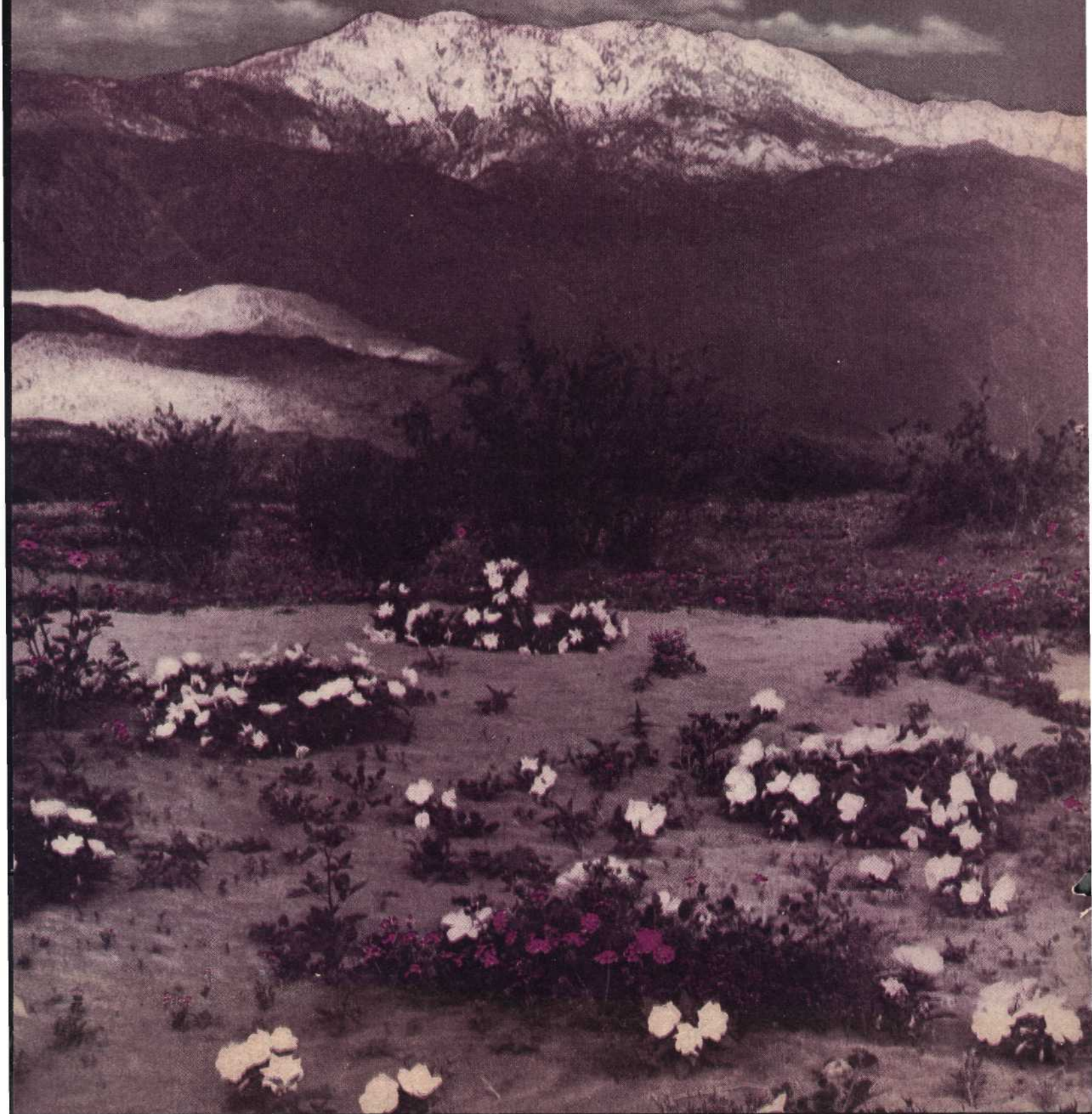


THE

Desert

M A G A Z I N E



MAY, 1944

25 CENTS



Gloria, my assistant, and a prettier Minute Maid you never saw, is helping me lube a car when in walks young Mike Collins, all decked out in his Marine uniform and the saddest face you ever saw.

"Well," I say cheerfully, "how goes the old furlough?"

"Oh, I dunno," says Mike, "things are sort of different around here. The old town



isn't the same. Folks aren't pleasant even if you buy cigarettes from them."

"Take it easy," I soothe him, "we still run the same friendly Minute Man Station on this corner, don't we?"

"Well, I dunno," he mumbles, looking at Gloria, who looks pretty, even working on a car.



"Oh," I laugh, "we do have some new help. But you still get good treatment here."

"That's just you," says Mike. "No, indeed," I reply, "it's a Minute Man policy. We still figure that customers are as important now as they were before the war."



I move over to help Gloria pull a front wheel bearing. "Right here," I continue, "is a good example."

"Who's that?" asks Mike.

"Not who," I correct him, "it—this wheel bearing here."

I hold the bearing up. "You see, Mike," I tell him, "every month we figure some

special way to help folks with their cars. This month it's cleaning and repacking front wheel bearings."

I hand the bearing to Gloria, who walks off toward the bearing cleaner.

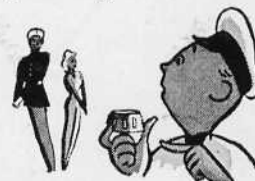
"Mighty interesting," admits Mike, watching Gloria.



"Yes," I agree, inspecting the wheel, "all winter long, people drive their cars through rain and stuff. It isn't long before this dirt begins to collect in the bearings and before you know it—bango—you got to buy a new set of bearings."

"So now that the winter

rains are all over," I continue, "we figure we're doing a real public service by warning folks..."



It seems mighty quiet all of a sudden. I look around. Well, sir, believe it or not, but Mike has slipped away and is over talking to Gloria. Imagine!

Well, I feel pretty silly for a moment. Then I notice how the trees on Elm Street are up full and green and there's a warm breeze.

Even a Minute Man can tell when May is here.

You'll find that courtesy, friendliness and essential motoring services are not rationed at Union Oil Minute Man Stations. We're busy, yes, busy as anyone else, but we're...

Never too busy to be helpful



UNION OIL COMPANY

DESERT Close-Ups

• Rock Hunter Norman Clay, who tells about his fellow collectors this month, is a clerk in the army, stationed at Camp Callan. He always has wanted to be an author. He started that career by majoring in English at University of Nevada and is continuing by taking a correspondence course in special article writing. He describes his home town, where he was born January 18, 1909, as "that glamorous, much maligned city of Reno."

• Will Minor, who tells in this issue about his discovery of the fantastic little canyon he calls Goblin Gulch, says herding sheep is one of the few ways he can make a living which enables him to prow around mountains and desert studying and collecting butterflies, minerals, fossils and Indian arrowheads. Photography, especially color photography, is both hobby and part-time business. He says, "I have worn cameras for so many years that I do not feel fully dressed without one on." As a spare-time occupation he has written nature and outdoor articles at intervals since 1920. Except for a year in the army, Will has been herding sheep on the Beard ranches for the past eight years.

• This month's cover photo, showing Mount San Jacinto, was taken at long range from Cathedral City, seven miles from Palm Springs, clustered at the foot of the 10,805-foot peak. In pre-ration days this view of the snow-capped mountain and the flowers below were a challenge to the motorist to speed out along the highway, armed with his camera and color film. Now that he is confined to round-the-block travel, turning back to this page in the flower album will bring with it not only a feeling of nostalgia but a deeper sense of appreciation for the beauty of desert blossoms. White evening primroses, bright sand verbenas, a few wild forget-me-nots and incense bushes grow in the foreground.

• It's California month for the poets this time—perhaps because so many are familiar with the beautiful Whipple Yucca, shown on the poetry page, which is blooming in California's chapparal and desert. Poets also have "taken over" letters section. But as spring passes perhaps the feuding will quiet down, allow non-rimsters to express their opinions and share desert experiences and information with other members of the Desert fraternity.

CREED OF THE DESERT

By JUNE LE MERT PAXTON
Yucca Valley, California

Into the heart of the vastness,
In the midst of the sand and the glare,
There's an indefinable Presence
Watching over the wanderer there.



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Trailing the Ghosts and Gnomes of Goblin Gulch

When Will Minor started to hunt for a small band of strayed Angora goats he little dreamed he soon would have cause to forget them. As he entered a tiny canyon he suddenly came face to face with the weirdest collection of natural forms he ever had seen. The soft white sandstone of the canyon walls was covered with faces and figures—some animal, some human, some resembling modernistic sculpture and others like nightmarish creatures which only a writer of horror fiction could conceive. Will takes *Desert Magazine* readers into this strange little canyon which he has named Goblin Gulch. And anyone would need a guide, too, for it is located in an isolated section of mountainous west central Colorado near the Utah state line, far from roads or even horse trails.

By WILL C. MINOR
Photographs by the author

IF YOU had come face to face with that forbidding, almost human stone face there in the shadows at the bottom of the narrow little canyon—you wouldn't have believed it, either.

Since photographing natural stone faces has been a favorite hobby of mine for several years, I am always looking for them and usually am not surprised to find a new one. But suddenly to be confronted by a whole collection of stone faces huddled together in a little gulch no longer than a single block of a city street is a rare find.

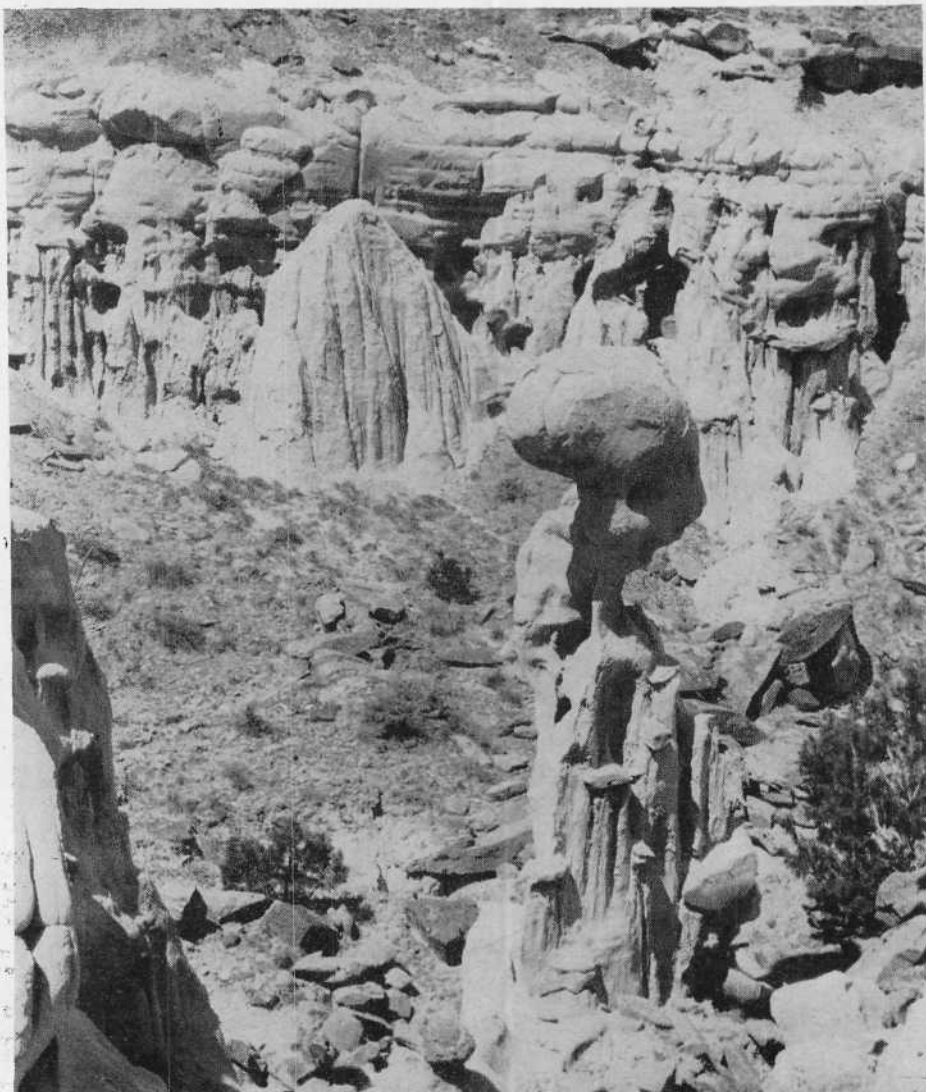
I was working in the canyon country south of the Colorado river in the western end of Mesa county, Colorado, just a few miles from the Colorado-Utah state line. I was hunting for a small band of Angora goats that had strayed from the herd. I had found their tracks and was following them up the bottom of a narrow little gulch when on rounding a sharp bend in the gulch I suddenly came face to face with one of the most realistic stone faces that I ever had seen.

Most stone faces are weathered from cliffs and canyon walls and are really a part of the wall, but this one, which I named Professor Bonehead, stood alone on a little pedestal some 20 feet high in the center of the gulch completely apart from the surrounding cliffs. He stood staring straight at me with a forbidding frown on his stony face as if silently inquiring why I had disturbed his age-long privacy.

After a startled moment or so I reached for my camera, which I wore on my belt Western gunman style, and shot the pro-

fessor where he stood. He refused to look pleasant for his portrait, however. A thorough examination of the gulch (the stray goats could wait) proved that the professor was not alone in his hidden retreat. Indeed, he had a whole assembly of stone ghosts and goblins. The walls of the gulch on either side literally were covered with faces and figures—some animal, some human, some bearing a striking resemblance to the work of modernistic sculptors and others looking like nothing on earth unless it be some of the nightmarish creatures conceived in the mind of a writer of horror fiction. So weird and unreal was the little canyon that the name Goblin gulch almost instantly came to mind.

Were such a place as Goblin gulch located near some large city it doubtless

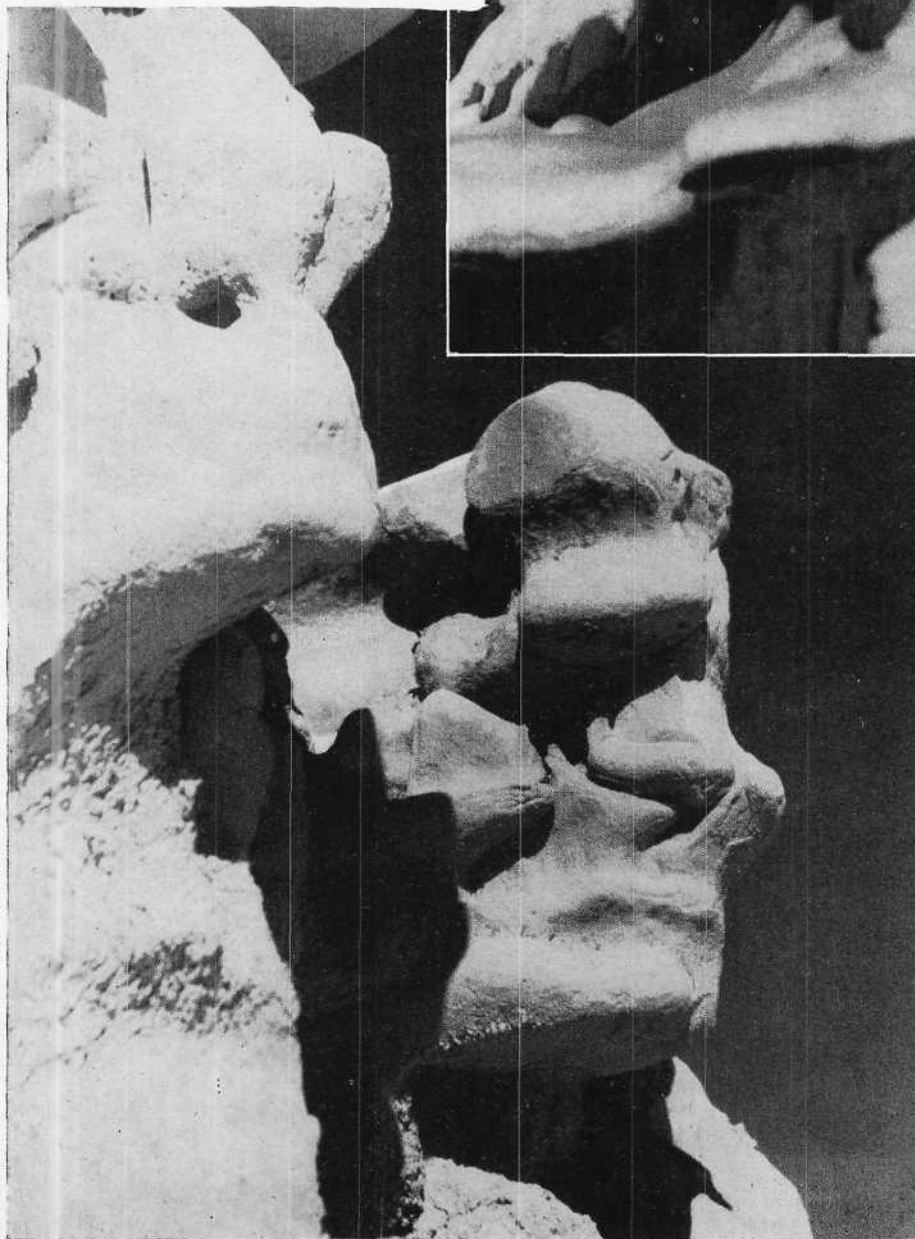


General view of a portion of Goblin Gulch, looking west from the east rim.

would be known far and wide and attract visitors from long distances. But here in a little known, unimportant canyon in the vast western mountain desert region it remains almost unknown, even to people living but a few miles away. It is only about ten miles from Goblin gulch to Fruita, Colorado, and some 25 miles to Grand Junction, but few of the people who live there even have heard of the place, and still fewer have seen it. There are no roads in this part of the country, not even any horse trails. Just real estate, lots of real estate—most of it standing on end. A few cowpunchers, sheep herders and coyote trappers whose work takes them into the locality are about the only ones who know it well. John Beard's Devil's Canyon ranch about six miles away is as close as a car can be driven. That leaves a round trip hike of some 12 rough and rugged miles. That is too much for the average tourist, even if he could find the way.



