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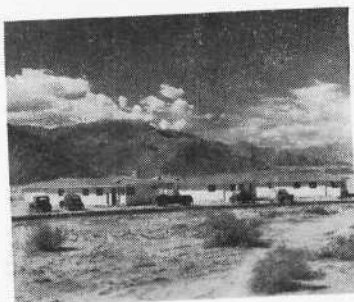
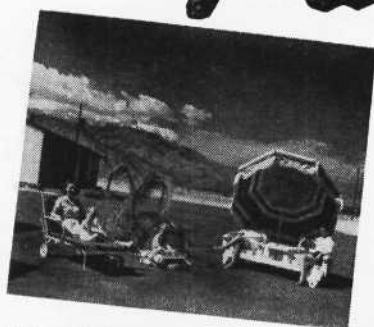
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Desert Calendar

- January—Monthly free Winter Visitors Party, sponsored by Mesa junior chamber of commerce. Exact date not available. Events vary, including trek to Superstition mountains, barbecues, Western dances.
- Jan. 1—Lost Pegleg Mine Trek. First conducted search for the Pegleg Smith mine, planned as annual affair. All desert rats invited. Meet at Borrego Valley post office, Borrego, Calif.
- Jan. 1—New Year's Day dances, Jemez and other New Mexico pueblos.
- Jan. 1-10—Edgar A. Payne exhibit of Southwestern paintings, Southwest Museum, Highland Park, Los Angeles, California.
- Jan. 4—Invitational ski jumping open meet, Provo, Utah.
- Jan. 6—Installation of new governors at San Felipe, Santo Domingo, Cochiti, Santa Ana, Zia, San Ildefonso and Taos pueblos, New Mexico. Celebration of "Old Christmas" and many dances. Eagle dance at San Ildefonso, Buffalo and Deer dances at Taos.
- Jan. 10-18—Exhibit of photographs of recently discovered Maya temples in southern Mexico, and their mural paintings, taken by Giles Greville Healey. Southwest museum, Highland Park, Los Angeles, California.
- Jan. 11—Utah three-way championship, sanctioned by Intermountain Ski association, Provo, Utah.
- Jan. 17-18—Sierra club hike up Bear Creek canyon to Bear Creek palm oasis. Camp site near southwest corner of La Quinta, California. Randall Henderson, leader.
- Jan. 17-18—Reno Winter Jamboree, Reno, Nevada.
- Jan. 19-Feb. 1—Exhibit of Southwestern photographs by Dr. E. Leslie Eames, and a collection of carvings by a Navajo artist, representing Yebichai personages. Southwest museum, Highland Park, Los Angeles, California.
- Jan. 22-25—Open golf tournament, Phoenix, Arizona.
- Jan. 23—Feast day and annual fiesta, Buffalo dance, San Ildefonso pueblo, New Mexico.
- Jan. 24-25—Nevada state ski jumping championship and giant slalom, Carson City Ski club, White Hills, Nevada.
- Jan. 25—Intermountain cross-country, sanctioned by Intermountain Ski association, Provo, Utah.
- Jan. 25—Lecture, "Through Navajo Land, Monument Valley and New Mexico Pueblos," by Dr. E. Leslie Eames. Illustrated with color pictures. 3 p. m., Southwest museum, Highland Park, Los Angeles, California.
- Jan. 27—Intermountain cross-country, sanctioned by Intermountain Ski association, Timpanogos, Utah.
- Jan. 28-Feb. 3—Open golf tournament, Tucson, Arizona.
- Jan. 31-Feb. 1—Sierra club official hike, Rabbit peak, Santa Rosa mountains. Meet at Borrego, California. Bill Henderson, leader.
- Jan. 31-Feb. 1—Thunderbird Ski meet, sponsored by Phoenix chamber of commerce, Snow Bowl, Flagstaff, Arizona.



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The Wolf Men in their cave, as visualized by Charles Keetsie Shirley, the Navajo artist.

Wolf Men of the Navajo

Into the lonely depths of Canyon del Muerto Richard Van Valkenburgh and Slim Singer rode one night, to camp below the Cave of the Witches and seek the Wolf Men who were working death medicine upon the old Navajo who lived under Pine-Struck-By-Lightning. The happenings of that strange night long were secret between these two. Now Slim Singer is dead and the Wolf Men they saw are gone. And here, for the first time in print, is the amazing story of Navajo witchcraft in the desert fastness of Northern Arizona.

By RICHARD VAN VALKENBURGH

NOT MANY years ago the startling news came to me in Fort Defiance, Arizona, over the Navajo grapevine that an epidemic of witchcraft had broken out among the Indians who dwell in the vicinity of the de Chelly-del Muerto canyon system in northern Arizona.

I immediately left for Chinle, Arizona, the jumping-off point for most of the trails that lead into the shadowy depths of the great labyrinth of sheer-walled canyons. Once there, I went directly to the hogan of my old friend and confidant *Hatbli Ts'osi*, the Slim Singer.

After eating, we settled down to a visit. Aware from past experience in dealing with the Navajo that any conversation regarding witchcraft must be handled with caution, I talked of the weather and things in general for some time before risking an oblique probe:

"Grandfather, some folks say that a long time ago the Navajo had Wolf Men—witches who ran around in wolfskins to poison and sometimes kill people?"

Squatting across from me in the quiet darkness of the hogan, Slim Singer seemed to ignore my question. Instead of answering he pulled down his medicine-bag and began to search for something. It was not until he held a tiny pouch in his hand that he surprised me with this answer:

"My son, I know why you traveled from

Tsébootso to see me. Through *Bilakana* magic you have heard of this '*ant'i*' or witchery. Yes! There are still the '*adant'i*', the Poisoners or Wolf Men. Even now, they make medicine in '*Ant'i ba hogan*', the House of the Witches, against Bia, the rich man who lives under Pine-Struck-By-Lightning."

The old Navajo leaned closer and his voice faded into a whisper. "For ten silver dollars and that bracelet on your wrist, I will risk taking you to their house which is a cave. I have lived 84 summers which is the span of life allotted to the Earth People by the Gods. My time will soon come and I have no fear."

With this he handed me the small pouch from his medicine-bag and continued, "Take this bag in which there is the gall of an eagle ground with cornmeal. It is the

rise and our world pinched down to the curvature of the canyon and the turquoise sky above.

Following the narrow canyon floor we went deeper into the maze until we stopped under a group of 1000-year-old cliff dwellings, ghostly white cubes in the shadows of their arched wind caves. Here our trail swerved to the left and soon we were passing through the patches of light and shadow cast down by the 800-foot walls of *del Muerto*, the Canyon of Death!

The sun had dropped behind the rims and only its red reflection lighted our way when Slim Singer turned from the main trail above Mummy House and entered a cove which cut into the canyon walls like an indigo scoop. Only the whimper of the wind rustling through the thickets of wild

"When my man came home he was worried. I said, 'Give him the sheep.'

"But he got mad and shouted, 'Rotten corpse from a grave! Twenty will multiply into twenty-times-twenty. Send Tuli, our eldest son, to Fort Defiance for a policeman. They will catch Wooti and his Wolf Men, burn their medicine-bags, and throw them into jail.'

"That night black clouds shaped like wolves crossed the white trail of the moon. Darkness crept down and threw a great shadow on this hogan. Outside things began to move. There was a noise on the side of the hogan. And as a clod dropped through the smoke-hole we heard the howl of Maitso, the Wolf.

"No one closed his eyes to sleep that night. Fear was right beside us. My daughters held their babies tighter. Our sons huddled together on their sheep pelts and only moved when dawn slanted down through the smoke-hole. And when we went outside we found a circle of wolf tracks around the camp—the sign of the Wolf Men.

"Before the sun had climbed to two-fingers everyone had run away. My man laid down and has barely moved since then. All I can do is sit here and watch over him—even though the sheep bawl in their corral, the crows eat our ripening corn in the fields, and by the spring the horses cry for water."

Grimly Slim Singer listened. When Old Bah had finished he answered as he picked up his medicine-bag, "My medicine is to prevent and not cure witchcraft. Only witch's medicine can cure Bia. But this *Bilakana* with me may find out some things. Together—we will see what can be done."

And then as we left and started to pass down the trail, Slim Singer began to mumble good luck prayers. When we reached the main canyon he twisted around in his saddle and looked back toward the stricken camp and he muttered, "*Doyachonda!* 'Tis bad. Let's hurry to make camp."

As we picked our way up canyon, black clouds smudged the face of the bright moon. Blue darkness crept down to engulf the cascade of moonbeams that had been spilling over the rims. In this spectral light Slim Singer guided me to a lone cottonwood that stood gaunt and stark inside the jaws of a small rincon.

When I began to make camp the old Navajo grumbled, "I'm sorry I came. I don't like to camp here. But this is the place. While you build up a big fire I will make protective medicine. I have charms that will guard me against anything—bears, snakes, whirlwinds, lightning, or even witches."

Out of the corner of my eye I watched as he took a small medicine-bag from his saddle pouch. Walking in counter-clockwise direction he drew a ring of corn-



As a small boy Slim Singer had watched the witching ceremony from behind a nearby boulder.

medicine that protects against witchcraft. You will need it for you are young and it has always been that bad luck comes to sit beside those who meddle with the affairs of the Wolf Men."

Tucking the pouch in my shirt pocket, I thanked Slim Singer and then handed over my presents. To the money and bracelet I added some abalone shells which are used as medicine-containers. And after the old man had hidden away his loot I asked, "When do we ride, Grandfather?"

"Now. Let's go!" he answered as he arose and passed out of the hogan door toward the corral. "We must reach Bia's camp before the sun drops into the west. 'Tis not good to get caught in the canyons when the Black Wind of Night begins to prowl."

Before long we pushed our horses through the sand into the rocky jaws of the *ch'inili*, or outlet of the *Tsegbi*, which is the Navajo name for the Canyon de Chelly. Once we were through the opening the cinnabar-colored walls began to

cherry greeted us as we rode up to the hogans of Bia.

Pushing back the door-rug, we entered. In the dull glow cast from the tiny fire we could see Bia lying on a pile of sheepskins. By his side sat Old Bah, his wife. Without moving the wrinkled hands that covered her face she sobbed brokenly as we seated ourselves:

"You have come at a bad time, Grandfather. Look! My man lies like one whom the breath of death has entered. Four days ago he met Wooti, a singer from Sawmill, on the Twin Trails. This chinde told my man that unless he left 20 fat sheep by an old corral down-canyon, he would be witched!

"My man struck at Wooti with a club. But he dodged away. And as he ran, he yelled back, 'The Wolf Men have hair from your head, spittle from your mouth, and other of your body offal. They took these things from you while you slept at the Top of the Mountain Chant which was held last winter under Black Rock.'



It was in this rough country at the head of the Canyon de Chelly-del Muerto system in Northern Arizona that Richard Van Valkenburgh was guided to the cave of the Wolf Men.

pollen around our camp as he chanted something like this:

*Ch'indi, Evil Spirits
Go away
For with me
I carry the Holy Power.*

*'Adant'i, Poisoners (Witches)
Stay away
For with me
I carry the Holy Power.*

When we finished our supper of jerked beef and coffee, Slim Singer was speculative as he chain-smoked my cigarettes. After some years with the Navajo I had learned to blend into their moods and I lay silent with my head against my saddle. Becoming drowsy I closed my eyes only to be jarred wide awake by the command of Slim Singer:

"Don't go to sleep now. This might be the only chance you will ever have to see the Wolf Men at work." Then looking high into the shelved cliffs half-lighted by the moon he went on, "Look closely—through the forks of that branch. See that black hole up there that looks like the socket of a skull? 'Tis 'Ant'i ba bogan, the House of the Witches!

"For as long as the People have dwelt in these canyons the Wolf Men have made their bad medicine in that cave. I was no higher than a willow shoot when I first learned of this place. One night I heard my father whisper to my mother that the tracks of the Wolf Men had been found around the hogans of our kinsman Natani.

"Then the next morning my father and I saddled and rode to Natani's camp which was a few arrow-flights up canyon from

here. Everyone was gone. And when we looked around we found the tracks of the wolf. Tracking, we followed them down canyon until we reached this very place.

"Our eyes followed the tracks until they faded on the slick rock. Then we looked around until we saw the entrance of the cave. Something moved! Whipping his horse, my father yelled as we started to gallop down the canyon, 'This is no place for good people. For that is the House of the Witches!'

"After reaching our camp I kept wondering about that cave. And then I did something foolish. I was young then and my blood was full of flint. When the sun went down behind Blackish mountain, I slipped away to saddle my pony and came back up to where we are now camped.

"Hobbling my pony I took off my moccasins. Sneaking up in the great shadows cast by the canyon walls I reached the bottom of that cliff before us. Creeping up the slippery sandstone I soon reached the ledge on which the cave opened. I looked inside—it was as black as the inside of a horse's belly.

"Making sure that there was no one on guard I slipped in through the low entrance. Soon I found a hiding place. This was behind a great slab that had sluffed down from the ceiling. Like a badger I burrowed out a hole and waited to see what might happen . . .

"Soon a shaft of moonlight laid down a patch of light across the mouth of the cave. In the darkness and dead silence I thought I would smother. I had an urge to run out into the moonlight. But just as I started to crawl out the swish of moccasins on the sandstone drove me back into my burrow.

"A twig snapped! Then my breath caught as I saw a line of shadowy figures enter the mouth of the cave. When they passed me the fetid smell of the wolf almost made me vomit. For some moments I could hear them stirring around and then everything went silent . . .

"A tiny flame flickered up into the darkness. In its swelling glow I could see a ring of black figures. As the red light spread they took shape. When the fire-glow began to climb the walls I saw clearly. With only the whites of their eyes showing through their masks sat the Wolf Men!

"The chief who sat on the west spread out a wolf skin. Taking a gourd rattle he began to chant. Only he was singing them 'downward' into the *Hadjinah*, or The Place of Emergence and against my kinsman Natani!

"While he chanted another Wolf Man took up what looked like a human shin-bone and smoothed out a place in the dust. From his medicine-bag he took four pouches. In the center he drew the black symbol of the *Hadjinah*. Then in the four sacred directions he piled cones, the white of the east, the blue of the south, the yellow of the west, and the black of the north.

"Finishing with this he took from his bag a small wooden doll shaped like a man. Muttering evil he laid it down on the sand picture. With a small bow, which they tell is made from the rib of a dead baby, he shot a turquoise bead into the figurine as he chanted:

*With this bow
And turquoise arrow
I shoot evil
Into the body of Natani.*

*Down into the Underworld
Into the Shadowy Land
Of Witch Woman
Shall travel Natani's life-breath.*

"Then pressing the bead to the stomach of the doll he grunted, 'La! Where this arrow of evil strikes Natani shall have sickness. Then death shall come—his breath will go out—and down through the *Hadjinah* his spirit will travel to the Black Land of Death!'

"Following this the Wolf Chief rose and walked to the wall. Before him were painted pictures of men and women with their heads pointing downward. In each body was embedded a small piece of turquoise. Softly the chief chanted as he shot a bead into a fresh painting:

"'You who have died from witchcraft soon shall have the company of Natani!'

"And then as the Wolf Chief turned, his mask slipped. I knew this devil as I knew myself. This was the person who had only two winters before initiated me in the Boy's rite of the Nightway ceremony. It was my father's half-brother, *Hatbli Dis-gis*, the Crazy Singer!

"With the waning of the moon the Wolf Men faded out of the cave like ghosts. Stiffened with fear I laid still until the brightness of dawn came down into the canyon. Then sneaking down the trail I hit the canyon bottom and hurried home to tell my father of what I had seen.

"Cautioning me not to speak of what I had seen my father just said, 'Wait and see what happens to witches.' And then at the next Squaw dance he walked up and killed Crazy Singer—with an arrow straight through the eye as he said, 'That's the kind of medicine that's good for witches!'"

With this Slim Singer fell silent indicating that his story was finished. Disregarding my questions on certain details of the story he kept staring up toward the cave and muttering to himself. And when I looked into his eyes I sensed what appeared to be fear.

I must have dozed off. I recall jumping up in alarm. Sleepily I twisted out of my blanket. Above me there was a clatter. I ran for the cover of a hanging wall. And there—my hair rose on the back of my neck as a boulder smashed to the canyon floor just below our camp and splattered!

When the slide seemed over and the dust began to lift I made my way back to see what had happened to Slim Singer. To my relief, but also to my puzzlement, the old Indian had disappeared and his blanket and horse gear were gone. I thought he had headed down canyon toward the horses and would return later.

The opposite side of the canyon looked safer and I decided to spend the night there in a small alcove slightly above the arroyo bottom. Sleep would not come. I lay with staring eyes. The only sound was the scampering of pack rats in the cave dust and the fluttering of leaves in the cottonwoods.

Then to my sharply attuned ears there came a sound like the swish of moccasins on sandstone. Straining my eyes to see through the gloom I thought I could detect movement on the trail up to the cave. And then—in the pale shaft of moonlight that lay across the upper cliffs I saw two dim forms crawl toward the cave!

For some moments I was in panic. My mind whirled, "Shall I make a run for it?" Then anger overcame fear, "I'll see this thing through whatever happens!" But it seemed eternity before the blue light of dawn came lazily down to bring some rationality to the Canyon of Death.

Recrossing the canyon I saw that the boulder had started a small slide which had gouged down 300 feet over the shelved walls before it smashed to the floor 50 feet from where Slim Singer and I had camped. Had it struck where I slept, I would not be here today to write this story.

Fortifying myself with stout coffee I speculated on the Cave of the Witches in



Almost identical to the witch doll taken from the Cave of the Witches by Van Valkenburgh, and later burned by him at the insistence of Navajo friends, is this sinister figurine used to make witch medicine. The reason for the cropped-off feet is unknown. The owner of this rare ceremonial object prefers to remain anonymous.

the bright light of morning. Shaking off the tightness that nagged me I made my decision. Pulling off my boots I started up the sandstone trail in my stocking feet—a slip on the slick rock could have been fatal.

After a knuckle and knee skinning traverse over a series of finger and toe holds

worn concave in the sandstone I reached the succession of ledges. Climbing over these by means of a system of rough ladders made from juniper trunks I reached the dust and rubble littered shelf wherein the cave nestled.

Before moving in I took a careful look to see that no one was spying on me. The only detectable movement was that of cliff swallows as they swooped to and from the narrow shelves whereon they had built their tiny mud houses. Carefully I picked my way across the bench to the entrance of the Cave of the Witches.

Alert for any movement I slipped into the mouth feet first—into the pitchy blackness. I threw on my flashlight. Beside me was the rock from behind which Slim Singer had watched the Witch's Sabbath some 70 years before. Beyond there opened a quasi-round room domed with sandstone and floored with dust as fine as talcum powder.

As the light swept across the walls it finally came to rest on a row of human figures. Graduating from those almost obliterated by age to one recently executed in charcoal, they all had been drawn with their heads pointing downward. And when I stood before them I saw in each there was a small hole where once had been stuck a turquoise bead or chip—

After sketching the figures in my notebook I went over the cave to see what I might discover. In the back wall I located a pot-hole no larger than a man's bicep. My light showed something inside. First poking with a stick to make sure it was no snake, I reached in and pulled out a small bundle of calico.

Tucking it in my shirt I lost no time in getting out of the cave and down the trail to the canyon floor. After my sleepless night my blanket looked inviting under the cottonwood tree. But I had a definite feeling that I had better get out of the vicinity of the Cave of the Witches. Pronto!

While tracking down my hobbled pony I cut the trail of Slim Singer. From the look of the tracks the old Navajo had pulled out at a high lope. And I might say that my own tension did not relax until the walls of the Canyon del Muerto were behind me and I was passing into the open world through the Chinle.

Finding Slim Singer's hogan deserted I corralled his horse and took out for Fort Defiance. There in the seclusion of my office I pulled the calico bundle from my shirt.

Shaking off the dust I untied the outer wrapping of faded calico. Then came a layer of hide. It appeared to be part of a coyote pelt. Untying this fetid wrapping, I could feel something solid. And as the last roll uncurled a small figure shaped like a human being rolled out!

I studied it. It was fashioned from what appeared to have been a piece of pine

struck by lightning. A head had been shaped, and eyes and hair had been painted on with black pigment. On the back lay an arrowpoint with one corner chipped off. Looking closer, I saw that it had been tied with human hair.

A black spot on the left breast caught my attention. Curiously I scraped it away. Imbedded in the wood was a piece of roughly worked turquoise. Without question this figurine represented the symbolic shooting of Bia by Wooti and his Wolf Men!

To dispose of or keep the figurine was my next perplexity. If I returned it to the Cave of the Witches the witching of Bia might continue. Otherwise its possession might cause resentment and fear among my Navajo friends. I decided to await developments.

A few days later I returned to Slim Singer's hogan. The old Navajo welcomed me as usual. I waited for an explanation of his desertion. But he talked of everything else. As I prepared to leave I hinted at a rock slide in del Muerto. He was nonchalant as he answered:

"La! Such things happen in the Canyon of Death—always something bad. It was lucky for you that you carried upon your person that little pouch of Eagle Gall medicine that I gave you before we started on the trip."

Then I asked of Bia. Slim Singer looked at me curiously as he answered, "He's all right now. Just yesterday, Wooti went to him and said, 'I was only talking about witching to you in fun.' But I heard in another place that the 'adant'i ran away to hide on Blackish mountain because someone got their medicine and they fear that it will be turned against them."

With a knowing look in his eyes the old singer went on, "Whoever did this, did a good but dangerous thing. Fooling with witch medicine is risky. It always carries wickedness and evil. Bad luck can come from its possession. Should a friend of mine have a witch doll in his possession, I would beg that he destroy it with fire!"

Only to a few trusted friends did I ever show the evil little figurine. And until Frank Walker made me burn this witch medicine it seemed that Slim Singer's warning: "Ill fortune shall come to its possessor" did come true. But possibly I was imagining things as a result of too many years of intimate association with the Navajo.

This story could not be told as long as Slim Singer lived—the old man passed on in the spring of 1939. With him went certain points I have never been able to clarify. But I believe that, should I desire and be willing to take the risk, I could return to the Canyon del Muerto and find evidence that the Wolf Men still concoct their devil's brew and blackmail in the sinister Cave of the Witches!

Gold Hunters to Erect Monument . . .

On January 1, 1948 Pegleg lost mine enthusiasts from all over the Southwest plan to meet at the Borrego Valley post office, in Borrego Valley, California to inaugurate a Lost Pegleg Mine Trek, and to establish a monument to Pegleg Smith. Backers of the plan hope to make the trip an annual affair, like the Don's trek after the Lost Dutchman in Arizona.

From the post office, the mine hunters will drive six miles due north to Coyote mountain, the end of the paved road. Here, near the old Harry Oliver homestead, the Pegleg monument will be started. At the side of an 18-foot circle a sign has been placed: "Let him who seeks Pegleg Smith's gold add ten rocks to his monument." Rocks are easy to obtain in the area, and those establishing the trek claim that a

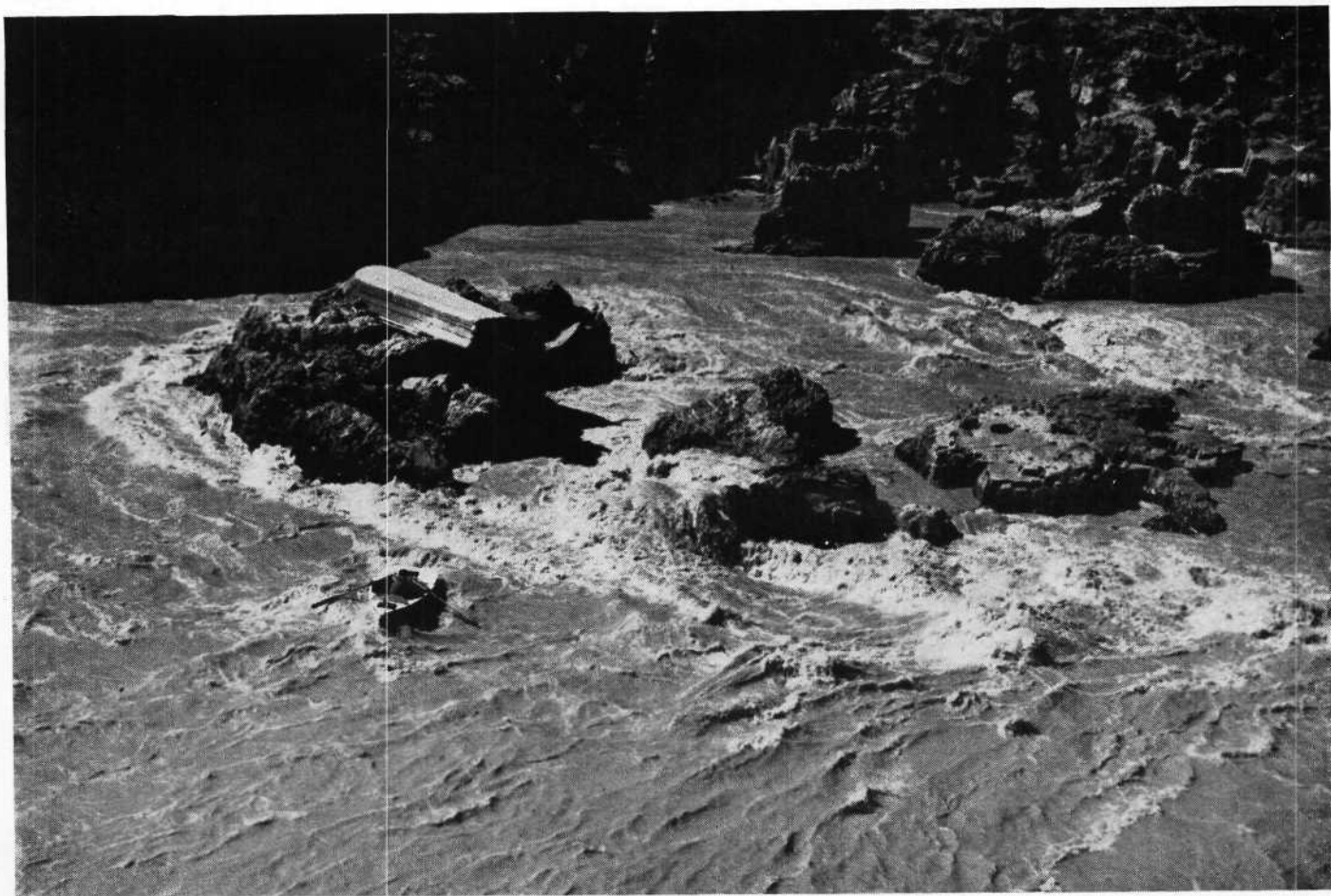
contribution to the monument will help the hunter's chances of finding the lost gold.

