounted agates, wholesale, \$20.00 per dozen and up. Custom cabochon cutting and silver mounting. North West Gem Shop, Box 305, Tacoma 1, Wash.

FOR SALE: Semi-precious stones, cabochons and facet cut. Slabs of same on approval to responsible parties. State what you want. Colorado Gem Co., Bayfield, Colo.

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

TWO THOUSAND ATTEND FIRST RIVERSIDE GEM SHOW

Two thousand persons attended first annual gem and mineral show held in Riverside, California, municipal auditorium, December 13-15. Show was staged by Riverside county chamber of mines, and first prize awards were given Omar Kerchner, Indio; Mrs. H. D. Clark, Redlands; J. C. Filer, Loma Linda. Second prizes were awarded W. B. Hurrell and C. G. Bixel, Riverside; Kilian Bensusan, San Fernando. Third prizes: H. D. Riley, Mrs. Retta E. Ewers, Riverside.

New officers of Riverside county chamber of mines are: R. C. Phillips, president; D. L. Finley, first vice-president; E. W. Tucker, second vice-president; Retta E. Ewers, secretary-treasurer. Directors are: Senator Nelson Dilworth, Joe Alfien, Clyde Hall, Clarence Washburn, Elmer Dunn, J. R. Gabbert, Prof. Charles Test.

SLABS . . .

SHATTUCKITE — Exclusive Arizona Gemstone. Pure blue 50c sq. in. Mixed with red or green 35c sq. in.

ARIZONA GEM PETRIFIED WOOD—From Petrified Forest area. Very colorful. 25c sq. in.

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AMONG THE ROCK HUNTERS

Barry Storm, author and lost mine hunter, interpreted treasure signs left by early explorers, in a chalk-talk at December 19 meeting of Mineralogical Society of Arizona. Talk was given at club's new permanent meeting place, Mineral building, state fair grounds, and 118 persons attended. December 5 birthday party was attended by 86 members. A field trip to Magma Copper company was held on December 15. Fifty-eight members and guests saw various stages in reduction of copper ore.

Short, elementary discussion of things rock-hounds should know will be part of future programs of Mineralogical Society of Arizona. True and false questions will be asked, covering subject discussed at previous meeting.

Searles Lake Gem and Mineral society has chosen following officers for 1947: Clark Mills, president; Eddie Redenbach, vice-president; Josephine Ferguson, secretary; Harvey Eastman, treasurer; Diane Adler, Ralph Merrill, John Bernhardt, Lenore Means and Bill Hunter, directors. Christmas party was scheduled for December 18 at Trona coffee shop. Modesto Leonard, first president of the society, was to install new officers. An evening of music and games was planned, with Santa present to distribute gifts. Ralph Dietz of NOTS rock club donated a calcite specimen for door prize and member Eddie Redenbach, a box of polished specimens.

Over 100 members and guests attended the Christmas party and potluck dinner of San Fernando Valley Mineral and Gem society. Gifts were exchanged and carols sung. The club collected \$25 for the Salvation Army Christmas fund. Rev. George Kardell of Los Angeles spoke on biblical gems.

Imperial Valley Gem and Mineral society enjoyed a potluck dinner and rock game, December 18, at the home of Mr. and Mrs. Ira Huffman, El Centro.

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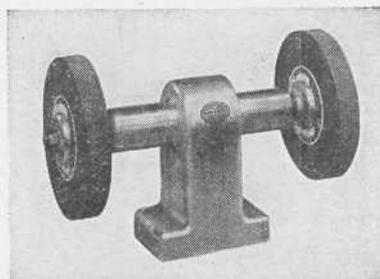
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Marie Lackey, oil geologist, lectured on occurrence and formation of agate in Southern California at December meeting of Santa Monica Gemological society. Charles Heaton retraced his recent auto tour through the northern states, eastern Canada and New England, describing many mineral localities visited. Estelle Tesk reported on her recent visit to Calistoga.

Annual Christmas party was held at the December meeting of the Seattle Gem Collectors club. A large turnout of members enjoyed the program.

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Earl Knie talked on turquoise, birthstone of the month, at December meeting of Pomona Valley Mineral club, held in chemistry building of Pomona college, Claremont. President Fred Kroger told of experiences on a summer vacation trip covering Nevada, Utah, Wyoming and Montana. Most of the time was spent collecting near his old home at Phillipsburg, Montana, where for many years he had engaged in mining.

Sequoia bulletin, official publication of Sequoia Mineral society, quotes the following article from the Dinuba Sentinel: "A 62 pound, jagged stone formation, found at Sutter City, California, is believed to be a souvenir from the tail of Giacobina-Zinner comet. The stone, roughly a cubic foot in size, was still warm when found by Mrs. E. E. Metzger. Rock remained warm for six hours after found. There are no similar rock formations known in the area."