Hunchback of Goblin Gulch. Freshly fallen snow coating the strange shapes adds to the weirdness of the scene.



Soon after discovering Goblin gulch I wanted to take my brother to see the rock formations. We started from Fruita and hiked south in order to cross the Colorado river over the Fruita bridge. Then we proceeded west along the river to the mouth of Pollock canyon, up through the canyon, out over Ute bench to the west end of Black ridge then across country north and east from there. That was a hike of around 15 miles to start the day with and we still had not reached Goblin gulch.

Shortly after noon we reached the canyon. Everything was just as I had remembered it. The narrow, shallow little gulch winding down from Black ridge, the scraggy twisted piñons and Utah junipers, the colorful shales along the bottom and sides, the bare red clay hill to the left and, yes, the low grey-white sandstone cliffs

Two of the most remarkable of the fantastic stone faces.



Professor Bonehead refused to look pleasant for his portrait.

which for a short distance form the sides of the gulch.

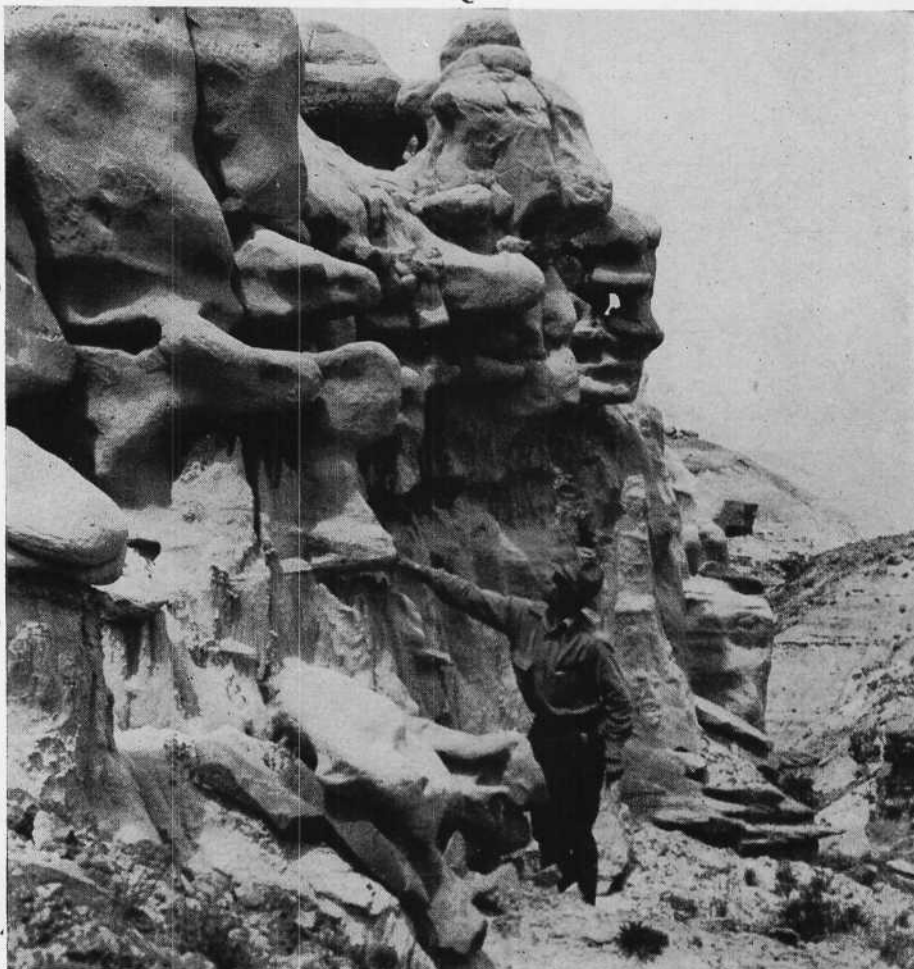
"This is it," I remarked. "The faces are in that white sandstone, and Professor Bonehead himself is just around that next bend."

With cameras at the ready and expectations high we advanced around the bend all set to photograph the professor and his ghostly associates. Then I stopped in surprise. The spot where the professor should be standing was empty! In bewilderment I glanced about at the walls. They looked just as I recalled them—except that they were perfectly blank. Not a single face could we find.

"This beats me," I said, "I could have sworn that this was the place. Maybe we should go farther up or down the gulch."

So we hiked a mile or so up to the head of the gulch at the foot of Black ridge and then back down to where it dropped off into the breaks at the head of West Pollock canyon. We saw much of interest

Gnomes' noses and Wall of Gargoyles in Goblin Gulch.



along the way, but stone faces were conspicuous only by their absence.

The time was early May. The spring rains had been unusually generous and as a result many of the hills, gullies and canyons, dry and bare most of the summer, were aflame with wild flowers. This canyon region, ranging in elevation from 4000 to 7000 feet, is a sort of botanical borderland where flowers of plain and desert meet and mingle with other species from the high Rockies. Scarlet paintbrush and scarlet gilia competed for space with bluebonnets and mountain bluebells. Both yellow and white evening primroses bloomed in small open spots. In little sagebrush parks every foot of space between the sage was carpeted with a pink and lavender blanket of fairy mist. Great patches of purple lupine covered some of the open slopes so thickly that it was impossible to walk through it without crushing some of it underfoot.

Four kinds of cactus were in bloom and here and there a clump of yucca was in full flower. The flower stalk of some of these was fully four feet high and loaded with large, waxy, cream colored blossoms. In the shadow of a ledge a lone service berry bush stood covered with its miniature white flowers. In addition to these we counted more than a dozen species of tiny flowers in white, yellow, pink and pur-

ple—varieties that neither of us was botanist enough to identify.

Spring butterflies were holding high carnival among the flowers. Most plentiful of them was the pretty little white, black and green mossy wing that science has saddled with the jaw breaking name of *Euchloe ausonides coloradensis*. There also were numerous other little butterflies with big names. Among them we counted three species of the whites, two orange-tips and two forms of the checker-spots. A little brown and green helca flitted busily about the junipers. Gorgeous mourning cloaks dashed about, while overhead several lordly yellow and black papilios floated lazily up and down the gulch.

Hummingbirds dashed noisily about. Occasionally a green-coated one would zip past our ears as if he suddenly had remembered that he had important, immediate business elsewhere. A pair of huge black ravens flapped past, pausing long enough to utter a few pessimistic croaks as they spied us plodding along the bottom of the gulch.

At one place we came upon what appeared to be a convention of all the piñon jays in Mesa county. There were hundreds of them gathered together in a little clump of piñons and junipers, all talking away as busily as candidates at a political rally and all shouting for dry crackers at the top of their voices. At least, that is what it sounded like they were saying, though occasionally one would elaborate his demands to dry, dry, dry cracker crumbs!

The jays were perched so thickly on one piñon that at a little distance the tree looked as if it were covered with some sort of odd blue fruit. I wanted a picture of this

blue clad piñon, but while still some distance away the wary jays sighted us and ceased their chattering. Then with a roar of wings the entire flock took to the air. For a few seconds the air was filled with bright blue wings beating against a still more brilliant blue sky.

A tiny spring trickled out from a crack in the sandstone at the base of a cliff. The water, crystal clear and invitingly cool in the shadow of the rocks, looked tempting. The day was warm and we were thirsty but there were telltale white stains on the rock along the edge of the water.

"I am going to sample it even if it does have alkali in it," Clyde said.

"Better go easy," I advised. "Some of the water in this man's land is strong enough to run up hill."

He bent over a tiny pool, sipped a mouthful of the water and slowly swallowed part of it. One swallow was enough. With a pained expression on his face he spat out the remainder of the mouthful.

"Alka Seltzer!" he gasped.

That described it very well and if you ever have tasted the much advertised remedy of that name you readily will understand why we did not drink our fill from that spring.

Scattered along much of the length of the gulch were fragments of petrified dinosaur bone. The pieces ranged in size from tiny fragments up to specimens weighing several pounds. The largest piece we found would weigh around 30 pounds and consisted of an attractive blue-grey agate. As far as I know it still is there, for we did not feel like packing it out on our backs, much as we would have liked to add it to our collection.

On a ridge between two small gulches we found a spot where Indians had made arrowheads. These old Indian workshops, or chipping grounds, are fairly common throughout all this region. But quantities of flakes and a few broken points are about all one finds at these places. Seldom indeed can you find a specimen worth keeping. However, we were unusually fortunate in finding two perfect arrowheads, one of them a beautiful little point of orange-red carnelian, doubtless from the Cisco agate beds some 40 miles farther west. The other, and larger, point was of glossy chocolate jasper, a gem stone native to this locality but far from plentiful.

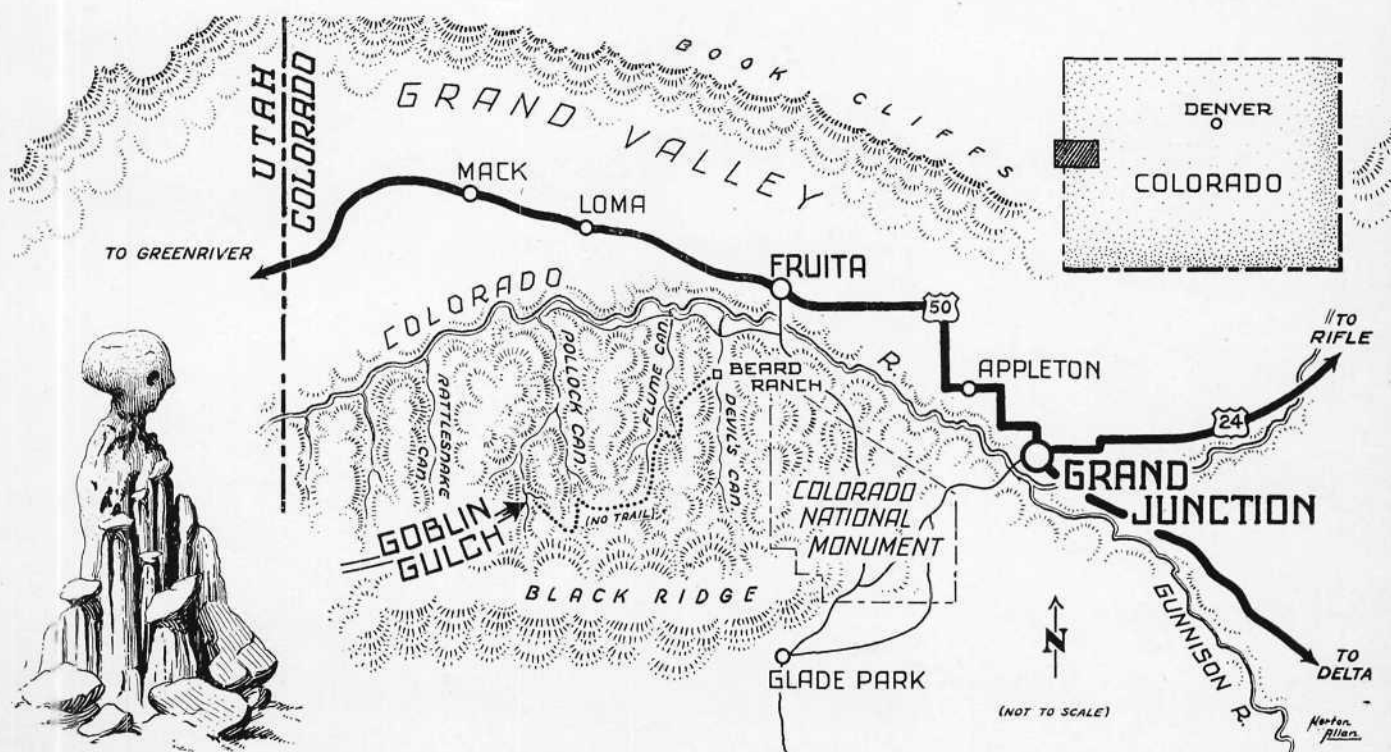
By this time the fiery sun was doing a balancing act on the tip of one of the lilac colored mountains on the western skyline and we reluctantly decided to abandon our search for stone faces.

"I always knew," my brother remarked, "that ghosts and goblins were supposed to be able to appear and disappear at will. But I didn't know they could do it if they were made of stone. Are you sure that you didn't drink something stronger than alkali water the day you thought you saw those faces?" he demanded, eyeing me suspiciously.

"If I did," I answered, "my camera had some of the same. And it is a sober, hard working instrument not given to exaggeration and seeing things that ain't. But if I didn't have those pictures I would begin to doubt the whole thing, myself."

Wearily we climbed out of the gulch and headed across country in the general direction of home.

As we climbed down into another of the numerous little gulches that criss-cross this



region in all directions two big mule deer does, one of them with a long-legged spotted fawn in tow, bounced gracefully across a little open flat ahead of us. The sun had now set but it still was light enough for us to discover a nice deposit of good quality crystallized aragonite on the exact spot where we had seen the deer. Many of the pieces were an ideal size for collecting, three to four inches long and an inch or so in diameter. Some of the best specimens looked like someone had taken a handful of coarse wooden toothpicks and crushed them so tightly together that they had become one compact mass. We loaded our pockets with a few select specimens. But

thoughts of the long hike that remained ahead of us discouraged any inclinations that we might have had to take more specimens than we needed.

Less than a quarter of a mile from where we found the aragonite we crossed another ridge and stopped for a few moments not entirely certain that we hadn't been walking in circles. For there ahead of us lay a gulch that certainly looked like the one we had left a short while before. The same patches of piñons and junipers, the red clay hill to the left, and there was the short stretch of white sandstone cliffs along the sides of the gulch. And—yes, you are right—there were the faces in the sand-

time. The only trouble was that I hadn't known there were two almost identical stone just where they had been all the little canyons in the vicinity and we had spent most of our time searching the wrong twin.

The light now was growing too dim to be of much use for photographic purposes. But I located one viewpoint where, by lying on my back, I could get one of the stone faces to stand out above the skyline and shot it outlined against the light of the still bright evening sky.

"Gosh, what a place to stage a spooky Halloween party!" Clyde said. "Now that we have the pesky place located we can come back sometime and explore it thoroughly by daylight. But just in case you have forgotten," he reminded me, "we still are ten little miles from home. And," he added as if in afterthought, "they are uncivilized miles too—all ups and downs and rocky, to boot."

As we started to plod our way over those "uncivilized" miles in the fast falling darkness a coyote wailed his twilight song from the rim of Goblin gulch. Fitting music indeed for such a scene.

The low walls of Goblin gulch, from which the faces and figures are eroded, are an exceptionally soft coarse-grained white sandstone which weathers rapidly. Even a single year's time makes a noticeable difference in some of the faces. Last winter Professor Bonehead lost his head. Literally. His huge massive head, weighing perhaps a thousand pounds, was balanced on a thin, scrawny neck. The winter wind and frost at last proved too much for his fragile neck. It crumbled away and down tumbled the professor, to lie in a shattered heap at the bottom of the gulch.

Other fine faces remain but most of them are carved from the walls and not standing alone as did the professor. But Mother Nature, never satisfied with her handiwork, keeps her four busiest helpers—sun, rain, frost and wind—on the job remodeling the stone figures. Already the pedestal on which the professor stood is beginning to take new shape. A long, thin, sharp-pointed nose is upthrust and the suggestion of an eye is visible. Perhaps in a comparatively few years there will be another remarkable stone face to take the professor's place.

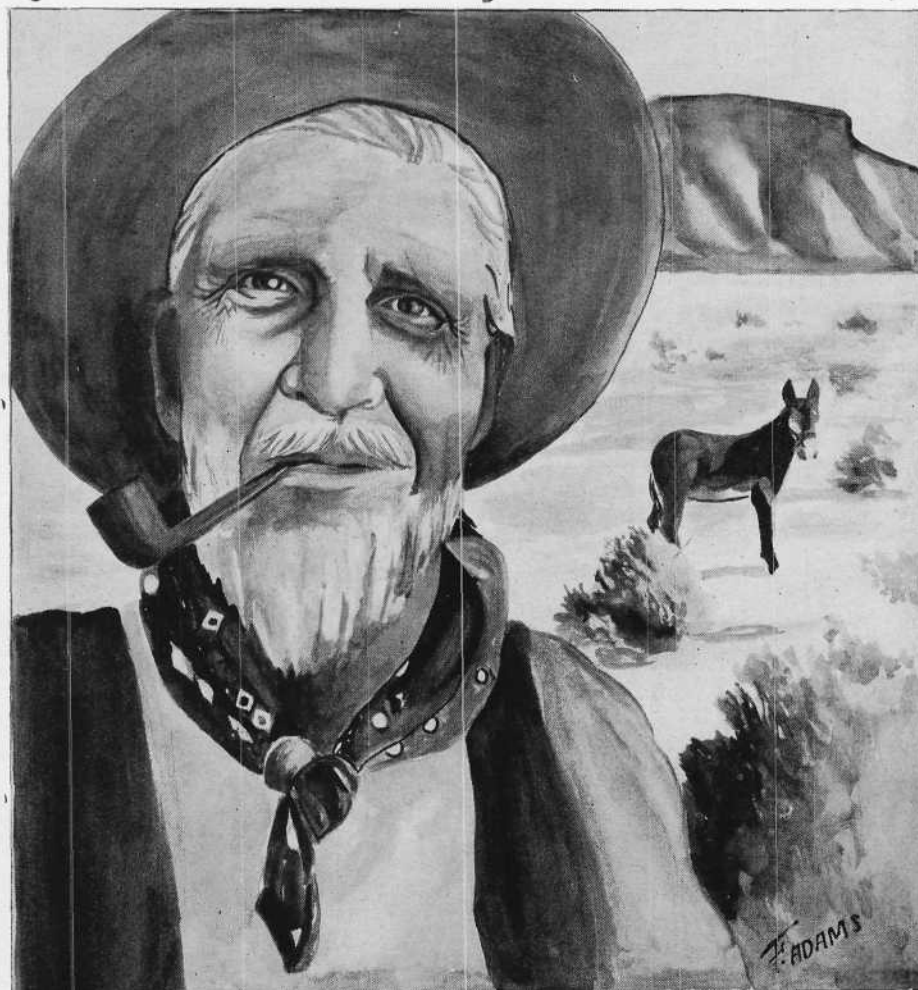
From a geological standpoint this soft white sandstone seems to have no business being where it is. It is completely surrounded by the colorful clays and shales of the Morrison formation—the Jurassic age dinosaur beds. In several of the dozens of small gulches that run down from Black ridge to the Colorado river this same odd white sandstone is exposed, but in no other place is it eroded into the fantastic faces and forms of Goblin gulch.