Major Robert Ransom of Borrego Springs has promised to haul water for all who need it to the monument. Jack Douglas, the Old Prospector of Dutch Flat, California, will be there. Others planning to be present are: Dry Camp Blackie; Desert Steve Ragsdale; John Hilton; Lost Mines Writer Howard D. Clark; Ray Hetherington of Knotts Ghost Town; Doc A. A. Beaty, Borrego old-timer; Quay House, editor of *Desert Barnacle*; Cabot Yerxa; Lloyd Mason Smith, Desert Museum; Harry Oliver and many prospectors, desert rats, rockhounds and mineral society members.

TRUE OR FALSE

The desert is reputed to be a land of mystery, but that is true only for those who haven't taken the trouble to solve its mysteries, either through travel or through reading. Desert Magazine's staff prepares this quiz every month for those who want to become better acquainted with the desert region of Southwestern United States. You'll not know all the answers, but that is no disgrace. The average person will probably get ten of them right. A score of 15 entitles you to become an honorary "Desert Rat." Anything over 15 is a super-score. The answers are on page 20.

- 1—Desert coyotes are strict vegetarians. True..... False.....
- 2—The famous Rainbow bridge of southern Utah was built by prehistoric Indians for ceremonial purposes. True..... False.....
- 3—Mesquite trees grow only where water is close to the surface of the ground. True..... False.....
- 4—The Apache warrior, Geronimo, was killed in battle. True..... False.....
- 5—Highway 66 crosses the Colorado river at Topock. True..... False.....
- 6—Certain species of desert birds build their nests in cholla cactus. True..... False.....
- 7—The Great White Throne is in Zion National park. True..... False.....
- 8—Leader of the first party to navigate the Grand Canyon of the Colorado river was Lieut. Joseph C. Ives. True..... False.....
- 9—According to fable, the Seven Cities of Cibola were located in what is now New Mexico. True..... False.....
- 10—The capital of Nevada is Reno. True..... False.....
- 11—The native Elephant tree is found in certain parts of Arizona. True..... False.....
- 12—Free gold is often found in quartz. True..... False.....
- 13—Bill Williams was a famous steamboat captain on the Colorado river. True..... False.....
- 14—First known white men to visit Carlsbad caverns were the Spanish padres. True..... False.....
- 15—Wild turkeys may still be seen in the White mountains of Arizona. True..... False.....
- 16—Ultraviolet rays of the sun are believed to have caused the petrification of the wood in the Petrified Forest of Arizona. True..... False.....
- 17—Capt. Palma was the name of a famous Yuma Indian chief. True..... False.....
- 18—Roads in Death Valley sometimes are closed in winter due to heavy snowfall. True..... False.....
- 19—Blossom of the desert smoke tree is white. True..... False.....
- 20—The *Winning of Barbara Worth* written by Harold Bell Wright is the story of the reclamation of Imperial valley, California. True..... False.....



On the midstream boulders in Bedrock rapids was the wreckage of a Reclamation Bureau boat which broke away at Lee's ferry some months before and was deposited here by high water. Kent Frost, taking one of the Nevills boats through these rapids was caught in an eddy and spun round and round.

Grand Canyon Voyage . . .

After two leisurely days at the Phantom ranch in the bottom of Grand Canyon, the Nevills expedition of 1947 shoved off to face the churning cascades in the Middle and Lower Granite gorges for the second lap of their journey down Danger River. This is the third chapter of a story written for *Desert Magazine* by a reporter who rode the deck through many of the Colorado's ill-famed rapids.

By RANDALL HENDERSON

WHILE we loafed in the shade and splashed in the pool at Phantom ranch awaiting the hour when we would pack our kits in the little 16-foot boats and head into the turbulent water that lay ahead, there were some changes in the personnel of our party.

Marjory and Francis Farquhar, Rosalind Johnson, Pauline Saylor and Elma Milotte were scheduled to leave the expedition here and return by mule to the Grand Canyon rim above. They had been fine companions and there was genuine regret when we bade them farewell.

Taking their places in the boats were Joseph Desloge, mining man and indus-

trialist of St. Louis and members of his family—Joe Jr., 22, the daughters, Anne 20 and Zoe 18, and Marie Saalfrank, governess for the family since the mother's death many years ago.

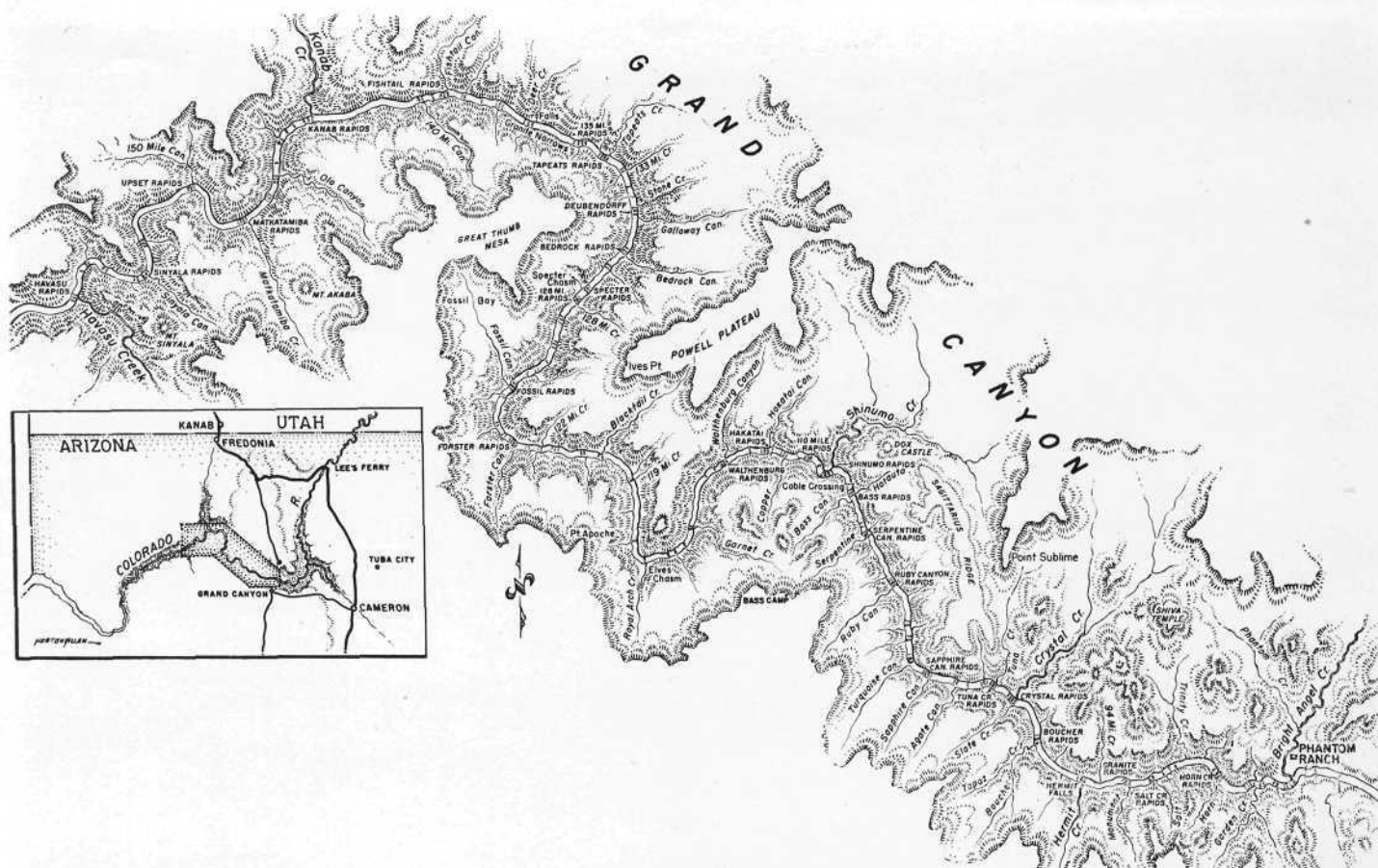
The Desloges arrived dusty and perspiring but showing no signs of weariness after the 11-mile hike down the trail from the South rim, and were soon frolicking in the pool. Their midwestern home is on the banks of the Missouri river and they are all excellent swimmers. They ran the San Juan river with Norman Nevills in 1946, and quickly adapted themselves to the routine of Colorado river navigation.

We shoved off at 9:00 a. m. July 21 for

the second stage of our river journey. Below Bright Angel there was a series of seven riffles, then Horn creek, one of the minor rapids. Norman looked it over carefully and then ran through with Zoe Desloge as passenger. The other pilots took their boats through empty while the passengers lined the rocky shore and took pictures.

We ran Salt creek rapids without stopping and then came to Granite Falls, one of the Colorado's big name rapids. It had some wicked looking boulders in midstream, and Norman and his boatmen studied it two hours—and then ran through with hardly a splash of water.

Norman used his "stealing" technique on this one. He rode the smooth tongue of water in the center of the channel down to the point where it suddenly became a churning series of 10-foot waves, and then with a few powerful strokes on the oars slipped out into the less turbulent water on the side. It is not always possible to do this, for great submerged boulders on the



sidelines sometimes make it necessary to ride the big waves down the center of the channel. But the two-hour session of the brain-trust was not wasted. They spotted each rock and hole and eddy, and then one boatman stood on a ledge above and gave hand signals as each of the others went through. In a boat surrounded by high waves the oarsmen seldom can see far ahead, but this signal system which was used on many of the rapids kept them out of trouble.

Norman always took the *Wen* through first. There was a double reason for this. The less experienced boatmen, watching from a vantage point, gained the benefit of Norman's experience in the treacherous stream. And then, the skipper wanted to be anchored below the dangerous water, ready to put out into the stream and capture the boat or rescue the swimming oarsmen if any of them got into trouble and capsized or were thrown from their boats.

The rest of us made our way over the rocks to the landing point Norman had designated below the falls. Some great granite boulders were perched precariously on the ledges above. We wondered if it would be 10 or 100 or 1000 years before the erosive forces of Nature would send them booming down into the stream. Sooner or later it will happen, and perhaps create new problems for future river navigators.

Imprisoned within the walls of that great canyon day after day one gets a more vivid concept of the tremendous span of time involved in the creation of this earth.

When one considers the hundreds and perhaps thousands of years required for sand and water to cut even a small groove in one of those granite boulders, the time required to chisel out a gorge such as this becomes immeasurable, even to the most active imagination.

We were through Granite Falls at two o'clock, and then floated leisurely downstream a mile to the mouth of Hermit creek where a clear stream of water comes in from the South Rim. We ate lunch on a shaded sandbar at the base of the vertical left wall.

Below us was Hermit Falls, with the channel on both sides of the tongue obstructed with boulders, and 12-foot waves lashing themselves into a fury in the mill-race between.

"I don't like the looks of this one," Norman remarked after studying it awhile. And when Norman doesn't like 'em they really are bad, for the skipper from Mexican Hat gets the same satisfaction in taking a boat through a bad rapid that a rodeo champion finds in climbing on a horse that has never been ridden. Away from his rivers and rapids Norman gives the impression of being a dare-devil sort of fellow. But there is no recklessness in his boating technique. He doesn't worry about himself. He'll tackle anything with water enough to float a boat. But he is jealous of his long record of never having lost a passenger or boat—and when he comes face to face with those great rollers pounding over the rocks, he becomes Ol' Man Conservative.

The boats would have to be lined around Hermit, he decided. This was no place to be stranded with a smashed boat and short rations.

Ropes were fastened to the bow and stern of the *Mexican Hat* and the little craft was pushed and pulled and lifted over and around the rocks along the shore. It wasn't a portage job, where the boats are lifted bodily from the water and carried around. But the only available route, without letting the *Mexican Hat* get into the surging main current, involved so much lifting it was almost as strenuous as a portage.

Obviously, it would require many hours of hard work to pass Hermit Falls by such a route, and when Joe Desloge started needling the skipper about the waste of effort, Norman weakened and decided to run the rest of the boats through. He even carried Joe as a passenger on the *Wen*. Garth took the *Sandra* through, and Norman ran the *Joan* so Otis Marston could get pictures of the most vicious rapids we had encountered so far on the expedition.

We camped on the sandbar beside the rapids that night, the roar being so loud we had to shout to carry on conversation. The women slept on the bar above the campfire, the men below.

Launching the boats in the rough water along the shore next morning was a tedious job, but we got away at 8:00 o'clock and ran a series of minor rapids in quick succession. The first was Bouchere where Norman stood up in the boat to look it over as we approached, and then shouted



Norman Nevills in the rough water at Hermit Falls rapids.

"Let's go!" and we ran through without stopping. Then came Crystal rapids, Tuna, Sapphire, Turquoise, Ruby, Serpentine and Bass. We got a ducking in Serpentine, and more or less splashing in all of them. Al's camera was soaked when he tried to take pictures going through the rough water.

Just below Bass rapids we moored the boats and climbed to the anchor point up on the cliff where the old Bass cable is still suspended above the river. This cable crossing was built many years ago by W. W. Bass, explorer and guide, who had visions of establishing a guest camp in the canyon. He built a trail to the river and his cable car was big enough to carry a horse across to the north side. Bass died at Wickenburg, Arizona, January 18, 1933, before his dream was fulfilled. His ashes were scattered in Grand Canyon.

At 11:40 we pulled in to one of the prettiest campsites along the entire journey, at the mouth of Shinumo creek which brings a fine stream of water down from the North Rim. Less than 100 yards up the creek was a 12-foot waterfall, with fish in the pool below it. I climbed around the waterfall and in a little niche in the sidewall found a bouillon cube can containing

a message signed by Miles, Carl and T. H. Cureton of Williams, Arizona. Dated June 27, 1938, it stated they had packed down through Powell Pass and caught many channel catfish in the stream. Otis Marston caught several catfish at the mouth of the creek. Today I saw more of the beautifully carved basalt along the edge of the stream.

Kent's frying pan tom-tom woke us at six the next morning. We were off at 7:35 and ran Shinumo rapids, which were merely a heavy riffle, then 110-Mile rapids and Hakatai, which we glided through without stopping. Then we came to Walthenberg, another of the major cataracts.

Norman looked it over from a point of rock, and decided to run it with all passengers. The boats took it easily, and after a series of riffles we came to Elves Chasm. Here a clear stream flowed from a side canyon on the left, and although it was only 10:15 we liked the place so well we decided to have an early lunch there.

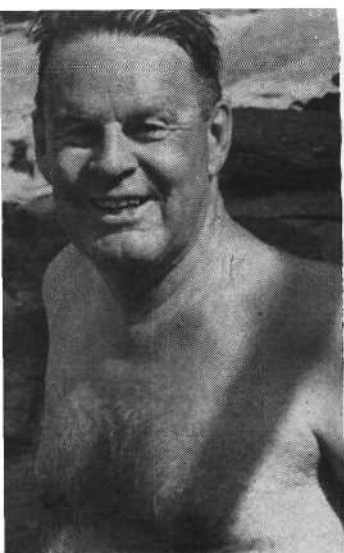
Elves Chasm is the name given a huge grotto in the sidewall back 50 yards from the river. The front of the cavern is concealed by a jumble of boulders and a thicket of mesquite and catsclaw trees. Many river parties have found shelter in this cave, as evidenced by the names

scratched on the wall. N. Galloway registered here in 1897, Norman Oliver on June 8, 1908, Frank E. Dodge September 5, 1923, and Clyde Eddy in 1927.

Norman prefers not to mark up the walls of Grand Canyon with inscriptions, and has placed a little book here—a register where members of his expeditions always record their passing.

We left Elves Chasm at 11:30 and ran nine riffles in rapid succession, then came to 120-mile rapid, a long S-course that gave us no trouble. Al Milotte wanted to take pictures of the boats from behind, so young Joe Desloge took his place in the *Wen* and Norman did a hitch as passenger while Joe took us through Forster rapids, a long rough one which Joe piloted like a veteran. Norman was back in the pilot's seat when we came to Fossil rapids, and a little later in 128-Mile rapids the *Wen* got caught in an eddy and slammed against the sidewall a couple of times. But no damage was done. Those 5-ply boats are very sturdy.

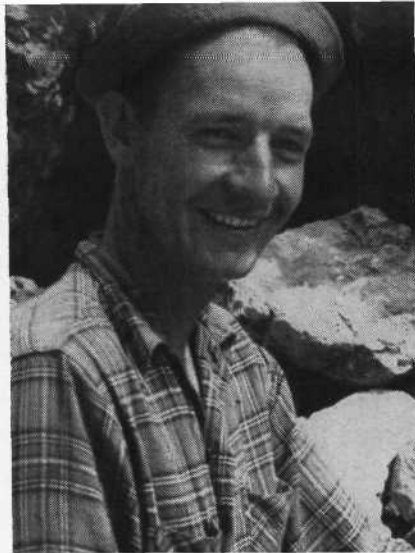
Specter rapids which we reached at 2:15 proved to be a long millrace with no bad rocks. At 2:35 we arrived at Bedrock rapids, and it had a nasty look. Some great blocks of granite had tumbled into mid-



Francis Farquhar



Marjory Farquhar



Kent Frost



Pauline Saylor

stream half way down, and on one of these was the wreck of a Reclamation Bureau boat which had broken away from a surveying party at Lee's ferry, and been deposited here by high water.

The passengers would walk, Norman decided. Actually, I think the detour over the cliffs around this rapid was more hazardous than the trip through. While the boats were gliding along on the swift current around those midstream boulders, we walking folks were hanging on to the ledges with our fingernails and hoping our toes wouldn't slip.

On this trip I decided that the hardest working man on earth is a field photographer. Al was taking pictures for Hollywood, and Doc Marston was accumulating both stills and kodachrome movies for lecture work, and other commercial outlets. Those two cameramen, neither of them very large, packed their heavy camera equipment and tripods over ledges that would be rough going for a mountain goat. They not only had from 20 to 50 pounds extra weight, but both hands were full, and with these loads they scrambled over wet rocks and up sidewalls where the footing was treacherous even for an unencumbered person. Watching them at work, my thoughts went back to the gritty Kolb brothers in 1911 when with even more cumbersome equipment they ran their boats through, much of the time alone, in

midwinter when during the early morning hours these same rocks were covered with ice. And despite all these handicaps they came out with a marvelous photographic record of the canyon from Green river to the Gulf of California. Those boys had guts—and their pictures, still being shown daily during the tourist season, constitute one of the most interesting and informative attractions in the Grand Canyon national park.

At 4:10 we came to the ill-reputed Deubendorff rapids, named in honor of S. S. Deubendorff of the Julius Stone party which reached here November 8, 1909. His boat capsized, but he swam out below with blood streaming from a gash in his head. Clyde Eddy's party lost a boat here while lining around the bad water.

Norman decided the boats could make it through. He gave instructions that the other boatmen should wait until he was through and had returned to the landing above the rapids.

He shoved off on the smooth water above the fall and rowed across to the head of the tongue which was on the far side of the channel. In a wild torrent such as this the actual time going through the roughest water amounts to a minute or two at most. For a few moments the boatman is at the mercy of the waves. Then it is over.

Norman plunged through the highest breakers. At one moment we could see the

white boat on the crest of a wave, and the next instant he was out of sight. But he always came up again. He went straight down the middle of the stream, with Margaret as passenger, then pulled out to a landing in a back eddy. A half hour later he joined us.

"That is the most fun I have had in years," he exclaimed. "I want to go through again." So he took the *Mexican Hat* down with Kent and Joe Jr. as passengers.

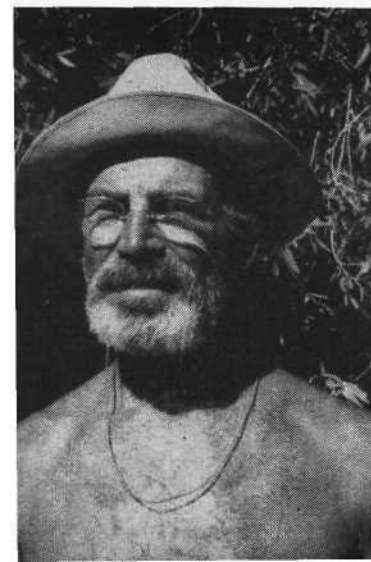
It was nearly dark, so we camped below the rapids, leaving the other two boats to be brought down in the morning.

We were up at six and Joe Desloge and I went through as passengers with Norman in the *Joan* while Garth ran the *Sandra* carrying Anne and Zoe.

While the boats were coming through Joe Jr. plunged into the stream at the lower end of the rapids and swam to the opposite shore and back, taking some of the heavy waves on the way back. The jaunt across the stream proved so easy he asked the skipper for permission to come down the full length of the rapids in a life jacket. Norman and the elder Desloge both gave their consent—and Joe made it through with no difficulty. Kent rowed out in midstream to pick him up below the rapids.

A word about the life preservers: The boatmen wore kapok jackets which were

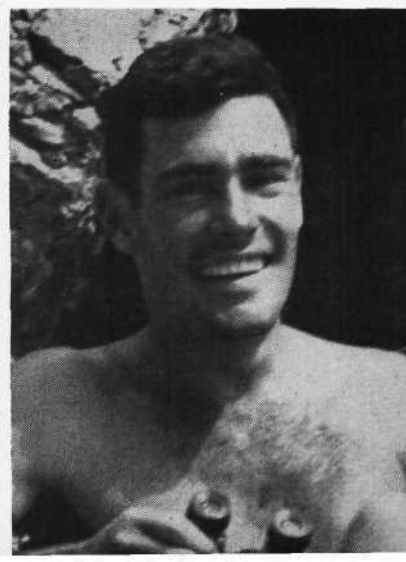
Otis Marston



Margaret Marston

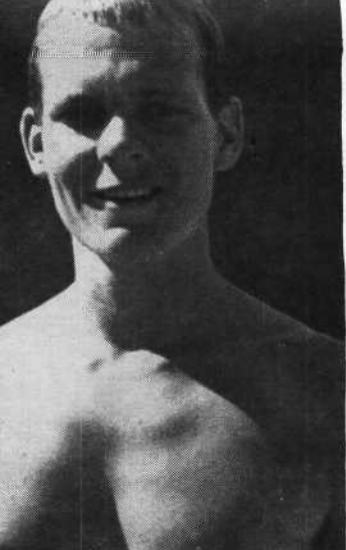


Garth Marston



Rosalind T. Johnson





Joe Desloge Jr.



Anne Desloge



Zoe Desloge



Joseph Desloge

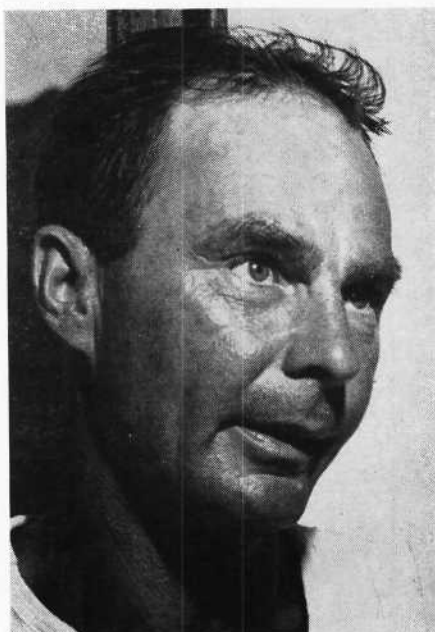
ready for instant use, requiring no inflation. The passengers, when running the heavy rapids, wore the navy type of life-belt with two parallel air-cells, which are quickly blown up and then clasped around the waist.

Joe liked the ride through the big tumblers so well he went back and did it again. And then the idea became epidemic. After some bantering back and forth, four members of the party went to the head of the rapids and came through by the swimming route—which was right down the central channel where the waves were highest. In the foursome, Garth Marston came down on an air mattress, Zoe Desloge in a life jacket, and young Joe and Otis Marston swam it without preservers. Joe is a giant in the water, and Otis formerly was a swimming coach. It is not a stunt for a weak swimmer.

"It is all in the breathing," explained Otis Marston. "Any strong swimmer who knows how and when to breathe will come through without trouble at this stage of the water when there is no danger of collision with rocks." But woe to the swimmer who tries to fill his lungs at the wrong time—for in such turbulent water one cannot always be on the surface.

We were off at 9:55 for a short day's run. We wanted to camp that night at Tapeats creek where a fine stream of water comes in from the North Rim. Going

through 133-Mile rapids I wanted to get some action pictures while riding the rough water. But the waves were bigger



The Skipper

than I had anticipated. One of them drove the camera against my face so hard it flattened my nose. After that I hung onto the ropes.

It was 111 degrees on the little sandbar at the mouth of Tapeats creek. But a 60-degree mountain stream tumbled over the boulders, and that really was a bit of luxury. Al and I erected pup tents for shade, but a sandstorm blew in and wrecked them, so we sought what shelter we could find under the willows and arrowweeds along the creek.

Otis Marston unpacked his rod and creel as soon as we beached and disappeared up Tapeats creek. He returned at dusk with 20 rainbow trout—and Kent did them full justice in the cooking. Doc went out again at daybreak next morning and brought in another creel of trout which we packed in the boats for dinner that evening.

We were entering the Lower Sonoran zone of vegetation—the plants and shrubs of my own desert in Southern California. Along the creek I found several species of cacti, including bisnaga, and some prickly pear with a fine crop of purple-ripe fruit. Plant life is sparse in Grand Canyon. The predominating tree is catsclaw. A fringe of them grows at the high water contour on both sides all the way down the canyon, wherever they can find a foothold. At one of the coves where a side canyon comes in I saw a giant specimen with an 18-inch trunk and a span of 28 feet.