Kilian Bensusan, of San Fernando Valley Mineral and Gem society, placed on exhibit at their recent North Hollywood mineral show an interesting Brazilian black tourmaline. Lower half of tourmaline crystal, about one inch in diameter, was solid, but the upper half had disintegrated in such a way as to show how a large tourmaline is formed. Upper half is a mass of loose needles, each needle on the outside of the crystal coinciding with a striation on solid half below. Bensusan calls specimen his "mineral shaving brush."

Yavapai Gem and Mineral society, Prescott, Arizona, held a Christmas party at its December meeting, with guitar music by Wally Duncan, an hour of story telling and a fine display of minerals. Moulton B. Smith reported on mineral exhibits at the state fair. E. E. Michael was appointed membership and field trip chairman. Mrs. Michael became chairman of refreshment committee.

Bill Wedel was scheduled to show pictures at December 3 meeting of Sequoia Mineral society, held in Parlier high school. A rock sale was planned to add money to the treasury. Dora Anderson, popular member of Sequoia group, is stationed at Camp Kilmer, New Jersey, overseas replacement depot, on her way to the Mediterranean area.

Cogitations . . .

Of a Rockhound

By LOUISE EATON

Wun uv the most pleasurable experiences that cumz to seasoned rockhouns is to watch sumwun what's just bin bitten by the rockitis bug cavort on a field trip. He sees desert wunders with new eyes an feels a moment uv nostalgic longing to be a neophite himself again. Then he remembers all the good specimens he's accumulated an is satisfied to enjoy the sensation thru the novice's eyes.

Mama rockhouns finds that it's practically impossible to be good hostesses an rockhouns at the same time. The can't talk rox in wun room while they trys to cook beans and bacon in a nuther. Either dinner is late or part uv it is forgot. It's never the rox that gets neglected.

Seems as tho folkes's notions an viewpoints is sumtimz influenced by their surroundin landscape. Space an wide horizons tends to make peepul tolerant, while cramped quarters where yu gotta look up instead uv out for distances indooes narrow thinkin. Too bad sum uv the present world-agitatin questions can't be pondered in the desert.

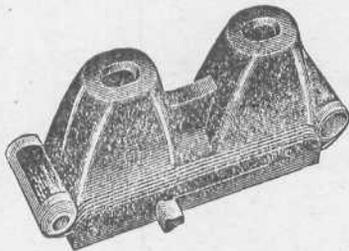
Prof. C. L. Mills showed colored slides of a trip through northern Canada at December 5 meeting of East Bay Mineral society, Oakland, California. Christmas party with pot luck supper and Santa Claus with gifts came December 17. A surprise field trip furnished fun for all who went. No cutting material was found, but many mineral specimens were obtained from old copper pockets. In ruins of an old smelter, members found bricks which had been brought from Wales around Cape Horn in sailing ships, then packed inland on mule back.

Kern County Mineral society enjoyed a Christmas celebration and dinner at Bakersfield Inn. Mineral gifts were exchanged. Several members gave reports on November field trip to Boron, which yielded a quantity of good material.

Long Beach Mineralogical society installed officers at their December 11 Christmas potluck dinner party: W. L. Mayhew, president; Florence D. Gordon, vice-president; Jane Fisher, secretary; Fritz Schmidt, treasurer; Milo Potter, Frank Balfe, Jay Wilson, directors. Meetings are held second Wednesdays at Belmont recreation center, 4104 Allen. Visitors are welcome.

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SAN FRANCISCO 17, CALIF.

Bill Sanborn, ranger naturalist of national park service, was scheduled to discuss minerals and geysers of Yellowstone national park at December meeting of Mineralogical Society of Southern California. His talk was to be supplemented with slides from collection of geology department of Pasadena junior college. Members were to display specimens from Yellowstone national park and adjacent states of Idaho, Montana and Wyoming.

Deadline for items to appear in Desert Magazine gem and mineral department has been changed from first of the month to twentieth of preceding month. Articles to appear in April issue should be in before February 20.

A fluorescent display by Paul Mercer, president, was feature of December 17 meeting of Mineralogical Society of Southern Nevada, in Bureau of Water and Power building. Discussion was also given to suitability of various types of lapidary equipment, and a display of 50 finished cabochons was shown by J. Redding. At November meeting, art and mechanics of polishing rocks were discussed. Color slides of field trips, desert flora and the Helldorado parade, taken by members, were shown. Field trip to Quo Vadis mine was held November 23, and the society was scheduled to visit White Hills with Boulder City Camera Club on November 30. Total membership of club now is 65.