Desert Philosopher . . .

SOLILOQUIES OF A PROSPECTOR

Drawing by Frank Adams

Text by Dick Adams



NATURE TELLS ME MANY SECRETS
AS I TRAIL THROUGH SCANT MESQUITE—
I KNOW SHE'D NOT BE SO CONFIDING
LESS SHE KNEW I'D BE DISCREET....

You might say Thunder and Lightning are responsible for it—that is, the curiosity of travelers in the Mojave desert when they come upon the stilt-like ruins of a road bed east of Trona where an "elevated" has no right to be. But when Thunder and Lightning, Prospector Joe's two burros, discovered the healing qualities of the white dust near their campsite they inadvertently started the Epsom salts mining industry over beyond Wingate pass, with the consequent building of the elevated mono rail which served to haul the salts out of the desert mountains. Now only the skeleton of the road bed remains, to evoke questions from those who pass along that way. A number of these travelers came to Desert Magazine with their questions and Cora Keagle has dug into old files and journals to give them the answers.

Tale of the Mono Rail

By CORA L. KEAGLE

THE hot September sun hung low over the jagged peaks and canyons of the Slate range to the west. It cast a coppery pink glow over the dusty desert spaces of Panamint valley. Joe Ward, prospector, poet and singer of desert songs, was migrating from the north to spend the winter in Death Valley. The sparrows might wait for the frost to yellow the leaves before starting south but Thunder and Lightning, Joe's two frisky young burros, had no wings and Joe had to allow for their step-by-step progress. The lure of the desert and the search for its precious minerals led him over the vast spaces of California, Nevada and Arizona but the Mojave desert claimed most of his time.

His desert songs and salty rimes were favorite quotations among fellow prospectors and miners. He left bits of poetry or caustic comment along the trail for over 50 years. His letters were addressed in rimes that were sometimes embarrassing to



Like a great thousand legged worm the mono rail road crawls up through Layton canyon. View of construction work taken by unknown photographer. Photo loaned by V. V. LeRoy.

the recipient. His claim stakes bore such rimes as:

"Move on, my friend,
This claim is mine,
I drove this stake
In 1909."

His filing notices in the recorder's office at San Bernardino bear these comments and many more:

"Witness: God or nobody, unless the other fellow was there in the volcano.

"Witness: Two fools and another one, myself, a crook. Also Jan Smuts of Joburg and other nutts and a few sick Communists, also from Joburg, S. A.

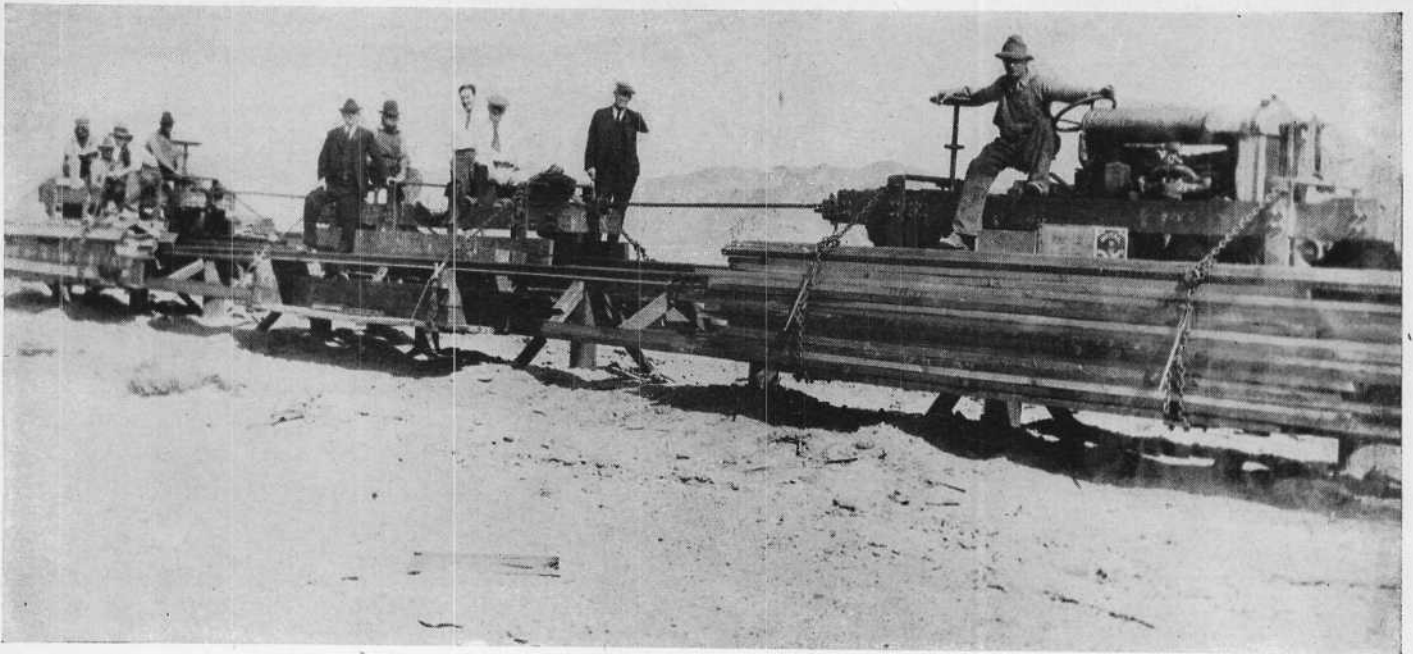
"Witness: None. It was too cold for them to be out. Coldest day I ever saw and wind enough to run all the real estate mills in Los Angeles."

Another of his filing notices described

the locator as: "Joseph Ward, Explorer. Partner to Columbus."

As the trio plodded on and approached Wingate pass, Thunder and Lightning pricked up their dusty ears. They evidently remembered a favorite camping place near a little spring. They had been without water all day and it still was hot on the Mojave desert in September. Just over the pass Joe led the way south to the old campsite. The spring was a mere ooze at this season but Joe, experienced in camp lore, used a rusty tin can for a shovel and soon had a little reservoir into which the water trickled. The burros drank thirstily. Joe pulled the pack saddles off their backs and left them to their own devices while he gathered greasewood for his campfire and put the coffee on to boil.

As soon as the packs were off, Thunder



Cars and locomotive operating on the mono rail carrying timber for the extension of the elevated road bed. Thos. H. Wright, founder and president of American Magnesium company, is fifth from left, in black suit.

and Lightning ambled over to a whitish deposit on the hill slope and rolled in the chalky dust to soothe their sweaty backs. After rolling, grunting and kicking to their hearts' content they struggled to their feet and wandered back to the campfire, looking in the twilight like two burro ghosts. They were white all over except where their dark eyes peered out from under fluffy white pompadours.

Joe remembered that on previous treks the burros had gone to the same spot to roll, so with a prospector's curiosity he walked over and took a sample of the white dust which he sent to an assayer in Los Angeles. It proved to be magnesium sulphate or, in plain words, Epsom salts. The burros hadn't heard of the healing properties of the spas at Epsom, England, but they knew the white dust healed—and

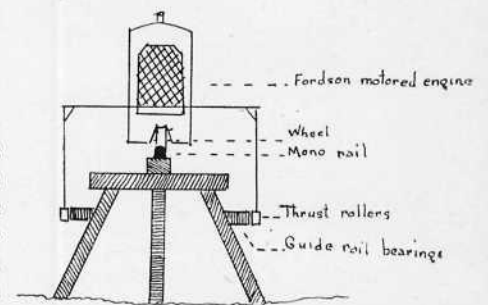
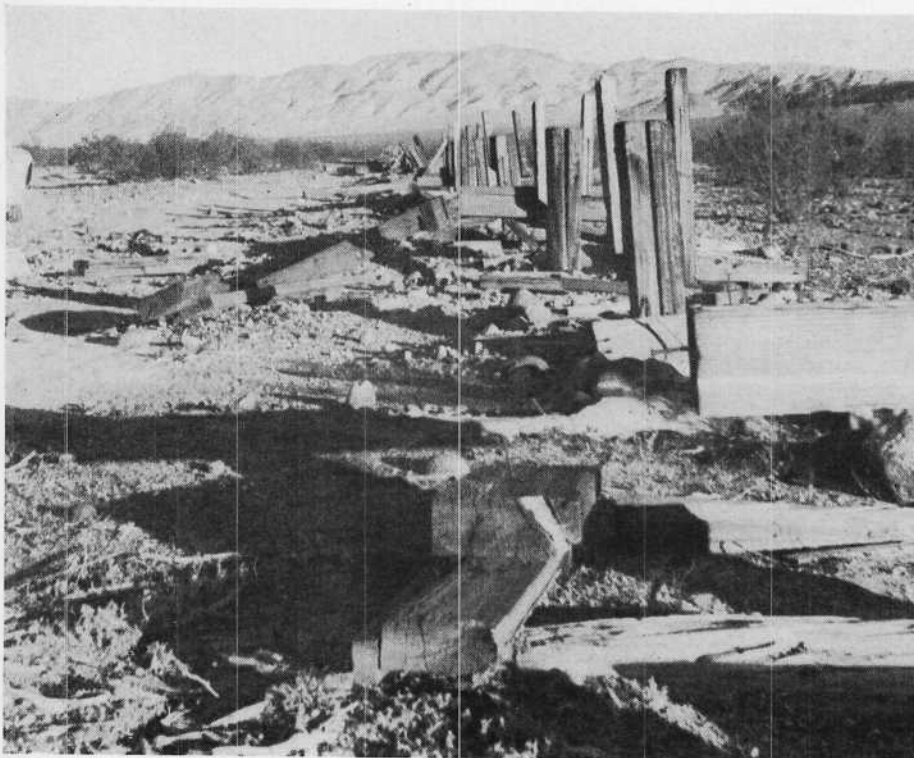


Diagram of Mono Rail and Engine

Remains of mono rail road bed east of Searles lake, showing type of earth surface over which it was constructed.



cooled their sore backs. Joe told other prospectors that the white patch was nothing but plain Epsom salts, then with his burros passed on down the steep eastern slope of the pass.

Years passed by. Other prospectors visited the "Epsom-salts mine" but nothing was done with it. There were no roads and no means of transportation. A United States government document, "Water Supply Paper No. 578," written on the Mojave desert region, contains this statement about Wingate pass: "When the writer was in the valley (Wingate Valley) October, 1917, and January, 1918, it was uninhabited except for a temporary camp of miners exploring deposits of Epsom salts on the south side."

Thomas H. Wright, a Los Angeles florist whose hobby was prospecting during his vacations, was exploring near Wingate pass, so the story goes, when he ran out of water for his mule. He turned the mule loose to find water and followed him to Hidden springs, southeast of the pass. On the return trip with the mule he noticed this white deposit and turned off the trail to take samples. When he had them assayed upon his return to Los An-

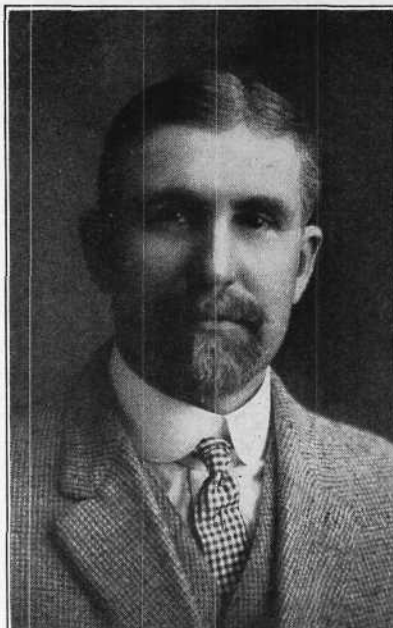
geles, they proved to be magnesium sulphate. He filed a claim on the deposit.

Wright took some business associates into his confidence. There were more trips to the desert. If the transportation problem could be managed it looked as if this great deposit could be manufactured profitably into bath salts. Conferences were held and plans laid. They formed the American Magnesium company. It included engineers, chemists, mineralogists, bankers and lawyers. Wright, the promoter, was chosen president. R. V. Leeson was a consulting engineer with A. Avakian as chemical engineer. Capt. Hollenbeck was given the construction contract. L. Des Granges was a construction engineer on the job.

Stock was sold and plans made for the development of the property. Some mode of transportation was the first necessity. A railroad would have to be built from the Trona railroad out through Layton canyon in the Slate range, east across Wingate valley, through Wingate pass in the Panamint mountains to the deposit south of the pass, a total distance of 29 miles.

After many meetings and discussions with their engineers, the corporation decided, because of the steep grades encountered in the Slate range, to experiment with a mono rail type of railroad. The president and some of the directors were much interested in the mono rail experiment. They visualized it as a means of interurban transportation around Los Angeles and as applicable to difficult hauling jobs.

Wright applied for a patent on the mono rail equipment which he and the engineer, R. V. Leeson, had designed. A

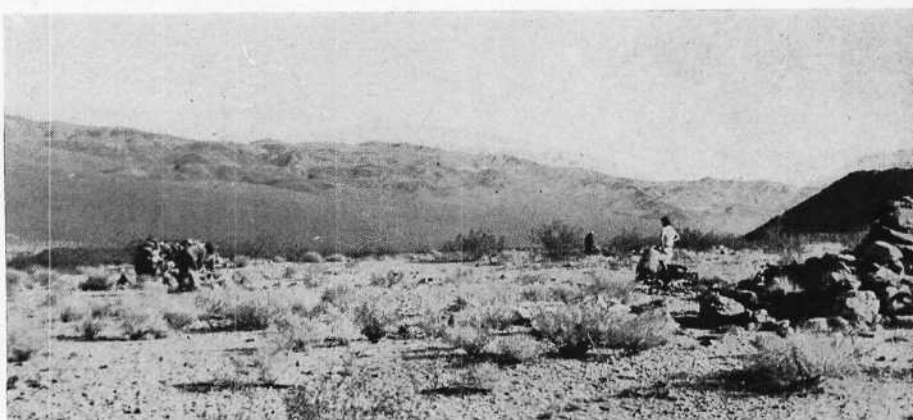


patent was issued June 23, 1923. The corporation decided to ask the American Trona corporation to build a spur from its railroad across the difficult Searles lake bed to connect with the mono rail on its eastern shore. The American Trona corporation, after consulting with their maintenance engineer, M. C. Cockshott, agreed to build a spur from Magnesium east across the lake bed.

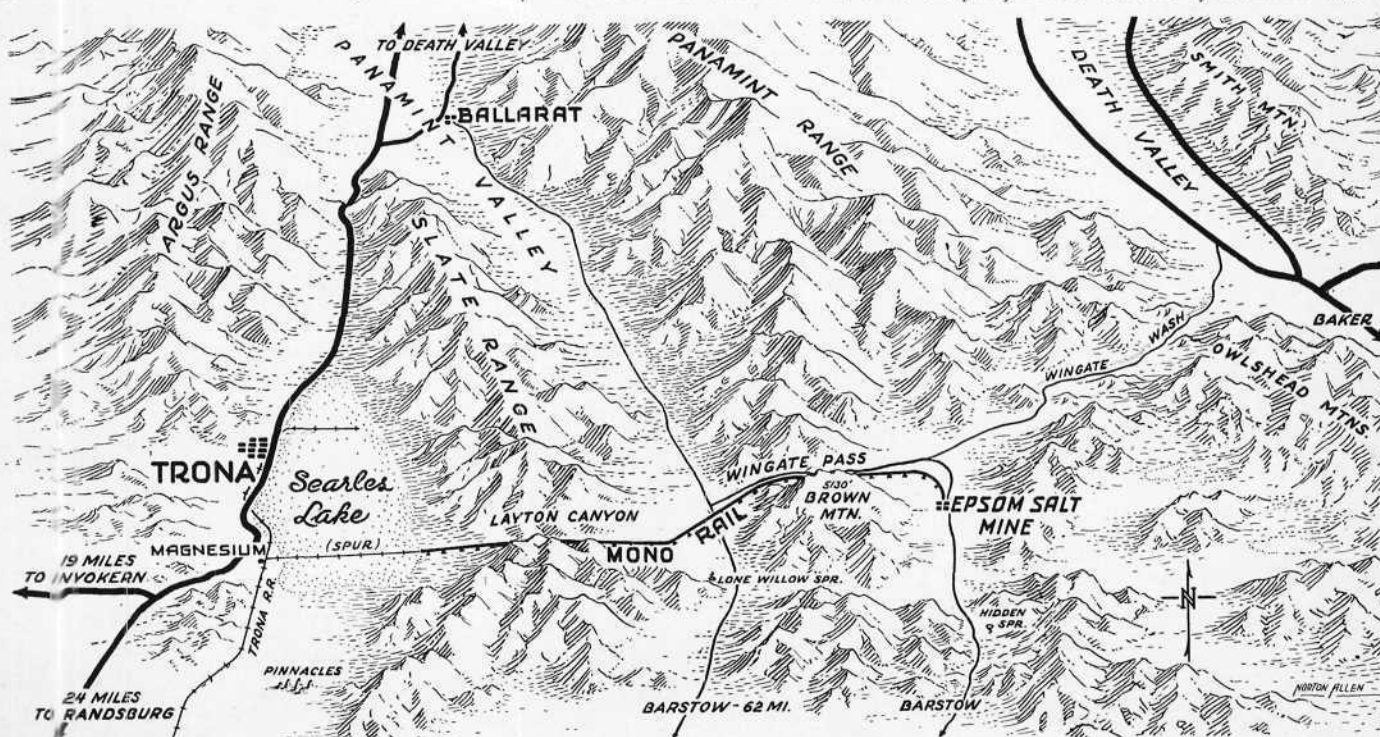
Construction must have begun as soon as the patent was issued, for Engineering News, September 27, 1923, has this item:

"A magnesium sulphate deposit, owned by the American Magnesium Company and located near the Death Valley Desert in southern California, is to be tapped by a mono rail railroad twenty-eight miles

V. V. LeRoy, secretary of American Magnesium company since 1931.



Piles of rock, about five miles west of westerly approach to Wingate pass, are remains of service station on old stage road that ran between Panamint City and San Bernardino in latter part of last century. At left is Dix Van Dyke of Daggett. Stooping, right, is Henry Britt of Daggett. Standing figure is Mrs. Caryl Krouser of Barstow. Photo taken in 1943 when the party visited remains of old mono rail.



long, extending over the Slate Range to the Panamint Range. Of this line about sixteen miles has been completed and is carrying construction trains which are delivering materials for continuing the road.