At the mouth of each tributary there generally is a sandbar and on these grow

Al Milotte



Elma Milotte

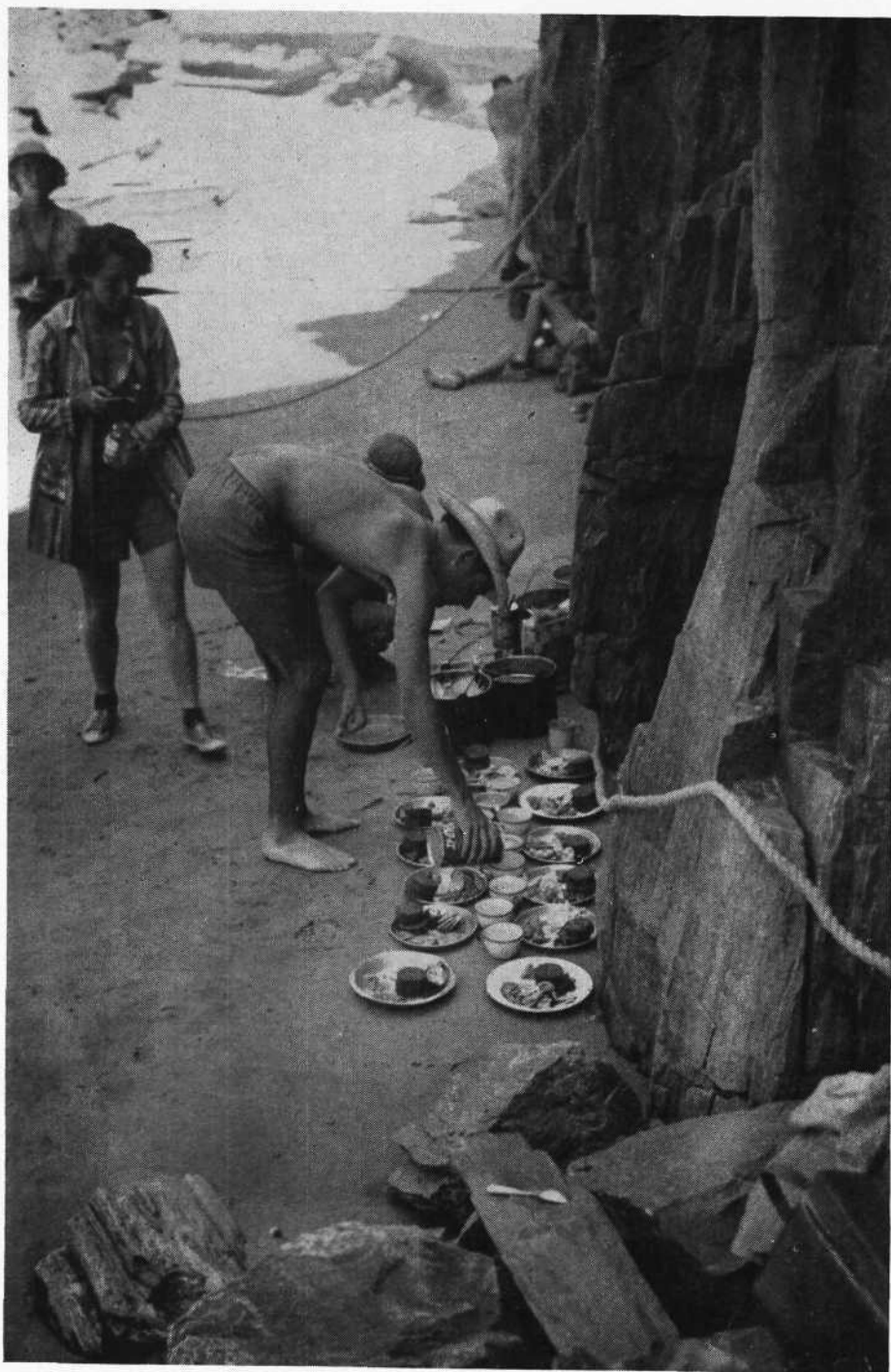


Marie Saalfrank



Randall Henderson





Lunch on a sandbar—peanut butter, canned ham, jam, pickles, crackers and shoestring potatoes.

dense thickets of willow, arrowweed and tamarisk. These shrubs are never large, for the high floods which come down the gorge periodically sweep them away. But a new growth starts the next season and with an ample supply of water they grow rapidly.

We left Tapeats at 8:10 July 25 with the temperature at 86 degrees. Tapeats rapids gave us no trouble and at 8:30 we passed through Granite Narrows where the walls close in and the stream races through a portal not over 75 feet wide.

At 8:50 we stopped at Deer Creek falls where a slender stream of water shoots out of a crevice 120 feet up on the sidewall

and drops sheer to a little cove along the river. The falling water spreads out into a pounding deluge at the bottom—and here Norman invited the crew and passengers to take an endurance test that has become traditional on Grand Canyon expeditions. The winner of the contest is the one who can take the longest beating under the terrible force of that ice-cold shower.

The two Joes and Garth and Doc entered the waterfall and remained over three minutes. Doc was first out, but do not hold that against him for Doc was under a terrific handicap. His head is as bald as a basalt boulder. The senior Desloge was the winner.

Deer Creek rapids, just below the falls merely was an oversized riffle when we ran through it. We had now emerged from Middle Granite gorge and were in sandstones and limestones again. High up in a recess in the Tonto platform we saw prehistoric Indian granaries under an overhanging ledge.

We took Fishtail rapids without stopping and then landed at Kanab creek above the rapids which bear that name for lunch. An old trail led up this creek to the North Rim and it was here that the second Powell expedition ended September 7, 1872. It is not an impressive canyon at the mouth, and the little stream of water was warm. We ate lunch under some tamarisk trees, and shoved off.

Kanab rapids were easy, and we ran Matkatamiba rapids without stopping. Just above Matkatamiba there was a pretty oasis on the sidewall, fed by a spring above. It was covered with maidenhair ferns—a miniature Vasey's Paradise.

We floated along on smooth water for a mile and then came to Upset rapids at the mouth of 150-Mile canyon. The side canyons and rapids identified in terms of mileage are measured from Lee's ferry, and are the designations given by the U. S. Geological survey in 1923. Where no other place name was available the mileage at that point becomes a place name. It is possible these mileage designations will give way to descriptive names as future Grand Canyon navigators have misadventures along the way. We often reminded Norman that none of the rapids bears the name "Nevills."

"If you'll turn over a boat in one of these cascades, we'll petition the Geographic place name board to name it in your honor," Al Milotte told him. Norman's reply was that he preferred to maintain his record of never having capsized in Grand Canyon.

Upset rapids looked mean, and the boatmen studied it carefully from a ledge above. "It looks tough," Norman finally announced, "but the climb around it looks even tougher." So we ran through with all passengers on board. Garth and Kert both shipped some water, but in the *Wen* we wrangled our way through with hardly a splash. The rapids got their name in 1923 when one of the survey boats turned over in the big waves.

At 3:15 we ran Sinyala rapids without trouble, and at four o'clock reached the mouth of Havasu creek—the place of the blue-green water. A wavering finger of turquoise water comes out of the side canyon and is immediately swallowed up by the muddy eddies of the Colorado. Here we found one of the loveliest camping spots along the entire river voyage.

(The fourth and last chapter in Randall Henderson's story of the voyage through Grand Canyon will appear in the February issue of Desert.)

DESERT DWELLER

PAUL P. WILHELM

Some things that I should miss
In lands remote from this:
Brown hills at flush of dawn
And salt grass for my lawn,
Mesquite perfuming June
On every rippled dune,
A campfire's murmurous song
When nights are dark and long,
But more than anything
I'd miss the winds of spring
The bittersweet refrain
Of mid-September rain — —
Staccato on the roof
And breath of sage as proof
That morning will be fair
With Autumn in the air.



Their 'Glory Hole' Pinched Out

"After building a cairn of stone near the ant hill and placing a location notice in a tobacco can in the monument, the cow pokes took a copy of the notice to the recorder."



By JOHN D. MITCHELL
Illustration by John Hansen

OLD-TIME cow-men seldom abandoned their chosen profession to engage in mining operations. Here is the story of two who did. We will call them Jack and Bill because those were not their true names. These two old cow pokes had "swung a wide loop" and finally settled down on a little spread not far from Lincoln, New Mexico. Lincoln was Billy the Kid's old stamping ground.

They had read in the *Kansas City Star* that tenderfeet like the butcher, the baker and the candlestick maker had often discovered rich placer and lode mines by observing or panning the dirt brought to the surface by ants and burrowing animals. Badgers when digging their holes often bring to the surface rich pieces of float broken from a hidden ledge. Ants finding the tiny gold nuggets deep down in their

It is not often that a cowboy breaks away from his traditional profession to become a mining man. But here was a bonanza that even a cow poke couldn't resist. The black ants were lugging rich ore to the surface of the ground. There must be fabulous wealth beneath. So they hung their lariats in the bunkhouse and borrowed picks and shovels and went to work, and . . . well, it's a sad story, mates!

holes carry them to the surface along with the sand.

So what was more natural than for these two old cow pokes to get all excited when they found tiny pieces of ore in an ant hill in their own back yard. After building a

cairn of stone near the ant hill and placing a location notice in a tobacco can in the monument, they took a copy of the notice to the county recorder. The notice read in part: "We the undersigned citizens of the United States do hereby locate and claim 1500 feet along the course of this ledge, lode, or mineral bearing ground 750 feet in a northeasterly and 750 feet in a southwesterly direction together with 300 feet on each side of the center at which point this monument of stone is located, etc."

This done, with picks and shovels borrowed from the section foreman at the nearby section house, the two old-timers began mining operations. The shaft was started on top of the ant hill and when a depth of 10 feet was reached it was found necessary to timber in order to hold up the loose dirt that was continually sliding into the shaft. Being short of money they found it necessary to mortgage the cow outfit to

raise the funds with which to buy timber and carry on the mining operations.

At a depth of 22 feet they leveled off and started a drift under the dry wash. The dirt was loose and they found it necessary to timber all the way. After buying more timbers they continued for a distance of 47 feet to the far side of the dry wash. Then they started an upraise and timbered it all the way to the surface. In order to get his wind after breaking through, Jack followed the ant trail up the side of a small hill and sat down on an outcrop of green-looking rock. Growing from a crevice was a small bush from which dripped a liquid resembling syrup. The ants were all around it picking up the small pieces of bright colored ore which were covered with the sweet syrupy liquid. Here then was the vein that they had sunk 22-foot shafts and tunneled 47 feet across the dry wash to find. And to make things worse they were broke.

Scraping a little more money together they again started work on the outcrop. The ore was rich in copper and silver and by selling a few tons at a time they managed to get out a carload of ore. The town lawyer advised them to incorporate a company in order to protect their interests. So what was more natural than for these two old-timers to call their bonanza "The Black Ant Consolidated Mining Company, Incorporated."

The document prepared by the lawyer was wide in scope and among many other things it authorized the partners to carry on general mining operations, build mills, smelters, pipelines, lay out townsites, build railroads, operate steamship lines and drill oil wells.

At a depth of 28 feet the ore pinched out to a small seam and they were never able to find any more of it. From the sale of the carload they realized just enough money to pay off the mortgage on their cow outfit and found themselves right back where they had started.

The ants had carried the small pieces of rich ore into their burrow, eaten the sugar off, and then carried it out and thrown it on the dump. Needless to say Jack and Bill thereafter stuck to ranching and never again ventured into the mining business.

All that now remains of The Black Ant Consolidated Mining Company, Incorporated, is the caved tunnel across the dry wash, the two shafts and the upraise. After that it was woe to any ore-packing ants that ever got in the way of those two old cow pokes. And now, when Jack and Bill are not around, New Mexico cowboys sit on corral fences or squat around the chuck wagons at roundup time and instead of talking about Murphy "King of the Hills," John Chisholm "Lord of the Valley," Billy the Kid, Ollinger and Bell, long lanky Pat Garrett, who killed Billy the Kid and why no grass has ever grown on Billy's lonely grave—they talk and laugh about Jack and Bill and the "glory hole" that pinched out.



Kay and Floyd Boyle behind the counter that once served as a barricade when renegades infested the region.

Traders at Tonalea

Motorists who have taken the long, and not always smooth, road north from Flagstaff through the Indian Country to Kayenta and Monument valley know about Tonalea, or Redlake. It is in the heart of one of the most arid desert regions in North America. But life is never dull at this remote trading post, as you will learn when you read Toney Richardson's story of Floyd and Kay Boyle, who are Indian traders on the shore of a lake that is dry most of the year.

By TONEY RICHARDSON

ONE NIGHT there was loud pounding on the door of the Indian trading post at Tonalea, Arizona. When Floyd Boyle, the trader, came down from the upstairs apartment where

he and his wife Kay made their home, he found an excited group of Navajo outside.

Floyd understands enough Navajo to piece together their story. Bill Whiterock had taken his family to a dance at Tuba City the night before. On the way home he had driven his wagon off the road to camp for the night, and as he climbed out of the vehicle he dropped dead. Would Floyd please bury the body? And would he bring back any money he found in the dead man's pockets?

Knowing the superstitious dread the Navajo have of the evil spirits which bring death, Floyd assured them he would carry out their wishes. It is a mission every trader on the reservation is called upon to perform many times—and it is a request that is never refused.

The Tonalea trader weighs less than 150 pounds. Bill Whiterock was a six-footer weighing nearly 300. Floyd couldn't move the body alone, so he just dug a grave beside the road where it had fallen, and gave it as decent an interment as he



An endless horizon of pastel-colored hills is compensation for the isolation of a home at Redlake. Trading post is in the foreground.

could. He brought back \$1.75. The family wouldn't touch the coins, but accepted their value in merchandise over the counter.

Floyd has been an Indian trader nearly 20 years. Passing through Tonalea I always stop for a chat, and it was on one of my recent visits that he told me the story of tragedy in the Whiterock family.

Floyd and Kay came to Tonalea in 1940. He is slight of build, wiry, bronzed and with twinkling grey eyes. He first came to the Navajo country in 1928. The following year he worked for Bill Wilson at Rainbow lodge at the base of Navajo mountain. Then he traded at Copper Mine, The Gap, and Cedar Ridge, all Indian stores in the southwestern section of the Navajo country.

Kay's father was a pioneer trader, Julius Neubert. He first bartered with the Navajo in the sutler's store at Fort Defiance in the 1870's. Later he was partner in the post at Sunrise, and then moved to Cross canyon. He operated the Cornfields trading post when Kay as a small girl came with the other members of the family to live with him inside the reservation. She speaks Navajo fluently.

Their second-story living quarters at Tonalea are simply furnished, but adorned with Indian weaving that includes some of the finest craftsmanship of the Navajo tribe. Many shelves of books, including the

best of both classic and contemporary literature, provide the answer if you wonder how they spend the long evenings in this remote trading post.

Friends were there inspecting their rugs when Floyd invited me upstairs to the apartment. There are many old Navajo patterns in their collection, including several ancient designs in vegetable dyes.

Floyd called attention to a small weaving of the size and type known as a "throw" or table runner. When the visitors had failed to identify it, the trader explained that it is a *yei* dance skirt, but that the Indians no longer are weaving these dance kirtles. Today the dancers who impersonate the *yei*, the Divine Ones, in nine-day rites, wear short kirtles made of colored cloth manufactured in American mills.

The Boyles showed us many other works of tribal art produced in the Tonalea region. There were baskets of Navajo weave, handmade saddle cinches, pottery, braided rawhide ropes, silver jewelry set with turquoise, rare weaves of saddle blankets, and bridles of woven hair with silver mountings. One of their rarer items is an authentic black, blue and red squaw dress of a hundred years ago, which the old women of the tribe save to be buried in.

Each of the items in their collection has an interesting history—and so does their trading post. The sign over the door of

the stone building reads "Redlake Trading Post." But the little postoffice inside is known as Tonalea, pronounced *Toe-na-lee'ah*. It is a Navajo word meaning Redlake.

The setting is one of the most arid regions of the Southwest. The post is perched up on the sidehill surrounded by sand and rock outcrops. When occasional storms visit the region, a torrent of muddy red water pours down the sand and limestone arroyos and fills the basin below the trading post with water. But for months at a time it is dry, for rains do not come often in that desolate region.

But despite its isolation, all the traffic of that region flows past the doors of the trading post at Redlake. Motorists heading north to Monument valley, or to Kayenta or Rainbow lodge seldom pass without stopping. Navajo come for many miles to do their trading here, and may be seen loitering around the store at nearly all hours of the day.

The first trading post to be located here was a one-room stockade. Hosteen Grayhair, now dead, told me many years ago that this trading post was in operation when he came west from Fort Defiance in 1871. About 1873 my great uncle, George McAdams, called *Chi Inchongey* by the Navajo, purchased the post. A year of unusually heavy rains caused the lake to rise and threaten the little store with inunda-

tion, and it was moved to its present location on higher ground.

McAdams sold the Redlake post in 1888 to Sam Dittenhoffer, who was shot and killed there the following year in an argument over a comely young woman from Flagstaff. When the post's assets were settled, a half interest in the Redlake store was acquired by C. J. Babbitt of Flagstaff, and he has retained it since.

The present building was erected in 1891 by S. S. Preston, then resident trader. The original post consisted of the lower section only and the walls were without windows. Later the upper story, the warehouse, and a garage on the east side were added. A unique feature of these additions was that they were constructed of boards from 100-pound Arbuckle Brothers coffee boxes laid over a frame. Even the roof was shingled with these boards. During the years since, as alterations including a metal roof were made, other material was laid over the coffee box boards but they remain in the walls even yet.

McAdams returned to Redlake in 1894, again holding a half interest in the business. He owned other trading interests but maintained Redlake as his headquarters until he sold out in 1904.

McAdams had known the Navajo around Redlake to be a peaceful, happy people. But on his return he found the surrounding area hiding renegades from as far east as New Mexico. The canyon country and the nearby defiles of Black Mountain afforded them concealment from federal officers.

Trading at the post became a risky business. But McAdams was a six footer, a ready and tough individualist. It is claimed that he whipped as many as three bad men at one time. They did not chase him away from his business!

For the protection of the clerks inside the store he constructed the counters around the bull pen so they could be raised to form an instant fortress. The bull pen is the store center where the customers stand. The upper portion of the counters were fitted with hinges and sawed into sections. These could be raised in a flash and slammed into slots in the ceiling-supporting timbers. Men who worked in the post during this period say it took only seconds to throw the shoulder high counter tops up in defense with one hand while reaching for a weapon with the other. Only a few of the heavy timbers remain now, and a hinge mark or two—objects of deep curiosity to tourists who wonder what they were for.

John Daw, veteran Indian policeman who likes to visit the Boyles and reminisce over pioneer days, tells about helping build the present post. John is somewhere short of 85 years old and when you talk to him he says, "No smoke. No drink. That is why I am still strong man."

One Christmas in the old days John saw McAdams clean out a crowded bull pen



Kay Boyle and two of her Navajo neighbors at Redlake.

single handed. In those times traders sold a patent remedy whose principal ingredient was grain alcohol. Supposedly it was a cure-all, but when the Navajo learned to drink it they were always sick!

This Christmas, after too much patent medicine, they started a big battle in the store. It came so suddenly McAdams had no chance to throw the tops into the slots. He leaped over the counter with a wagon wheel spoke and settled the dispute. One man belonging to the clan headed by Yellow Hand got far the worst of the fight. Yellow Hand wanted revenge against the trader.

He couldn't get other Navajo to help raid the post, so he challenged McAdams to a wrestling match, Navajo style. This meant g-string and moccasins, and Yellow Hand had never been defeated as a wrestler. McAdams had to accept the challenge, but his chance to win seemed slight. At the appointed time he appeared, greased from hair to ankles. Yellow Hand couldn't get a hold on him and went down in less than a minute.

Many of the descendants of the old renegades still live around Tonalear. Floyd has had little trouble with them.

Redlake post put in the first electric plant in the western Navajo country, but now most of the traders have them. While Floyd is official postmaster in the corner of the store set aside for the postoffice, Kay is his unofficial assistant. Which means, and Floyd doesn't deny it, that she does most of the work. When C.O.D. packages come, for other trading posts and government officials located some distance from the post-office, the Boyles pay the C.O.D. out of their cash drawer and send the package along to their destination without delay. And the customer sends back the money at first opportunity.

"We don't see our neighbors very often," declares Floyd, "but we all try to follow the golden rule. It is better to have a few neighbors you can trust, and who trust you, than city blocks full of neighbors you don't even know."

The only time Floyd is provoked is when a woman traveler mires her car in the

sand on the mesa towards Tuba City and three or four brawny males dash past her without even slowing down, but halt at Redlake long enough to tell him: "You'd better send a mechanic and a tow car out. She's really stuck deep!"

People broken down and without help in this country could easily come to serious mishap, and some of them have. Furthermore the nearest tow car is at Flagstaff, 100 miles and several hours driving time away.

"The kind of folks who deliberately leave somebody in trouble," drawls Floyd, "is the kind I don't believe I could get along with."

Just inside the trading post door the first object to meet the visitor's eye is a large cast iron coffee grinder fixed solidly in a block of concrete on the floor. It is hand operated, and has been there 50 years. People stop and stare at this ancient instrument in disbelief. They suggest maybe it is a corn grinder.

"Coffee," replies Floyd.

They stare at him incredulously. Is it possible people still use unground coffee? It is. In fact, until a few years ago not many Navajo would buy any except the whole bean, grinding it themselves in the trading post.

There is more behind the coffee grinder story. Until a few years ago green coffee beans were sold. The Navajo had to be taught how to roast and use it before they liked it to the astonishing extent they do today. A Navajo can make a feast of coffee and flat fried bread, and do a hard day's work afterwards.

During the heyday of Arbuckle Brothers "Ariosa" coffee, this lowly bean became an institution in the Navajo country. The paper packages came in wooden cases of 100 one-pound units. On each package was a small signature coupon redeemable in merchandise by the company. The thin, wiry and very tough boards of the packing cases were put to every conceivable use. They made sheds, warehouses, counters, shelves, grub boxes, baby beds, show boxes and everything for which wood could be used.

The coupons were bought back from the Navajo at one cent each, or traded for candy by the children. They were inventoried and considered a cash asset of the business.

"What fun we trader's children used to have with those coupons," Kay recalls fondly. "After accumulating several thousand we would pore over premium lists, selecting what we often needed badly. Luxuries were seldom to be had out here in the wilds."

From the premium lists trader's families furnished the kitchen with pots and pans, butcher knives, wash pans and tea kettles. Dishes and dining room items were avail-

able, and clothing, cheap blankets and novelties. Indeed, there was little in the way of mailable merchandise that could not be obtained with those coupons.

"One time," explains Kay, "we had some very important visitors. An official of the Indian service and his wife, just come west. They had recently completed a tour of the reservation, stopping at all the trading posts. At dinner the woman examined our table silver with very alert eyes.

"I don't know what the source of this pattern is," she said. 'But it seems very popular out here. I've seen it in every trading post we've visited.'

"I could hardly keep from laughing. You see, that silver came from the Arbuckle Brothers premium lists!"

Floyd and Kay are more than satisfied with their lonely reservation home. The Navajo are friendly people, when you have won their confidence, and there is no monotony at this distant crossroads on the northern Arizona desert.

Fathers Escalante and Dominguez came through the Redlake country in 1777. The Mormon trail came this way in 1858. On an eroded pile of stone near the lake shore stands a monument to the memory of George A. Smith Jr., Mormon missionary who was slain here in 1869.

Standing on the little balcony of their upper-story home, Floyd looked out across the great sweep of pastel-colored desert which extends in all directions, and to the windmills and watering troughs along the

lake where herds of Navajo sheep may be seen at nearly any hour of the day.

"I wouldn't trade that for the rest of the world," he exclaimed. "God willing, Kay and I will be right here on the desert when we get our summons to the Sky People!"

ANSWERS TO TRUE OR FALSE

Questions are on page 8

- 1—False. Coyotes are carnivorous animals.
- 2—False. Rainbow bridge is one of Nature's masterpieces.
- 3—True.
- 4—False. Geronimo died on the government reservation at Ft. Sill, Oklahoma, February 17, 1909.
- 5—True. 6—True. 7—True.
- 8—False. John Wesley Powell led the first known expedition through Grand Canyon in 1869.
- 9—True.
- 10—False. The capital of Nevada is at Carson City.
- 11—True. 12—True.
- 13—False. Bill Williams was a famous mountain man and trapper.
- 14—False. Carlsbad caverns were discovered by Jim White in 1901.
- 15—True.
- 16—False. Petrified wood is created by the infiltration of water containing mineral matter in solution.
- 17—True.
- 18—False. It seldom snows on the floor of Death Valley.
- 19—False. Blossoms of the smoke tree are indigo blue.
- 20—True.

Hard Rock Shorty of Death Valley . . .



"Burros," said Hard Rock Shorty, "is sensitive, jest like people. They takes a lot of insults they ain't entitled to about their big ears an' small size till they get so discouraged they jest stand around an' mope. But give a burro somethin' t' be proud of, an' he shore gets conceited an' cocky.

"Now yuh take my ole burro, Duke. He come out t' my diggin's on Eight Ball crick with a howlin' toothache, the most dejected little cuss yuh ever seen. He'd been biting holes in water pipes t' git hisself a drink o' water, an' finally broke his front teeth off.

"I wuz mighty sorry fer Duke, an' I filled an' inlayed an' crowned his teeth with some o' th' gold I'd been diggin' out. Say, that wuz the purtiest mouthful o' gold teeth yuh ever saw.

An' wuz that burro proud! Kept his mouth open a-hee-hawin' all the time, jest t' show that gold off. An' he made a regular jackass of hisself. He put on airs an' got so stuck up he wouldn't hardly associate with the other burros.

"An' them pore critters followed that dude burro 'round like he wuz a movie star, jest plain envious o' them gold teeth. Purty soon they got to mopin' an' feelin' discouraged an' mean cause they didn't have any.

"Then one mornin' I heard an awful hullabaloo outside the shack, an' what d' yuh think it wuz? Them addle-pated donkeys wuz bitin' rocks an' kickin' each other in th' face so's they could break off their front teeth an' get some gold ones like Duke's."

*What profit the whirr of Wheel,
The roar of Wings, the clang of Steel—
If, from a world in these arrayed,
The builders turn away, dismayed,
Weary and sick of mind.*

Desert Trails

By MARSHAL SOUTH

FOG WAS spilling over the mountain rampart to the southwest. Under the beat of the noon sun it was very white and dazzling and as it lapped over and fell in snowy cascades into the hollows and canyon heads that scored the desert side of the sierra, it was irresistibly suggestive of a mighty table cloth. Just the same sort of a "cloth" as Nature, from time to time, spreads across the flat-topped, mountain massif which guards the entrance of Table bay, South Africa. My friend, the Railroad Executive, who knew South Africa, drew my attention to the similarity. And I was glad to find someone else who had noticed it. For a few minutes, while we compared notes, he forgot his prospecting and collecting of pottery sherds.

But it is a long way from South Africa to the desert section of southeastern San Diego county, California. Not only in actual distance, but also—as it happened—in elapsed time. My friend said presently that he liked the slopes of Ghost mountain better than those of Table mountain, anyway.

And he climbed up the ridge again. His partner was calling him. His partner thought he had found a cave where, perhaps, the old Indians had buried something.

So I sat on my rock and looked out over the lowlands. The desert, in contrast to the cold cap of dazzling white fog that crowned the distant mountains, was brilliant and sunny and warm. There had been a recent rain and despite the lateness of the season, many of the ocotillos had put on a dress of vivid green leaves. Ocotillos are temperamental, anyway. But I was a little surprised to note, away up the slope, a tall mesal shoot crowned with a banner of yellow flowers. It just wasn't right. It was far too late for flowering mesals. But there it was. There was no argument. I could take it or leave it.

I was turning over in my mind what I could best do to entertain my friend. He and his companion had only this one day to spare for my section of the desert, and they were eager to make the most of it. It was some years since they had been able to get away from the east on a vacation. And their hunger for things deserty was almost tragic. I was only mildly interested in the excited shouts from up the slope. I had been all over that territory and I knew well enough that there were no Indian relics buried in caves up there. But the reference to buried things had made me wonder if perhaps I ought to take these two enthusiastic tenderfeet down to the site of old Paul Sentenac's house, on the knoll at the entrance of Sentenac canyon. Legend had woven a lot of stories about things buried there. Treasure, for instance. Lots of people had dug. But none of them had ever seriously disturbed either the legend—or the treasure itself. "Maybe," I said to myself, "I ought to take them there. People always like to dig for something. And, anyway it's good exercise."