Jean Beckett, secretary San Diego Mineralogical society, reports the following officers: Carl E. Hyatt, president; Alan M. Brooks, vice-president; Clyde A. Scott, treasurer; Jean Beckett, 4714 Lotus street, San Diego 7, California, secretary.

Charles and Callie Kennedy of Redlands wrote and produced two skits and a quiz show to entertain Orange Belt Mineralogical society December 3 in San Bernardino. Dr. Fox entertained with his single string "boxite" fiddle. Rock specimens were awarded as prizes, candy for consolations. There were rock gifts for all.

Societies forming the Midwest federation are: Michigan Mineralogical society, Marquette Geological association, Chicago Rock and Mineral club, Joliet Mineralogists, Wisconsin Geological society, Central Iowa Mineral club, Minnesota Mineral club, and Minnesota Geological society of Minneapolis.

Recently organized San Geronio Rock and Gem society of Banning, California, has adopted a constitution and by-laws and chosen the following as initial officers: George Buckner, president; Paul Walker, vice-president; Jack Frost, 59 E. Hoffer street, Banning, secretary-treasurer. At December meeting, club heard a talk on iris agate by Mrs. Clark, president of Orange Belt Mineralogical society, and a collection of agate was displayed by the speaker. Field trip to the railroad quarry at Nuevo was planned for January 1.

Minnesota Mineral club resumed meetings November 9. After business session, a movie of diamond mining in South America was shown. Mr. Bostwick of St. Paul talked on identification of gem stones. December meeting was scheduled as a white (rock) elephant affair where members could sell specimens with which they wished to part. January discussion was to be on corundum gems.

George H. Needham addressed December meeting of Sacramento Mineral society on subject of micromounts. Mr. Needham, of Northern California Mineral society, San Francisco, illustrated his talk with Kodachrome slides, and invited members to view through the microscope specimens from his own miniature collection.

GUIDE BOOK TO HIGHWAY 66

Invaluable to travelers who want to SEE more and worry less. Full data on U. S. 66 from Chicago to L. A.: history, scenic spots, grades, towns, accommodations. Maps and mileage readings. 128 pp. Only \$1 postpaid. Get your copy of 1st edition!

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DESERT QUIZ ANSWERS

Questions are on page 26

- 1—Death Valley, elevation at Badwater is —279.6.
- 2—Food.
- 3—White mountains.
- 4—Cattle trail from Texas to Kansas.
- 5—A National monument in Arizona.
- 6—Department of Interior.
- 7—Hopi.
- 8—Salt Lake City.
- 9—Tamarisk tree.
- 10—Igneous rock.
- 11—Highway 60.
- 12—Navigation of the Colorado river.
- 13—Iron ore.
- 14—Grand Canyon.
- 15—Mining.
- 16—Mistletoe never grows on palm.
- 17—Southwestern Arizona.
- 18—Tombstone.
- 19—Utah.
- 20—An underground ceremonial lodge chamber for men.

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SHOWY MINERAL SETS—20 colorful minerals attractively arranged and hand labeled in neat box. Excellent for gifts—study collections—\$2.00.

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DESERT HOMES . . . Photo Contest

February prizes in Desert Magazine's contest will go to best submitted photographs of homes actually used for living purposes by desert inhabitants. Indians have found one method of adaption to arid conditions, homesteaders another. The packrat lives in a cholla fortress and the prospector constructs his housing of nearest available materials. Many of them should make interesting pictures.

First prize is \$10, and \$5 for second place. For non-prize-winning shots accepted for publication \$2 each will be paid. Entries must reach the Desert office in El Centro by February 20, and winning prints will be published in April.

HERE ARE THE RULES

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

ADDRESS ALL ENTRIES TO PHOTO EDITOR, DESERT MAGAZINE.

THE *Desert* MAGAZINE
EL CENTRO, CALIFORNIA

THE DESERT TRADING POST

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

INDIAN GOODS

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

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

4 VERY FINE ancient Indian Arrowheads \$1.00. 4 tiny perfect bird arrowheads \$1.00. 1 Ancient Stone Tomahawk \$1.00. 2 Flint Skinning Knives \$1.00. 1 Large Flint Hoe \$1.00. 2 Spearheads \$1.00. 10 Arrowheads from 10 states \$1.00. 20 Damaged Arrowheads \$1.00. 10 Fish Scalars \$1.00. 10 Hide Scrapers \$1.00. 4 Perfect Saw edged arrowheads \$1.00. The above 11 offers \$10.00 Postpaid. List free. Lear's, Box 569, Galveston, Texas.