"Although detailed costs are not available, the type of construction selected, which was chosen because of the fact that it would require very little grading and would permit of sharp curves, is estimated to cost about \$7,000 per mile in rough, mountainous country and about \$5,000 in the desert with no rock work or sharp curves involved.

"The construction consists of standard 6" x 8" ties, 8 ft. long, placed on 8 ft. centers and braced on either side. The plumb posts carry a 6" x 8" stringer, which in turn supports the single 50 lb. steel rail. There are also two side rails of timber, carried by the braces, which act as guide rails, their vertical faces making contact with rollers on either side.

"The engine and cars are designed like pack saddles and are suspended on two wheels from the single rail, motorcycle fashion. Equilibrium is maintained by the rollers on either side which contact with the timber guide rails."

The first propelling power which was used during part of the construction period,

was a battery driven motor. This failed to deliver enough power and was replaced by a Fordson motored locomotive built on the same general plan. At first the power was transmitted by rigid rods but these were twisted on the sharp curves and were soon replaced by chain drives on both front and rear wheels. This Fordson engine was used during the latter part of the construction and for some time afterward but many locomotive difficulties were encountered.

The braking system was another headache on the steep grades. An engineer in a recent letter about the mono rail says, "I had one ride on the mono rail as far as Wingate pass and was rather relieved to get back with a safe skin, keeping a watchful eye on the braking arrangements all the time."

As the elevated road bed crept out across the desert from the east side of Searles lake bed, timbers cut to the proper lengths to conform to the contour of the land were carried on the cars and lashed to the side of the engine. There were 10 per cent grades and 40 per cent curves so only five tons of timber could be carried at a time. A cottage for the superintendent and a laboratory were built at the mine site and the corporation began operations.

In the spring of 1924 Joe Ward, followed by Thunder and Lightning, now sedate old burros, climbed the western slope of Death Valley. The old prospector had wandered over Arizona and Nevada then spent the winter in the valley. As he looked back on the valley it never had seemed more beautiful, with desert sunflowers carpeting great patches and the sand reflecting the blue of the sky. But there was a threat of summer heat in the air and it was time to migrate north.

As they followed the trail around the brow of the hill Joe paused in amazement. It was his first glimpse of the mono rail writhing through the pass like a monster thousand-legged worm. At the old campsite were buildings and a bustle of activity. Around the campfire that night Joe told how Thunder and Lightning first discovered the Epsom salts.

Early the next morning when Joe had loaded the burros and started on his way, one of the workers picked up an old envelope on the trail addressed:

"This letter goes to Harvey West,
A miner with gravity on his vest.
He's living now, to escape the law,
At Little Rock, in Arkansasaw."

The American Magnesium company had hoped to haul long strings of cars in order to work a refinery at full capacity. But the motors developed only enough power to pull three loaded cars. This difficulty led to a contract with A. W. Harrison, of Los Angeles, an automotive engineer, who planned a gas-electric train, consisting of an engine and a generator to

supply driving power for both the engine and the cars.

By the time the gas-electric train, a heavy affair, was completed the desert heat had splintered the timbers and loosened the bolts of the elevated road bed. The wheels on the wooden guide rails had worn them to shreds. The structure would not carry the weight of the newly-assembled train. And the old locomotive would not furnish enough power to haul paying loads.

Down at the Wilmington plant they found that the deposit was nearly 50 per cent sand, debris and other salts, not then desired. As the product was refined and made into bath salts the debris piled up around the plant. The city authorities stepped in and objected to the accumulation of waste inside the city limits.

There were legal troubles as well. The mineral claims in the Panamints had been extended to cover 1440 acres. These claims were a source of disputes, suits and counter suits. Slick promoters had obtained control of much of the stock. Although more than a million dollars had been invested, it became evident that the mine could not be operated at a profit. The promoters and directors who had heavily invested themselves, made every effort to salvage something for the stockholders. But there were too many factors against them. Operations were suspended early in 1928. The property was offered for bids April 28, 1928. There were no buyers. Mr. Wright turned his interests over to the company.

The mono rail line was abandoned and the timbers began to feed the campfires of prospectors. Junk men carried off the steel rails and part of the stretch through Layton canyon was carried away by a cloudburst. The buildings at the mine became headquarters for the hunters of wild burros who shot the burros, dried the carcasses and shipped them to fox farms all over the country. These burros were the descendants of animals turned loose when prospectors adopted automobiles as a quicker means of transportation.

A few of the directors have kept the taxes paid in the hope that the government might become interested in the magnesium sulphate and in some deposits of aluminum sulphate from which alum is made. V. V. LeRoy, of Los Angeles, who has been secretary since 1931 says the San Bernardino county records show that the taxes have been reduced from \$3000 annually to \$28 for the past few years.

In Layton canyon some of the upright timbers, which once supported the mono rail, still are standing. Bolts and nuts scattered along the route are gathered as souvenirs by trophy hunters. The roads have become almost impassable. If Joe Ward and Thunder and Lightning could come back to their old campsite now they could camp for weeks without being disturbed.

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The OLD MEXICO SHOP
D SANTA FE, NEW MEXICO

Despite all the distractions which come with the spring season, the South family have taken time out to do some basket making. This month, Marshal tells how they use desert tules in making the coiled-and-sewn bottle-necked baskets. Although he advocates desert fibers as the ideal material for these baskets, raffia is both satisfactory and pleasantly primitive in appearance.

Desert Refuge

By MARSHAL SOUTH

THE flower legions of Ghost Mountain stand firm against the sullen gods of storm. And the smiling-faced little warriors of the new order, who brandish no lances and launch no arrows, are winning out in every direction. Some have been laid low in the last vengeful charges of a reluctantly retreating winter. But for every one that has fallen, with bruised and trampled petals, ten thousand others have leaped up to take their places in the ranks. Down the washes and up the foot-slopes, along the ridges and across the shoulders of the hills march the glowing blossoms of triumph.

White and yellow and scarlet and blue; close-packed, confident, irresistible—once again the annual battle between death and bitterness and life and beauty has been fought out on Ghost Mountain. And once again—as it always will be—new life leaps up triumphant. Desert spring—spring *anywhere*—always is something to deeply stir the heart. Why then is it that man glooms himself with doubt? And persists in grubbing for his assurance of immortality only in musty books? It is written everywhere. Across the earth and across the stars.

Victoria has her new shoes. Thick, felted soles of cloth, after the Chinese pattern. A gay bit of heavy woven stuff, in designs of red, yellow and blue, for the uppers. There were no shoe stamps expended in supplying Victoria's shoes. I doubt that a whole bushel basketful of stamps would procure a pair like them. They would undoubtedly, though, produce severe lectures from that class of shoe "experts" who assure us that if the human foot is not confined suitably and "supported" it will spread and the arches will break down.

But Ghost Mountain fortunately is far from the haunts of "experts." And Victoria, as she parades up and down admiring her new footgear, knows nothing of their balderdash. Like the other dwellers at Yaquitepec—where even sandals are worn only occasionally, and life is lived almost entirely barefooted—she has high arches that are tough as steel springs. "See my new shoes," she keeps saying. "Doant you think they are *very* pretty?"

"You are getting werry wain," Rudyard sniffed reprovingly. "I am weally sorry that Daddy fabwicated them for you. Your chawacter is in danger of getting stuck-up by affluence. Those moccasins are only for going to town in, wemember."

"They're not mock-a-wins!" Victoria shrilled indignantly. "They're *sooes*!" She appealed to Rider.

"They're moccasins," Rider asserted with finality. "And what's wrong with moccasins? You're trying to give yourself airs. You're a little aristocrat."

Victoria burst into tears and fled into the house.

"Rider called me a little whiskit-krat!" she sobbed. "I'm



Shoemaking at Yaquitepec is a family affair. Here Tanya puts finishing touches on a pair of high, beaded moccasins for Rudyard.

not a whiskit-krat! I'm not. I'm *not*!" She flung herself into Tanya's arms, weeping wildly.

But later, the storm subsided, she sat in her chair munching a rye-flour tortilla thickly spread with desert honey. She put her head on one side and wiggled her toes. "Anyway I like my new mocca-sooes," she said, giggling as she regarded her gay little feet. "Doant you think I look awf'y *pretty* in them?"

Spring days are happy days on Ghost Mountain. Storms still charge against us at intervals. But notwithstanding these periodic set-backs, each day seems brighter than the one before it. Soft footed and singing to itself the warm desert wind wanders up the sunny washes and through the swaying junipers. The tiny yellow and white daisies nod to each other as they carpet the gravelly earth between the clumps of budding mesquites. The scarlet banners of the low growing mimulus wave welcome to the droning bees.

"The snakes are out, children," warns Tanya. "You must be on the watch." It is a warning often repeated. For when one lives bare-bodied and barefooted in the midst of a wilderness, sharp eyes and caution are a necessity, especially in spring and summer. Rattlesnakes are as a rule peaceable. But they are temperamental. Vigilance and sharp eyes always should be in the make-up of hikers in snake territory. In this connection the civilized boot and shoe have their definite drawbacks as well as virtues. For while high boots or stout puttees afford protection against a striking snake, on the other hand they encourage a heedless, blundering progress. The eyes of the hiker are relieved of the necessity of constantly watching where his foot will be set down. And, as Nature always discards that which is not used, the attention of eye and mind thus dispensed with is lost. And the keenness of the senses is thereby dulled. The eyes and the attention of the Indian had, of necessity, to be everywhere at once. That is why oldtime Indians were masters of the wilder-

ness, attuned to many of its mysteries. The eyes and thoughts of civilized man are too often anywhere but on the thing that he is doing.

We are good to our Ghost Mountain rattlesnakes—as far as lies within our power. We dislike to kill them; we feel that we have no right to. The earth is a realm of tooth and claw, of life preying upon life. But that does not alter the truth that only through mercy can man hope to climb. And it is also true that the wild creatures speedily recognize you as a friend or killer. They know too if you are an eater of meat. The old stories of Saint Francis of Assisi and the beautiful tales that Rudyard Kipling wove concerning the bonds between man and his furred and feathered relatives, are not myths.

And so, unless they are quartered close to the house (a rattlesnake does not range far from his home spot) we leave our rattlers strictly alone. We have come upon them dozing contentedly in the shadows of boulders or in the cool of mountain caves. And we have looked at them and they have looked at us. And we have parted in peace. There is something starkly grim about rattlesnakes. You cannot meet them and look into their eyes in a spirit of frivolity. They know their power. They know also how to mind their own business. A commendable virtue.

Our Ghost Mountain rattlesnakes give no warning rattles. Nor do they, until molested, show fight. They just lie quietly, as though expecting to be let alone. It is only when they are convinced that harm is coming to them that they whirr their danger signal and go into fighting pose. This isn't very helpful, of course, if they are blundered into. For a rattler can strike just as surely from an uncoiled pose as from a coiled one. But it indicates that they have been disturbed very little.

We have encountered rattlesnakes in other sections—sections more accessible and man-haunted than this—and almost without exception they showed fight on sight. Which would seem to demonstrate that a snake can lose confidence in the human race. This is true not only of the snakes. The actions of all persecuted animal life testify to the same fact. Hates and fears are born a long way back—far longer than the mere span of one lifetime. That is why past wrongs, either against animals or fellow humans, cannot be atoned for all at once.

The best known remedy for rattlesnake bite? Cut and suck! Enlarge each fang puncture with a small, fairly deep cut from a very sharp knife. Cut lengthwise of the limb so as not to run the risk of severing important tendons. Keep up the sucking process, with as few rests as possible, for several hours. Even the venom of the tropical Bushmaster is said to be conquerable by this procedure. Learn the proper course to take in case of snakebite *first*. Don't wait until after being struck.

Due to winter fuel gathering and the demands of several new projects which absorbed almost every instant of available time, there hasn't been leisure for much recreational handiwork at Yaquitepec of late. However, we recently finished a bottle-necked grass basket, made by the system of coiling and sewing that is so useful for many materials, including pine needles. There is a fascination about basket making. Once you have started one you can't leave it alone. You can make a basket out of almost anything. Grass, willow splints, corn husks, mesquite twigs, yucca leaves—the materials are legion. Perhaps the greatest charm of the work is that each different material has a temperament all its own, which requires the application of different kinks and methods that are discoverable only by patience and experiment.

You can, for instance, make beautiful baskets out of the green, round-stemmed swamp reeds, often called tules, which are so

abundant around desert soakages. They are satiny and pliant when growing, yet if you weave the basket from the tractable, easily coiled green reeds, you will find next day that the work which looked so handsome when you sewed the coils firmly into place, has shrunk amazingly. All your stitches are loose, and the whole affair is an impossible, wabby wreck. And if you try drying it first, it will break in your hands like so many sticks of thin brittle glass.

Most basket materials have to be soaked in water. But there is a trick by which you can work the tules without wetting. And the scheme is to roll up carefully the freshly gathered reeds into neat symmetrical coils, of varying diameters that will approximate the dimensions of the different stages of your planned basket. Hang the coils away. And in a few days, when they are thoroughly dry, take them down and begin work on your basket, selecting a sufficient number of strands, to form the thickness of your basket coil, from the bundle that has the most nearly corresponding curvature. You will find that, dried in the coiled form, they will accommodate themselves to quite a range of size changes before snapping. And you can cinch the coils together, as you sew round and round and build up your basket, with a stitch of good tight tension which you can feel assured will not loosen. A desert fiber is the ideal material with which to sew a desert basket. But raffia, sold so much for basket making, will do equally well. And raffia does have a satisfactory primitive look.

Hummingbirds whirring like living jewels about the tall, gently swaying dry yellow stalks of last year's mesquites. The warm wind freshening a little as it draws steadily up from the distance of haze-veiled mountains. And faintly upon the breath of it, as I sit here among the rocks and junipers finishing this, there comes the voice of Rudyard, proclaiming after the manner of the prophets of old: "Flee from the cities! Live in the desert! Eat nothing civilized! Eat juniper berries and other wild stuff! Flee from the cities!"

Stirred by this startling piece of oratory I climb upon a rock and stare. Away back, by the house, I can just see him. He stands upon a boulder, his red and blue seldom-used mantle draped across his shoulders, his right arm upraised in an attitude suggestive of Elijah denouncing some sinful king.

"Flee from the cities!" he declaims, shaking his fist dramatically. And, faintly, blended with his exhortation, comes the breathless shouting of Victoria, his constant understudy and fervid convert:

"Fee fwom thee cities! Live in thee desert! Eat juniper bewbies an' ovver wild tuff! Fee from . . ."

Wind sings through the junipers and blots the shouting of the "prophets." And I come back to my seat chuckling. Fiercely fervent little sons and daughters of the desert are these hardy little sun-sprites of Yaquitepec. And perhaps there is wisdom in their childish oratory.

JOY OF LIVING

*Rise then, and strive, with spoken word,
Or hammer, axe or pen.
Thus only can you serve the Lord,
And help your fellowmen.
You who are able, all, away!
Your special labor needs pursuing,
And of life's great abundance take—
The joy of living is in DOING.*

—Tanya South

George and "Sis" Bradt didn't believe those grisly stories about the desert shrike. He was but a small songster in gay feather suit of black, grey and white. As they watched him perched inoffensively on the topmost branch of the thornbush thicket, he appeared the opposite of a murderer who impaled his victims on thorns and spikes. But after observation and examination of other characteristics, they learned how and why the shrike is the desert's "butcher."