My two friends came scrambling down the stony slope. The Railroad Executive—whose name I won't tell you, because you might know him—was carrying something else in his hands besides his prospector's pick. "It wasn't really a cave," he said.



It wasn't much of an olla. It was small and crude. But to the inexperienced potter who made it, it was a masterpiece.

"And I don't think that there's anything hidden there. But we found this among the rocks."

He held up a fairly large pottery fragment. It was the almost perfect mouth of a clay olla. All the sides had been broken away, leaving the ring of the lip complete except for just one small broken section. "It must have been a big olla," my friend said. "It's too bad there wasn't more of it left. But we couldn't find another fragment. What do you make of it?"

I told him that his find had once formed part of a narrow-necked storage olla. "Probably one that they used to store pinyon nuts in," I said. "It doesn't follow that its original location was up there in those rocks. Some youngster may have been playing with this piece and dropped it. Indian kids are much the same as other small fry when it comes to lugging around junk."

"Where would they get the pinyon nuts—here?" he asked, glancing around dubiously. "I don't see any source."

"Plenty, up there on that mountain to the north," I told him, pointing. "That's why it's called 'Pinyon peak.' The old-time Indians had food caches scattered around in strategic places all over this desert."

My friend and his companion had seated themselves beside me. The companion wore dark sun glasses that somehow gave him a mysterious look. He was a Banker in his home sphere. But here he was just a little boy. He and the Executive pawed over the old olla neck like a couple of excited kids.

"I'll bet," said the Executive, "that it must take a lot of skill and art to make a thing like this—by hand." He caressed it lovingly.

"Not nearly so much education and skill as it takes in the railroad business," I said.

The Executive snorted:

"To h— with education—and railroads, too!" he snapped explosively. "Sometimes I wish there weren't such things as railroads. Sometimes I wish they'd never been invented. We

were all better off, I think, when we drove horses—or when we just walked. At least man wasn't any more cruel than he is now. And life was slower—and easier to bear. Do you know that sometimes—" he looked at me with almost savage earnestness, "—sometimes I wish they'd hurry up and drop those atom bombs and wipe out this whole civilized mess—and give the world a fresh, primitive start again. It needs it."

"That's telling 'em, George!" the Banker said. He chuckled nervously. But his dark glasses nodded a vigorous approval.

"This," I said, "is not the first time I've heard those sentiments. But, coming from you two—"

"But I mean it," said the Executive, earnestly. "I'm not joking. The thing is in a mess—the whole world. We're drifting. We're on the wrong track. The lights are all against us and there's wreck and chaos ahead. Money! Money! — Politics! Greed! See here; I'm worth quite a bit—so far as money goes. But what good does it do me? It has me by the throat. I can't quit. I've got to stay with it—and sink. Where's the real profit in all this mess?"

The Banker lit his pipe: " 'What does it profit a man,' " he quoted softly, " 'if he gain the whole world and lose his own soul.' "

"Exactly," the Executive agreed. He drew a deep breath. "Do you know," he said soberly, "I'd give a year's income if only I were primitive enough, and skillful enough, and close-to-earth enough to be able to make one of these things with my own bare hands—like a human being." He fingered the old bit of baked clay wistfully.

A sudden idea struck me. It was an illuminating flash. This would be better—much better—than grubbing for mythical treasure on old Paul Sentenac's homesite. "Come on, then," I said, getting up off my rock. "Your ambition is about to be realized—and it won't cost you a year's income, either. Only some time—and a little gasoline." I started toward their car, which we had parked near a juniper clump.

"Just what do you mean?" the Executive demanded, hurrying after me. "Have you gone crazy?"

"Not a bit of it," I told him cheerfully. "But you are going to make an olla. Let's get going. We haven't too much time."

We got going. Between breaths, as I gave hasty route directions, I managed to do some sketchy explaining. Not much, for the trail was rough. But, for a raw hand at desert driving, the Executive handled his car pretty well. We went up an old canyon where the age-blackened boulders, big as houses, clung precariously along the sky rim. There had been an old foot trail through here once. And once upon a time an Indian encampment. But I turned a deaf ear to the suggestion that we stop and explore for relics. There was a short little Army shovel in the car; and when they had parked where I told them to, I took it and started out to look over the ground.

Yes, the clay deposit was still there—as I had remembered it from almost ten years back. While the Executive lugged over the five gallon can of emergency water and an old gunnysack and the Banker hunted around for a handy shaped stone to pound with, I cleared away the overlaying stones and dirt and dug a small hole down into the clay bed. It was good honest desert clay. Red and satisfying and full of enough sand and impurities to make it interesting. It was the sort of clay I like to work with. I have never had any luck with the civilized and refined varieties.

We scooped the clay lumps out onto the gunnysack and pounded them to powder with the rock. Then we mixed the clay powder with water and worked and kneaded it to the right consistency. We got a skillet out of the car and, having filled it with fine sand from the little dry wash in the bottom of the canyon, we spread the gunnysack over it—making a hollow place in the center to act as a support for our projected clay pot.

By this time the Executive was all steamed up with excitement. And the Banker had become so eager that he had actually taken off his cherished dark glasses—in order that he could

watch better. I shaped out a little saucer-like disc of wet clay for the bottom of our proposed creation, laid it in the hollow in the sack covered skillet, and told the Executive how to go to work.

And he caught on. Surprisingly, into those fingers that for years hadn't done anything more strenuous than push call bells and sign checks, there came an eager skill. Oh, it was clumsy, of course. I had to help him a lot at the beginning. But the latent ability was there. By the time we were getting toward the end of the job he was doing most of the work himself—and was mighty proud of it.

It wasn't much of an olla. It was small and it was crude. But we were working not only against inexperience but also against time. For the sun was going down fast. By the time it was finished and had dried a bit the canyon was deep in the gloom of late evening. The Executive wouldn't hear of abandoning his masterpiece—although I told him that it was far too new and wet to stand transportation. He packed it as a mother might pack a baby, in the carton which had held the lunch supplies. I think he wrapped expensive items of personal clothing around it. He had faith, he said, that he would get it back east all in one piece.

And his faith was justified. By some astounding miracle the pot, crude and clumsy as it was, survived. It didn't even crack in drying. We took along a package of clay from the canyon and, before we parted, I carefully explained to the Executive how he could polish his pot, Indian fashion, with wet clay slip and a smooth pebble. I didn't think these directions would ever be necessary, as I would have been willing to wager almost anything that when he got it home his pot would be just nice crumbly fragments. But Fate ruled otherwise.

There must have been a charm over that pot. Because it survived not only the polishing process but also the firing. For my friend wrote me later that he had made a kiln out of an old iron barrel and had "cooked" the pot himself, in a secluded corner of the garden of his country estate. He was very proud—and insistent—in impressing upon me that he had done every bit of the work with his own hands. I understand that this momentous olla is now in a glass case and constitutes a sort of shrine to which my friend proudly leads his most intimate friends . . . "I done it! . . . I done it!—with my own hands I done it!"

All of which chronicle—quite apart from the fact that both the Executive and the Banker have now gotten themselves kilns and have embarked whole-heartedly in the fascinating hobby of pottery making—may, or may not, have a moral. It is just a little incident, wherein the lure of the desert and the urge of the primitive have been instrumental in providing an escape valve for a couple of human beings, wearied and nerve-raw from the circumstances in which their lives are cast. But, somehow, I think that this little episode had particular significance. For it goes to show how deep-rooted—and universal—is the weariness which has come upon a world which, supposedly, is enjoying the blessings of a superior civilization.

Mankind is tired. Something is wrong with the picture. They have feasted upon the Dead Sea fruit of progress and mechanical gadgets. And the core of it all is ashes. Gadgets and noise and show and television and music that comes out of the thin air are poor food for the soul if the price in heartache and tears and shattered nerves is too high. Mankind everywhere is today seeking an escape from the monster which they themselves builded. They seek peace, and quiet lives and old-fashioned pleasures and virtues. And the right to do things for themselves—with their own hands.

And that is the reason why more and more soul-sick human beings are turning each year to the healing peace of the deserts and the forests and the mountains—and to the relief of wearied nerves by means of personal expression through handicrafts. It is a good sign. And one to rejoice over. For in this direction—and in this only—lies the salvation of our present progress-mad age.

LETTERS...

Market for Snake Venom . . .

San Diego, California

Dear Mr. Henderson:

I have read with great interest the True or False questionnaire on page 25 of the Desert Magazine for December, 1947. I find myself in agreement with all the answers except possibly one, that being No. 2. While it may be readily agreed that some hospitals and some laboratories do purchase rattlesnake venom for experimental purposes, the way the question is worded might cause one to infer that they make such purchases readily and continuously. I frequently receive inquiries from prospective rattlesnake farmers, asking for data on venom markets, and am compelled to advise them that the market is rather sporadic, and that while some laboratories require venom for experimental purposes, the market is not one that can be depended on regularly.

LAURENCE M. KLAUBER

Tragedy of Desert John . . .

Fillmore, California

Dear Mr. Henderson:

I read with interest the article in the June issue of your magazine written by L. Harpending. The name of the old prospector was John Reichling. The story the writer told of old John's death differs greatly with what I heard. I left there about a year before he died but the story as I heard it was that he was walking home from Glamis in the extreme desert heat and was found lying along the trail with his head on his sack of grub as though he had laid down to take a nap. His dog was also found dead, presumably from thirst.

J. K. L. SCHWARTZ

New Mexico's Ugly Gateway . . .

Lemon Grove, California

Dear Staff:

Desert is still my favorite periodical, inimitable in scope and flavor. All that I have read and absorbed from your magazine deepened and enlightened a trip my husband and I made this summer, up through Grand Canyon and across New Mexico to the east coast, and back by way of Colorado's Glenwood canyon, Utah and its interesting mountains and valleys, through Zion and down through Las Vegas.

We thought the cheap roadside signs, flung across both sides of the highway as one crosses into New Mexico on Highway 66, ludicrous, undignified and very crass. Although New Mexico is rightly going after tourist business, the impression given by this network of blatant signs is that of a hoarse barker in front of a two-bit carnival.

MARIAN CRONAW

The Place Has Been Worked Out . . .

Los Angeles, California

Dear Sir:

I am 50 years old and I must get out with Mother Nature. Will you kindly give me information in regards to gold panning close to Los Angeles, placer mining rivers and canyons.

ED WALLACE

Dear Ed: If there was any gold in them thar Los Angeles hills they'd be so crowded with dude prospectors you'd have to make an advance reservation and pay a cover charge to get near the place. If you'll come out on the real desert I'll tell you where you can get some color in your pan.

—R.H.

In a Nevada Mining Camp . . .

McGill, Nevada

Dear Mr. Henderson and Staff:

There are many interesting things in this area which Desert readers would like: Goshute cave in the Goshute range, just a few miles west of the junction of Highways 93 and 50 in northern White Pine county, on the old dirt road between Currie and Cherry creek.

The youngsters who frequent this cave say it is finer and bigger scenically than Lehman's cave, and that it is explored back 2800 feet, but that more rooms could be opened up.

Before coming to McGill we lived at the Dead Cedar mine a mile southwest of Ferguson spring on Highway 50 in southern Elko county. This area is highly mineralized with enormous iron outcrops, several kinds of lime, also porphyry and quartzite. In some of the adjacent canyons are numerous small fossils such as snails, etc., in the limestone. There are whole quartz hills here too, but they run low in silver and no gold.

We had a lot of unusual pets at this mine, but many people did not appreciate them. We had a beautiful pair of brown banded cat-head spiders. We fed them horse flies and grasshoppers, and they became so tame they would bounce down over their beautiful webs and hold out their tiny front claws for a treat, then wrap it neatly in a web and hang it on a rear claw like a woman carrying a purse, and hurry back to their nest for a feast. Because of the extra food they became as large as English walnuts.

We also had a pet blow-snake which rubbed its chin on the screen door when it wanted to come in and search for mice. Our menagerie also included lizards.

Going back to rocks—I discovered a

formation of layers about an inch thick. They were in color, a lovely terra cotta running to a Chinese red. On one side they were polished as smooth as glass and could be taken out in good-sized slabs. I thought of them as being used for fireplace facings, and for patio floors. This formation is in a remote and inaccessible place—no water for miles.

EMMA E. FORD

Humor From Hollywood . . .

Hollywood, California

Dear Editor:

I recently was out in the desert and saw a wonderful mirage. An old-time three-masted schooner was sailing majestically in a large lake. There was a monkey cavorting in the rigging and leaping from spar to spar.

When I told this to my girl-friend she insinuated I was either a liar or a heavy drinker. I am neither. Her recent attitude of frigidity has been very devastating to my ego.

I couldn't get it through her thick head that when the substratum gamma rays refract spasmodically, the angle of incidence becomes positive to the inverse ratio of the spheric rotation. This transverse magnification nullifies the axial wave motion to such an extent, the delta sun rays produce the homogeneous geodetic aberrations known as the abscissa axis. Therefore, when the quadratic focal reaction becomes aplanatic, and the vertical waves impinge on the horizontal imagery, they produce mobile fantasmagoria. This is the howcome of why I saw the monkey.

And that gal of mine is so dumb she says she cannot understand that simple explanation of a mirage.

JESSE BAKER

Why Not Call it "Sunset Range" . . .

Rancho Mirage, Indio, California

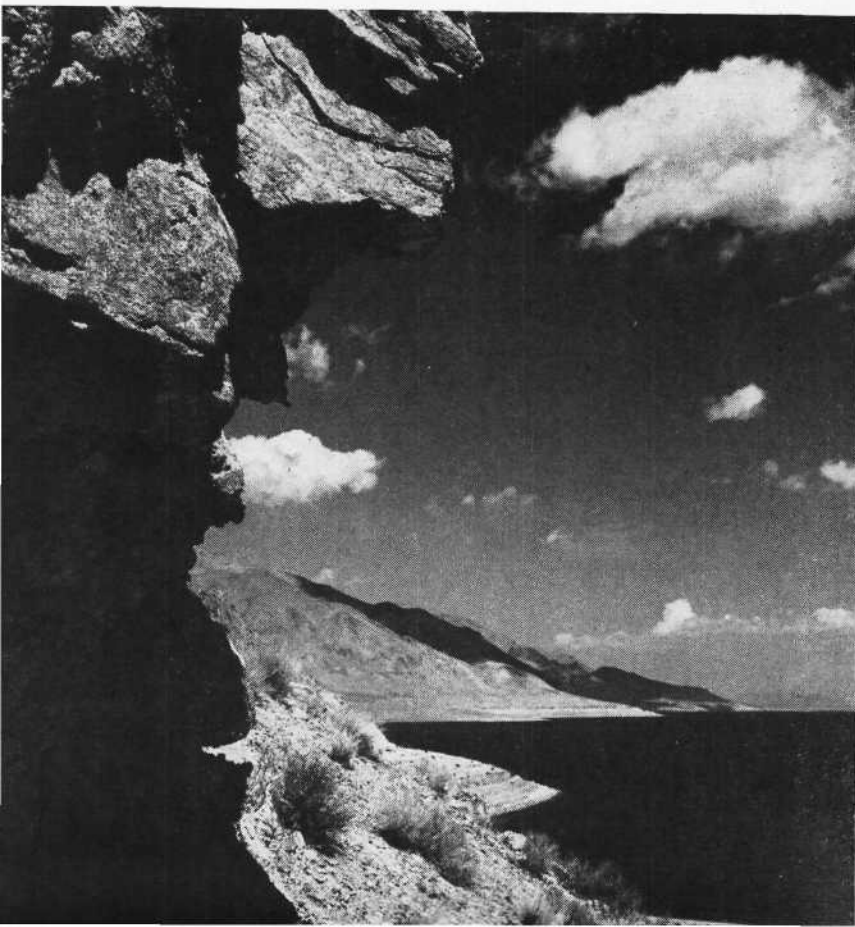
Dear Mr. Henderson:

From Morongo valley to the Cottonwood mountains the Little San Bernardino mountains rise to a height of five and six thousand feet. A blue wall of gigantic mystery in the morning, shadow-flecked during the day and aglow with the colors of the setting sun in the evening, it is a grossly mis-named mountain range—mongrel English and Spanish. It is not "little" and it deserves a name all its own.

Off and on for 20 years I have watched the sun sinking behind the Santa Rosas opposite, firing the summits of the "Little" San Bernardino mountains with purple and gold. Almost every evening from our windows we watch this sunset drama on the "Sunset Range." That means something to us. Little San Bernardinos mean nothing.

The Desert Magazine might be the agency to promote a change in name; unless your staff feels that the old name is adequate.

CARL HOERMAN



Monument Valley . . .

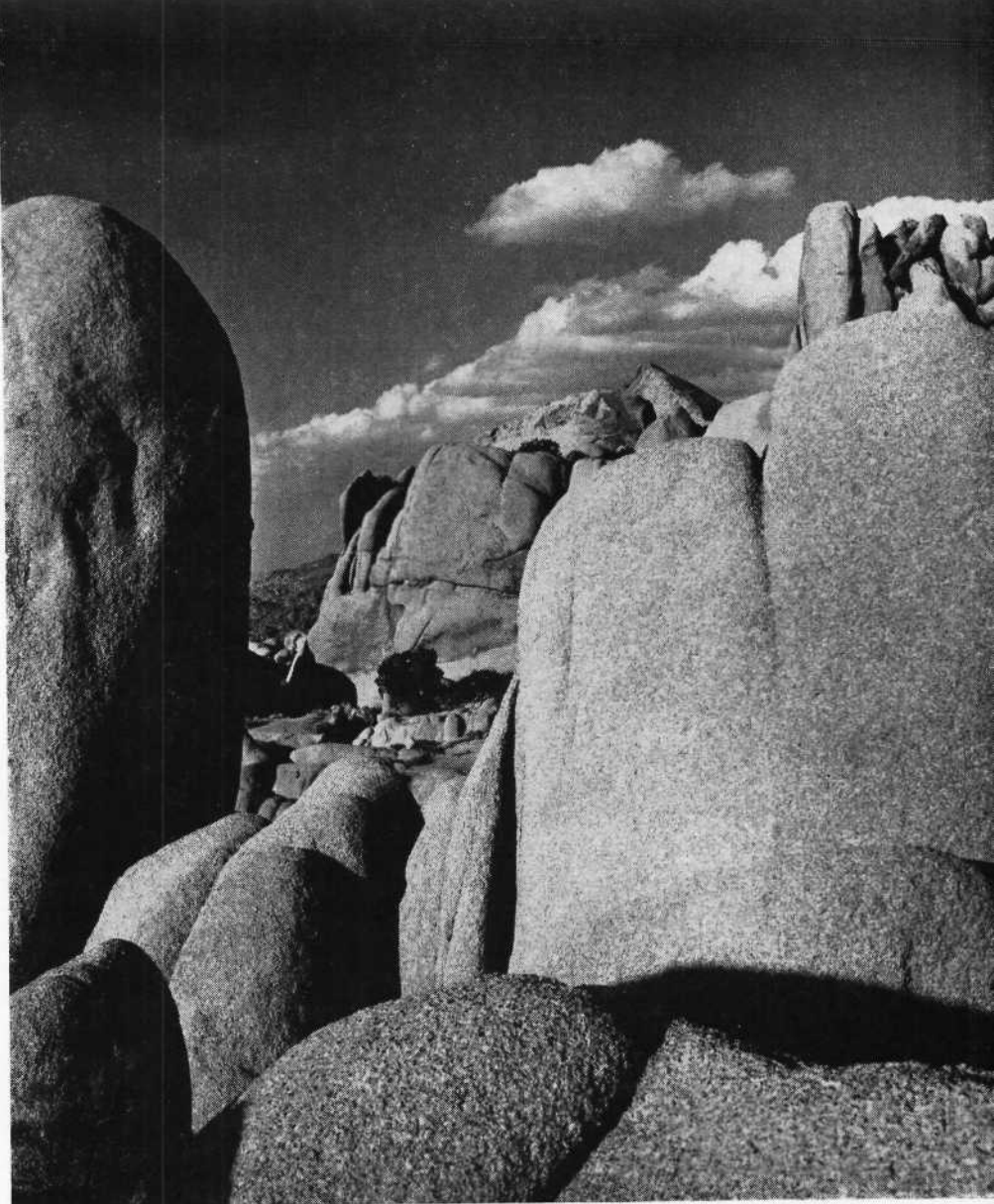
November photo contest subject was Desert Mountains, with all types eligible. First prize went to Martha Burleigh, Los Angeles, for her unusual study of Monument Valley. The picture was taken at 10:30 a. m. by a Medalist II camera on Plenachrome film. Exposure was $1/25$ sec. at f.16.

Rock Bluff, Walker Lake . . .

Russ Eckerstrom, Santa Barbara, received honorable mention for this picture of the rock bluffs and mountains around Walker lake, near Hawthorne, Nevada. A Speed Graphic was used, with Isopan film. Exposure was $1/5$ sec. at f.32 through a G filter.

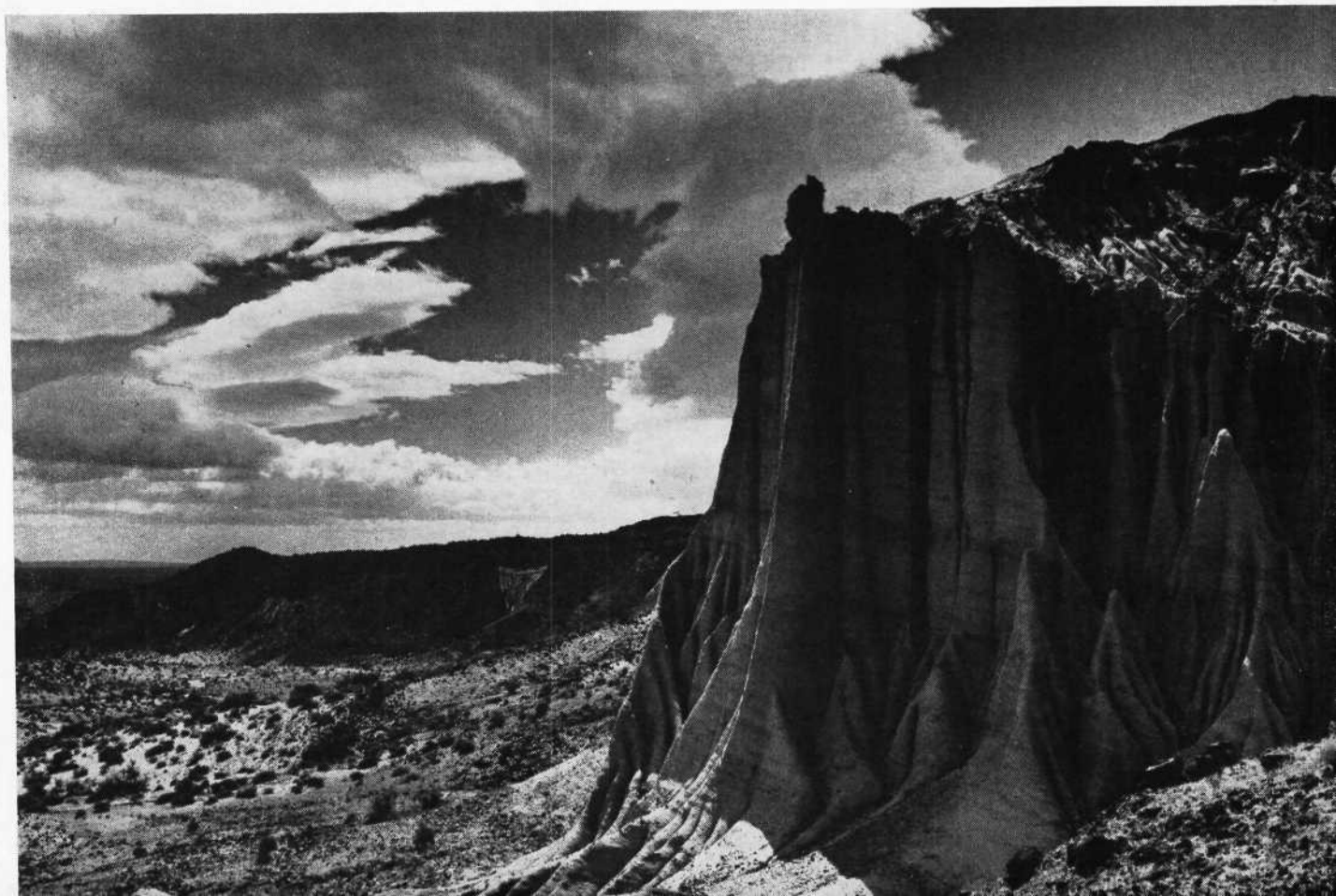
Wonderland of Rocks . . .

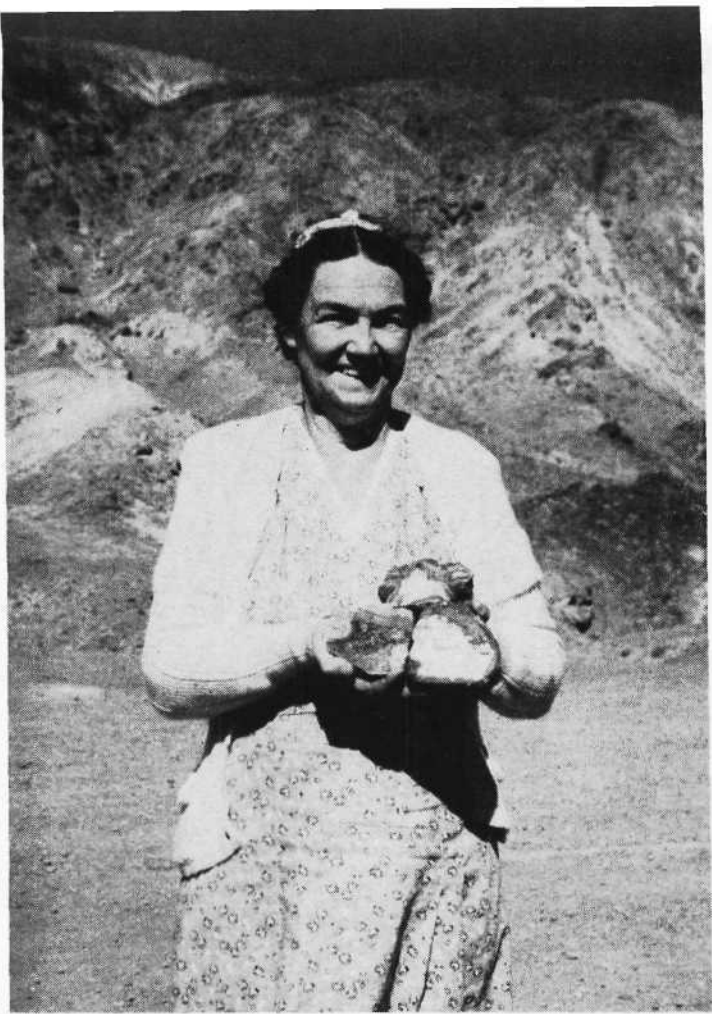
Winner of second prize was Don Ollis of Santa Barbara for his sparkling print of the granites of the Wonderland of Rocks in Joshua Tree national monument. Super-XX film was used with an exposure of 1/10 second at f.32 through a red filter. Camera was a 4x5 Speed Graphic, time 4 p. m.