MISCELLANEOUS

INCOME TAX returns prepared by expert with 33 years experience, minimum fee \$3 until March 1st, then \$5.00. Send all Forms W-2, with names of wife and dependents, if any. John Wesley Davis, 1611 1/2 Donaldson St., Los Angeles 26, California.

DESOLATE DEATH VALLEY in gorgeous color. See advertisement page 25. Desert Color Slides.

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

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

PANNING GOLD—A side line hobby for Rockhounds and Desert Nomads. You should know how to pan gold, recognize gold bearing gravel and valuable quartz ledges. The places you go are where rich virgin ground is found. Send your name for new folder on panning gold, with pictures—list of mining books and equipment for prospector beginners. Old Prospector, Box 21A37, Dutch Flat, Calif.

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

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

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

WILL TRADE, Turquoise mine of five claims, about 200 acres for good clean house trailer, late model. T. J. Nicely, Box 927, Tonopah, Nevada.

FOR SALE: Redwood doors with antique hardware, Pioneer trunks, framed pictures, books, prints, lithographs, etc., musical antiques, twelve hundred flower pots, all sizes, palms, all sizes for transplanting, Pioneer and Gay 90's costumes. Write P. O. Box 790, Redlands, Calif.

WANTED: Graduate nurses, between ages 35 and 50 for 25 bed private general hospital. In mountains, good salary and full maintenance rotate night and day duty. Apply: Director of Nurses, Placerville Sanitarium, Placerville, Calif.

A REVELATION: Pelican Joe's formula for preparing and seasoning fish to be smoked. It eliminates all objectionable flavor the wood might give and only retains the smoke. Shortens the time of smoking to 3 hours or, with this seasoning any smoke method can be used. More healthful and tasty. Used on the west coast for years. Now just released to the public. Sample fresh smoked fish and instructions how to prepare and season, both for \$1.00. Pelican Joe, 6456 Atkins St., Encanto, Calif. P. O. Box 332.

SEND \$1.50 for Handmade Shell Brooch. Beautiful designs on circle or heart shape with safety clasp pin. Money refunded if not satisfied. L. E. Cook, 1933 Fulton St., Fresno, California.

LOCATION WANTED by silversmith, lapidary, desert furniture and other crafts. Have complete outfits. Experienced Indian trader and curio dealer. Must be on desert. Address Box B, Desert Magazine.

YOUNG VETERAN wants job as a Guide or to assist in Expedition. Have Seamans papers. Write Robert Wallish, 3522 W. 12th Place, Chicago 23, Ill.

BOOKS — MAGAZINES

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

COLLECTORS the world over read The Earth Science Digest. If you like earth science, you will like The Earth Science Digest. One year subscription, \$2.00 — Sample copy 25c. Write: Dept. D., Box 57, Omaha 3, Nebraska.

WILDCRAFTERS MAGAZINE — Woodcraft and Outdoor Living Lore. 5 years only \$4.00. 1 year \$1.00. 35c copy. Spring issue free when subscribing. Reasonable advertising rates. Wildcrafters World, Rt. 1-D, Alton Sta., Ky.

COLLECTORS CATALOG — National Geographic (1888-1947), Arizona Highways, Desert Magazine, and other items. Send 10c. Jack Hellar, P. O. Box 2507, Los Angeles 53, Calif.

NEW GEM, MINERAL SOCIETY ORGANIZES IN TUCSON

Tucson Gem and Mineral society was organized December 3, 1946, with 28 members. Constitution and by-laws were adopted by unanimous vote at a later meeting, and officers for 1947 elected. President is Sam Turner of U. S. geological survey; vice-president, J. A. Watwood; secretary-treasurer, Mrs. M. O. Gastlelum, 1701 S. 6th avenue, Tucson, Arizona.

Captain and Mrs. Kennedy of Redlands, former Minnesotans, spent a few mid-December days visiting below sea level rockhounds in Imperial Valley.

Many real beryl emeralds seem to be coming from Brazil at the present time, but most of them come from Colombia, where they occur in massive calcite or limestone. Some stones are transparent, of fine gem quality, while others are opaque. Colombian mines were known to Indians hundreds of years before coming of Columbus. It was the eager search for emerald mines which led to early exploration of interior of northwestern South America.

Ben Hur Wilson was scheduled to speak on "Effects of Glacier Action" at December meeting of Marquette Geologists association. November auction of polished material and specimens brought \$66.75 to club treasury.