Desert Butcher

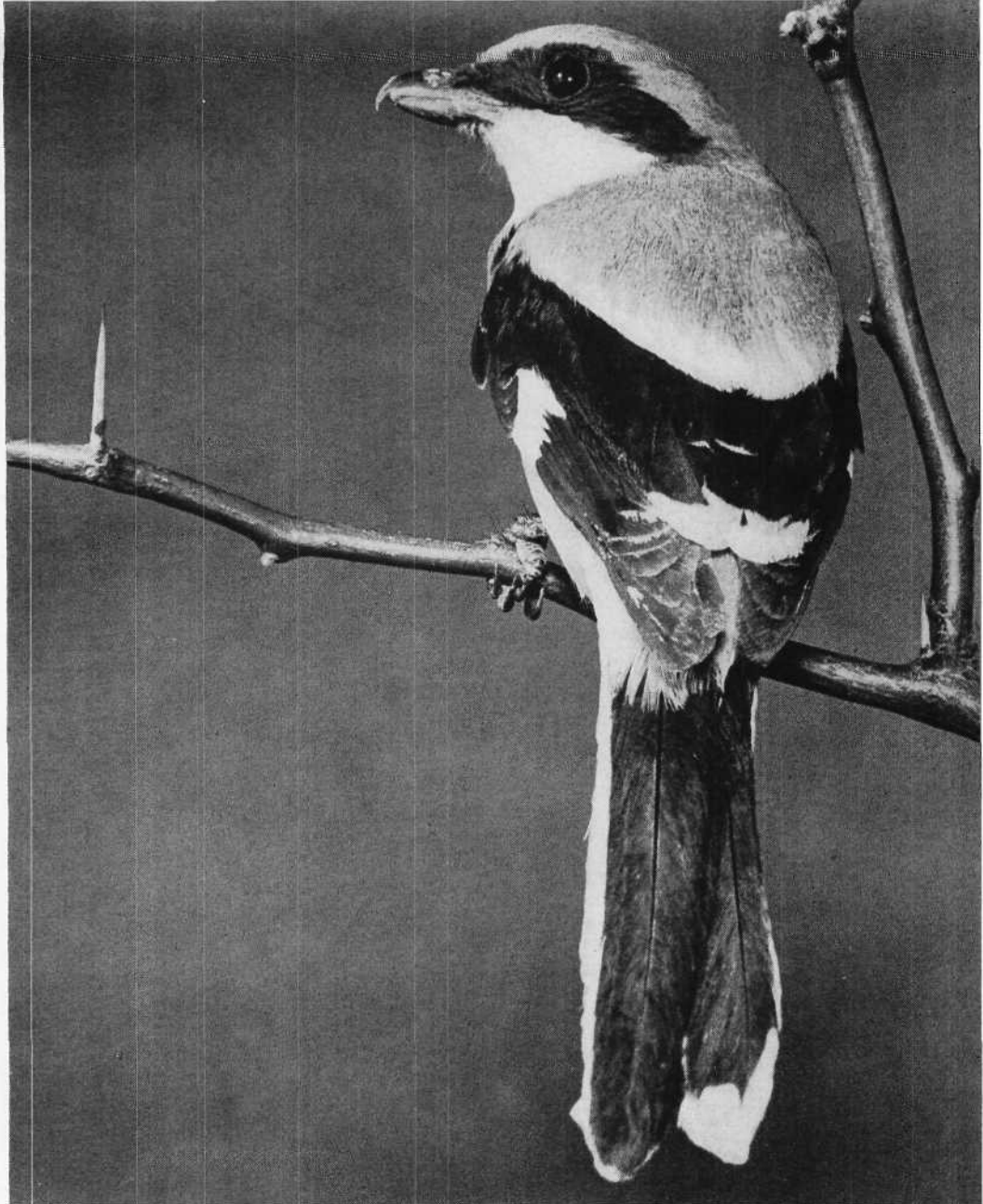
By GEORGE McCLELLAN BRADT
Photos by the author

"A SONGBIRD a butcher? Impossible! A hawk or an owl, perhaps. But never a nine-inch songbird." This was my mental reaction to the fantastic tales I heard about the White-rumped shrike, the desert's notorious Butcher-bird.

But the stories were true. The shrike, even though related to the gentle songbirds, is a butcher. A butcher in whose presence birds and mice and insects see not a striking black and white songbird, but the specter of Sudden Death.

Our own introduction to the curious ways of the paradoxical shrike took the form of a grisly surprise. While investigating a dense thornbush thicket, Sis and I discovered a small lizard neatly impaled upon a sharp mesquite thorn. The creature had met its gruesome end in a manner as mysterious as the desert itself. Here was as baffling a case of murder as any reader of detective stories could wish.

We combed the area for clues which might give us a hint as to the identity of the murderer or the nature of the motive which prompted the deed. But not a clue did we uncover. We did find, however, that the killer had not been content with a single murder. Here and there throughout the thicket were other cadavers. All had been killed in the same manner. Each adorned a single thorn. The dozen or so victims included beetles, crickets, caterpillars, grasshoppers, small lizards, a dragonfly and part of a large moth.



Over his eyes he wears a bandit's mask. His beak is the murder weapon—capable of seizing, piercing and tearing the toughest flesh, feathers or skin.

At this point I suddenly remembered the tall tales I had heard about the desert's famed "Singing Butcher." The murderer was, of course, none other than *Lanius ludovicianus excubitorides*, the White-rumped shrike!

Now that the name of the killer was known we had only to discover his whereabouts to complete the "case." We left the tangle of mesquite trees to sit in the thin shade of a nearby yucca.

Hardly had we removed the last sand-burr when we noticed a small bird perched on the topmost branch of the thornbush thicket. It must have flown there while we were walking away. For a few moments we did not comprehend the significance of its sudden appearance. Then we realized that the innocent-looking little bird was a shrike—the murderer revisiting the scene of the crime!

Through our glasses we stared in amazement at the fascinating creature.

What a fine looking fellow he was, his gory nature notwithstanding. He did look the part of an innocuous songbird in his gay black, grey and white feather suit. But over his eyes he seemed to be wearing what looked like a bandit's mask.

What really gave him away, though, was his beak. What a beak! Here was the murder weapon. Once seen it was easy to understand how such a small bird could capture mice, lizards, insects and birds and impale them upon thorns and fence wire barbs. In proportion and design it was the ideal butcher's tool. Strong, hard, armed with a razor-like "tooth" or notch, it could seize, pierce and tear with ease the toughest flesh, feathers or skin.

In the midst of this long-range appraisal of the shrike's singular physiognomy, the diminutive murderer suddenly flew from his thorny perch to disappear among the shaggy yuccas.

We learned later that there was more to

the case than we had imagined. The few facts we had learned from our own observations did not tell the whole story. In a rather technical description of shrikes in general we read that while all possess long, strong, hawk-like beaks, all possess the ordinary songbird type of feet. Feet which are extremely weak, good only for perching, and quite useless for holding fast to the feeblest quarry. This was a fact we had failed to note in the field, but one which our long and intimate acquaintance with birds of prey enabled us to appreciate fully.

The true raptors (hawks, owls, eagles) use their phenomenally strong feet to hold their prey while tearing it to pieces with sharp beaks. Were it not for these powerful extremities they would starve, their ferocity, daring, rapid flight and great strength notwithstanding. The useful, homely vultures are birds of prey, but because of their ineffectual feet are forced to feed on carrion. But how, we asked ourselves, have the shrikes, who certainly are not carrion-eaters, solved this serious food problem?

The key to the mystery lies in the word "thorn." In lieu of strong feet and talons the shrike uses thorns and fence wire barbs to secure its victims while tearing them apart with its beak. But despite his violent methods he does a surprising amount of good. Upon injurious small rodents and insects he wages incessant war. If once in a while a songbird does slip into the shrike's menu one should not be too censorious. Perhaps the shrike does not realize that man, sentimentalist when it comes to animals, butcher where his brothers are concerned, has decreed that such and such a creature is harmful, another beneficial—to man!

By the time we had reached this point in our study of the ways of the shrike both Sis and I were beginning to feel pretty guilty about having judged the little fellow so harshly. As sentimental as the next person about all desert creatures we even came to pity this unhappy hunter who might longed to have been a dashing hawk or mighty eagle, but whose lofty aspirations were doomed because of, figuratively speaking, "flat feet."

Although we had amassed quite a store of information about the shrike a number of questions remained unanswered. It was to seek the answers to them that we returned to the shrike's private morgue to await, behind a rude blind of army cots and olive-drab blankets, the coming of the killer.

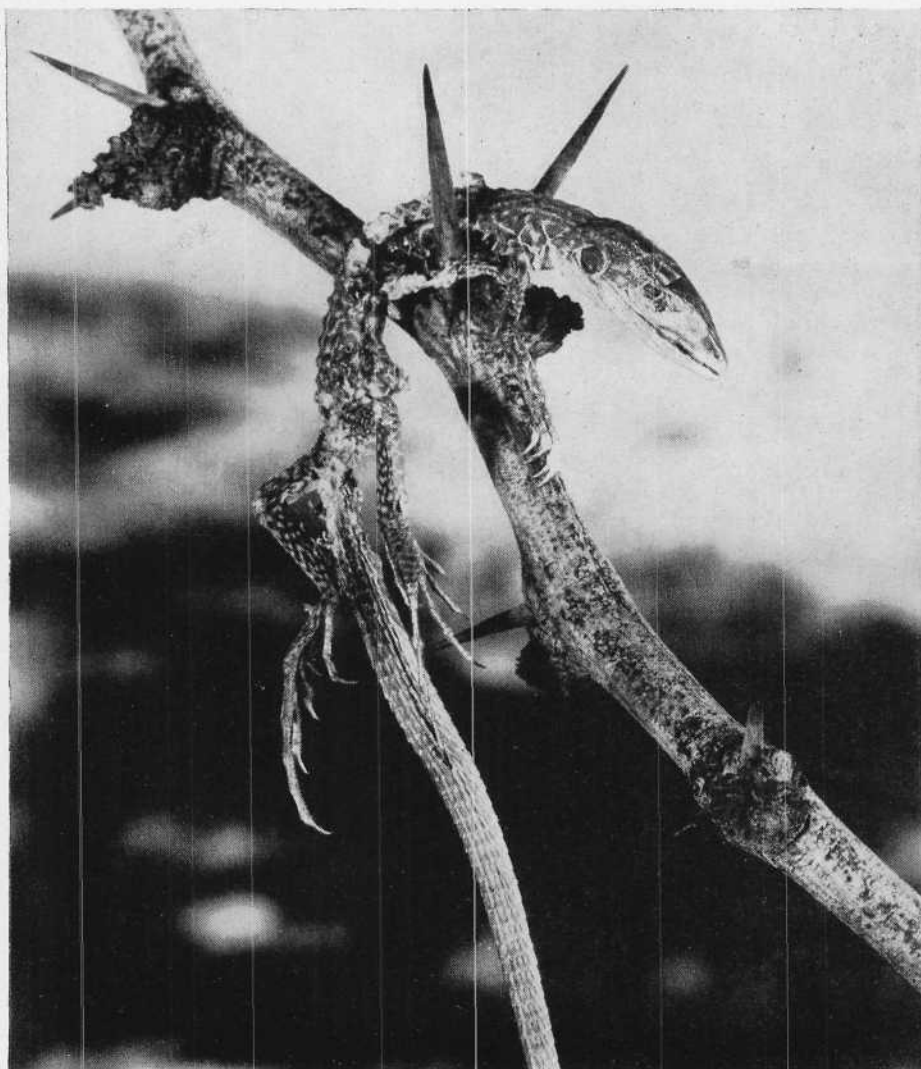
A distant flash of black and white among the grey-green yuccas told us that we had not long to wait. Soon we saw the striking little bird flying straight towards us. On short rapid wings he skimmed the dry desert grasses to within a few feet of the thicket. Then in a sudden graceful arc he shot to the top of a mesquite tree. After looking about in all directions to satisfy himself that no danger lurked in the form of a dreaded hawk the bird immediately proceeded to answer our remaining questions. The first thing he did was to vindicate the apparently misguided ornithologists by breaking forth into song! Even though his lay was little more than an astonishing medley of harsh rasping cries, cat-like mewings, shrill chirpings, and taunting raucous calls, it did testify to his possession of vocal chords. And while his efforts hardly could have been called a melodious song, he did sing.

Finishing his slightly self-conscious solo the bird soon answered another of our questions. From the top of his thorny perch he caught sight of a grasshopper in the sand below him. Without the slightest warning he dived at the hopper, seized it with his beak and carried it back to his perch. Thinking that we were about to witness an exhibition of the shrike's impaling technique we were disappointed to see him in one gulp swallow his prey whole. But as this seemed insufficient to satisfy his appetite he scanned the desert floor for more food. Soon his keen eyes caught sight of a slight movement on the yellow sands and once again he disappeared from the tree to return immediately with another hopper, considerably larger than the first, in his cyrano-like beak.

This time he was unable to swallow his victim whole. For a few struggling moments he held it in one foot and tried to eat it as a child would an ice cream cone. But every time he took a bite his strong beak would pull the insect out of his grasp. Finally he seemed to become disgusted with this lack of progress and violently thrust the hopper onto a long sharp thorn. It was then an easy matter to tear it to pieces.

This last performance left but one question unanswered: Why were so many victims left to dry up uneaten on the pointed thorns? Were they caches against a rainy day, or manifestations of cruelty? The shrike could not answer these. As a matter of fact they never have been answered satisfactorily.

George and Sis discovered a small lizard impaled upon a sharp mesquite thorn—the victim of the Butcher bird.



Desert's Scarlet Buglers

By MARY BEAL

LIKE the flourish of trumpets in a spirited parade, the Scarlet Buglers blazon forth their fiery tones. They'd furnish ideal trumpets for a fairy band with their bright scarlet flashing from long wands growing in several-stemmed leafy clumps. They are members of a large group of showy perennials belonging to the handsome Figwort family. Their generic name *Pentstemon* is from the Greek words meaning "five stamens." The fifth stamen is an easy mark of identification, as the rest of the family have no more than 4 stamens. This extra one is imperfect, having no anther, the top part usually thickened and frequently bearded with yellow hairs, which gives rise to the common name Beardtongue. Another common name is Hummingbird's Dinner Horn.

Many of the species have been domesticated and hybridized for garden ornamentals. Nearly all garden lovers have a *Pentstemon* or two among their favorites. A large percentage of the *Pentstemons* are Westerners and those of the desert are among the most attractive. There are far too many to mention in one session so we'll feature the Scarlet Bugler type this month. Their favored habitat is montane, from foothill to higher altitudes, their brilliant color setting off gravelly slopes and canyon floors and gleaming from coves among boulders.

The most widespread of the desert species and second to none in flaming splendor is

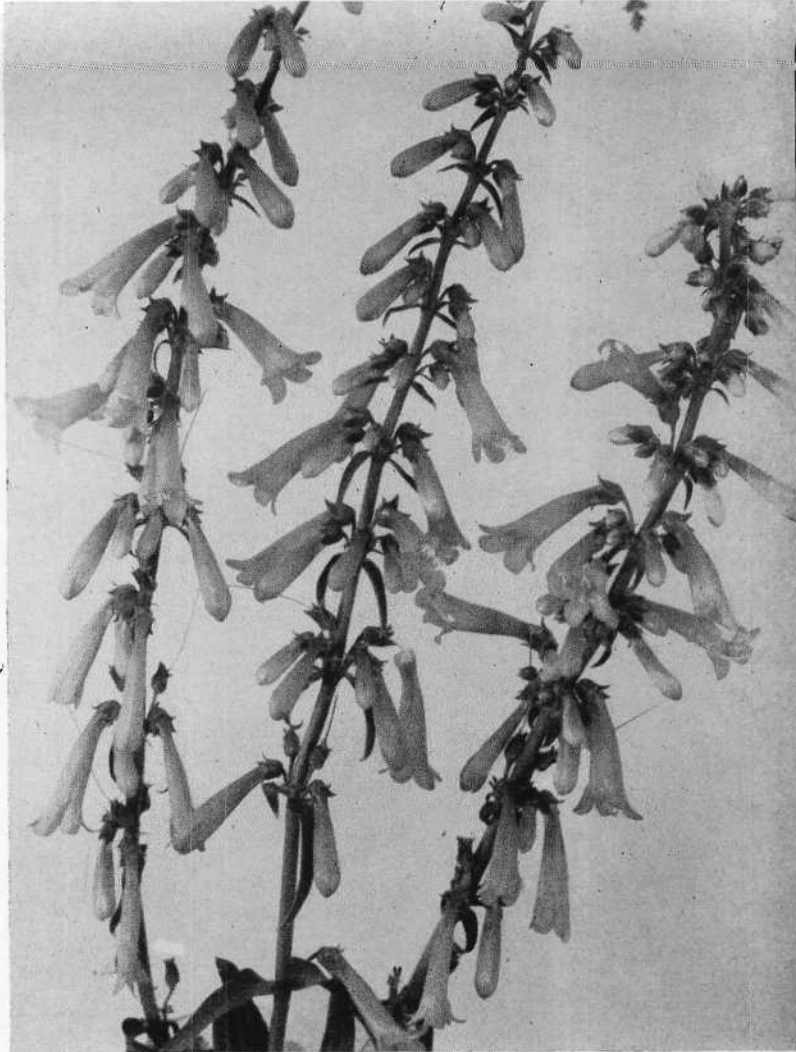
Pentstemon eatonii

Named for Professor Eaton, a Yale University botanist, it is called by some, Eaton Firecracker. Its rather coarse purplish stems lift their panicles 1½ to over 3 feet high. The smooth deep-green leaves are ovate to linear-lanceolate, mostly disposed along the stems, all but the basal sessile or clasping, 1½ to 4 inches or more long, the upper ones the narrower, the larger lower ones petioled. Terminating the upright stems, the narrow panicle measures 6 to 12 inches, or even much longer as it ages. The tubular-funnelform corollas are bright scarlet, slightly two-lipped, an inch or so long, the ovate, pointed calyx lobes white-margined, the sterile filament apexed by a tuft of bristly hairs.

A common species, blooming in May and June over most of its range, but at the lower altitudes may show its gay color as early as March. It grows on gravelly and rocky mountain slopes, mesas and canyons in northern and central Arizona, southern Nevada and Utah, ranges of the eastern Mojave and northern Colorado deserts, especially abundant in southern Utah and equally at home in the Grand Canyon. Its altitude ranges from 2000 to 7000 feet.

Pentstemon centranthifolius

Similar to the Eaton Firecracker, with 1 to several slender leafy stems 1 to 3 feet high, the herbage hairless and frosted with a bloom. The thick leaves are bluish-green, ¾ to 2 inches long, sessile or clasping, mostly on the stems. The narrow panicles are composed of tubular flowers, the scarlet corollas an inch long, hardly two-lipped, the calyx lobes round-ovate and often red-tinged, the edges translucent. The sterile filament is hairless. Rather common on gravelly and sandy hills and slopes, canyon beds and cliffs along the western borders of the Colorado and Mojave deserts from 600 to about 6000 feet. Less frequent in other parts of the Mojave desert. Its counterpart in Arizona is listed as *Pentstemon subulatus*, the distinguishing difference being more slender stems, usually less than 2 feet high, narrower leaves, and a very slender corolla tube



This Eaton *Pentstemon* was growing in boulder strewn Gilroy canyon in the Providence mountains, eastern Mojave desert. Photo by the author.

tipped by a very narrow limb. It frequents stony hillsides, mesas and canyons of central Arizona at moderately high elevations blooming from March to May. Also reported from the eastern Mojave desert.