Red Rock Canyon . . .

Nicholas N. Kozloff, San Bernardino, won honorable mention for this view of Red Rock Canyon, California. The picture was taken with a 4x5 Speed Graphic, Super-XX film. Exposure, at 10 a. m., was 1/50 at f.11 through a red filter.





Hunting Rocks in the Calicos

When Larry Coke and Harold Weight set out to map a field trip for rockhounds in the colorful Calicos, they thought it would be an easy assignment. Larry knew lots of locations. But other people knew the locations too and it turned out to be more of a hunt than they expected. Their report: Beautiful cutting material can still be collected in the Calicos, but the rockhound must search for it. Here is the story of their search and of some of the glamorous history of the area.

By HAROLD O. WEIGHT



Above—Lucille Coke with her hands full of the specimens from the Calico field.

Below—Doc Smith and Larry Coke at the selenite deposit in the rugged Mule canyon area.

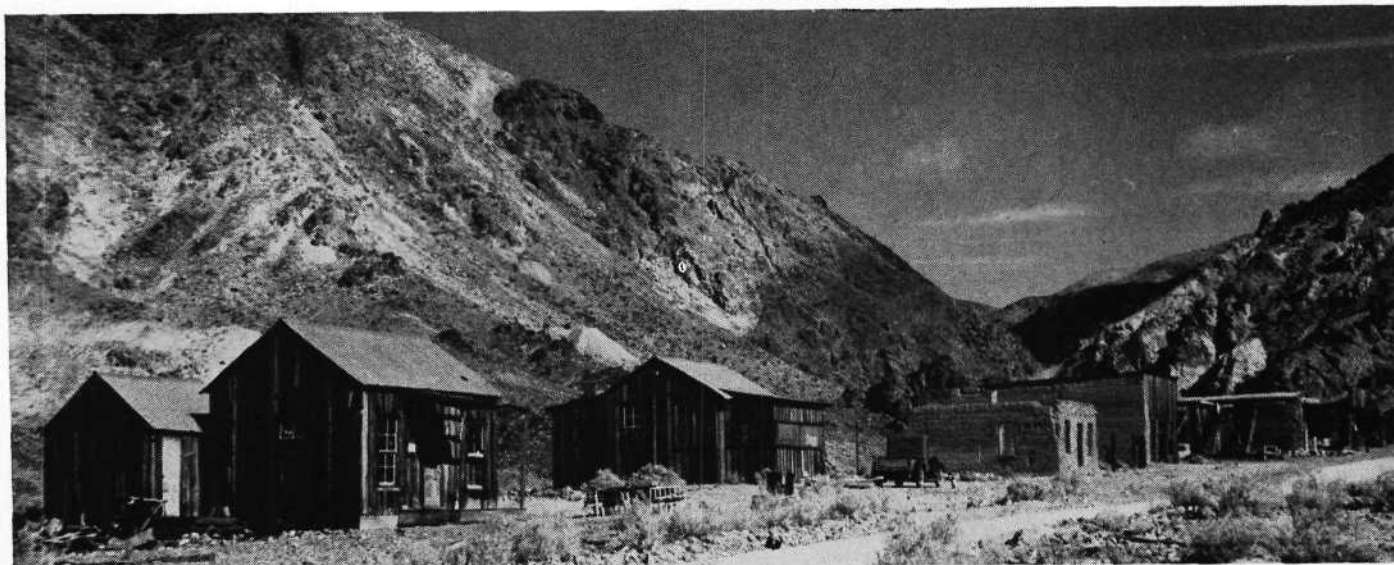
WHAT'LL we call the story?" Larry Coke asked as we paused on the windy crest of Agate hill. He grinned and went on, "How about *Rock Hunting in the Calicos*—with accent on the hunting, of course." We had spent two days in the rugged, brilliantly colored Mule canyon country, northeast of Yermo, California, looking for a collecting field

large enough to map for Desert Magazine rockhounds.

But Larry wasn't discouraged. Nothing can dent his good humor. We hadn't found what we wanted on Agate hill—but tomorrow was another day and there were lots more hills in the Calicos. I don't know whether Larry always possessed that unruffled optimism or whether the years of

desert living at Calico ghost town have given it to him. But it seems almost to be a type characteristic of the desert dweller, miner and prospector, and Larry has been all three.

I selected the softest looking rock ledge handy, sprawled out and reached for my canteen. Larry remained standing, "After all," he said, "if people coming here find



Main street, Calico, in 1947. In the '80's this was California's greatest silver producer, and millions poured from the hills behind the town.

rocks, that's just an extra dividend. What more can they want than this!" He swung his arm in a wide arc. To the east lay the hazy mysterious reaches of the vast Mojave. To the south, the grey ghostly dumps of vanished Borate scarred the mountains. And to the west were the tumbled, colorful peaks, the slashed canyons of the Calicos.

Larry Coke loves the Calicos. He thinks that to visit them is an end unto itself. And he is right. From every hill in the Calicos one looks upon beauty. Through its canyons, good desert roads wind into scenic beauties as striking as any in the Mojave. The story of geology is there: old lake beds, twisted, uplifted and faulted; the cold embers of volcanic flows; clay hills colored with reds, greens, pinks, purples and browns of leached minerals; caves carved by wind and canyons cut by flood.

Up almost every canyon lie the moulder-

ing bones of history. In high-piled waste dumps and weathered timbers, stone and adobe walls and dugouts, are the dim chronicles of man's struggles for the riches of the earth. That gash through the hills was not cut by nature. Once "Borax" Smith's old narrow-gauge train puffed up its steep grade to the mines at Borate, which for two decades furnished most of the world's borax. And tangled wires which once bound bales of hay to feed the 20-mule teams that preceded the railroads still lie in the shadow of the great cliff at Mule camp. Everywhere are reminders of the millions in silver and borax that poured from the Calicos in the '80's and '90's.

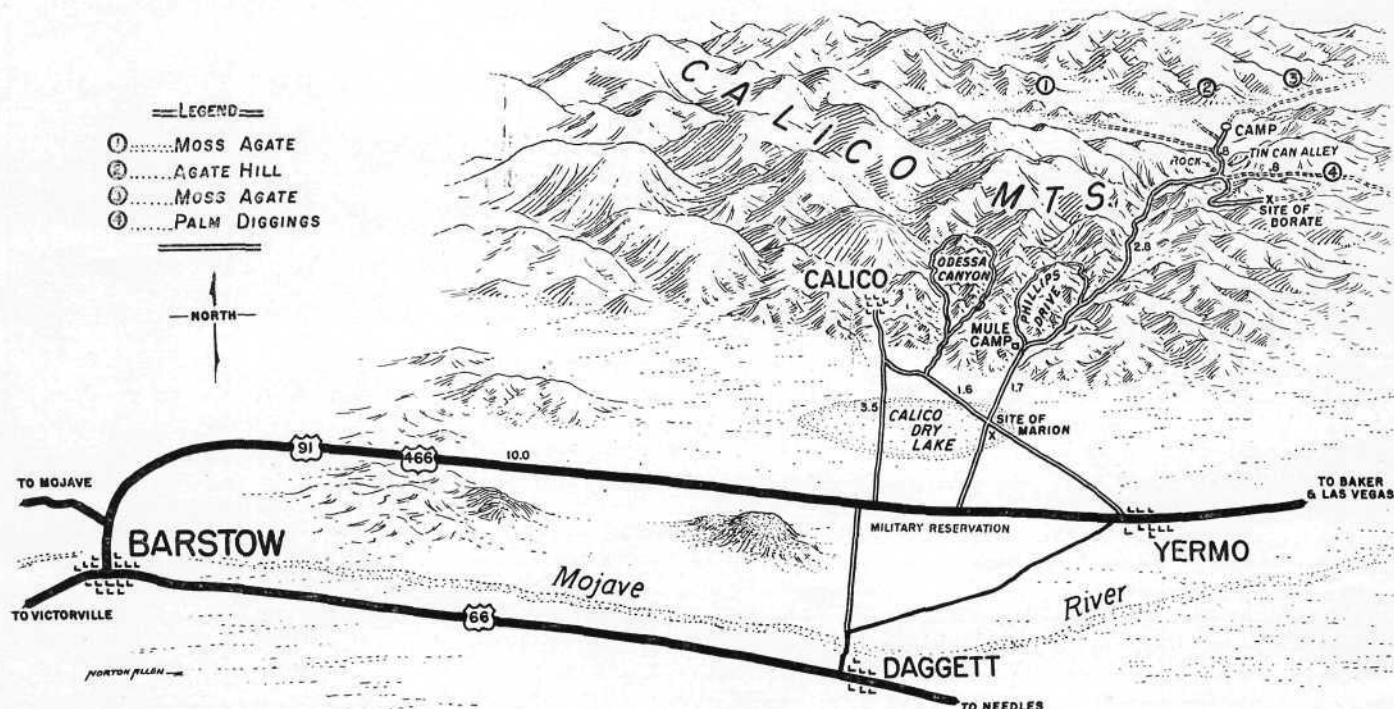
What more could any desert visitor want?

Well, the rockhound wants rocks—lots and lots of rocks. And the problem of

locating fields for him constantly becomes more difficult. When a field trip in the Calicos first was discussed Larry said he hadn't done much collecting since before the war. His job as mechanic in charge of three hangars at the big aircraft modification center near Calico had kept him busy. But he knew several places where there should be enough material.

So I went out to Calico town. A typically gorgeous Calico sunset was in the making as the car grumbled up the short, steep pitch to the narrow plateau which holds the wood and adobe remains of the great silver camp. Shadows already were gathering in Wall Street canyon, for the sun sets half an hour earlier in Calico than it does in the open land below.

Larry Coke was working at his property west of Yermo, but his wife, Lucille, was in camp and I met W. E. "Doc" Smith and





It takes hiking to collect good cutting material in the Calicos today and Larry rests while he examines his latest find.

his sister, Mrs. Irene Wolfe, who have bought the Calico museum from Larry and Lucille. Doc is a good man to succeed the Cokes at the museum. He knows the desert country intimately, from many years prospecting, mining and rock hunting in it.

But the Cokes and Calico have become so inseparable in my mind that it is hard to believe that they have sold the museum. The Cokes came to Calico toward the end of the depression years. The place where they were to live for 10 years and create a museum known throughout the West was a roofless ruin. Lucille had been a registered nurse until vertebra fractured in an automobile accident made such work impossible. Larry had worked successfully at many jobs—ship fitter, master carpenter, salesman.

They knew little about mining. But samples taken from an old tailings dump gave good returns, and they decided to ship the entire dump. Experienced mining men would have known that chances were against even making expenses. But the Cokes optimistically went ahead—and the entire dump paid well. The first shipment brought over \$600.

"That check made us feel like millionaires," Lucille said. "We worked hard on that dump. We had one old mule named Granny. I drove her while Larry followed behind, guiding the Fresno slip. Sometimes I could hardly see him for the fine dust we kicked up. Then we bought an old Model T. I drove, but I couldn't control the speed of that old car. It was either stalling or going so fast that Larry and the scraper were fairly bouncing along to keep up."

In the ruins of Calico the Cokes found coins, mining equipment, newspapers, dishes—and the little intimate trinkets we humans gather so easily and part with so reluctantly. So the Calico museum just grew, bit by bit and relic by relic. In the

same fashion Larry and Lucille reconstructed a building to house it and built a patio to hold their growing collection of rocks and minerals.

While they worked, they learned the story of Calico from books and reports, from the things they found and from old-timers and their descendants. When tourists came to Calico, they found a couple who knew and loved the old town and who were eager to pass their information on.

Through the years Larry prospected the Calico mountains. He learned a great deal about where minerals and cutting material could be found, and he shared the knowledge with visiting collectors. Agate hill was the biggest deposit of all. The last time Larry had been there, "truckfuls" of yellow and green moss agate, sagenite and blue and brown chalcedony lay on the surface. And, as we found one after another of Larry's locations depleted, Agate hill became the big hope.

So, early one morning we zeroed the speedometer at Calico and set out through the clear fall sunshine for Mule canyon. The road we followed and its by-paths open storehouses of history and scenic beauty. Every visitor at least should find time to make the Doran (Odessa canyon) and Phillips circular drives.

The route up the bajada into Mule canyon follows the grade once used by narrow-gauge ore trains running from Marion beside Calico dry lake to Borate high in the mountains. Marion—named for Francis Marion ("Borax") Smith—is marked today by piles of rubble and concrete mill foundations. Before the railroad, when 20-mule teams hauled the borax to Daggett, two round trips took three days. And in Mule canyon at the left of the road (4.3 miles) beside towering Cathedral rock is Mule camp where teams and drivers spent the night.

Beyond the camp we climbed through

eroded hills reminiscent of Zabriskie Point to the top of the grade. Here we crossed the roadbed of the narrow-gauge again—a deep, narrow gash that drops away to the left at an amazingly steep pitch. Once started down this grade, the loaded train, it is said, could not stop short of Marion. And the story is told that when the borax industry was dying in the Calicos, Borax Smith loaded the choice furnishings from his guest house at Borate on the car behind the engine. As the train started down grade, sparks from the stack ignited the

CALICO LOG . . .

- 00.0 Barstow. Follow U. S. 466 toward Las Vegas.
- 10.0 Calico turnoff left (north).
- 13.5 Calico Ghost town and Museum.
- • •
- 00.0 Leave Calico, going south.
- .6 Road cross. Right (west) to Calico cemetery. Ahead to highway 466. Take left branch, skirting Calicos. Ruins north of road are those of old Runover silver stamp mill.
- 1.0 Odessa canyon and Doran drive turnoff left (north). Spectacular scenic drive. Keep right for field trip.
- 2.6 Road cross. Right to ruins of Marion .3 mile and highway. Ahead to Yermo. Take sharp left branch for Mule canyon.
- 4.3 Cathedral rock and Mule Camp, left of road. Road branches here. Left branch for Phillips drive and Kramer natural arch. Keep right for field trip.
- 4.8 Road Y. Left branch is EXIT from Phillips drive. Keep right.
- 5.9 Top of grade. Cut used by the old Borate narrow gauge railroad crosses road here, with striking view left.
- 7.1 Entrance to Tin Can Alley left. Canyon entrance is marked by great boulder in main wash. For field trip, turn left into canyon. To visit Borate, continue as far as judgment dictates on scraped road which climbs, right, into hills. Good turning point at .6 mile from Tin Can Alley branch. Center of old borax dumps about .8 miles from branch.
- 7.4 (Continuing through Tin Can Alley) faint road branch, left, poor desert road deadending two miles up valley. Keep ahead (right).
- 7.6 Sandy branch, left. Do not attempt without investigation. Keep ahead (right).
- 7.9 Spot used for rockhound camping. Fair desert road ends here. Poor desert road continues down wash right (east) but should not be attempted except by experts or with four wheel drive. Agate hill is across wash, directly north of camp ground. Best collecting areas at time of trip were hills about 1½ miles northwest and about ¾ mile northeast of camp ground.

Through this narrow gash Borax Smith's narrow gauge train from Borate coasted downhill with a full load of borax.

furnishings, and by the time the rushing train could be stopped at Marion, nothing remained to be salvaged.

Soon after leaving the pass, the dumps of Borate appear on the mountains to the right. Before Borate, borax in the form of ulexite or cotton balls had been harvested from the marshes of Nevada and the salt flats of Death Valley. But here the ancient lake bed had been tilted and elevated so that the borax bearing strata were exposed like ledges, and for the first time could be followed down as any other mineral was mined. Here, too, the borate colemanite was first discovered—and named for W. T. Coleman, pioneer borax producer. Today the vast dumps seem to verify the story that in the '90's this lonely canyon was the borax center of the world.

At 7.1 miles the graded road swings right to climb to Borate. To the left, a large boulder in the wash marks the entrance to Tin Can Alley. Storm run-off had wiped out the road across the wash, but in the Alley it became clear again. Borax Smith insisted upon cleanliness in his camp, so most of the tin cans used throughout the period of Borate's operation are still to be found in rusted mounds in Tin Can Alley. Bottles were dumped there, too, but they have been winnowed out. Doc Smith recovered 12 purple quart-sized specimens during one hunt.

We drove through the narrow waist of the Alley, and the road came out into a good sized valley spotted with greasewood. Across the valley ahead, to the north, the greenish, cone-shaped point of Agate hill could be seen against the larger mountain mass behind it. And at 7.9 miles we halted at a rock hunters' campsite.

We crossed the wash to Agate hill, which lies almost directly north of the campsite. But before we reached the hill, we could see the gashes where collectors had been digging and dynamiting. Some of the most beautiful sagenite I have ever



seen has come from Agate hill. But a half-hour's search convinced us that, while surface material still can be found, most of the material coming from it in the future will be dug or blasted out.

The mining of chalcedony and agate, as well as more precious rough, is becoming big business. And prices are tempting too many persons, who should be amateurs, to collect more than they should in the hope of commercializing it. The lure of fantastic prices is, of course, causing prospectors who formerly told collectors where to find pretty rocks, to work the deposits themselves.

What is the answer for the true rockhound? Well, perhaps his salvation will lie in the fact that collecting is a hobby. He can afford to search an area where ma-

terial is too thinly scattered to pay the commercials. He should feel satisfied if, at the end of a healthful day in the desert wilderness, he has found material for a few really beautiful stones. And, as a side-thought, he can support the many dealers who are trying to keep prices within reason and who do not look upon him as an enemy alien if he suggests he would like to go out and pick up a few cutting rocks himself.

In the Calicos at any rate, as Larry put it: "The easy days are over. Now you've got to get out and hunt." Larry and I followed that advice. We spent long hours in the washes and valleys and over the hills.

And here is our report to the rockhounds. There is still cutting material in the Agate hill area—but you've got to get out and find it. We found agate and chalcedony—and a few pieces of sagenite—scattered thinly over the entire valley and in the washes and on the hills. In some places material still is plentiful. I found fairly abundant yellow and red moss agate, moss jasper, and jasp-agate on a ridge in the same group of hills, about three-fourths mile east of Agate. Larry found deposits of yellow moss agate, some green moss and sagenite on the first peak beyond the broad wash, about two miles west of Agate hill. Indications were that, by going beyond both of these places, still more would be found. I believe that any rockhunter who really prospects this area will be rewarded.

On that—my last night in Calico—we sat late and talked of mines and prospects and people and of the history of the old

Mule Canyon Mineral Localities (Mileage from Calico)

Selenite, bakerite, pandermite. At 4.1 miles, follow wash beside road, rt., about $\frac{1}{4}$ mile to two small mine dumps. Borax minerals on dumps, selenite around point behind north dump.

Individual palm roots, chert and chert with palm roots. At 6.5, wash comes into road from left. Material is found on hills beyond (northeast) of the wash. Palm roots in saddle about 1000 yards from road.

Fluorescent colemanite, selenite. At 6.6 miles, wash opens right, with borax waste dump on its left. Go up canyon to the small dumps

which can be seen to the south, against the hill. Colemanite and selenite on dumps and in cuts.

Palm diggings: Reach rock at mouth of Tin Can Alley at 7.1 miles. Continue down main wash .8 miles. Diggings are on right (south) side of wash. These are the well known palm diggings from which so much material has been taken, but they are badly caved.

NOTE: All these localities have been heavily depleted and material is not abundant. Digging probably will be necessary.

camp. The night was quiet with the quiet of the desert. If the ghosts of Calico listened, they listened in silence.

Silver ore first was found in the Calicos in 1881 and before 1896 the camp is variously estimated to have produced between \$20,000,000 and \$65,000,000. The Silver King alone is credited with \$10,000,000. Most of the ore consisted of chlorides and chloro-bromides of silver. Remarkable specimens of cerargyrite, or horn silver, were found in the early days.

Calico's peak population probably was between 3000 and 4000. There was a newspaper — the *Calico Print* — school house, community hall, business blocks, saloons. Calico boomed — money was plentiful — good times would last forever. In September 1887 the town burned with heavy losses. Later silver fell from \$1.30 to 57 cents an ounce. The mines reached depths where extraction was more expensive, and faults broke some ore veins. The mills closed and the exodus from Calico was on. Men who came to the town broke and made fortunes there left as poor as they came.

Millions in low grade silver still lie in the Calico mountains. Men and mining companies still hope and still hold claims. Perhaps some day the camp will revive. But I think it would be better if the state or the nation took it and the surrounding hills over and preserved them as a park or monument. Calico is one of the most accessible and historically interesting of the desert camps and surely it and its kind are as important mementos of our past as colonial Williamsburg.

Most of the remaining buildings are of adobe, and it is an interesting note on the cross-migration of ghost towns that the galvanized iron which re-roofed some of Calico's buildings came from the more recent ghost of Rhyolite. Calico's wooden buildings were hauled away about 1902 to help build Yermo and Daggett. Calico's adobes were built in 1887, to serve as firebreaks if the town burned again. They were built from the red clay of the town-site and in their rock-hard walls you can see rusted nails and metal and blobs of half-molten glass from that first fire.

The Cokes have twice saved Calico from disintegration and despoliation. The second time was in the recent war. Calico lay almost in the center of a vast training area, army and marine. Literally thousands of service men and women poured into the ghost town, eagerly hopeful of a break in the monotony of training. Most of them were interested and cooperative. Some were destructive and with Larry working at the airfield, most of the job of preserving the camp fell on Mrs. Coke's shoulders. But Lucille never lost her courage and seldom her sense of humor, and Calico survived.

And she made many friends. In the register of Calico museum are the names of men and women from all over the world

—some of them well known names. But the ones which meant most to Lucille are those the service men left. Scrawled there are the signatures of many who went away and who never will come back—and "Mom" Coke and Calico was their last touch of American home.

The war excitement is over and Calico is peaceful now. Peaceful, that is, except for the desert wind. It had risen and was whistling and shrilling when at last I sought my sleeping bag beside a Calico adobe.

Above the sharp black bulk of the

tunnel-riven mountains, the night sky was a dark blue velvet, sparkled with stars that flashed red and blue and white and dimmed with hurrying wisps of cloud. Calico and velvet—what an odd combination. And yet—the old mining camp had been like that. Fine linen spread on plank tables. Men with ragged clothing and riches in their hands.

As I drowsed, lulled by the keening of the wind, a meteor blazed intensely against the dark. Then, still high in the velvet night, it vanished.

And Calico had been like that, too.

Pictures of the Month... ... Prize Announcement

One of the most popular features in Desert Magazine each month has been the reproduction of prize winning pictures sent in by Desert's readers.

The photo contests are to be continued through 1948—but under new rules. There will be no limitation as to subject in the 1948 awards. Prizes will be given each month for the best desert pictures, regardless of subject, except that the June contest will be limited to entries for the annual cover contest.

Awards will be \$10.00 for the best picture of the month, \$5.00 for the second best, and \$2.00 for each non-winning picture accepted for publication. In the cover contest the first award will be \$15.00, second prize \$10.00, and \$5.00 for each non-winning cover photo accepted.

Photographs lose some of their sharpness in halftone reproduction for printing. Hence we need extra sharpness of detail, extra contrast in black and white, lights and shadows, to compensate for the loss.

Before sending in prints examine them carefully to be sure they are not too grainy, or marred by spots, scratches or abrasions. Such photos never win. Also, try to get unusual subjects. Desert receives thousands of pictures of Joshua trees and Saguaro cacti, and when pictures have equal merit the judges invariably give the preference to less commonplace subjects.

The January contest will close January 20. Now is the time to send in your prints for the January awards.

HERE ARE THE RULES

- 1—Prints for monthly contests must be black and white, 5x7 or larger, printed on glossy paper. Prints for the cover contest must be vertical 9x12's, printed on glossy paper.
- 2—Each photograph submitted should be fully labeled as to subject, time and place. Also technical data: camera, shutter speed, hour of day, etc.
- 3—PRINTS WILL BE RETURNED ONLY WHEN RETURN POSTAGE IS ENCLOSED.
- 4—All entries must be in the Desert Magazine office by the 20th of the contest month.
- 5—Contests are open to both amateur and professional photographers. Desert Magazine requires first publication rights only of prize winning pictures.
- 6—Time and place of photograph are immaterial, except that it must be from the desert Southwest.
- 7—Judges will be selected from Desert's editorial staff, and awards will be made immediately after the close of the contest each month.

ADDRESS ALL ENTRIES TO PHOTO EDITOR, DESERT MAGAZINE,

THE *Desert* MAGAZINE
EL CENTRO, CALIFORNIA

HERE AND THERE... on the Desert

ARIZONA

He Said It Would Rain . . .

WUPATKI—The return of Nez Kah Yazzie, known also as Little Fat, to his home in lower Wupatki basin, was interrupted by heavy rain and his family camped at a friend's hogan until the roads dried up. Little Fat, Navajo medicine man who had spent 15 months in the state penitentiary at Florence after having been found guilty of stealing a steer, promised to break the drouth if his sentence was commuted. He was released and the rains came. Little Fat is said to be 82.

Papago Agency Now . . .

SELLS—The name Sells Indian agency has been changed to Papago Indian agency by the secretary of the interior. The agency has jurisdiction over the Papago, San Xavier and Gila Bend reservations. The town in which the agency is located and its post office will keep the name of Sells. It was named for the commissioner of Indian affairs under President Wilson during the period the agency was established. Before that time the town was known as Indian Oasis.

Water for Bighorns . . .

YUMA — Development of more permanent water supplies for bighorns and other desert game on the Cabeza Prieta game range was scheduled to be resumed in October, according to Arthur F. Halloran of the fish and wildlife service. Plans called for the hiring of a small crew which, under supervision of John A. Kempton of Ajo, would work and live on the desert for about three months developing water and building tanks.

Newspaper 65 Years Old . . .

KINGMAN — The *Mohave County Miner* on November 8 celebrated its 65th anniversary. The *Miner*, established in 1882 by Anson Smith, first was printed in an adobe house in Mineral Park, which then was the county seat. The first press, shipped from San Francisco via the Colorado river, landed in the mud and silt of the river when being unloaded at old Fort Mohave and was not recovered for several days. "Judge" Anson set the type of the first issue by hand and used foot power to operate the press. The *Miner* moved to Kingman with the county seat.