Gem Collectors of Utah December 17 meeting in Newhouse hotel featured a special annual display of more than 250 precious and semi-precious stones. Alfred M. Buranek, geologist, discussed tourmaline, beryl and kunzite. New officers elected were C. L. Pettit, president; Sears Roach, vice-president; Mrs. Stella Pettit, secretary; Mose Whitaker, treasurer.

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

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

LIVESTOCK

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

REAL ESTATE

BUSINESS, HOME, RANCH. 20 acres fine Ariz. land, furnished 6 room frame stucco, elec., water, cows, pigs, chic. equipt. Wonderful dry climate. Complete latest lapidary equipt. Will teach business and guarantee market. Illness forces sale. Full price \$7,900.00. Terms. A real bargain. Lapidist, Box 851, Buckeye, Arizona.

\$2500. FULL PRICE. Forty acres mountain desert, not farm land. No well. Hauled storage water. Secluded, scenic canyons. Beautiful view, 4000 ft. Five room 900 sq. ft. furnished house. A-1 condition. Newly painted. 6 years old, 20 miles N. E. Victorville. House alone worth price. L. A. 8250. 4927 Beck Ave., Bell, Calif.

For Imperial Valley Farms—

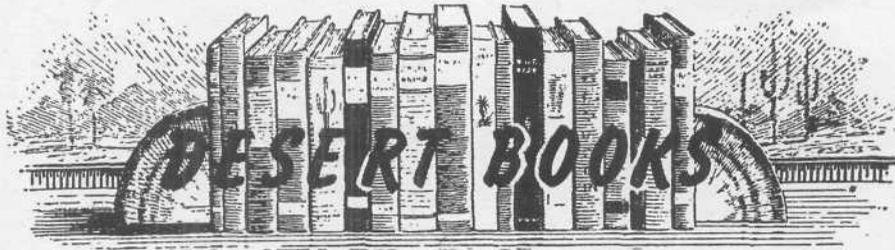
W. E. HANCOCK

"The Farm Land Man"

Since 1914

EL CENTRO — — — — CALIFORNIA

THE DESERT MAGAZINE



LAND NAMES OF CALIFORNIA SUBJECT OF NEW VOLUME

There are stories behind the names of cities and mountains and rivers, and particularly is this true in California where one culture has pressed swiftly on the heels of another with the passing decades. Phil Townsend Hanna has published the results of 25 years of intermittent research into the meaning of names under the title: **THE DICTIONARY OF CALIFORNIA LAND NAMES.**

Hanna calls it "merely an outline dictionary." While it is true that many more years of research will be necessary before a definitive dictionary can be published, this book is much more than an outline and will be a standard reference work for anyone interested in California history. The introduction contains much fascinating material on the naming of the land, and there are extensive bibliographies on California books, pamphlets, periodicals, newspapers and manuscripts.

The dictionary starts with Abastos point and concludes with Zumwalt meadows. Between the two, desert people will find the origin of a majority of better-known desert place names. There are, of course, a number of blank spots to be filled in and a number of stories to be expanded. People with first hand knowledge of the reasons for desert names and history of desert places should do their part to make future editions still more complete and useful.

Automobile Club of Southern California, Los Angeles, 1946. 360 pp. \$5.

VESTAL TELLS THE STORY OF ANOTHER MOUNTAIN MAN

Jim Bridger could take a buffalo hide and piece of charcoal, and sketch out as good a map of the western wilderness as a surveying party could draw. When 20 years old, he discovered the Great Salt lake. In another five years, he was leader of the free trappers, and one of the heads of Rocky Mountain Fur company. He established a trading post far out on the emigrant trail, and guided Captain Stansbury over a route which was to be followed by Overland Stage, Pony Express and Union Pacific railroad.

Jim Bridger saw the wonders of the Yellowstone long before any scientific expedition ventured there. When he told of boiling springs and geysers, people called him a liar. Bridger told them some real whoppers, so they could see the difference.

Stories about "peetrified trees agrowin' with peetrified birds on them singin' peetrified songs." Bridger was past sixty when he acted as chief of scouts on the army's Powder river expedition. In his old age, he retired to a farm in Missouri, and, with vision failing, longed for his mountains, "whar a man can see farther." He was 77 years old when he died in 1881.

In **JIM BRIDGER, MOUNTAIN MAN**, Stanley Vestal outlines the life of a great pioneer. Bridger was river boatman, trapper, guide and scout. More important, according to Vestal, he was a born explorer. The book is more a picture of a period than of a man. It is a story of the adventures in which Jim participated, rather than of the factors which made him great. Perhaps sufficient material has not survived to permit the author to go deeply into Bridger's character. Perhaps Mr. Vestal has dealt so frequently with the period of the mountain men, that his work has fallen into a pattern.