Pentstemon clevelandii

A woody-based plant with several erect slender stems 1 to 2½ feet high, the herbage hairless, the leaves fleshy or leathery, ovate to oblong, 1 to 2½ inches long, often slightly toothed, the lower ones petioled, the upper sessile or with bases united. The narrow panicle is rather densely flowered with tubular-funnel-form blossoms, the purplish-red corollas less than an inch long, the narrow throat somewhat distended on the lower side, the squarish lobes of the limb spreading or reflexed, the dilated apex of the sterile filament moderately hairy or very slightly so. Found along the western borders of the Colorado desert from Santa Rosa mountains to Lower California, in canyons and on slopes from 1000 to 4500 feet, blooming in April and May. In the variety *connatus* the herbage is whitened with a bloom and the bases of the upper leaves always are grown together, the stem piercing the united leaves. The sterile filament is heavily bearded. This flourishes in canyons on the west side of the Colorado desert from Palm Springs south to Lower California.

Pentstemon parryi

Entrancingly beautiful is this Arizona *Pentstemon*. Its resplendent color and grace have a magnetic charm, particularly notable in the Grand Canyon area. Under favorable conditions the plants attain a delightful luxuriance, each with many erect, purplish, generously-flowered stems, sometimes 4 feet tall, which is a foot or two above the average. The flowers are bright-

cardinal or purplish-red, the tubular-funnelform corolla less than an inch long but amplified by a broad limb with 5 rounded, widely-flaring lobes, giving a shapely delicacy to each lovely blossom. The herbage is hairless and veiled with a bloom, the narrow light-green leaves lanceolate. Scattered here and there about mountain slopes and canyons (1500 to 5000 feet elevation) they rivet attention and enliven the spring landscape from the Grand Canyon south beyond the Mexican border.

Pentstemon utabensis

Also listed as *Pentstemon glaber* var. *utabensis*. Sometimes called Utah Firecracker. The herbage and calyxes are frosted as with a fine white powder. The leaves are chiefly basal, oblanceolate, and taper into a long petioled base, except for the few sessile ones on the stem. From the small basal tuft rise several stems 8 to 12 inches or more. The rich carmine corolla is glandular inside and out, the tubular throat tipped by a spreading limb obscurely two-lipped. Rather common on mesas and canyons (4000 to 6500 feet) in southern Utah, northern Arizona, southern Nevada, and the eastern Mojave desert, blooming from March to May.

Pentstemon barbatus

This fascinating species and its subspecies *torreyi* differ mainly as to hairs—or no hairs—on stems and leaves. The general characteristics are pale-green stems 2 feet or more tall; narrow bluish-green leaves with wavy margins; vivid-scarlet tubular-funnelform corollas an inch and a quarter long, strongly two-lipped, the upper lip projecting, the lower one deeply-lobed and reflexed, also bearded in the species but not in *torreyi*; the stamens conspicuously long. A common montane species (4000 to 10,000 feet) from Utah south through Arizona well down into Mexico, arrestingly gorgeous along the Grand Canyon rim in summer, blooming from June to September.

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TRUE OR FALSE . . .

Rock collectors and botanists, geology and history students, those interested in prospecting or in Indian lore, or just plain tourists, will be able to answer questions in this month's quiz. And maybe they will find the answer to some of their own questions. Answers on page 35.

- 1—Lowest elevation in United States is foot of Bright Angel trail in depths of Grand Canyon. True..... False.....
- 2—People who have studied Gila Monsters never have found two alike in color pattern. True..... False.....
- 3—Diamond, hardest precious gem, is the only one not to show hardness variation. True..... False.....
- 4—Height of Pueblo Indian civilization coincided with time Coronado entered Southwest. Thereafter it quickly waned. True..... False.....
- 5—Boulder Dam is located in Boulder Canyon. True..... False.....
- 6—Average burro will carry 150 pounds and cover 15 miles a day regularly. True..... False.....
- 7—Shells found in sands of Colorado desert of southeast California indicate this area once was covered by sea water. True..... False.....
- 8—El Paso, Texas, is east of Albuquerque, New Mexico. True..... False.....
- 9—Butterfield Overland Mail route, established from St. Louis to San Francisco, 1858, crossed Colorado river at Yuma, Arizona. True..... False.....
- 10—Desert Lily has pure white blossom. True..... False.....
- 11—Typical Tesuque Indian pottery is a soft brown painted in blue, deep orange and red. True..... False.....
- 12—"Mexican Jade" is a soft variety of jade found in Mexico. True..... False.....
- 13—Desert turpentine broom, *Thamnosma montana*, is a distant relative of commercial turpentine source. True..... False.....
- 14—Sunset Crater, northern Arizona, is result of an eruption which took place about 885 A. D. True..... False.....
- 15—The term "ore" is applied to any rock that contains enough mineral to be mined profitably. True..... False.....
- 16—Desert Horned owl usually lives in abandoned buildings. True..... False.....
- 17—Present Salton Sea, Colorado desert, is less than 40 years old. True..... False.....
- 18—Collared lizard's diet is confined to insects. True..... False.....
- 19—Quartz always occurs in crystalline form. True..... False.....
- 20—Coronado was first Spanish explorer to see Grand Canyon. True..... False.....

SPANISH BAYONET

By CLYDE PARKER
San Diego, California

Slender guardian
Of the height
With sharp daggers
All bedight
Spurred and booted
For the fight.

Up the hillside
From the glade
With your sheltered
Hafts to aid
March long shafts of
Living jade.

And dying humbles
Not your pride
Sere, but upright
Still you stride
Breasting even
Time's deep tide.

YUCCA TREE

By HALLEE CUSHMAN HENDERSON
Riverside, California

Only the bloom of the yucca tree,
Eerily white,
And moonlight etching its petals,
Like candlelight.

A breeze that plays in the yucca,
A spirit-like coquette,
And the phantom moonlight dancing
In shadowy silhouette.

Secrets deep in the blossoms
Of the yucca's petaled shell,
And the desert holds the magic,
To swing the hidden bell.

SANCTUM

By JOSEPHINE GAMBLE
Chatsworth, California

On the Altar of the Desert
Girt with Yucca's fragile sword,
White and tall, in gleaming beauty
Stand the Candles of the Lord.

Here is Nature's Sanctuary,
Arch and Transept, Font and Nave.
Here all Life joins the Trisagion,
Saint and sinner, Prince and slave.

Here beneath the Dome of Heaven
Who seeks humbly, finds rebirth
In the Temple of the Desert,
In the healing touch of Earth.

When the Drums of War are silenced
Let me sheathe a Freeman's sword
Where the Virgin Flame of Summer
Lights the Candles of the Lord.

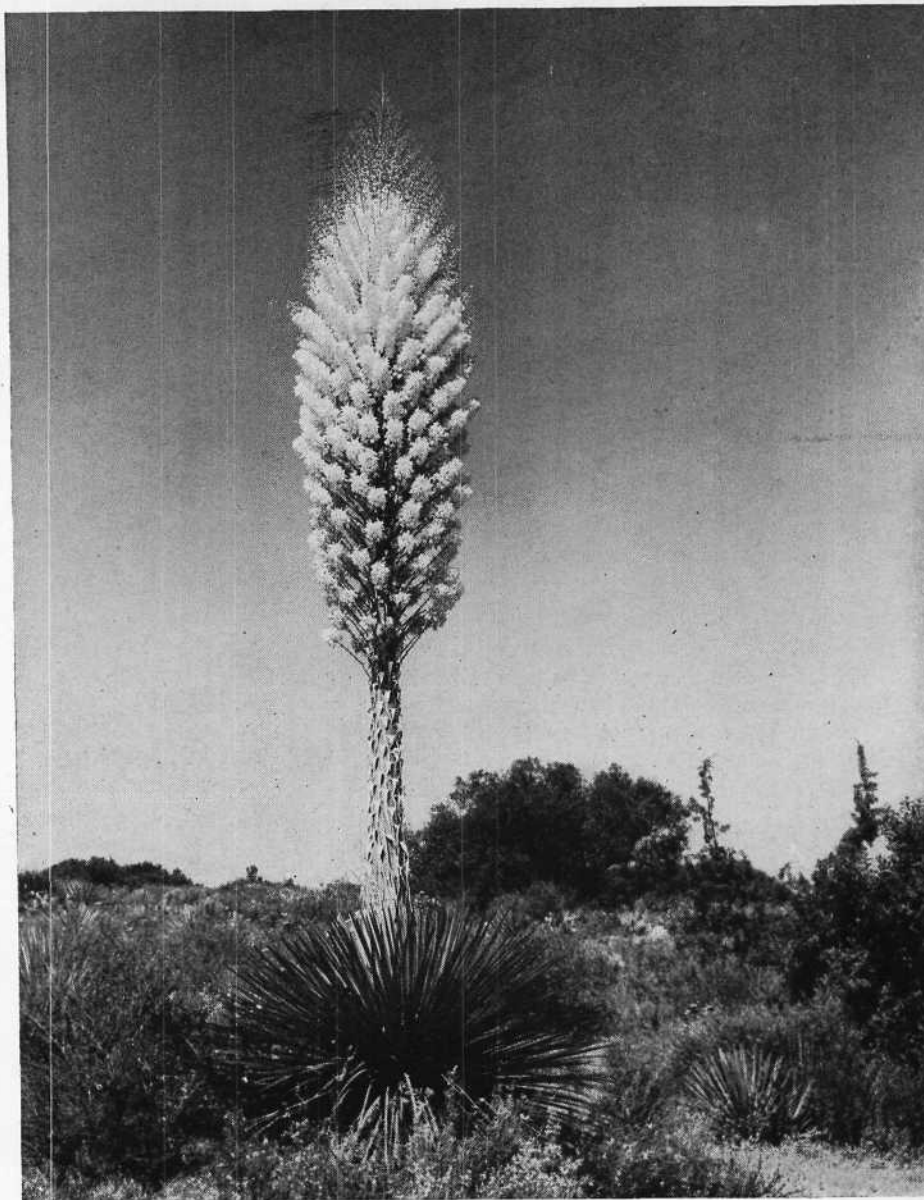
THE GREEKS HAD A WORD FOR IT

By MURRAY SKINNER
Los Angeles, California

Upon the white-hot desert wastes the gods
In pity for the miles of barren sands,
Scattered rare beauty with relenting hands,
And drew in magic from the stubborn clods
A fair white lily on its pale-blue stem
To lift its clustered heads to greet the sun
After the season of the rains has run
Its course . . . and beauty touches glory's hem.

Hesperocallis—beautiful habitant—
Gracing the wastelands of the golden West,
Your fragrance, spilling from their burnished
bowl,

Is wafted, wavering, pulsing, hesitant,
As if your haunting perfume thus expressed
The essence of the desert's secret soul.



The Lord's Candle, Yucca photo by Roy Miller.

Tower of Bells

By MARGARET S. HOSMER
Los Angeles, California

This tower of soundless silver bells
Slighter than the slight sea shells
In a white land of moonlight dwells.

Pagodas carved in ivory
Ingeniously and hollowly
Are not as fair as this pale tree.

While moonlight magic lights the land,
Mysteriously these white trees stand
Like candles in the desert sand.

The slender yucca with its white
And songless flower-bells full of light
Is queen of all the trees tonight.

CANDLES OF THE LORD

By OPAL H. CORBETT
Lemoore, California

Velas de Dios, the Spanish call
The yucca blossoms tall.
It seems to me 'tis holy ground
Where plain and hill are covered 'round
Each year until eternity
With a million candles lighted there
On sandy wastes and hillsides bare
In honor of the Trinity.

DESERT STAR GARDEN

By LAURINE CORNELIA HUBBER
Los Angeles, California

I look up at the desert sky
And see my mother standing by
Her garden gate.

It seems that ev'ry shining star
Is just a lovely desert flow'r
For me to see.

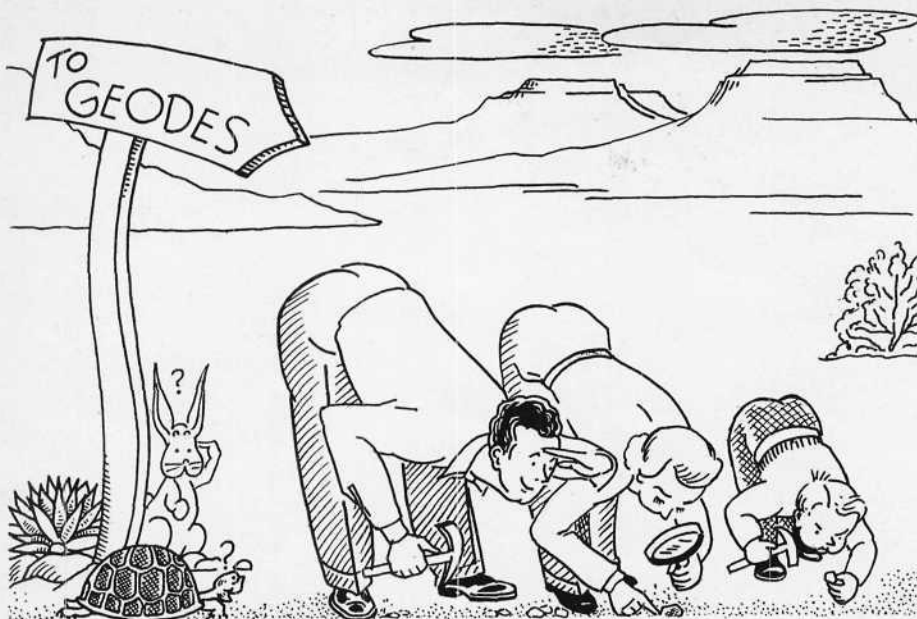
She loved the flowers here below
And some have gone up there to grow
For her again.

Please, God, keep stars forever bright,
That I may stand and see, at night,
Her garden fair.

DESERT PERFUME

By INA SAMPLE
Pasadena, California

She walked into the perfume shop and said
"I wish that you would make me up a scent—
A scent—how shall I say—No, no, not now.
I love red clover, swooning hyacinth,
And the rich attar of the rose, but now—
This time, I want the sagebrush after rain—
Or pungent, aromatic, dusty sage—
So, when I'd dream, the scent, in many ways,
Will conjure up gay and brief Nevada Days!"



"If you are touring the West after the war and see a man and a woman and a little boy walking around the desert with their noses to the ground don't be alarmed. It probably will be Jean and Tommy and I busy at our favorite hobby."

The Rock Hunter Is a Queer Character

By NORMAN WILLIAM CLAY

Drawings by Bee Nicoll

"A BLACK fire opal weighing 17 troy ounces and valued at a quarter of a million dollars was found in the Virgin valley in the state of Nevada." When I read this item in the local newspaper years ago, I mentally exclaimed "Oh" and filed it in my sub-conscious mind. I knew people collected gem stones as a commercial proposition, but I never dreamed that many people all over the western states were collecting and cutting gem stones as a hobby.

I first came into contact with the riders of this hobby horse on the desert around Las Vegas, Nevada. A huge magnesium plant was being erected to help our war effort. Thousands of people were pouring

into the community. The inveterate hobbyists had to have something to do and they found a new pursuit ready-made for them.

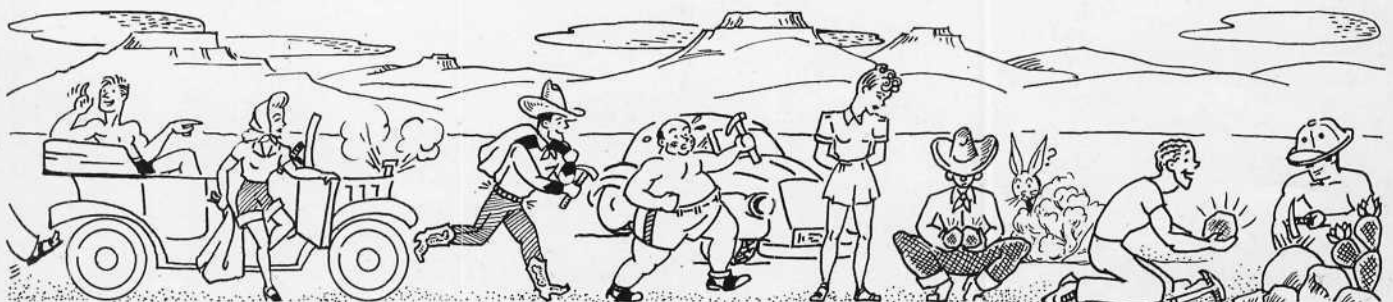
The rock hunter is a queer character as he walks along the desert anxiously scrutinizing every inch of ground. Suddenly he will pounce. Down on his knees he will go, and with a short-handled miner's pick he will start to dig. Up the steepest side of a mountain he will climb and hang on with a fingernail, while he picks at the hard rock with his free hand.

The first time I saw a rock hunter at work, my curiosity got the better of me and I sauntered over to question him. My curiosity filled our living room with rocks. He explained that he was searching for

Here you have a complete exposition of the rock hunter—his habitat, his characteristic locomotion, his unique psychology, his speech, general appearance and behavior. When you again have gas and are traveling along a desert road—any desert road—you may spot one from a distance. He will be walking either slightly or acutely stooped over with eyes on the ground. Suddenly he will make a swooping or pouncing motion, his hand darting to the ground, then straighten up with a rock clutched in his hand. Perhaps it will be thrown to the ground. If so, nothing will happen. If, however, it should be pocketed or placed in a sack slung over his shoulder, other humans suddenly will appear and converge on him. He will be swallowed up in the ensuing frenzy of digging. Soon each will hold up a specimen. To reassure themselves, they will lick it with their tongues or spit on it and rub the surface with their fingers—and look for the result with a worried expression or with a benign smile . . . These are some of the more obvious traits of the rock hunter. To gain a sympathetic understanding of this First Tribe of the Desert, let a man who became a hopeless convert to this fraternity tell you about the inmost workings of their minds.

gem stones and was not hesitant in displaying specimens. He won a convert without any effort. My wife and I joined the newly-organized Southern Nevada Mineralogical society and became rabid collectors.