ON THE PATH

By TANYA SOUTH

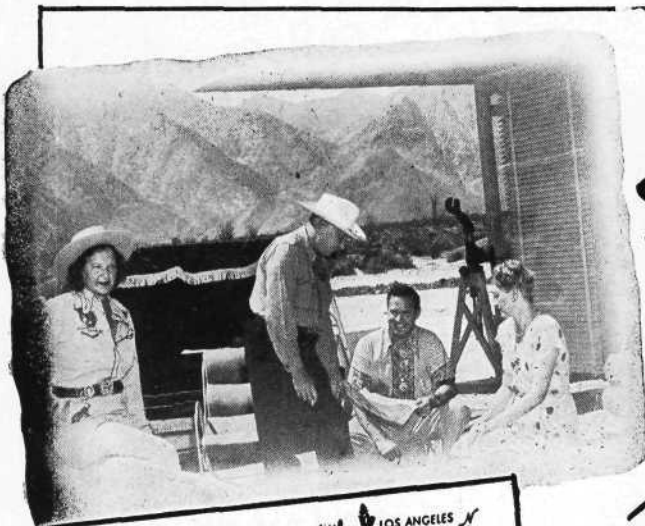
Ah, let no bitterness enfold
My spirit! It is more than gold
To be a gentle, kindly friend
Unto all people! And to lend
Aid to all souls, whoe'er they are,
That no malicious thing may mar
My own appointed Path unto
A plane more true.

They Found Bottom . . .

CAMP VERDE—Dr. H. S. Colton and Edwin D. McKee of the Museum of Northern Arizona decided to test the legend that Montezuma Well in central Arizona is bottomless. A plumb bob attached to a stout string was lowered from a canoe in 31 places. They found that the water is held in what appears to be a saucer-shaped depression with a maximum depth of 55 feet. The well, which in reality is a giant spring, flows 1,565,000 gallons every 24 hours. It was added to Montezuma Castle national monument in April, 1947.

X-Ray for the Navajo . . .

WINDOW ROCK — Two mobile X-ray laboratories operated by the Indian service were scheduled to start a tuberculosis survey of the Navajo reservation this



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Los Angeles Examiner:
"Jazz is out."



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THE DESERT TRADING POST

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

INDIAN GOODS

ALWAYS THE BEST in Indian things. Old and new Navajo rugs a specialty. Fine jewelry and baskets. Our thirty tons of rocks and minerals include many hard to get items. Always welcome. Daniels Indian Trading Post, 401 W. Foothill Blvd., Fontana, Calif.

I WILL BUY—Collections, Indian Baskets, Old Navajo Rugs, Choice Minerals. Roy H. McKay (The Indian Store), Wickenburg, Ariz.

GREAT TEMPLE MOUND Bone Beads, \$1.75 per 100. 30" strand Calif. trade beads, \$1.00. 10 arrowheads, fair 50c; good 75c; very good \$1.25; fine \$1.75. Spears, Yumas, Folsoms, up to \$25.00 each; also axes, pipes, pottery, beadwork, mounted steer horns (Texas Longhorns); guns, swords, coins, antiques. (Buy-Sell-Exchange.) Paul L. Summers, Stamford, Texas.

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 Scales \$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, Kirby, Arkansas.

ALASKA INDIAN, Canadian Indian and Eskimo fancy moccasins; dolls, baskets, totem poles, carved ivory, etc. Northwest Indian Novelties, 2186 N. W. Glisan Street, Portland 10, Oregon.

INDIAN ARROWHEADS—Fifteen hundred all sizes one half to six inches, spears, knives, drills, many rare and unique, set in frames eight by twenty inches, glassed in beautiful collection. Particulars, J. J. Fairchild, 125 Blanco, Luling, Texas.

BOOKS — MAGAZINES

GOLD PANNING for profit. Healthy, outdoor occupation. Beginners' big instruction book, blueprints, photograph—\$1.00. Desert Jim, 627 Lillian, Stockton, Calif.

COLLECTOR'S CATALOG—National Geographic (1888-1947). Arizona Highways. Books. Send 10 cents. Hellar, P. O. Box 2507, Los Angeles 53, Calif.

SCENIC GUIDES—"The Key to Western Travel." Maps, descriptions and pictures, all alphabetically arranged for quick reference. Guides to Nevada, Northern California, Southern California, Arizona and Utah are available now. Price \$1.00 each at your Book Store or by Mail from—Scenic Guides, Box 288, Susanville, California. Write for information.

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 21B72, Dutch Flat, Calif.

WANTED TO BUY: Early Western manuscripts, letters, diaries, log books, maps, charts, prints, stamps, newspapers, magazines, books. John Eldean, 88 East Ashland Ave., Phoenix, Ariz.

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"RANCHITOS"—Big homesites, 150x320 up, elevation 3300, superb views, all year climate, careful, moderate restrictions, oiled roads. Five minutes from stores, postoffice. Water mains in, electricity available. From \$595, low terms. Write Battelle, Box 105D, Lucerne Valley, San Bernardino county, California, for map or see me Foothill Road.

ENJOY DESERT LIVING furnished house-keeping Cottages, elevation 3300 feet, spring water, gas, oil furnace, year round climate, \$50 month. Miller, Box Y, Lucerne Valley, Calif.

MISCELLANEOUS

COLOR SLIDES: Travel, Nature, Western, etc., List, sample 30 cents. Kelly D. Choda, Los Alamos, New Mexico.

VACATIONS ARE FUN at the Banner Queen ranch. Located on the rim of the desert—quiet, friendly, excellent food—swimming—saddle horses—trails for hikers—once the happy hunting ground of the prehistoric Cahuilla Indians. American plan—\$9.50 double, \$10.00 single. Mail address: Banner Queen Ranch, Julian, California. Phone for reservation, Julian 3-F-2. Bill and Adeline Musher, owners and managers.

FOR YOUR HEALTH: Drink delicious Desert Tea (Ephedra). An alkaline substitute for tea or coffee, hot or iced. Instructions for making with every package. Processed and sent direct from the desert to you. Large one pound package for only \$1.00. Edith O'Brien, P. O. Box 11, Amboy, Calif.

FOR SALE: Karakul bed blankets, colors, blue, green, natural, maroon, weigh at least 4½ pounds. Money back guarantee. Price \$17.50. Write Addis Kelley, 4637 E. 52nd Place, Maywood, California.

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.

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.

LEARN the profitable jewelry and gold-smithing trade at home. Simplified course teaches jewelry designing, manufacture and repairing; gemsetting, etc. Gemcrafters, Dept. F., Kalispell, Mont.

SILVER SHOP for sale. Unable to take care of same. L. A. Hansen, 1119 Wheeler Ave., Reno, Nevada.

FRED AND JESSIE PORTER welcome you to the "Pow-Wow" Trading Post, Yermo, 14 mi. east of Barstow Hiway 91. Gifts, Indian Jewelry, souvenirs, rugs, lamps, etc., cutting material, cabochons, slabs, cabinet specimens. See your own cut! Watch for our specials.

KODACHROMES OF THE SCENIC WEST.

If you couldn't get film this summer, if the bears wouldn't cooperate, if the geysers wouldn't erupt, if you didn't get all the shots you wanted . . . then why not send us a \$5.00 deposit for an approval selection of twenty-four kodachromes. Keep only those you like, if any, at 50c each, \$5.50 a dozen. Yellowstone, Yosemite, Bryce, Zion, Grand Canyon, Oak Creek, Banff, Jasper, Canyon de Chelly, New Mexico, and others. Free catalogue. Douglas Whiteside, Best's Studio, Yosemite National Park, California.

MOTORS—G.E. 1/3 H.P. 1725 R.P.M.—AC 115 V. 60 Cycle Sgle Phase—Mounted Rubber Ring on Base Cradles. Price \$28.50 f.o.b. Others ¾ H.P. up to 15 H.P. Ted Schoen, 117 Orchard St., Mt. Vernon, N. Y.

WANTED: OLD ENVELOPES with western cancellations before 1890. Also gold coins in good condition. Write: C. H. Greiner, 106 N. Sunset, Temple City, Calif.

WANTED OUTDOOR EMPLOYMENT—Disabled-asmatic veteran, no manual labor but no invalid. In Western States, good education, age 30, wife and son. 5 references. PWS Box 45, Forsyth, Ga.

MANAGER of Country Club near Los Angeles would like position as manager of a resort type hotel. Single, traveled, good host, and very well known. Confidential, Apply Box H, Desert Magazine.

ANOTHER DESERT Diorama Company offering. Cactus covered wagon lamps with large 8 inch shade, complete \$5.00. Round lathe turned Cholla cactus table lamps, 9 to 12 inches high by 3 to 5 inches in diameter, 6 inch cactus base with 10 to 12 inch parchment hand decorated shade \$7.00 to \$10.00. Complete satisfaction guaranteed. Desert Diorama Company in Tucson, 1225 N. Anita Street.

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THE Desert MAGAZINE
El Centro, California

fall. One unit, weighing approximately 12 tons, is housed in a trailer and pulled by a large tractor. It will be hauled wherever roads permit on the reservation. The other unit is packed in cases and can be taken over any roads passable to automobiles. Both units have their own gasoline-electric generators. The units will be taken to schools, missions and trading posts to make X-ray photos of the Navajo.

Landmarks of the Old Pueblo, Tucson, will be signposted according to a plan of the chamber of commerce there. Among the places to be marked are San Xavier mission, site of San Cosme del Tucson, the city wall, Objito springs, Main street, the sites of Solomon Warner's store, first stage station, old San Agustin church, Tully and Ochoa firm, the Orndorff hotel and the Pete Kitchen home.

Earl Hall, investigating Yuma county records, found the order which moved the county seat from La Paz to Arizona City, now Yuma. The order from the secretary of Arizona Territory was presented at a special meeting of the county supervisors, held January 30, 1871.

Dedication ceremonies were scheduled to be held on November 30 to mark the official opening of an all paved route between Nogales and Bisbee.

John Meadows, last of the partnership of Shattuck, Meadows and Lutley, one of the oldest and largest ranch outfits in Cochise county, was buried at Douglas in November. He came to Arizona in the 80's and was engaged in the cattle business throughout his life.

CALIFORNIA

Tramway Construction Date Set . . .

PALM SPRINGS—Actual construction of the Mt. San Jacinto Winter park tramway should get under way during the summer of 1948 and the tramway be completed within a year, according to Allen Roach, president of the Consolidated Steel company. The company probably will combine with American Steel and Wire company and Morrison-Knudson to form a giant construction organization, Roach indicated. Preliminary work calls for sub-surface borings to determine whether there is solid rock to support the huge towers or whether great concrete foundations must be poured.

Palo Verde Pioneer Honored . . .

BLYTHE—Palo Verde valley celebrated the 81st birthday of its leading pioneer, Ed. F. Williams, in October. Williams, ex-cowboy who once was in charge of some of the largest cattle operations in the West, has served as president of the valley mutual water company and chamber of commerce and also as irrigation district asses-

sor and land agent. When the valley was bankrupt during the depression, Williams went to Washington and pushed through a million dollar loan which saved the area. Highlight of the party was presentation of a life-size painting of Williams by Robert D. Dunagen.

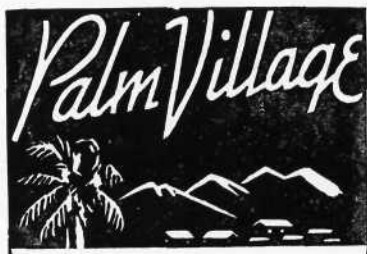
Coyotes Find a Friend . . .

LONE PINE—Howard V. Shebley, fish and game patrol captain for the Inyo-Mono area says that coyotes have an important part to play in maintaining the balance of wildlife. In one instance, coyotes were exterminated in an area by poisoning the rodents upon which they fed. The local deer herd then grew out of proportion to available feed and agriculture suffered. In another case, coyotes were practically wiped out by state trappers, and rodents took the area over. He explained that biologists of the fish and game service believe that cottontail rabbits serve as the coyote's principal food.

Desert Research Visioned . . .

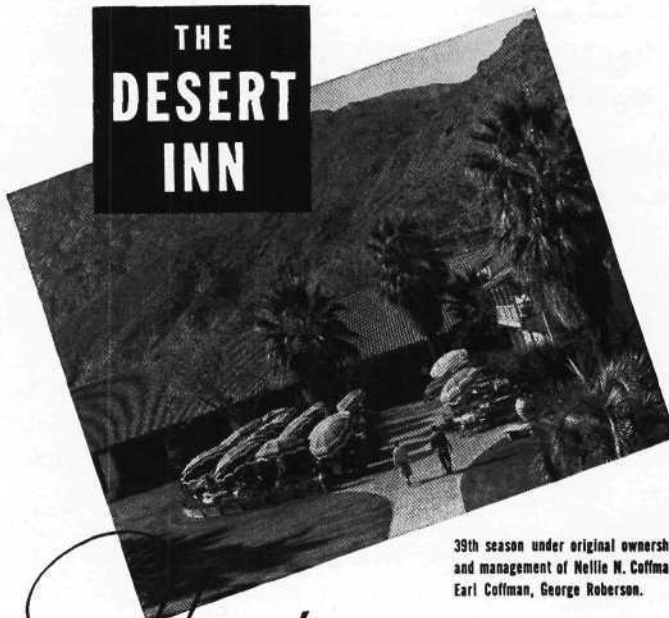
PALM SPRINGS—Professor Raymond B. Cowles, head of UCLA department of zoology, predicts that Palm Springs Desert museum will in time become the nation's greatest desert research center. Prof. Cowles, whose discovery that prolonged heat can cause sterilization has offered a

possible explanation of the extinction of the dinosaurs, declares that there is no limit to important findings that may be made in such research. For example, drugs present in common desert plants might prove of great medicinal value and other plants may have heretofore unknown industrial uses.



Palm Village affords a perfect, healthful, secluded community located just 12 miles beyond and through Palm Springs, at the junction of the Palms to Pines Highway. Homesites from \$795 to \$3500. Terms if desired. Some lots with beautiful date and citrus trees. Business and income opportunities. No place offers so much in truly restful desert living.

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or Call any Travel Bureau or Automobile Club

**29 PALMS
INN**

Radio-Phone for Death Valley . . .

DEATH VALLEY—Bell telephone system has announced completion of a new telephone service to Death Valley, the first application of frequency modulation point-to-point radio in the company's toll telephone network. Messages reach the valley through San Bernardino. They travel by open wire via Las Vegas to Specter mountain, then by radio to Death Valley radio station, and from there by wire to Death Valley and its resort areas. Telephones in the valley can ring each other and operator assistance is given at San Bernardino. Increased tourist demand for service and the expense of maintaining the pole line caused the changeover.

Geological Surveys Resumed . . .

RANDBURG—First of five U. S. Geological survey parties has arrived in Rand district to resume work on a new survey of the area northeast of Randburg. New maps are now in preparation for Searles lake, Argus peak, Leyton canyon and Manly peak quadrangles. Topographical detail for the series of maps is con-

trolled by aerial photographs which are used in conjunction with the field party survey.

The chambers of commerce of Lucerne Valley, Twentynine Palms, Big Bear and Barstow have combined to urge paving of the roads between Twentynine Palms and Lucerne Valley and between Lucerne Valley and Barstow. County supervisors are considering adding these links to the state highway system.

Mrs. Virgil Earp, 98, last member of the famous law enforcement family of western frontier days, died in Los Angeles in November.

Judge Dix Van Dyke announces the sale of his 1140 acre ranch at Daggett to a partnership, Parney, Orton, Phillips and Kershner. Van Dyke, who founded the ranch with his father in 1902 and developed water from the Mojave river, has retained 20 acres complete with water and buildings.

Joshua Tree national monument serves as background for the picture *Adventures of Silverado*, based on Robert Louis Stevenson's *Silverado Squatters*. Stage coach races and crashes were staged on the monument's winding roads.

Construction has started on a huge outdoor theater at Indio, to be used for the National Date festival and fair in February. Harry Oliver designed the unique stage.

NEVADA

Old-Timer Leaves Goldfield . . .

GOLDFIELD—Frank (Pop) Davison, 78, who drove the first and the last hack in Goldfield—autos forced him out of business in 1917—finally is leaving the old camp because his physical condition requires a lower altitude and milder weather. When Pop was driving hacks on the night shift in 1905, he considered it a poor night if he did not make \$50. High-grading miners, who had worked eight hours in muck up to their knees, paid him \$2 to drive them across the muddy street from the Northern saloon to the Palm Grill, half a block away.

Fugitive-Tracking Taught . . .

CARSON CITY—When Nevada state police wanted to learn the art of tracking fugitives, they called in experts, Albert and Ted Hicks, Indian trackers from Stillwater. The Hicks—father and son—followed a trail which had been left the night before and showed the police the difference between day and night prints and explained that a man's prints will indicate whether he is fatigued, startled, or has just stopped for a rest. Both Albert and Ted have helped the police in many difficult cases. Ted served as a sniper with Stilwell in Burma.

195,886 ACRES

Which Includes . . .

FIELD CROPS	146,404 ACRES
GARDEN CROPS	44,150 ACRES
PERMANENT CROPS	5,332 ACRES

The above figures, taken from the annual fall crop survey of Imperial Irrigation District, as of October 15, 1947—are a striking tribute to the farmers of the Imperial Valley who are successfully continuing their efforts to raise vital food for a hungry world.

The Imperial Irrigation District, publicly-owned and operated—is the sole agency distributing water and power to these patriotic farmers.

This requires the operation and maintenance of an extensive irrigation system, with more than 3,000 miles of canals and drains, and 2,700 canal structures.

The district also operates more than 2,000 miles of power lines in the Imperial Valley, the Coachella Valley and the Colorado River Area.

Imperial Irrigation District is the lifeline of Imperial Valley.



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

Indian Caves Vandalized . . .

FALLON—Indian caves in this region are being looted by vandals, Mrs. Wendell Wheat of Fallon declares. Archeologists and others who have investigated the various caves in the valley consider them of great value in tracing life cycles, Mrs. Wheat says, and the country is almost a new field as far as scientific explorations are concerned. But, through the ignorance of careless diggers, these records are lost forever. Vandals digging indiscriminately are destroying something which belongs to the community, she believes.

Million Dollar Ranch Sold . . .

ELKO—Sale of the huge 25 Land and Cattle company, formerly known as Russell Land and Livestock company to Carter Gennett of Nashville, North Carolina has been announced in Elko. Ranch property included 60,000 acres of land in Elko, Lander, Eureka and Humboldt counties, leases on many additional thousands of acres and an estimated 7000 head of cattle. The Russell company was founded in the early 70's by George Russell, Sr., and John R. Bradley. George Russell, Jr., managed the property until his death in 1942.

Germans Bid for Rhyolite . . .

LAS VEGAS—After the recent announcement that most of the ghost town of Rhyolite was up for sale, Mayor E. W. Cragin of Las Vegas received a letter from

Erich Baerwindt of Hamburg, Germany, offering \$10,000 for the town. He represented 50 German war veterans, described as jobless and homeless, who wanted some place to "start all over." Since Mayor Cragin publicized the offer, he has received protests from all over the nation against possibility the town might be sold to the Germans.

Dr. Eliza Cook, 91, Nevada's first woman doctor died in her home in Carson valley in October. She was born in Salt Lake City in 1856 and came to the valley while a child.

Reno branch of the National League of Pen Women has announced projected publication of a book on the legends and history of Nevada. Indian and mining legends, stories of pioneer days and cattle rustling are among types of material wanted. No payment can be made, but contributors will be given credit in the book. Material may be sent to Mrs. Joe McDonald at 115 Mark Twain avenue, Reno.

NEW MEXICO

Backs Vote for Indians . . .

SANTA FE—The interior department has asked the attorney general to file a brief in behalf of three New Mexico Indian war veterans who are carrying their

fight for the right to vote to the state supreme court after an adverse decision by District Judge David Chavez. Supporting the Indians, Interior Secretary Krug wrote to Governor Mabry that the interior department solicitor has held that all Indians are subject to state and federal taxation and that the category of "Indians not taxed," under which franchise was denied, is obsolete.

The Dead at Glorieta . . .

GLORIETA—In 1862 Federal troops commanded by Colonel Slough met Confederate forces under General Sibley at Glorieta pass in Apache canyon and stopped the Confederate advance upon Fort Union. Of the men on both sides who died, 12 were buried in a small plot near Glorieta. Today, the Santa Fe American Legion is petitioning the war department that the bodies of the dead at Glorieta be brought to the national cemetery for reburial. Unless this is done, according to Larry Bynon, committee chairman, names on the grave markers soon will be obliterated.

Housing Shortage at Taos . . .

TAOS—A housing shortage in one of America's oldest apartment houses, Taos pueblo, resulted in the eviction of four non-Taos Indians and renewed argument on a much-debated question—whether a member of another tribe has the right to

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MONROVIA CALIFORNIA

live in the pueblo because he married a Taos woman. Governor Serafino Martinez and his council said no, and their decision was backed by Henry Hughes, attorney for the tribe. Three of the Indians and their wives and children left immediately. The fourth defied the council order, but departed after several days in the Taos jail.

New New Mexico Map . . .

SANTA FE—The state highway planning survey has issued a new map of New Mexico which represents work under way

since 1936, including actual field survey of 64,000 miles of roads. Rand-McNally company has printed 500 of the maps, reduced from about 45 feet square to 32x36 inches, for use of the highway department. The new map shows roads, railroads, rivers, drainage, mountain ranges, Indian reservations, airline routes, land grants, the continental divide and many other features. There has been no announcement of possible public release of the map.

They Must Be Rough . . .

GALLUP—Bates Wilson, custodian of El Morro national monument was driving into Gallup when he came upon a road grader at work. Residents of Fence Lake, Ramah and El Morro had been complaining about the roads, and Bates hoped they were getting some action at last. He asked Flavio Vigil, district maintenance man how far south the grader was going, and was told that they planned to work only to the Zuñi reservation line. Bates protested and wanted to know why they didn't bring the grader down El Morro way. Vigil shook his head. "Roads are too rough down there," he explained.

Petrified bones which the contractor identified as those of some type of dinosaur were unearthed by a bulldozer at Ramah during construction of a water storage dam for Joseph Bond.

Citizens of the extreme western end of Valencia county have to travel 200 miles each way if they have business at their county seat at Las Lunas, Wallace Barnes of Gallup declares, and much of the route is on poor dirt roads. He suggests transfer of the area to McKinley county.

Rosalee Aguilar, 47-year-old pottery maker of San Lorenzo—formerly Picuris—pueblo died at her home in August. Her red and black pottery had won many prizes at the Gallup Ceremonials.

Eric T. Hagberg has been appointed superintendent of the United Pueblos Indian Agency at Albuquerque. He has been acting superintendent since resignation of John G. Evans in 1946. Hagberg announced appointment of Robert Bunker, of Albuquerque, as subagent at Zuñi pueblo, succeeding Walter O. Olsen who has been granted educational leave.

UTAH

Revive Ute Indian Handicraft . . .

VERNAL—The tribal council of the Ute Indians on the Uintah-Ouray reservation will take immediate steps to promote a revival of the once popular art of leather and bead work among the tribesmen, according to Mrs. Eva Hass, tribal secretary. Beaded jackets, vests, moccasins, gloves and various trinkets will be made. The council hopes to put the work on a commercial basis and develop additional income for the Indians. Such a revival of Indian art has proved successful on the Wind River reservation in Wyoming.

Hite Ferry Sinks . . .

HITE—The automobile ferry across the Colorado river at Hite, placed in operation in September, 1946 (*Desert*, Feb. '47) has sunk, leaving no means of crossing between Moab, Utah, and Lee's Ferry, Arizona. Flood waters from tributary streams apparently drove driftwood against the craft, tipping it and allowing the water to pour in. Weight of the water broke one of the cables and the ferry sank in quicksand in midstream. Arthur L. Chaffin, who was operating the craft on a three-year contract with Utah's department of publicity and industrial development, was prevented by the high water from crossing and securing the boat.

Reclaim Escalante Desert . . .

CEDAR CITY—The great area west of Cedar City, marked on the maps as the Escalante desert and until recently a sage covered sheep range, is being reclaimed and is producing alfalfa and potatoes said to be equal to any grown in Utah. Largest single operator is the Weyle-Zuckerman company which has 2000 acres under cultivation 35 miles west of Cedar City. Average potato yield was 175 100-pound sacks per acre. Water, from 13 big wells, comes from 95 feet below the surface and is raised by electrical pumps set in 12-inch pipes.

Study Range Forage Plants . . .

LOGAN—Scientists at Utah agricultural experiment station are investigating the nutrient composition of range forage plants and how the plants are utilized on the range by sheep and beef cattle. Chemical analysis of range forage plants are be-

County Maps...

CALIF: Twnshp, Rng, Sec, MINES, All road, trail, creek, river, lake, R.R., school, camp, rng. station, elev., ntl. forest, land grant, pwr. line, canal, etc., boundaries.

Size range 20x30 to 73x100 inches.

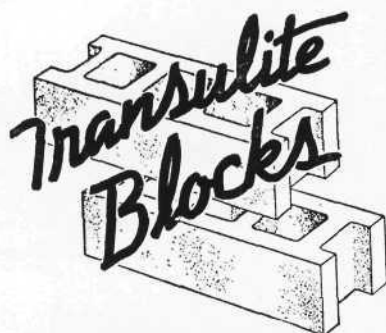
All Counties \$1 except as listed: Tuolumne, Santa Barbara, Plumas, Placer, Modoc, Madera, \$1.50; Tulare, Tehama, Siskiyou, Imperial, \$2; San Diego, Riverside, Mendocino, Kern, Humboldt, Fresno, \$2.50; Trinity, Shasta, Mono, San Luis Obispo, Monterey, Lassen, Los Angeles, \$3.

Inyo Co., 67x92	\$15.00
San Bernardino, 73x110	15.00
San Bernardino, No. or So. Half	7.50
N.W., S.W., N.E., or S.E. quarter	3.75

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ing made, and relationship of their vitamin and mineral content to the composition of the soil where they are grown and to the health and well being of the animals grazing these areas in their natural conditions is being studied. Extensive feeding experiments with sheep are planned for Pine valley in Millard county.

Blasts in the Desert . . .

TOOELE—The army will conduct a series of high explosive experiments at the Dugway proving grounds, about 50 miles southwest of Tooele, to determine ability of underground shelters to withstand blasts, including a simulated atomic explosion. Charges as great as 120 tons of TNT will be set off in the desert area. Lt. General Raymond A. Wheeler announced the tests were designed to obtain information on effects of explosions whether delivered by bomb or guided missile.

Grand county officials have instructed Road Supervisor Jack Beeson to start work on the Arches national monument road from the Windows section to Devil's Garden, Fiery Furnace and Delicate Arch section.

Blanding Indian school for Paiute and Navajo children which has been located beyond West Water gulch has been growing so rapidly that A. R. Lyman and his wife, who established it, plan to move the school into Blanding where larger quarters and more facilities will be available. The Lymans are being aided at the school by Miss Doris Childs.

The state road commission is seeking bids for construction of four new bridges on Highway 50 between Green River and Thompson's in Grand county.

Benjamin Amos McBride, 94, who once drove a stage coach from Beaver to Pioche, died in Salt Lake City in October.