But the adventures are sufficient to make the book fascinating, and Jim Bridger is such a towering figure that anything about him is interesting.

William Morrow and Co., New York, 1946. 333 pps., portrait, bibliography, notes and index. \$3.50.

TENDERFEET LEARN DESERT WAYS IN NEW 'TEEN AGE STORY

Three young easterners arrived in Barstow one hot July afternoon, to start a summer vacation in the Mojave desert. Old "Hardrock" Stone was waiting to take them in a battered jalopy to his little cabin under the cottonwoods, out beyond the Calicos. What happened to Bobby, Tommy and Johnny during the next few months is told in **THREE PALS ON THE DESERT**, by Sande Miles.

And practically everything happened! Sandstorms, cloudbursts, encounters with a bandit, and struggles with desert thirst are part of the boys' adventures. They learn to prospect and pan gold, to protect themselves from desert heat, to treat heat victims, and to climb desert mountains. They meet kit foxes, chuckawallas, rattlesnakes, coyotes, roadrunners, and other desert denizens, and learn desert geography, geology and botany. It is a pleasure to find an author of boys' stories who knows the area he is writing about and who apparently has made an effort to see that his material is accurate. His geography of the region is exact, his discussions of

prospecting and other desert occupations indicate first-hand information. Botanically, he makes the too-common mistake of confusing tamarack and tamarisk.

The book reads easily and contains a mine of information.

Robert McBride and Co., New York, 1946. 248 pp., 16 full page drawings. Teen age. \$2.50.

SOUTHERN CALIFORNIA IN SCENIC GUIDE SERIES

One of the most useful features of H. Cyril Johnson's guides is the alphabetical arrangement, which permits rapid reference to any particular locality. **SCENIC GUIDE TO SOUTHERN CALIFORNIA** includes many facts of interest to desert travelers, although treatment is necessarily limited. The author gives information regarding altitudes, populations, historical and scenic attractions, accommodations, and hints to rockhounds. Publication's greatest fault lies in an apparent lack of recent revision. For example, the book lists Chris Wicht and Pete Auguerreberry as still living. Tourists using the guide should check road conditions before entering remote localities, as some of them are in still closed army and navy areas, and roads to others have not been repaired since the war.

Published by H. Cyril Johnson, Susanville, Calif., 1946. 103 pp., paper covers. \$1.00.

BIOGRAPHY GIVES NEW SLANT ON MARK TWAIN

Among the several biographies of Samuel L. Clemens, Delancey Ferguson's **MARK TWAIN, MAN AND LEGEND**, should stand out as one of the best. Published in 1943, the book is historically reliable and excellently written.

Bobbs-Merrill Co., New York. Index. 352 pp.

THE COURAGE OF JOSHUA

Illustrated Desert Poems
By CONSTANCE WALKER
2814 W. Ave. 30
Los Angeles 41, Calif.

A California Gift . . . \$1.00 a copy

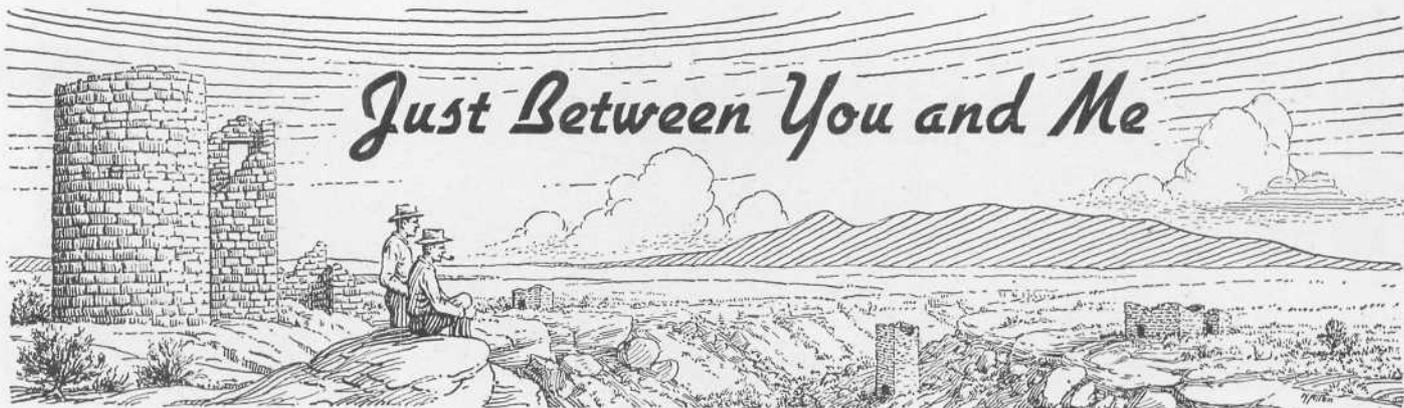
DEATH VALLEY AND ITS COUNTRY

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DESERT CRAFTS SHOP
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Just Between You and Me