For our first trip we all met at the junction of Highway 91 and 95. An assorted crew of amateur gem collectors were assembled. There were men dressed in approved Western attire, fancy wool frontier pants, cowboy boots, beautifully embroidered soft shirts and five gallon hats. Others were dressed in jeans or any old clothes they possessed. The women were dressed either in the conventional play clothes,



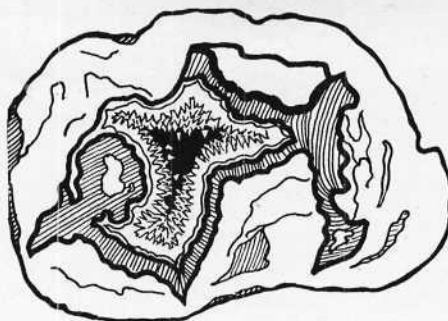
jeans, shorts, slacks, dresses or in Western attire featuring frontier pants or split skirts and the full complement of accessories. Some carried sacks slung over their shoulders and some of the women carried those huge purses that women adore. There were young men and old men, young women and old women, and there were children. Our five-year-old son Tommy was not with us on this first trip but was to accompany us on all succeeding trips and himself become an enthusiast.

Diminutive, flaming-haired Hazel "Mickey" Maguire was bustling around herding people into cars. Success finally crowned her efforts and we proceeded to the gypsum caves northeast of the airport at Las Vegas.

Upon reaching our destination the surrounding desert came alive. People spewed from cars and started in every direction. They all walked slightly stooped over with eyes on the ground. Suddenly one would bend over, his hand would dart to the ground and he would straighten up with a rock in his hand. If he then threw it to the ground nothing would happen. But if he pocketed his find everyone who had seen him would converge on him and swallow him up. Picks would flash in the sun and soon everyone would have a specimen. Dainty appearing girls would hold their specimen to the rays of the sun and either lick it with their tongues or spit on it and rub the surface with their finger. We learned that this moisture brought out the grain and color of the rock and gave it a near semblance to the appearance it would take on when cut and polished. Jean, whose aversion to dirt amounted to an obsession, soon was licking stones like a professional.

This day we scoured the earth up the mountain to the entrance of the gypsum caves. From the entrance the cave went down into the earth at a steep pitch and suddenly widened into a huge vaulted chamber that appeared to have been plastered with sheets of sugar candy, or laminated ice. This material is very tough but some of the experienced members had brought saws and we soon all had specimens of this mineral.

After a picnic lunch we spent the rest of the day scouring the dry washes that abound in the desert. Soon my pockets were bulging with likely specimens and



"When cut open they resemble the candy Easter eggs that have windows in each end and wondrous shapes around the inner walls."

Jean had taken off her sweater and tied up the neck and looped the sleeves around my neck to make a sack which we filled before the day was ended. We found fossil shells and fossil fish, which are not true specimens for the Purists who collect nothing but semi-precious gem stones, but soul-satisfying to collectors such as we. We found chalcedony which looks like boiled sugar that has been dropped into water and is either white or delicately tinted in lavenders and pinks. We found grass-green chert which resembles deep jade. We came home loaded with rocks which we promptly dumped on the livingroom floor and scanned under the light from our bridge lamps. This rock was the nucleus of a collection that was to travel hundreds of miles with us and to take up ever increasing space in our home. We were stricken with the fever and were now full fledged rock hunters.

Eager to share our new found knowledge we went across the street and invited our friends the Baehrs over. Harry Baehr, a bearded giant six feet tall and weighing 210 pounds, and his wife Barbara, six feet tall and weighing 120 pounds, were properly impressed. Both were natural collectors anyway, having in two months in Vegas collected a collie with the impressive name of Michael du Shawbree III, a bob-tail kitten named Frisky, Perky the Persian cat and a land turtle who wouldn't answer to the name of Terry Pin. Harry and Barb succumbed to the spell of the hobby immediately and the four of us soon were laying plans for a trip the following Sunday.

We left Vegas early in the morning in Harry's 1932 Ford sedan, Harry and Barb in front and Jean and I in back. We explored the area around Goodsprings until exhausted, returning late Sunday evening, all four of us in the front seat and the back of the car bulging with specimens. Specimens of lead, zinc, copper and fossil shells we acquired on this trip still occupy space in our bookshelves—bookshelves that long since have been stripped of books and loaded with our treasured rocks.

As our knowledge grew we were amazed to find that people all over the West engaged in this pursuit. We soon became acquainted with many of them. We turned to maps printed to guide the avid rock hunter. One such map drew Jean and me over 200 miles, in the days of vanishing tires, in search of the amethyst crystals near Rhyolite, Nevada.

Since our original plunge into the mysteries of rock hunting we have covered much of Nevada and a great deal of the sister states of Utah, Arizona and California. Our collection has grown and our interests have wider horizons. We have found garnets in Wadsworth, Nevada, and have bought garnets from Alaska and they both share space in our bookcase. We have found opals in the Virgin valley of Nevada that shine and gleam in their many colored iridescence. The news item read many years ago was responsible for this trip. Besides some lovely opal specimens, we found opalized petrified wood that defies description.

We have dug tourmaline in San Diego county, California, and the beautiful deep blue chrysocolla from Beatty, Nevada. We have specimens of moss agate that polish beautifully. From Mason, Nevada, we have collected some perfect specimens of petrified wood. From Arizona we brought back lovely specimens of quartz crystals. Silver specimens from Virginia City and wire gold from Grass Valley add interest to our collection. A treasured piece of Bullfrog ore from Rhyolite, Nevada, is one of our proudest possessions. This lovely stone was so beautiful when polished that it was seldom mined for the high grade gold it contained but was sent to Tiffany's, New York, to be cut and polished for gem stones. And along with the semiprecious stones and the high grade ore



samples we have hundreds of stones that are unusual in shape or just pretty.

The desert geode is a constant source of wonder to the rock hunter. It usually is egg-shaped or round and will be passed up by the novice rock hunter. But the "aged in the rock" species of rock hunter will detect many of them. When cut open they resemble the candy Easter eggs that have windows in each end and wondrous shapes around the inner walls. The geode may be hollow inside with all of the surface of the inner walls covered with crystals or may have a solid crystalline geometric shape that appears when the nodule is halved.

For months Jean and I had searched in vain for a geode specimen. One week-end we went on a combination rock hunting and fishing trip with Mac and Min McHenry and their two children and our son Tommy. On the return trip Mac spied desert foliage that would form a good background for a snap shot. Mac stepped out of the car and picked up a perfect specimen of a geode. Like bloodhounds with a warm scent we covered the area. Fortune smiled on us and Jean and I both found a geode. Eventually we remembered the picture we had stopped to take.

The war has interrupted an interesting hobby but I managed to get in a spell of rock hunting while going through desert maneuvers as part of my basic training in

the army. My wife still spends many of her Sundays roaming the hills around Carson City in search of new specimens. We already have laid our plans for after-the-war. We are going to get a station wagon and take to the desert and mountains every chance we get. We are going into Mexico and scour its surface. If we hear of a new place where we can find gem stones, we will be there too.

Our purpose isn't exactly the same as

the oldtime prospectors who discovered the Comstock, Goldfield, Tonopah and Rhyolite, but we would have had much in common. The present day rock hunter is just a prospector in a zoot suit. If you are touring the West after the war and see a man and a woman and a little boy walking around the desert with their noses to the ground don't be alarmed. It probably will be Jean and Tommy and I busy at our favorite hobby.

MILLIONS BUYING BONDS FOR POSTWAR TRAVEL TO DESERT

More than 24,000,000 Americans right now are actively planning their postwar trips, according to results of nationwide survey just completed by All-Year Club of California. Don Thomas, managing director of the club, said of this number, 15,600,000 are buying bonds or adding to their savings accounts for their trips. Twenty-six million more, he said, had not yet decided about a trip.

The desert will receive increasing attention from tourist organizations, transportation companies and hotel and resort men, as well as from the public at large. One of the most interesting postwar possibilities considered now by California agencies is development of the desert-to-snow tramway project at Palm Springs, from the resort to San Jacinto's peak.

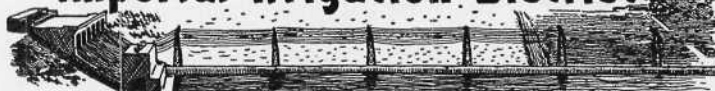
Restoration of California's travel industry, Thomas said, will create some two million added customers a year for Southern California's postwar projects, who on returning home will introduce the products into their communities, thereby increasing the market nationally. Coachella Valley's date industry was cited as one of the industries which will be among those benefited.

Achievement . . .

- On October 15, 1943, purchase of the electrical properties of the California Electric Power Company in Imperial Valley and the area in Coachella Valley destined to be served by the All-American Canal was completed, and Imperial Valley Irrigation District became the sole distributing agency for electrical energy in these areas.
- Thus was achieved a goal toward which the people of Imperial and Coachella Valleys have united their efforts for a quarter of a century. Full development of the power resources on the great All-American Canal now seems assured and both water and power will be put to the common usage of developing these two fertile reclaimed desert valleys.

SHARING THE BENEFITS OF WATER AND THE PROFITS OF POWER, IMPERIAL AND COACHELLA VALLEYS ARE IN TRUTH GOOD NEIGHBORS LINKED BY BONDS OF MUTUAL INTERESTS AND NECESSITIES.

Imperial Irrigation District



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



William D. Rishel, who has been honored for his lifelong work of pioneering good roads for Utah. Bill Shipler photo.

Trailblazer of the Great Salt Desert

YEARS have mellowed Big Bill Rishel, but time was when he considered himself the toughest hunk of bone and muscle west of the Mississippi river. A man had to be tough to become champion cross-country bicycle rider of Cheyenne, Wyoming, back in the 1880's, when in order to qualify he must ride 100 miles in one day over roads which were only a pair of ruts in the sagebrush. That toughness saved his life a few years later when he found himself on a bicycle in the middle of the Great Salt desert.

It all started as a publicity stunt. Between the end of the horse-and-buggy days and advent of the automobile, bicycle clubs were organized all over the country. One of the first in the west was the Cheyenne Bicycle club, started in 1882, of which William D. Rishel became president.

When a relay race was run between Washington, D. C., and Denver in 1894 Big Bill was given charge of the section between Cheyenne and Julesburg. The purpose of this was to demonstrate the feasibility of using bicyclists as dispatch riders in the army.

The success of this experiment induced William Randolph Hearst, owner of the San Francisco Examiner and New York Journal, to promote a transcontinental bicycle relay race between San Francisco and New York, in cooperation with Stearns & Co., manufacturers of the "Yellow Fellow" bicycle, and General Nelson A. Miles, commander of the U. S. Army.

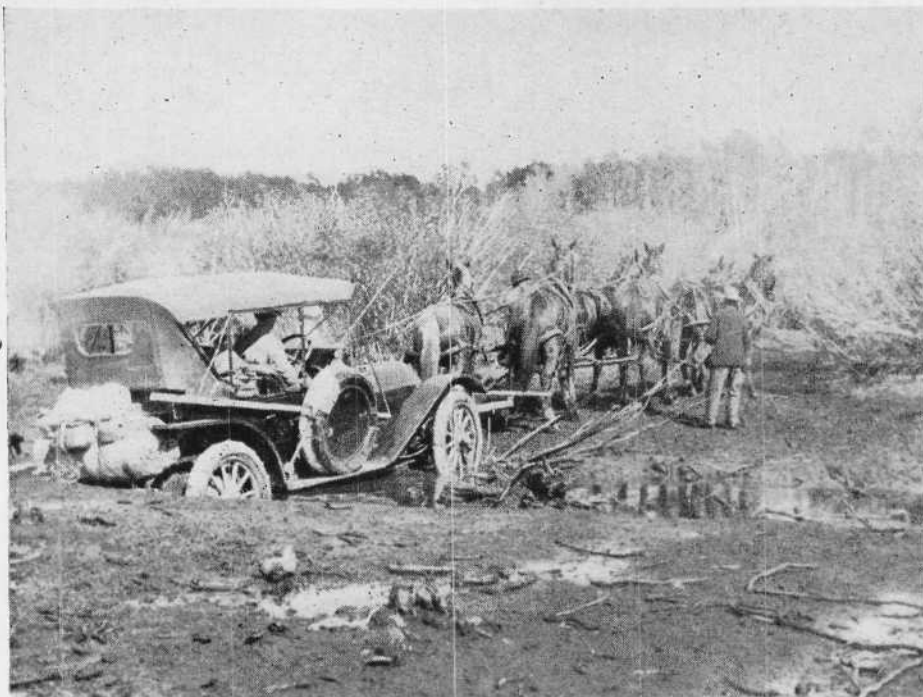
The idea looked good on paper, but a serious difficulty soon was encountered. After construction of the railroad in 1869, pioneer trails had been abandoned and

Young Bill Rishel and his companion got on their bicycles and started out across the salt desert south of Great Salt Lake. Old-timers warned them against it but Bill determined to attempt a cutoff in one lap of the transcontinental bicycle relay-race. Sixty miles of level salt lake bottom stretched before them. It was smoother than pavement. They spun along for hours with little effort. But the distant Lakeside mountains seemed to retreat as they advanced. They became "lost" in a great mirage. Suddenly the deceptive salt crust broke and they struck the gummiest, stickiest mud they ever had seen. They carried their bikes and waded through the slimy stuff. Then they came to loose sand. Again they had to carry the bikes. The sun was burning. Their canteens were empty. Somewhere in the elusive range ahead was a little spring—but their progress toward it was like plodding along on a treadmill... That was Big Bill's first serious encounter with the desert. Since that summer day in 1896 ribbons of paved roads smooth the way for transcontinental motor travel over once treacherous sand and marsh. And always, Big Bill has been foremost among trail breakers for those scenic roads—to the Grand Canyon, to the wonders of Utah's natural showplaces.

By CHARLES KELLY

there no longer was a transcontinental wagon road. Even its former location had been forgotten. Before the run could start a route had to be laid out. The man chosen for that job was Big Bill Rishel, who pioneered a bicycle trail from Kearney, Nebraska, to Truckee, California—a route which later became the first transcontinental automobile highway.

With a blare of brass bands the first rider left San Francisco on a summer day in 1896. In due time relay riders reached Truckee, California, where Rishel was on hand to start them across the deserts of Nevada. Since there were no roads Bill routed his riders along the railroad right-of-way, where they either rode the shoulders of the grade or bumped over the ties, while Rishel rode up and down the line on trains preparing relays and checking his riders. Sometimes they got into difficulties and Bill had to take over. On one such occasion, trying to make up lost time, he was riding at night when he ran into a trestle and wrecked his bicycle. He had to carry it on his back to the next station.



Bill Rishel, Wallace Bransford and Doc Inglesby pioneering a road to north rim of Grand Canyon, about 1906. Photo from Bransford collection.

After many difficulties the riders finally reached the little station of Terrace, Utah, on the western edge of the Great Salt desert. Here the railroad made a big detour around the desert and north of Great Salt lake. A direct and much shorter route would have been straight across the desert and south of the lake to Salt Lake City. Bill hadn't laid it out that way, but the race was already far behind schedule. Standing there on the "shore" of the salt desert he wondered if it would be possible to ride

across it on a bicycle and thus save many miles and precious hours of time. It stretched away to the east almost as far as his eye could see—60 miles of level, smooth, salt encrusted old lake bottom. He made a trial spin on its hard surface. It was smoother than pavement. He was thrilled by its possibilities and the relief from bumping over railroad ties.

Hunting up an old-timer at Terrace he asked about the desert. Was it smooth like that all the way across? Was there any

water out there? What would happen if he broke down? The old-timer told him there were 60 miles of level desert and 40 miles of rolling country covered with shade-scale between Terrace and Grantsville, nearest town. In that 100 miles there was one small spring in a rocky ridge, if he was lucky enough to find it. It would be suicide to attempt such a crossing on bicycles.

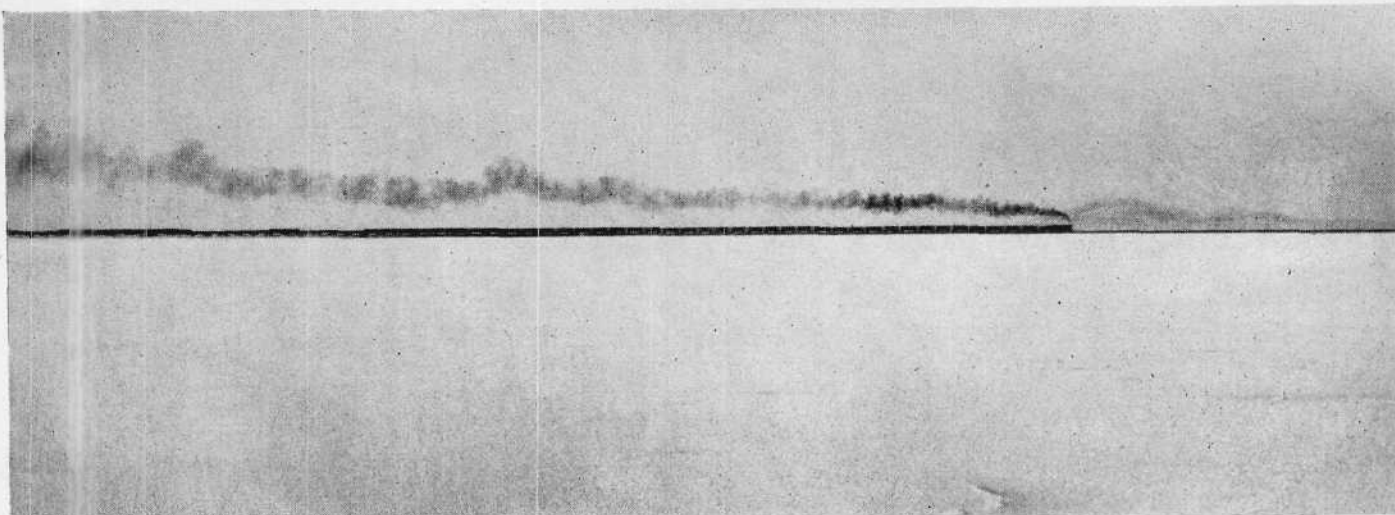
Bill shaded his eyes against the white glare and looked off toward the Lakeside mountains, barely visible on the horizon. Those miles of smooth going were too great a temptation. He decided to take a chance. Unwilling to ask another to take such a risk he grabbed a bicycle and prepared to ride it himself. At the last minute C. A. Emise, one of the relay riders, volunteered to accompany him. Their equipment consisted of two canteens of water and two sandwiches each.