CALIFORNIA GROWN . . . DATES

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ANCIENT INDIAN RUINS HOLD RICH ART TREASURES

Modern American artists and designers have scarcely scratched the surface of source materials to be found among the relics of ancient inhabitants of the Western hemisphere, according to Miss Bertha Dutton, curator of ethnology at the Museum of New Mexico. The museum recently presented an exhibit of textiles, pottery and metal work by a New York artist, William D. Allen, which were based on Indian art and petroglyphs.

The petroglyphs were a picture language rather than a mere decoration, Miss Dutton explained, and functional rather than art for art's sake. The carver tried to tell his story as clearly and simply as possible. As a result, ancient American petroglyphs possess many of the qualities of fine modern art, notably boldness and simplicity.

The Museum of New Mexico, one of the centers for study of the arts of the American Indian, has a rich store of information about rock carvings.

LARGE METEORITE SOUGHT IN NORTHERN ARIZONA

A large meteorite which blazed across the northern Arizona sky the night of October 30 and exploded miles above the earth in the Four Corners country became the object of a great hunt by planes and ground crews with radio equipped cars and jeeps. No fragments had been recovered at time of going to press.

Soon after the meteorite had been seen, Dr. H. H. Nininger, director of the American Meteorite museum near Winslow was gathering bearings from passing motorists on Highway 66. Later he made on-the-spot investigations in Winslow,

Holbrook, Gallup, Shiprock and Cortez, Colorado, along Highway 66. Dr. Nininger then computed the course of the object across northern Arizona just north of Lee's Ferry, south of Rainbow Bridge, almost over Keet Seel ruins and a bit north of Kayenta, across the Navajo reservation to Lukachukai mountains. His computations indicated that the meteorite had exploded about 17 miles above the mountains and that the fragments probably had fallen in Red Rock valley, just inside the New Mexico state line.

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—DESERT MAGAZINE

Mines and Mining . .

Bishop, California . . .

More than \$1,000,000 worth of tungsten ore concentrates are being assembled annually in Bishop, only depot in the western states for assembling these products, Philip Gardiner of Bishop Assaying and Engineering company states. Ores are processed by Bishop Concentrate and cleaning company, then samples are taken by Gardiner's automatic sampler and tests run before the concentrates are shipped in carload lots to Molybdenum Corporation of America at Washington, Pennsylvania. At present ores come chiefly from California, Arizona and neighboring states.

Manhattan, Nevada . . .

R. E. Williamson, leasing on property of the Manhattan Gold Mines company, has shipped a five-pound brick of gold sponge to the San Francisco mint. Gold sponge is practically pure gold remaining after the quicksilver has been removed from the amalgam through application of heat. The gold is said to have come from 45 tons of ore from the property. Williamson said that the ore is being trammed 1500 feet to the tunnel portal, and that there appears to be plenty in sight. The Manhattan company plans a diamond drilling campaign this winter.

Ely, Nevada . . .

Power shovels now in operation can mine the ore-body at the Ruth pit for the next ten years, according to Jay A. Carpenter, director of the Nevada bureau of mines. Recent removal of millions of tons of overburden has increased ore reserves materially. Kennicott Copper corporation is said to be operating the copper properties at approximate capacity, shipping 10,000 to 11,000 tons daily from the open pit at Copper flat, and 1000 tons from underground workings. More than 1000 men are reported employed in mines and plants of the company.

Kingman, Arizona . . .

The Emerald Isle mine in the Cerbat range is shipping one carload of 80 per cent copper concentrates every 10 days, with nearly 1,000,000 tons of ore in sight for immediate mining, officials of the Lewin-Mathes Mining company declare. The company, employing 32 men, is mining and milling the ore for use by its St. Louis, Missouri, copper fabricating firm. The open pit, 40 feet deep and extending over several hundred yards width, is being stripped by power shovel. Robert Payne is superintendent, Earl Hastings, company manager.

Tombstone, Arizona . . .

Operations, Inc., now is working the San Juan mine in the Dragoon mountains, the Tombstone Extension east of Tombstone, the Compadre west of Patagonia, the Pine-Zinc in the Chiricahuas and the Atlas near Red Rock. The company's Tombstone mill is scheduled for three-shift operation to handle ore from these mines, and expansion to permit custom-milling of complex lead, zinc and copper ores is contemplated. Also said to be planned is a new type chemical leaching plant using natural gas available at Tombstone.

Randsburg, California . . .

Dragline placer operations of Spud Patch placers at Atolia are being supplemented by 19 leasers on the old hard rock tungsten properties there. The 900 to 1400-foot levels of the Union or No. 1 shaft have been leased by a group which reconditioned the shaft, repaired the ore-bin, and produced an estimated 4200 pounds of concentrates from the first milling of 60 tons of ore. Lower levels of the mine still are under water. Also leased were the old Spanish, Flatiron, Amity, Billy O'Brien workings, and shaft No. 4.

Moab, Utah . . .

Ohio Copper Company of Utah is suspending operations at its copper mill at Big Indian, 40 miles southeast of Moab. L. B. Birch, superintendent, blamed the closing upon doubled overhead costs which made mining and refining of the Big Indian and Lisbon valley copper deposits unprofitable. The mill, when running at usual capacity, produced about 100,000 pounds of copper a month. It will be left intact at least until spring, according to Birch, and milling will be resumed if economic conditions improve.

Tonopah, Nevada . . .

Tonopah Development company, now diamond drilling a large area of mineralized ground north and northeast of Tonopah has acquired title to 34 patented mining claims owned by Nye county on which it has held a prospecting permit for the past year. In addition it has obtained 34 claims by location. The company, drilling its third hole in the area of the old Tonopah King claim, is a subsidiary of the Calumet and Hecla Consolidated Copper company of Michigan.

Ore shipments from leasers operating on the Tonopah Mining company's property for October amounted to \$9650. Ore was shipped to McGill smelter by truck.

Bishop, California . . .

Mill work at U. S. Vanadium property on Pine Creek was resumed on November 1, with the 1400-ton mill working at half capacity, according to Ray Sullivan, superintendent. Enough ore has been stockpiled at the mill to assure continuous operation through the winter, he said. Mine and mill crews have been increased to 250 men and underground mining will continue through the winter with the ore brought underground for the short tram haul to the mill. Tungsten concentrates are being shipped to the firm's own operations in the east.

Salt Lake City, Utah . . .

On the basis of new bids opened in Washington on November 17, the War Assets administration was said to be in position to sell the Kalunite plant in Salt Lake City at more than \$100,000 above its appraised value. High bidder was American Potash and Chemical corporation of New York, which offered \$752,000 for the plant and declared it was prepared to spend an additional \$750,000 to recon-vert it for production of phosphate fertilizer. This company now operates extensively at Searles lake in California.

Goldfield, Nevada . . .

Officials of the Newmont corporation have reported that the rich oreshoot opened on the Whitehorse claim has been proved for a length of 150 feet and will average five feet in width. The south end of the drift apparently has reached its limit but the north end still shows promise. Two raises have been started, one near the north end and one near the center, and crosscuts and drifts still are probing the size of the find. A few shipments will go out soon, it is reported, to determine how the ore will go under actual treatment.

Peter Moser of Goldfield is reported to have leased the property of the Verdi Development company in the Divide district of Nevada on a long-term basis. Moser, who has mined extensively in Alaska, Canada and the West is moving equipment and buildings to the property.

A six-mile power line designed to carry sufficient current to create 1000 horsepower at Henry Kaiser's iron mines in Eagle mountains, California, is being built by the California Electric Power company. It will tap the Metropolitan Water district's line at Eagle mountain pumping plant.

Frank M. Rudy, Tonopah resident since 1943, observed his 90th birthday with the declaration that he expects to continue his search for a gold mine until he finds one. Rudy has spent several weeks of each year since he has lived in Tonopah in the hills prospecting.

GEMS AND MINERALS

THROGS SEE SAN DIEGO SHOW AND LAPIDARY EXHIBITION

Thousands thronged the state building in Balboa park, October 18-19, to see the gem and mineral show staged by the San Diego Mineralogical society. Exhibits under mineralogy, craftsmanship, resources and commercial divisions made up the show. Craftsmanship, under chairmanship of Clyde A. Scott, displayed cut, polished and mounted specimens including petrified wood, agate, Mexican onyx and gem stones of many varieties. Showy specimens, featuring San Diego tourmalines, beryl, aquamarine, morganite, kunzite, essonite, smoky quartz and topaz were shown in the mineralogy division with Bob Came as chairman.

More than 200 specimens of San Diego's mineral resources were exhibited in the resources division, R. W. Rowland, chairman. Complete collections of San Diego's igneous, metamorphic and sedimentary rocks were on display, as well as industrial applications of native rock formations. A popular feature of the show was the section in which slabs were sawed and gemstones faceted and polished. Gold panning also was demonstrated, and there was a guest exhibit section where rockhounds from other cities and clubs displayed their collections.

Leland Quick, editor of the Lapidary Journal was scheduled to speak at the November 14 meeting of the San Diego society, now in its 13th year of operation. His subject was 'Rediscovery of a Lost Art.'

SACRAMENTO SOCIETY HOLDS ANNUAL GEM EXHIBIT

Sacramento Mineral society held its annual exhibit October 11-12 in Clunie auditorium. The stage was darkened for the fluorescent show and E. Pook led personally conducted tours from one end of the long table to the other, demonstrating the action of different minerals under different types of light. William Holley and Paul Downard showed a table model of a mine, complete with running stream, miners, burros, carts, dump and typical scenery. J. B. Nichols displayed a map of the United States with lines connecting each state to a specimen of its representative mineral in the foreground.

Doyle Rishel and Mrs. Craig exhibited cabochons; Mrs. N. C. Smith, copper ores; Peter Swetzer, petrified woods, Miriam Woodside, rainbow rocks; Lois Carnahan, a miniature lake with beach stones. Specimens and cut material were shown by William Haskell, the Colonys, Leo Chaussee, Lillian Coleman, A. G. McIntyre, Larry Ford, the Seeleys, George Winslow, the MacClanahans, the Hinseys, Mr. Byers, Mr. Holley, Henrietta Thomas, and Mrs. Donald Schuder.

NIGHT CLASS VISITS PALA GEMSTONE MINES

Victor M. Arciniega, mining engineer, geologist and night school instructor in geology and associated subjects at Manual Arts high school, Los Angeles, took his students on a field trip to the mines at Pala, November 9. The 12 carloads

of collectors drove from Pala to three small mountains east and north of town where most of the gem claims are located from 1000 to 1800 feet above the plain of the San Luis Rey river. One of the mine owners took the group through the workings, showing material in place and places where minerals had been removed. Geology and history of the area was explained to the visitors and they were given an afternoon's lease on the dumps.

Kunzite, tourmaline, amblygonite and beryl were found, and there was a quantity of lepidolite and rubellite. E. R. Hickey, Sr., found a tantalite crystal tip measuring $1\frac{1}{2} \times 1\frac{1}{2}$ inches. Clear quartz was abundant though most of it on the dumps was in fragments. First discovery of gem stones in San Diego county was said to be made by Indian school children in 1880.

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BEAUTIFUL ARAGONITE crystal groups from cave on Mt. Surprise \$2.00. Price list on other fine specimens on request. Jack the Rockhound, P. O. Box 86, Carbondale, Colo.

MONTANA AGATE: We have a large selection of gem quality Montana Agate, gathered from Yellowstone Valley this year. Priced \$1.00 to \$3.00 per lb. Slabs 25c in. up. Minimum order \$2.00. Dewey T. McCloud, Box 56, Cutten P. O., Eureka, Calif.

SLABS—Cut thick enough to grind. Agates, plain colored, moss and banded. Variety of Jaspers, Palm Wood, Blood Stone and slabs cut from Priday Ranch nodules. Not priced according to size but for what's in them. 10 to 25c per sq. in. Postage prepaid. If you don't like them send them back, get your money and return postage. G. C. Goodin, Needles, Calif.

FIFTY MINERAL SPECIMENS, 3/4" or over, boxed, identified, described, mounted. Postpaid \$4.00. Old Prospector, Box 21B73, Dutch Flat, Calif.

ANNOUNCEMENT — The Desert Diorama Company wishes to announce that the "Beautiful Desert Diorama" is now available direct from the studios. Choice of sizes 5"x9" cactus framed, mounted in cactus easel with mineral display in nature's own setting at \$3.00. Size 7"x10" cactus framed hand pastel background complete with desert vegetation and mineral display in foreground, \$5.00. The same, 8"x13", \$6.00. The "Special" 10"x20", carrying rough and polished specimens of picture wood, malachite, smoky topaz, turquoise, tiger-eye, flowering obsidian and others as available. A work of art you will treasure forever, at \$15.00. If you are not thrilled to your heart's delight, money cheerfully refunded. (This offer good in U.S.A. only.) Desert Diorama Company in Tucson, 1225 N. Anita St.

COLLECTORS: \$1.00 brings you small bottle "Hawaiian Diamonds" — Peridot crystals from Hawaii. Good green color, also chunk of lava embedded with crystals. G. Greer, Rt. 1, Missoula, Montana.

"ROCKHOUNDS STRIKE IT RICH" says your reliable Desert Magazine. You can own "Mineral Collectors Handbook" by Richard M. Pearl by sending only \$3.75 to Mineral Book Co., 405-A Mining Exchange Bldg., Nevada Ave., Colorado Springs, Colo.

SPECIAL—Never before offered, cabinet specimens beautifully polished petrified wood in picture, fire, rainbow and candy, 1 to 1 1/2 inches \$1.00. 1 1/2 to 2 1/2 inches \$2.00. 2 1/2 to 3 inches or more \$3.00. Desert Diorama Company, 1225 N. Anita St., in Tucson.

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.

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FIRST ORANGE BELT SHOW DRAWS 2500 VISITORS

Orange Belt Mineralogical society held its first gem and mineral exhibit at the National Orange show building in San Bernardino on November 8-9, and 2500 visitors signed the register, while 45 club members exhibited. The show gave the public an opportunity to see many private collections never before shown. Mrs. Erna Clark, club president, was general chairman; Major C. T. Kennedy, vice-president, was co-chairman; Mrs. Howard Fletcher, decorations; Mrs. A. B. Cyrog, publicity chairman.

Exhibited were many spectacular cut and polished desert gem stones; stones depicting desert scenes, sunsets, animals and flowers; polished petrified palm and other woods; crystal-lined amethyst geodes; cabochon and facet cut stones; rare mineral specimens from local and foreign sources; iris rainbow agate; petrified "foods;" and a fluorescent mineral display. With few exceptions, the stones shown were collected, cut and polished by members of the society. The silver work used in mounting some of the gems also was designed and made by members. Final plans for the show were made at the November 4 meeting of the society. Frederick Dros, geology teacher, spoke on basic mineralogy at the meeting. The club planned a field trip to Pala November 16.

SEARLES LAKE SOCIETY STAGES SHOW, BANQUET, FIELD TRIPS

Members of Searles Lake Gem and Mineral society and their out of town guests participated in a two-day mineral and hobby show, banquet, and field trips October 18-19. The show was held at the Trona Unified school and 800 visitors viewed the exhibits. Modesto Leonardi was show chairman. Societies winning prizes in the mineral section were N.O.T.S. Rockhounds, first; Los Angeles Lapidary society, special; Searles Lake Gem and Mineral society, special. Ralph Merrill was awarded first prize for his mineral collection and special awards were given Donald George, California Institute of Technology, for copper, silver and zinc specimens and a crystal collection and to Bill Lewis of Wagon Wheel mine for nodules.

Edward Redenbach took first in individual lapidary displays; R. F. Henley of San Francisco, second; Ralph Merrill, third. LeRoy Bailey staged a fluorescent show. Field trips were taken to Slate Range Crossing, Searles Lake, Ophir mine and Black mountain near Randsburg. Visitors included Gordon Bowser, president of San Luis Obispo Mineral society and his wife; C. H. Chittenden, president of the Santa

Monica Gemological society; Jack Gaston, president, and Jean Bennett, secretary, of the Los Angeles Lapidary society; Jack Streeter, vice-president of the California Federation of Mineralogical societies; Mrs. Pearl B. Elter, committeewoman of Sequoia Mineral society.

Paul S. Lindau of Los Angeles was booked for speaker at the November 19 meeting of the Searles Lake Gem and Mineral society, and was scheduled to show his motion pictures on the life of the dragonfly. Election of officers for the coming year also was planned for the meeting.

PRIZES AWARDED AT ANNUAL SAN FERNANDO ROCK DISPLAY

Twenty cases of gems, jewelry and mineral specimens were viewed by 2500 visitors at the annual show of the San Fernando Mineral and Gem society, held at the North Hollywood recreation center October 25-26. Show chairman was E. F. Tuttle, and Ralph McKracker was in charge of finances. Mrs. S. A. Coates was hostess and Mrs. Craig was in charge of decorations. L. E. Watson assisted by Chas. W. Clark, demonstrated lapidary work for the visitors. Joe Iverson and E. L. Newkirk worked the fluorescent survey while Joe Mikesell explained some of the causes of fluorescence to the crowds. William Taylor installed wiring to the cases and Lucile McClure exhibited the club library.

Prize winners were: Minerals—first, William Taylor; second, C. W. Clark; third, Edith Stamp. Crystals—first, E. L. Newkirk; second, Mr. Newberry; third, Joe Mikesell. Cabochons—first, Joe Iverson; second, Lawrence McKinley; third, W. L. Cooper. Faceted stones—first, Chas. W. Clark. Fluorescent—first, Joe Iverson. Junior exhibitor—first, Barbara McKinley. Flats, nodules and geodes—first, Mr. and Mrs. McPheeters; second, Joe Iverson; third, E. F. Tuttle; honorable mention, Lee C. Dewing.

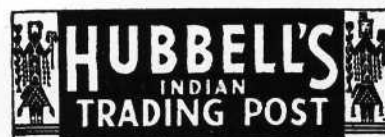
Class No. 1 jewelry—first, Lawrence McKinley; second, E. F. Tuttle; third, H. Whetsel. Class No. 2 jewelry—first, Mr. and Mrs. McPheeters; second, Lawrence McKinley; third, Joe Mikesell. Class No. 3 jewelry—first, Lee C. Dewing; second, W. L. Cooper. General display—first, E. L. Newkirk; second, Mr. and Mrs. McPheeters; third, E. F. Tuttle; honorable mention, C. W. Clark.

The Ajo Rockhounds club was organized by the 5th grade in Ajo, Arizona, during October. Officers elected were Philip Johannes, president; Jack Morton, vice-president; Lonell Hobbs, secretary; Larry Goff, treasurer. The Rockhounds planned to gather mineral specimens to exhibit at the state fair.

COLLECTORS ATTENTION: Swisher's rocks, minerals and novelties to be sold at a reduction in prices. Petrified woods and minerals will be sold in lump amounts. Entire collection consists of fifteen tons or over of woods, geodes and minerals. Hurry collectors it is going fast. Mrs. C. A. Swisher, 4719 So. Hoover, Los Angeles 37, Calif.

YOUR OPPORTUNITY: We have to move and are going to reduce our large stock of Nevada material. Assorted, agatized and opalized wood, agates, algae, jaspers, geodes, amygdaloids, etc., 5 lbs. \$2.00, 10 lbs. \$3.50, 25 lbs. \$7.00. Slabs from this material 10 sq. in. \$1.00, 50 sq. in. \$4.00, 100 sq. in. \$7.00. Assorted good specimen wood and lots of good cutting material, 10 lbs. \$2.50, 20 lbs. \$4.50, 40 lbs. \$8.00. Please include postage or we will ship express, charges collect, whichever you prefer. John L. James, Battle Mountain, Nevada.

FOR SALE: Black and grey petrified palm with eyes and red plume jasper. \$1.00 per lb. plus postage. Maida Langley, Box 331, Needles, California.



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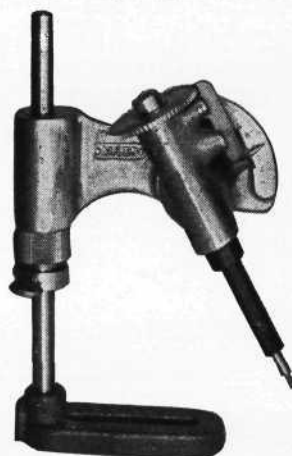
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AMONG THE ROCK HUNTERS

Harold Eales spoke to the Southwest Mineralogists at the November 10 meeting, showing colored pictures of Yellowstone. Mrs. Margaret Cotton was to be hostess November 24 when Mrs. Gordon of Long Beach was to speak on diamonds. A club Christmas party was planned for December 22. Club field trip for November 28-30 was mapped to the Blue Agate mine in Kern county.



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November meeting of Colorado Mineral society featured a talk, "Oil Shale," by E. D. Gardner of the U. S. bureau of mines. The society opened its 12th year in October with a lecture, "Metal Mining in Colorado" by Samuel A. Gustavson of the mineral economics division of the U. S. bureau of mines. Using slides, he outlined the occurrence of ores in Colorado and discussed the changes in their production since the beginning of mining in Colorado. Also featured was a display of minerals by Klaus H. Meyer.

The State Mineral Society of Texas, organized in 1943 is growing rapidly and announces 15 members added recently from Austin, McKinney, Alpine, Comanche, Mathis, Taft, Snyder and Corpus Christi. President is J. J. Brown of Austin. Secretary is Mrs. Edith Owens, 392 South 6th, Honey Grove, Texas.

Election of officers was planned for the November meeting of the Long Beach Mineralogical society at the clubhouse, Belmont recreation center, 4104 Allin St., Long Beach. Fourth annual show of the society, held October 12, was so successful the club was able to make the down payment for rental of the civic auditorium for the 1948 California federation convention and show out of its own funds. The October field trip to the Chocolate mountains was attended by 45 members.

Members of the Kern County Mineral society displayed colored slides of their choice specimens at the November 10 meeting of the club. George Sagen spoke on atomic energy at the October meeting. Mrs. F. M. Purdy is new secretary-treasurer of the society, which meets the second Monday of each month at 414 Nineteenth St., Bakersfield, California. Visitors always are welcome.

Sunday, November 2, 30 members and friends of the Pomona Valley Mineral club met at Pala mission before going to the Sempe gem claim to look for kunzite. Members were shown through the mine by George Ashley who explained methods of tracing down the pockets of gems. The visitors explored the dumps and several pieces of kunzite were found in addition to good specimens of lepidolite, quartz, mica and feldspar, which were plentiful. Black tourmaline was found and on the way back many members stopped at a nearby wash to look for hornblende. Annual banquet for the club was held Armistice day. Speaker of the evening was William Sanborn, ranger-naturalist from Yellowstone who described geysers and hot pools and gave a history of the formation of the canyon. He also told about the wild life of the area. October meeting was held at Pomona college where Pauline Saylor told of her trip down the Grand Canyon with the Nevills party and Hollis Page showed films of the most recent Mauna Loa eruption.

Earl Havenor explained the part minerals play as food for plant life at the November 4 meeting of the Mineralogical Society of Utah, held in the geology building, University of Utah, Salt Lake City.

Dr. Gordon Macdonald of the geology department of the University of Southern California discussed the geology of Hawaiian volcanoes at the November 10 meeting of the Mineralogical Society of Southern California, held in the lecture room of the Pasadena public library. A display of minerals from Pacific islands was planned for the program. Dr. Macdonald spent several years in the Hawaiian islands with the U. S. geological survey and was present during recent eruptions of Mauna Loa. His lecture was illustrated with color slides and motion pictures of the active volcano.

"Pitchblende, the Mother of the Atomic Bomb" was to be the subject of the first fall indoor meeting of the Minnesota Mineral club at the Curtis hotel, Minneapolis in November. Dr. Willem J. Luyten, chairman of the department of astronomy of the University of Minnesota was the scheduled speaker. Final field trip for 1947 was held on October 5, when 12 carloads of rockhounds visited gravel pits where a few real finds were made.

Oklahoma Mineral and Gem society was entertained at its November 6 meeting by members of the Oklahoma geological survey and the faculty of the department of geology of the University of Oklahoma. Professor J. W. Stovall, director of the museum of the university, introduced Dr. Hugh D. Miser of the U. S. geological survey, who gave an illustrated lecture on Arkansas quartz crystals. He showed part of his collection of slides and a few specimens of quartz crystals.

Robert D. Roots is gathering small blue barite crystals at Sterling, Colorado, for favors to be given at the convention of the American Federation of Mineralogical societies to be held in Denver June 13-16, 1948. Colorado Mineral society, host organization at the convention, requests others able to secure a quantity of typical Colorado minerals to stockpile them for use at that time.

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Secretary Mary A. Piper of the Rocky Mountain Federation of Mineralogical societies passes on the information that DuPont's W. A. Flakes have proved useful in removing the iron oxide coating from a number of minerals from Colorado and elsewhere. They were obtained from the Dupont office at 7 S. Dearborn, Chicago.

Interesting dates in the mineral history of Colorado were listed in the November issue of *Mineral Minutes* of the Colorado Mineral society. In 1864, first silver mine discovered; 1865, placer gold found at Leadville; 1869, silver recognized at Caribou in Boulder county; 1872, petzite discovered at Gold hill in Boulder county; 1876, heavy sand regarded as a nuisance in the sluice boxes at California gulch was found to be rich lead ore; 1885, zinc first recovered from Colorado ores; 1891, gold discovered at Cripple Creek; 1897, uranium minerals discovered in La Sal mountains.

Guy E. Hazen, for many years field paleontologist for the American Museum of Natural History, has just completed a little museum for the exhibition of some of the rare fossils he has collected over a long period of years. Hazen's shop and exhibit are located along Highway 66 near Kingman, Arizona, in a building just opened.

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The Desert museum at Palm Springs, California, has been presented a collection of minerals and crystals rivaling those in any similar museum in the United States, Director Lloyd Mason Smith announces. The collection was given by Fred Markham of Smoke Tree.

Eagle Rock Mineralogical society meets on the third Friday of the month in the auditorium of the Eagle Rock, Los Angeles, playground. At the September meeting, faceting heads were demonstrated. The finished stone, a California white beryl, was won by President Edwin Fry, Jr. October field trip was to Horse canyon.

Los Angeles Mineralogical society celebrated its 15th birthday September 18. Dr. Clements, first president of the society, cut the large birthday cake. All ex-presidents of the society were extended special invitations to the meeting and were asked to give special talks. Besides Dr. Clements, Dr. Hill of the Los Angeles county museum, Dr. Herman, O. C. Smith, James Arnold and Richard Lehman spoke.

The Junior Mineralogical society of Salt Lake City, Utah, met at the Unitarian church October 10 with Alan King and Dr. Olivia McHugh as leaders. Discussion subject was "Physical Properties of Minerals." The club meets the second and fourth Fridays of the month.

Marvin's Rock shop, Durango, Colorado, was burned out during the summer, and the Ellsburys cannot rebuild before spring because of the weather. At present they are living in their ranch home 21 miles south of Durango on the Animas river at the Colorado-New Mexico port-of-entry on U. S. Highway 550. They expect to build a new shop to continue their silversmithing on the ranch, but also plan to rebuild the retail shop in Durango. The Ellsburys can be reached through P. O. Box 338, Durango.