By RANDALL HENDERSON

IN THE *Wonders of the Colorado Desert*, George Wharton James wrote:

"Yet it is true that the desert is not for everybody. He who loves comfort and ease more than knowledge and power; who is afraid of hardship, solitude, heat, and general discomfort; who values the neatness of his appearance and the cleanliness of his apparel more than filling himself with experiences strange and novel, and coming in contact with some of the most wonderful things of Nature, had better remain away.

"The desert will flout him. Its winds will toss his well-combed locks astray and disarrange his dainty apparel; its storms will beat upon him and make him fear the deluge, as well as wash the starch out of his collar; its alkali and bitter waters will nauseate and disgust him, and its sands make his bed a place of unrest and mourning.

"Its lack of all native foods (except in a few favored localities) will offend his epicureanism, for to live on 'condemned' foods is not agreeable to a pampered palate. Here are no smoking, lounging, or writing rooms. Out-of-doors has to answer for every purpose, and scores of pages have I had to write on my knee, or on a box, or even my suit case converted into an extemporized writing desk.

"No! No! Pampered and feasted sons and daughters of cities, don't come to the desert. It is not for you. You have deliberately chosen your mode of life. It shuts you out from much of what is great and grand and educative and real; but having thus shut yourselves out, don't try to break down the barrier. If you do you will have a hard time and return home wearied, disgusted and disgruntled. Far better read the desert through the eyes of those who, while appreciating what your life has to give to the hungry soul, prefer the larger fuller, realer life of contact with uncontaminated Nature."

James' comment reflects very accurately the desert of his day, for his long tramps across the arid wastes of Southern California were in the period before automobiles, good roads and motor courts had taken the sting out of desert travel. Today the desert country is visited annually by millions of motorists who spend weeks and months in this arid region without even glimpsing the hardships described by the author.

And yet those who spend their desert days in luxurious hotels and on smooth surfaced highways never get to know the real desert—the desert beyond the beaten paths, where the pay-off for physical effort and discomfort is found in terms of spiritual strength and courage, and renewed faith in the ultimate survival of that which is right and good.

* * *

As this is written, late in December, rain is falling on the Southern California desert. Out on the mesas the air is laden with creosote—the resinous sweet scent of the *Larrea divaricata* that permeates the atmosphere when there are showers. The

Mexicans do not like the odor of creosote. They call it *bediondilla*, meaning "little bad smeller." But I find that most folks who have dwelt on the desert for many years share my fondness for creosote. It is fresh and clean and pungent.

When the scent of creosote is in the air the plants of the desert are busy storing up the nourishment that will give them strength and vitality for months of drouth. The desert world is a thrifty world. And thrift is still an important virtue.

Buried in the desert sands are billions of tiny seeds, and bulbs. If conditions are just right, they will sprout and produce gorgeous blossoms. But the rain must come at just the right time of year. It must fall in a certain way, and there must be the proper amount of water. It requires slow gentle showers in December or earlier to bring out the best flower display. Old Mother Nature has her flower business under good control. A little rain will bring certain limited species of blossoms in February and March. If the rains are heavier, there will be wider variation in the flower show. If enough water comes—and falls gently enough to seep down eight or ten or twelve inches to the dormant bulbs of the desert lily, then we have the promise of a gorgeous wildflower exhibit in the months ahead.

Yes, Mother Nature is a good manager. Take those creosote bushes for instance. On your trips to the desert have you ever noted how creosote grows—the wide spacing between plants? The soil is seldom rich enough to furnish nourishment for a jungle of them—so they spread out far enough to enable each plant to have the proper feeding ground for its roots. They never crowd each other.

And that is what I mean when I suggest that we could use some of Nature's managerial skill in regulating the affairs of the human family. It is quite obvious that many of our social and economic and political ills are the penalty of too much pushing and crowding by some of the individuals and groups and nations which occupy the earth.

But there is reassurance for those whose faith in the ultimate destiny of man enables them to view life in its larger aspect. Most of the troubles of mankind are of man's own making. While humans crowd and push each other around, the God of Nature who still regulates the lives of the desert lily and the creosote, remains the patient and wise—the supreme Ruler of the universe.