First crystals of triplite ever found that were large enough to measure were discovered in the Mica Lode pegmatite, Eight Mile park, Fremont county near the Royal Gorge, Colorado. Triplite, a phosphate mineral containing iron and manganese usually is found only in irregular masses. The Colorado occurrence is described in the September-October issue of *American Mineralogist* by C. W. Wolfe and E. William Heinrich.

The Mojave Desert Gem and Mineral society planned an open non-competitive exhibition of hobbies in the auditorium of Barstow senior high school November 21-22. Purpose of the exhibit was to acquaint and assist parents and students in the selection of educational hobbies and to provide means of obtaining adequate and comprehensive information about them.

Glendale Lapidary and Gem society's November field trip was to Horse canyon. The weather was rough, but quality agate was obtained. Next field trip tentatively was planned for the Chuckawalla mountains. Many of the society members are attending jewelry classes.

Dr. Rene Engle, curator of mineralogy and petrology at the Los Angeles county museum talked on "Geochemistry and Minerals" at the November 14 meeting of the Pacific Mineral Society, Inc. He spoke of the aesthetic approach to mineralogy. He emphasized that much of the progress of mineralogy is due to developments in other sciences. Physics has given mineralogy the polarizing microscope, spectroscopy, spectrograph, luminescence by ultraviolet, x-ray technique to determine crystal structure, and the electron microscope. Chemistry has given the blowpipe, spot tests, and chromatic methods of analysis. Geochemistry, Dr. Engle declared, concerns the movement and combination and related studies of the elements of the earth.



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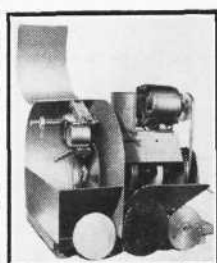
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Members of Santa Monica Gemological society heard a talk on "Major Gem Stones" by a representative of a Los Angeles jewelry house at the November meeting. The speaker covered the life of a diamond from inception to ornament. A field trip to Red Rock canyon was planned for November 15-16.

Oscar Monnig, who has one of the largest collections of meteorites in the Southwest, spoke to the Texas Mineral society of Dallas at its meeting, November 11. He explained his method of searching for meteorites, by contacting all inhabitants of the area in which a meteor shower occurs, then returning after six months or a year to see what has been found and to keep up interest in the search. Monnig has published a pamphlet to help in identification of meteorites which he passes out in the area where some are believed to have fallen.

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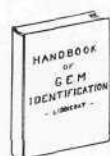


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Albert Pessin, superintendent of the Iron King mine, described lead and zinc deposits, told their history and how to identify them at the November meeting of the Yavapai Gem and Mineral society of Prescott. Most important lead and zinc mineralization took place in the Paleozoic period when the great deposits of the Mississippi valley were formed. A few ores, such as those of Franklin, New Jersey, are pre-Cambrian while most of the western deposits associated with igneous rocks are of late Cretaceous or early Tertiary age, according to Pessin. The Iron King mine was opened in 1900 as a gold mine. A mill which treats 500 tons daily was built in 1938. The ore is lead-zinc, with some gold, silver and copper.

Gates Burrell planned to talk about his experiences collecting Eden valley petrified wood, Sweetwater agate and other specimens at the November meeting of Sequoia Mineral society at Parlier union high school. Burrell spent the summer collecting in Wyoming. The club plans a joint field trip with the Mother Lode society to be made during November. The Parlier lapidary and jewelry class has resumed operation for the school year, meeting Monday and Thursday evenings at 7:30 with Chris Andersen in charge.

Colored motion pictures, "America Sails the Seas," loaned by the American Steamship company were to be featured at the November 19 general meeting of the Northern California Mineral society of San Francisco. Michael Hanna and Chas. Hansen were in charge of the mineral display. Annual election of officers was set for the December 17 meeting. The open house held October 4 proved successful, with minerals being auctioned by Lloyd Demrick and G. A. MacNeill. Dr. Austin F. Rogers talked about a recent trip north.

John Glass of Weiser, Idaho, was guest speaker at the October meeting of the Idaho Gem club of Boise. He described the mining operations being conducted in the McCall area. A good deal of tin had been found, he said, and zerkite, a form of zircon. Also recovered were garnets, rubies, sapphires, some small emeralds and large and small crystals according to Glass. He displayed many specimens, and a tray of polished and unpolished stones. Mr. Emerson of Caldwell showed natural color pictures of Silver City, Idaho City and Succor Creek canyon. The club is conducting a beginners class in jewelry making which 18 persons are taking at present. A. J. Coon is president of the Idaho society, and Mrs. Edward L. Miller is secretary.

A talk, "Mineral Names," was given by Dr. Adolph Pabst of the department of geological science, University of California, at the October meeting of the Sacramento Mineral society. Minerals, he explained, are classified by species, with a range of graduations within the species. It is the aim of modern mineralogists to name new minerals as they are discovered by nomenclature that suggests the species. Names of most minerals are derived from Latin or Greek and are descriptive of their particular properties but too many, Dr. Pabst says, have been named after their discoverers or the locality where they were found and so give no clue to identity. Mineralogists hope that by world-wide cooperation and the aid of publishers of mineral texts a trend can be encouraged to simplify the system of mineral names.

Officers for 1948 for the Yakima, Washington, Rock and Mineral club were elected at a recent meeting. A. L. Knoke is president; H. E. Dawson, vice-president; Mrs. Charles Hall, secretary-treasurer. Meetings are held at 8 p. m., the third Thursday of each month in the game room of the American Legion building. Visitors are welcome, according to Mrs. Frances Knoke, in charge of publicity.

The dates April 24-25 have been approved for the next gem show of the San Jose Lapidary society, according to the *Lap Bulletin*. December meeting of the society was to feature colored slides. Members were asked to bring slides, and Mr. Henley of the East Bay Mineral society was to exhibit his series on Bryce canyon. Bruce Holmes planned to bring movies of the club's picnic at Searsville lake. Presents of cutting material were to be exchanged at the meeting.

Annual fall auction of the Marquette Geologists association was held at the November 1 meeting in the auditorium of the Chicago Academy of Sciences. Program for the October meeting was in the form of a round-robin discussion on lapidary equipment. At the meeting Gil Rudiger explained his plan of compiling a bibliography of the different fields of interest to members of the club. William E. Menzel said that the association had been offered the opportunity for a display at the Field museum and he and Kenny Russell were placed on a committee to work up a show or display plan.

November 6 meeting of the Mineralogical Society of Arizona was held in the mineral building on the state fair grounds, Phoenix. Dr. N. H. Morrison of the department of mineral resources outlined the history and functions of the department, and club members previewed the mineral exhibit at the state fair. A. L. Flagg was scheduled to discuss the history of mining in Arizona at the November 20 session of the club, held in Technocracy hall. October 16 meeting opened with a brief explanation of essential equipment for a rockhound field trip by Bill McDonald. Allen Sharp of the U. S. bureau of mines went into detail about dangers to be avoided around mines, and rockhounds were warned about being too curious while rock hunting around old workings.

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AMATEUR GEM CUTTER

By LELANDE QUICK, Editor of The Lapidary Journal

The snow is on the range of southern Wyoming now and the jade hunters have gone to other hunting grounds for other materials. The great horde of folks that migrated to Wyoming this year did a lot of hunting but little finding. Not long ago we used to see ads of jade merchants of Wyoming in which one advertised himself as the "jade hunter" and another as the "jade finder." Now the most diligent search seldom results in the finding of much worthwhile material. Recently we gathered a lot of interesting material on jade, particularly about the original discoveries, in addition to the information contained in that readable book by James L. Kraft, the food merchant, called *Adventures in Jade*.

Allan Branham, whose name is almost synonymous with jade, has given us an interesting account of some of his experiences. He writes—"I have been a rockhound for about 35 years. That long ago I used to be a traveling salesman for a grocery company. I had a territory right through the Montana agate beds and I early saw the commercial possibilities of dealing in rocks. When I came to Wyoming as manager of a grocery department I heard rumors of jade. Since the United States is the largest user of jade, I knew that if I could find jade of good quality in Wyoming I could sell all I could find. My wife and I, with our daughter Marcia, began hunting every Sunday. The first piece I ever sold went half to V. D. Hill of Oregon and half to the Gem Exchange, now at Bayfield, Colorado. We were not the first to find jade but we were the first to sell any. After placing a small ad we were swamped with orders. At that time there were no rock saws in our locality. When we got an order we'd take a sledge and knock off a chunk. If it was more than the order called for it went out anyway, at so much a pound. When the checks started rolling in from all over the world we could not conceal the fact from others. Then people began flocking to Wyoming and following our every move with high-power field glasses. By that time we had just about worked out the locality where the light green material had been found. We figured that the larger pieces would be at or near the tops of the hills and we began to widen our hunt. Soon we found the largest scattered deposit ever found, but we had been followed all day. We took all that we could haul. The next Sunday everybody and his brother was there and since that day, about eight years ago, the hills have been crowded with people. Some of them stay six months.

"We had sold Mr. Kraft quite a bit of jade but so many people got in the jade business that we went to Laramie and bought a grocery store. After eight months, during which we sold jade on the side, we received a request from Mr. Kraft to take him jade hunting. He came to Laramie and we set off on a three-day jaunt. About a year before my daughter Marcia had found two very large pieces right together. We left them because they were so dark in color. After hunting without much luck, in desperation we led Mr. Kraft to the two large boulders. His reaction was instant and explosive. We got a truck and hauled out the boulders. Mr. Kraft bought the largest boulder and gave it to the Field Museum.

"There is not much money in jade because

only about five per cent of that found is any good. We found a boulder recently that weighed 180 pounds. It was too big for us to cut so we hired a man to saw it at 10 cents an inch. After it is cut it may not be worth 10 cents a pound. We were offered \$200 for it, but it may be worth \$600. Everybody buys jade on a gamble. The Chinese insist on deducting 25 per cent for waste. I found the largest boulder ever reported, about 5½ tons, but I believed it worthless and did nothing about it. Another man hauled it out and claims it's worth \$40,000."

What happened to the boulder that Mr. Kraft didn't buy makes a fascinating story. It was made into the largest piece of jade statuary that has ever been completed and it was not carved in China as might be supposed. In books of authority on jade we read that the largest piece of statuary ever created by Chinese artisans was a jade horse weighing 67 pounds. Dr. Chang Wen Ti bought Branham's other boulder and resold it to the famed sculptor Donal Hord of San Diego. Working with an assistant 6 hours a day, 5 days a week, for an entire year Mr. Hord recently completed a magnificent piece of work called "Thunder." Out of the original 460 pound piece he produced a finished piece weighing 104 pounds. It is 20 inches high and about 16 inches wide and represents an American Indian sitting crosslegged on rainclouds. With long fingers he pulls thunder from a drum held at one shoulder while the fierce wind whips his hair over the other shoulder. The piece is undoubtedly one of the masterpieces of America and certainly the most ambitious project ever attempted in jade by an American. It will be exhibited in Los Angeles shortly and the asking price is \$25,000.

We have seen the piece in Mr. Hord's studio. While it is massive, it never-the-less rings like a water tumbler when you tap it with an object such as a pencil. Mr. Hord also has made a two-ton figure of the "Indian of the Colorado" from diorite, a material associated geologically with jade. We were most fortunate in being presented with a piece of the original boulder from which we intend making ourselves a prized ring.

• • •

When the Amateur Gem Cutter page first appeared here more than five years ago, the occasion was rare when a publication of importance contained an article about gems. Almost never did an article about gem cutting appear. But the growing interest in gems and gem cutting has created a demand for gem information and wherever articles appear they arouse wide interest. The best indication of this is that in recent months several of our leading publications have had fine articles about native gem materials. They include the *Saturday Evening Post*, *Collier's*, *Pic*, *Magazine Digest*, *Science Digest*, *American Home* and *Time*.

While it still is true that there is no luxury item for which the American public spends so much and about which it knows so little as gems, the public is vastly better informed today than it was a few short years ago. There are 300,000 gem cutters in the country and probably 10 times that number of passively interested persons who just need a little shove to start them off in one of man's most wholesome and rewarding pursuits—the art of gemcutting.

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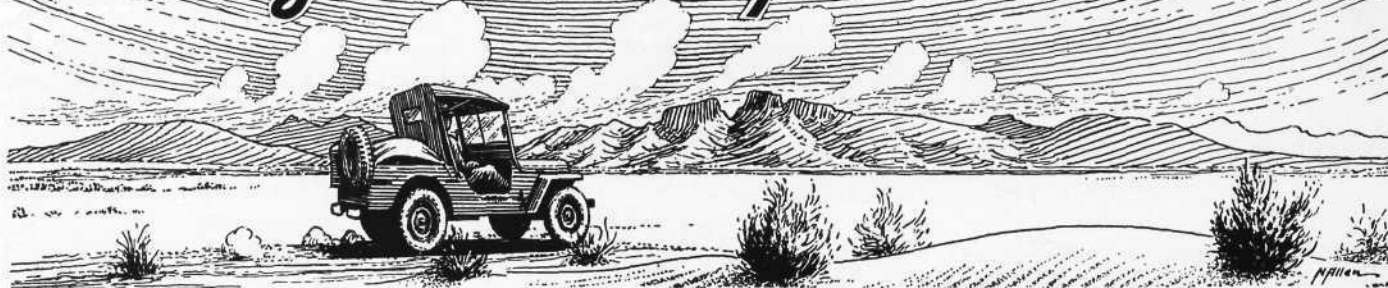
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Just Between You and Me



By RANDALL HENDERSON

SEVERAL weeks ago when reports became current that the Navajo Indians were facing a winter of starvation, I wrote to several friends among the traders and to others who reside on the reservation and are in daily contact with the Indians, in an order to get a true picture of the situation for Desert readers.

The answers, from men who have a genuine interest in the welfare of the Indian, and whose opinions I respect, are practically unanimous as to two conclusions:

First, that the immediate situation on the reservation is not as critical as generally reported, and

Second, that the long range outlook for the Navajo is more serious than most people realize.

According to Anglo-American standards, the Navajo always are on the verge of starvation. And this situation has become acute since the stock-reduction program was forced upon the Navajo in the early 'thirties.

I do not wish to imply that the Indian service plan for limiting the number of sheep and horses an Indian could own, was all wrong. There have been some injustices in its application, but something had to be done to protect the over-grazed range lands, and Indian bureau officials applied the most obvious remedy.

But the remedy was not a permanent solution of the problem. The dilemma on the Navajo reservation—as it is in many other parts of this earth—is over-population. There are 61,000 Navajo Indians, and the number is increasing about 1,000 annually. The arid lands allotted to them lack the rainfall and fertility to support that many people in the pastoral pursuits of their forefathers.

Thanks to the interest of an aroused public, the emergency needs of the Indians probably will be met without delay. President Truman has asked congress for a special appropriation of \$2,000,000 for immediate relief. And generous Americans are responding to appeals for food and clothing to be sent to Navajo Assistance, Inc., at Gallup, New Mexico. This is a worthy organization under responsible management. Its president is A. W. Barnes, publisher of the *Gallup Independent*, and its treasurer is Glenn L. Emmons of the First State Bank of Gallup.

The Indian traders take care of many of the really needy Indians, and such agencies as the Presbyterian Ganado mission under the direction of Dr. C. G. Salsbury, the Catholic mission at St. Michaels, and Father Liebler's Episcopal mission at Bluff, Utah, all contribute what they can.

The Navajo will not be hungrier than usual this winter. But unless a long-range program is adopted very soon, and pushed vigorously, the situation on the reservation will continue to deteriorate until large numbers of the Indians will become permanent subjects of relief.

The solution is not simple. Both state and private interests may be expected to oppose any effort to extend the boundaries of the Navajo reservation. Politicians in the Southwestern states maintain a constant clamor for a reduction in the tax-

exempt public domain within their boundaries. The cattle interests are well organized and fighting to obtain more of the public domain, and certainly will challenge any effort to have their present grazing range reduced.

Sooner or later an over-crowded world will have to adopt stringent measures for birth control—but no one would suggest that the Navajo be singled out for the application of such a policy prior to the day when it becomes a nationally accepted program. And in the United States that day probably is remote.

What then are the alternatives? In the correspondence on my desk are some very constructive suggestions, among them these: Dr. Salsbury believes "the Navajo should be given all the rights and responsibilities of full citizenship and the Indian bureau dissolved. The states involved should be given sufficient grants in aid to enable them to give the best type of education and health service to the Navajo until the backlog of ignorance is overcome."

M. L. Woodard, secretary of the Indian Traders association believes the ultimate solution may be found only in education. He writes, "And by that I mean education along sensible lines. Adults and children should be given intensive education in health and sanitation. I favor a strong program of vocational training because of the unusually high manual skill of these people. . . . Also, the Navajo need to be taught the responsibility of full citizenship, including the obligations in the employer-employee relationship. They want an education."

Full citizenship and education! The two are inseparable. When our federal government signed a treaty with the Navajo in 1868 we pledged a school and a competent teacher for every 30 Navajo children. As Dama Langley pointed out in the June '47 issue of *Desert*, we have fallen short of our pledge by 600 schools.

It will be a generous thing to send a bundle for the tribesmen to the Navajo Assistance office in Gallup. But it is infinitely more important that we press our federal representatives in congress for the immediate launching of a long-term program to fit the Navajo for the citizenship and privileges now denied him.

* * *

Last month I wrote a protest against the suggestion of a Los Angeles county supervisor that the desert should be used as a dumping ground for city refuse.

But my editorial turned out to be a boomerang. A *Desert* reader wants to know what I am going to do about all these little desert towns which for years have been dumping their tin cans and garbage out on the desert landscape just beyond the municipal limits?

That is a very proper question, but it has sort of put me on the spot. The only way I can save face is to sharpen up the editorial harpoon and go to work on some of the offenders. If any of *Desert's* readers have suggestions as to where we should start, please pass 'em along. I am going to need some help in this deal, for the old custom of throwing the rubbish out the back door was established in the days when men came to the desert only for gold—and it is hard to reform an old desert rat. But we'll start working on 'em.



'POISONOUS DWELLERS' BOOKLET BELONGS IN EVERY DESERT KIT

Natt N. Dodge's new booklet, **POISONOUS DWELLERS OF THE DESERT**, is small but it is complete, well-illustrated and of first importance to anyone in desert and sub-tropical areas. Its cost is 50 cents, and it should become as much a part of the kit of any desert visitor as his canteen. General description and habitat are given for the giant desert centipede, scorpions, the black widow spider, the kissing bug, ants, wasps, bees, the Sonoran coral snake, rattlesnakes, back-fanged snakes and the Gila monster. Their methods of stinging or striking are outlined and accepted first aid and medical treatment is explained wherever any is known.

The booklet should save lives—possibly those of its readers and certainly those of the harmless desert dwellers whose misfortune it is to have an ugly appearance and a bad reputation. Naturalist Dodge treats at length with these: the tarantula, banded gecko, child-of-the-earth and vinegarone. And he corrects the fictions which have grown up about many of the poisonous creatures. The cover has a striking color illustration of the deadly desert scorpion.

Published by the Southwestern Monuments Association, Santa Fe, New Mexico. Size, 6x8 inches, 44 pages, 24 halftone illustrations, indexed, paper binding. Price 50 cents.

PIONEER NEWSPAPERS WRITE SOUTHERN CALIFORNIA HISTORY

The history of Southern California's first newspapers, from their files and correspondence, has been brought to life by William B. Rice in **THE LOS ANGELES STAR, 1851-1864**. In telling the story of the *Star* and its contemporaries, Rice has recreated the Southern California of the period—its failings and triumphs, humor and tragedy, political furore and promotional schemes. The *Star* was published first in May, 1851, deriving much of its income from the state for printing the laws in the Spanish language. Militantly Democratic and anti-Lincoln, it ceased publication in October, 1864, when the plant was purchased and moved to Wilmington by Phineas Banning, who started a newspaper there.

The book is enriched with many side-

lights into the history of California and the West. There are bits about the Mormon and Indian troubles, the southern gold rushes, the Butterfield stages and the overland railroad, which the *Star* sought to bring through San Geronimo pass from the Colorado river. Its principal importance to Southwesterners lies in two documents in the appendix. One is the journal of a freighting expedition in 1853-54 from Salt Lake City to San Bernardino, California. The other is the reprint of what probably was the first interview with Olive Oatman after her release from captivity by the Mojave Indians. It was published on April 19, 1856, shortly after her rescue. The *Star*, in 1853, published the letter intimating that Olive was alive, which led to the successful attempt on the part of Lorenzo Oatman to rescue his sister.

William B. Rice, who collected the material for **THE LOS ANGELES STAR** while studying for a doctorate at U.C.L.A., was killed in 1942 while climbing in the Teton mountains, Wyoming. The book has been edited and published by his former instructor, the California historian John Walton Caughey. It is an important contribution to California history, carefully documented, well-written and interesting.

University of California Press, Berkeley and Los Angeles, 1947. 315 pps., appendix, index, bibliography. \$5.00.

BOOK BRIEFS . . .

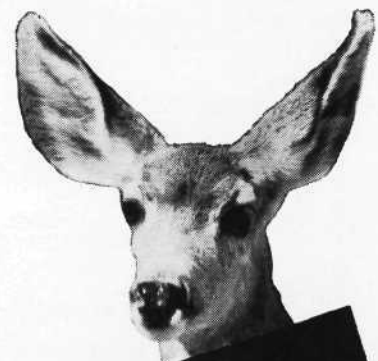
As a sort of advance sampling of its forthcoming California geographic dictionary, the University of California Press has issued the paper-bound booklet, 1,000 *California Place Names*, by Erwin G. Gudde. In dictionary form the pamphlet outlines the stories behind the naming of important California mountains, counties, rivers, cities, lakes, capes and bays. The 96-page book, which sells for \$1.00, is authentic and contains much interesting material. It will prove invaluable to the tourist in California. Serious students will await *California Place Names* by Mr. Gudde, which will have approximately 800 pages and sell at a probable price of \$7.50. It is scheduled for publication by the University of California Press in 1948.

When an Arizonan says: "The river was up yesterday," he means the region had a dust storm, according to *Arizona Brags*, published by Barge Press of Phoenix. The

booklet is alleged to contain all the best and all the worst that has been said about Arizona, collected by Oren Arnold. In exaggerated tales of heat, dryness and desolation, Arizona laughs at itself, but at the same time it is busy sandwiching in amazing facts and fantastic praises. It is good reading and good publicity, and probably will go on selling forever. Illustrated by Leigh St. John and with a two page map of the United States as Arizonans see it. Price 75 cents.

Second in series of popular pamphlets on the Navajo by Father Berard Haile has been issued by St. Michaels Press, St. Michael's, Arizona. *The Navaho Fire Dance or Corral Dance* tells story of series of spectacles given on last night of healing ritual known as Mountainway. Cost of the 57 page booklet by dean of scholars on Navajo matters is \$1.50.

Jack L. Renie, who has been publishing maps for motorists, hunters and fishermen in the Southwest for many years, has recently issued sectional maps of the towns and cities in Riverside, Imperial and San Bernardino counties. He has announced that more detailed maps of the undeveloped portions of the desert will follow later.



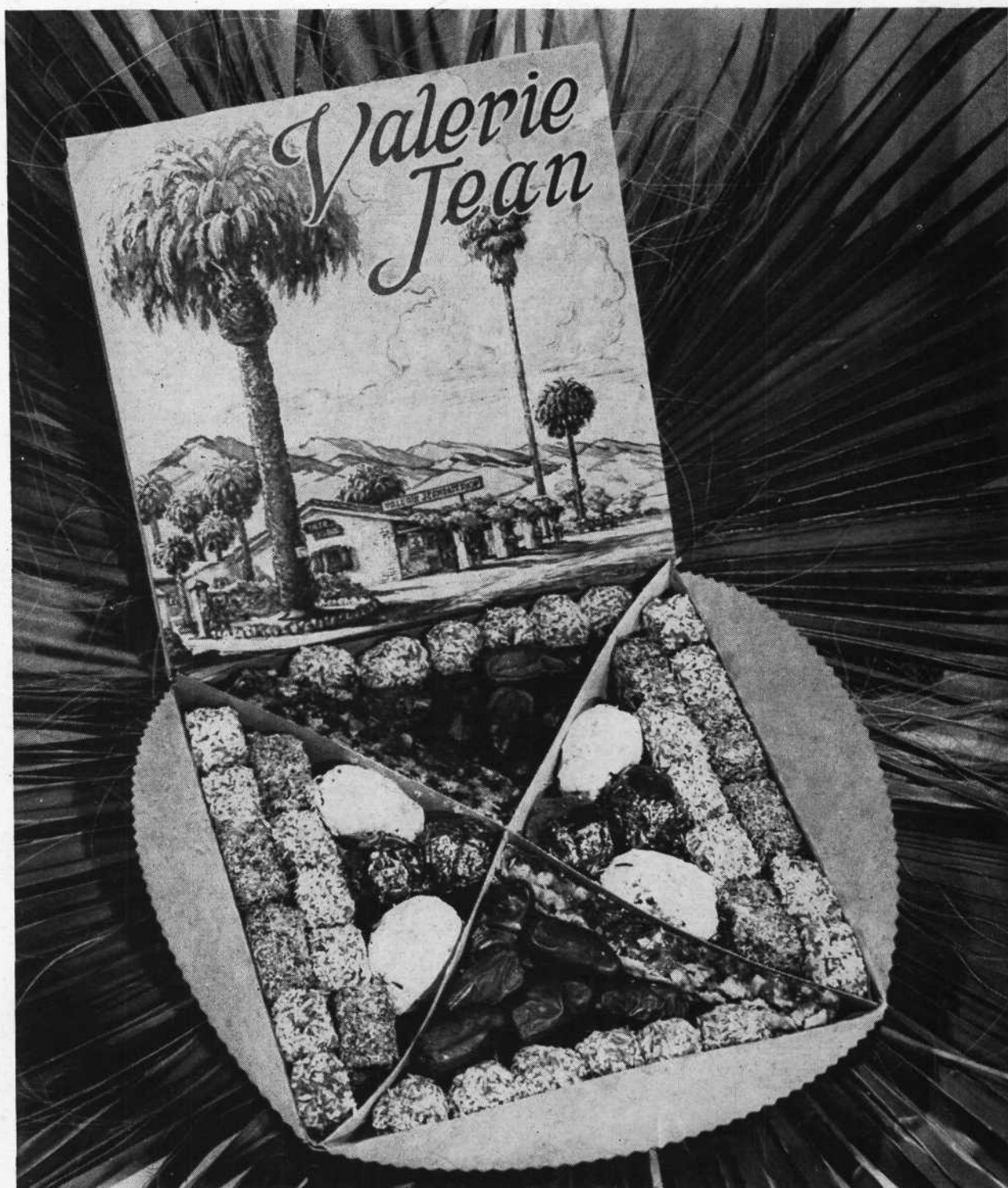
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