After all, we humans with our clever gadgets and our sophisticated ideas have come but a little way along the road that leads to true culture. In this stage in the evolution of our species the acquisition of property has become one of the chief goals of our effort. But as humans progress—as they acquire a better understanding of their role on this earth, the false god of physical wealth, like the golden images of the ancients, will be discarded by a more enlightened generation of men whose main quest will be for Truth and Beauty in human character. And then there will be peace on this earth.



REQUIRED READING . . . for those who *Love the Desert*

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Unit No. 1 virtually has been sold out and Units 2 and 3 are being rushed to completion. Let us send you literature concerning this attractive new development now, while you still may take advantage of opening opportunities.

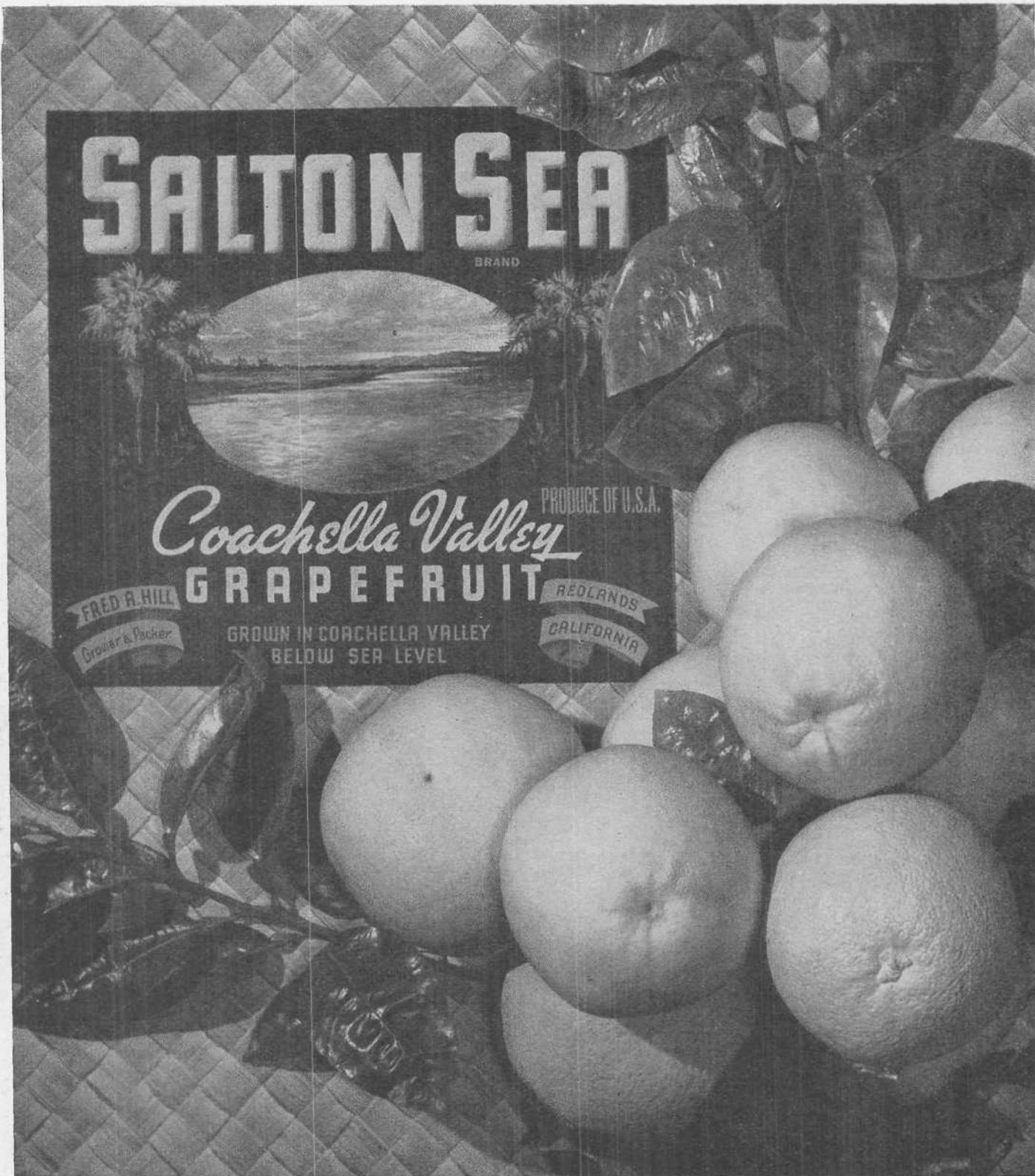
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Palm Desert

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	To California Points	To Points West of Mississippi- Missouri River	To Points East of Mississippi- Missouri River
½ Box	\$5.25	\$6.40	\$ 6.60
Full Stan- dard Box	8.00	9.85	10.10

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