During daylight hours the desert was hot, so they rested until 2 a. m., before starting. A bright moon illuminated the desert's white surface and its hard crust of salt made the going easy. They spun along for hours with little effort. But the distant mountains seemed to retreat as they advanced.

At daylight the two men still were going strong. Stopping to eat a sandwich they emptied one of the canteens. When the sun rose they found themselves entirely surrounded by a mirage, which gave them the feeling of being on a small island in the middle of the ocean. Then, as they were spinning along, Bill suddenly took a nose dive. His bicycle had struck a patch of soft mud and stopped dead. Mud on a desert? It seemed impossible. But there

Through miles of sand dunes like these, on the eastern edge of Great Salt Desert, Bill Rishel had to carry his bicycle.





Western Pacific train crossing the Great Salt Desert. The railroad was built ten years after Rishel made his famous bicycle ride.

it was—the gummiest, stickiest stuff he ever had seen.

Picking himself up he cleaned the mud out of his wheels, put the machine on his back and waded through the slimy stuff. In about a mile the ground became firmer and they mounted again. Before long they ran onto loose sand where they again had to carry their bikes. Blistered by the sun and sweating from every pore, they soon emptied their canteens. As they pushed on they found a continual succession of soft mud and sand, with only here and there a stretch firm enough to ride. The going was much worse than bumping over ties—but it was too late to turn back.

Bill began to think about that little spring. The more he thought about it the thirstier he grew. Emise was showing the strain and sometimes Bill carried both bicycles. They plugged along hour after hour, on what seemed an endless treadmill taking them nowhere.

After covering about 50 miles they ran into a series of sand dunes which made the going still slower. But now the mountains appeared much closer. Somewhere in those rocky ridges was the little spring they had been told to watch for. But with no distinguishing landmarks to guide them it was like hunting a needle in a haystack. Mile after mile they plodded along, stopping every few minutes to rest, their mouths too dry and breath too short for conversation. At last, crossing a low pass between two hills they found themselves on the east side of the Lakeside mountains. Bill began to search those black ridges for some spot of green that would indicate water, but they were completely barren.

Then, looking down, he noticed a tiny trail made by some small animal. Hoping it might lead to water he followed it. After about a mile he came to a ledge running along the ridge. At its base was a little moisture. Farther along, in a small cavity he found a tiny drip. This was Cook's spring!

Setting a canteen under the drip the two

men waited. It was half an hour before they collected a cupful, and four hours before they satisfied their thirst sufficiently to eat their remaining sandwiches and go on. They still had 40 miles to go, through

shad-scale and greasewood and salt-water swamps near the shore of Great Salt lake. At 12 o'clock that night they staggered into Grantsville, after 22 hours of the toughest going Big Bill ever had encount-

Bill Rishel when president of Cheyenne Bicycle club, shortly before his pioneering ride across Great Salt Lake Desert in 1896. Photo from Harry Shipler collection.



ered. The message they carried to General Miles went through. Great Salt desert had been crossed for the first time by bicycle!

After completing this assignment, Bill Rishel became a leader among bicycling enthusiasts in Salt Lake City, promoting cross-country runs and endurance races in the old Salt Palace. When automobiles came to Utah he was the first to adopt this new mode of transportation and because of his past experience soon became the leading authority on roads. With Wallace Bransford and a few other enthusiasts he broke the first automobile trail to Grand Canyon from Salt Lake City and pioneered roads to all of Utah's scenic attractions, organizing Utah's first automobile club, which he still operates.

As automobiles became more popular a campaign was started for a transcontinental automobile highway, the most difficult section of which lay in Utah, where the long detour north of Great Salt lake, traveled by covered wagons, automatically would eliminate Salt Lake City. Remembering his cutoff across the desert on a bicycle in 1896, Rishel and Bransford broke a road through the sagebrush west of Grantsville to examine the possibilities of that route for automobiles. Reaching the edge of the salt flats they looked westward toward Pilot Peak in Nevada, only to discover that nearly the whole desert was covered with a sheet of water. Evidently no road could be made there, so they turned around and went home. That was in 1907.

A year earlier the Western Pacific had built a railroad across the salt desert a little south of Rishel's bicycle route. When a conductor on that new line told Bill there was no water on the desert, he went back to have another look. The "water" proved to be only a magnificent mirage. The road could be built after all!

So Bill went to work promoting that salt desert route, which to him seemed entirely logical. But other men had other ideas and he soon had a fight on his hands. That fight was the biggest thing in Bill Rishel's life. Twenty years later Governor Dern cut the tape which opened the Lincoln Highway, now U. S. 40, across the desert to Wendover, Utah, just where Bill had planned it. Today, with a bomber training field at Wendover, that road carries an enormous traffic load, offering the short cut through Utah first visioned by Lansford W. Hastings when he guided emigrants across the "Hastings Cutoff" in 1846.

In 1940 the business men of Salt Lake City gave William D. Rishel a beautiful silver plaque in commemoration of his life-long work in pioneering good roads in Utah. But his greatest achievement, he thinks, was riding a bicycle across the Great Salt desert. If you don't think so, try it some time!

BOOKS OF THE DESERT . . .

On the Desert Bookshelf this month are some newly added titles for your Southwest library. A distinguished addition is *The Delight Makers*, one of the most fascinating prehistorical romances ever written. You will find also a list of entertaining, authentic guides to the desert, and you will meet some of the oldtimers who were first to explore many of the remote mountains and canyons of the Southwest. And then, just in case you can take a short trip this spring, there are a few books which will help you identify wild flowers and birds of the desert. A few of these books are rare and out of print, so order now those you want as permanent additions to your library. For other Southwest books available write for free catalog.



DELIGHT MAKERS, Bandelier. Recreates life of prehistoric Indians of Frijoles canyon near Santa Fe, part of Bandelier national monument. Unusual, fascinating novel based on scientific discoveries and dim legends of their modern descendants. Photos by Chas. F. Lummis. 490 pp. . . . \$3.00

WEST IS STILL WILD, Harry Carr. Indian Country, Enchanted Mesa, Carlsbad Caverns, Santa Fe and Taos, Boulder Dam and Death Valley. 257 pp. . . . \$2.50

DESERT COUNTRY, Edwin Corle. Indians, ghost towns, legends, oases, history, from Mexico to Nevada, from Death Valley to Grand Canyon. 357 pp. . . . \$3.00

MORMON COUNTRY, Wallace Stegner. Saga of the Mormons in Utah, southern Idaho, southwest Wyoming, Arizona, Nevada, Colorado, New Mexico. 362 pp., index . . . \$3.00

PINON COUNTRY, Haniel Long. Picturesque land of the Navajo, Pueblos, Coronado, Billy the Kid, Carlsbad Caverns. 327 pp. . . . \$3.00

RENO, Max Miller. Human side of "Biggest Little City in the World" and its desert setting, written in inimitable style. 267 pp. Sale price . . . \$2.50

DEZBA, Woman of the Desert, Reichard. Revealing and understanding story of a Navajo family. 56 full page photos, colored endmaps. Sale price . . . \$2.50

HAWK OVER WHIRLPOOL, Underhill. Poetic, moving story of southern Arizona Indian boy adjusting himself to white civilization. 255 pp. . . . \$2.50

OLD BILL WILLIAMS, Favour. Tempestuous life of one of the greatest Mountain Men, who became more Indian than white. Map, photos, index. 229 pp. . . . \$3.00

JEDEDIAH SMITH, Sullivan. Greatest trail breaker of his period, epic mapping and exploring of Far West. Notes, index. Sale price . . . \$3.00

DESERT WILD FLOWERS, Jaeger. Complete flower guide to Mojave and Colorado deserts. Many line drawings and photos. 322 pp. . . . \$3.50

CACTI OF ARIZONA, Benson. Accurate, easy guide for layman and botanist. Color plates, line drawings, distributional maps, photos, paper . . . \$1.00

BIRDS of the ARIZONA DESERT, Smith. Common birds identified by well known lecturer, writer on desert wildlife. Drawings, sketches, paper . . . \$1.00

SOME DESERT WATERING PLACES, Mendenhall. Waterholes of Colorado and Mojave deserts, Death Valley, southwest Nevada. Description, resources, climate. Watersupply Ppr. No. 224, U. S. Geological Survey, 1909. Photos, topo. map. . . . \$1.00

FINDING the WORTH WHILE in the SOUTHWEST, Saunders. Wonders of Southwest, New Mexico to Southern California. Photos, folding map, 231 pp. . . . \$1.75

PILGRIMS of the SANTA FE, Laut. Southwest's most famous trail—drama, tragedy, heroism, adventure, from Spanish conquerors to Gold Rush. Maps, photos, 363 pp. . . . \$1.25

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DESERT CRAFTS SHOP

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LETTERS . . .

Jeep Campaign Is On . . .

Norman, Oklahoma

Desert Magazine:

In the March issue Mr. Henderson wrote about the army jeep and of servicemen wanting one after the war. Recently the head of an automobile company made the statement that the jeep was too powerful for civilian use, that the government should turn the jeeps back to them to service and condition for civilian use. I believe he spoke of taking out the forward drive.

Now, I want a jeep for the desert after the war, and it will take the four wheel drive to do its best in the desert. If I can drive one now while in the service I surely can drive one after I get out. Besides, I can service my own. I do not care to pay them \$700 for a reconditioned one when they cost the government \$875 new.

So what do you say, Desert Magazine starts a campaign for "Sale of jeeps to ex-service men after the war and leave them as is?"

LOUIS T. WHITESIDE

Greetings from Brazil . . .

Manaos, Brasil

Sir:

I enjoy Desert a great deal. I think you are to be congratulated on the type of magazine you are publishing and I know you have my appreciation for bringing to me each month pictures and articles on the Southwest that I love and miss.

FORREST N. DAGGETT,
American Vice Consul

Marine "Cat-eye King" . . .

Camp Lejeune, New River, N. C.
Dear Mr. Henderson:

I feel I have just struck paydirt. Why does not someone tell me these things? I am, of course, referring to your magazine. It is so nearly what I like in a magazine that I am much surprised I have not heard of it before. But I have just returned from 18 months with the Marines on Midway—one somehow gets out of touch with things in a place like that.

My hobby is mineralogy so I was quite disappointed in Midway. However, I used to go cat-eye diving out along the reef—so much that I came to be known as the "Cat-eye King." I polished and sold all my best cat-eyes while out there, for I had not expected to be relieved so quickly and thought I would have plenty of time to find some good ones for myself. Good cat-eyes with blue, black or green centers can be made into as beautiful rings, bracelets, pins and necklaces as ever you have seen.

H. O. COLLIER III

Clue to Lost Adams Diggins . . .

Rowood, Arizona

Dear Desert:

About 1925 I had a store in Rowood where the highway crew came for provisions. One day one of the crew named Johnston came in and said that the son of the foreman had picked up a man named Adams who was suffering for want of water. Adams had a handkerchief in which he had wrapped about two pounds of gold nuggets which he said he had found northwest of three peaks two or three miles from there. The peaks he mentioned are known by the Indians as Tan Babia, or High Well.

When Adams had recovered from his thirst he appeared at his benefactor's house and offered to take him where he had found the gold, but his offer was not accepted. Later on I saw the foreman's son and had the same story direct from him. He said Adams had returned twice but he still refused to go because he had a good job and he didn't know anything about gold. I asked him if he didn't realize that the man was offering to give him more gold than he could earn in 20 years of hard labor.

In 1883 I was living in old Gila Bend, when an Indian brought in several very rich pieces of gold specimens, which he said he had found in this same area. Father and myself went out to look for it but failed to locate it from the description the Indian had given us. I tried again in 1927 to find this Adams prospect and did find some very large pieces of placer gold about four miles north of where Adams said his gold came from. Adams claimed he found a white quartz ledge that crossed a small wash and that the gold was all along the wash bed and in the ledge.

Adams claimed to have lost his burros. A Mr. Bender who has a cattle ranch nearby told me that he did see the burros and also the men but did not know about the gold. He said it must be north or west of the spring. While I did not see the gold that Adams found I am quite sure he did have the mine and I believe that some of the men who picked Adams up are still alive and can verify this statement.

THOMAS CHILDS

More Sand for Sahara? . . .

Huntington Beach, California

Dear D.M.:

Please send another copy of January, 1944, which I want to send to Africa because of the article on SAND by Jerry Laudermilk. Best thing on sand I've run across.

EVERITT WIERMAN

Library of the American Desert . . .

Carrizo Springs, Texas

Dear Desert:

One day in November, 1937, I came into Tucson after one of my many prospecting trips in the desert and chanced to see the first number of our magazine on a newsstand. I still had a quarter in my pocket so made the purchase. I have never missed a number since and have all the copies filed away. They make a good library on the Great American Desert. And they have plenty of FACTS.

When I want more facts I use an encyclopedia or some textbook or better still go into the desert and dig them out. The idea I want to put over is that to one who has read Desert from the time it started, it's excellent just as is. I don't want to see it changed. Not even the poets' page. Occasionally I find a poem which I like. Makes it worth looking for. There is only one Desert Magazine. Let's keep it as it is.

GEO. W. BAYLOR

Utah Clay Beds . . .

Provo, Utah

Gentlemen:

I would like to meet or hear from anyone interested in clays. I know where some fine clay beds are that should be of value.

EDWARD W. BENTLEY

Dear EW B—Anyone interested will be referred to you.—LH.

Poems Always Have "Reason" . . .

Pueblo, Colorado

Dear Editor:

I rarely feel moved to answer "Dear Editor" letters but Carrie E. Sackriter in April issue is so obviously wrong that I do want to have my say.

I have studied poetry technique for several years, have taught classes in it and have sold my poems to many publications, have been in all-poetry journals too numerous to mention as well as some of the good anthologies, and I FEEL IT IS AN HONOR TO BE PUBLISHED ON THE POETRY PAGE OF DESERT.

I have gone over your page carefully and while it is true that now and then there is a poem that lacks perfect rime, rhythm and technique, all I have seen have "reason." Such authorities as Clement Wood agree that one may violate meter in a measure to take a poem out of the jingle class.

Most newspaper verse would come under this writer's complaint but Desert verse does not. I rather doubt her statement that she "loves poetry." If she does she must see much beauty in many of the poems on that page. I have known many cases in which encouragement from such a journal as Desert has given a young talented poet the lift that encouraged him to really study to improve and perfect his work.

G. M. EBERLING

Notice to Fossils—Dead or Alive . . .

Philadelphia, Pennsylvania

Dear Editor:

You know, a cactophile is one who has been stricken with cactus fever and is incurable. A rockhound is one bitten by the rock mania and just as incurable. And a desert rat—yes, one smitten by the desert and utterly hopeless. I happen to manifest all three symptoms and am hereby applying for the best known antidote.

Enclosed is check for two year renewal and some books to ease the pain of absence until I can get out there again. Although only an arm-chair desert rat, due to war restrictions, I take many a trip through the desert through Desert.

Don't let any old fossils (dead or alive) influence you to change your editorial policies. My feeling is that you are right. Mr. Henderson gives one the feeling that there is something substantial in his philosophy of life.

A. MALCOM MARTIN

May Reach Heights? . . .

Hemet, California

Dear Desert Magazine:

Looks like it's time to add my two-bits worth. I feel about this poetry business as Wm. C. Chandler, in the March issue, does. We can't all be talented or educated, but given a chance, who knows what heights we might reach?

I am a rockhound and an amateur poet. I have written several items, some of which I have been tempted to submit to Desert, but because of letters like the one written by Carrie E. Sackriter in the April issue I have been afraid to try my hand. (I spent eight months in the Superstition mountain and will be glad to answer any questions about that part of the country.)

HAZEL S. DAVIS

Strange Swarm of Versifiers . . .

Willits, California

Dear Madam:

W. C. Chandler in the March issue classifies himself among the fuzzy-minded. I admire that and agree with him, but his plea that he belongs among the majority of your readers I reject. I have not met many Desert readers, but all I have met, without exception, have been able to tell the difference between poetry and mere versifying. This is only to be expected from all desert lovers literate enough to want the vicarious enjoyment of their vices when unable to indulge themselves in actuality.

Not the least of the minor home-front purgatories these days is provided by a strange swarm of amateur versifiers. They take the most ordinary banalisms, arrange them in disorderly meter and haphazard rime on fancy paper and then crowd them into someone's busy hands to be commented upon.

CHARLES H. WALKER

For Sake of the Desert . . .

Sunland, California

Dear Miss Harris:

I'll bet it was on second thought that you published Carrie E. Sackriter's critical letter about the poems, in the April issue, hoping some real desert rat might take up the cause in behalf of those who send them in.

First place, nothing is so distasteful as unjust and unconstructive criticism. I am one who has lived in the desert. I know John Carriart referred to in "Sheep Hunting Artists" in the March issue, and many other old timers. I have seen the sunsets, the thunder storms, the flowers, and felt the heat. One of my old friends, Tom Williams, now passed away, used to write just such poems. He, like many others, was prompted by a real love of the desert. Their sole wish is to express their feeling and pass on their pleasures to others. They make no literary claims and do not profess to be poets.

Nature's beauties are not made by human hands, and at best ours is but a feeble imitation. The difference between a good poem and a poor poem is only a matter of degree. This is true of pictures, too. I would suggest to Carrie E. Sackriter that thousands of public libraries are full of poems written for the sake of poetry alone.

LLOYD B. KING JR.

Generosity to Poets . . .

Tulsa, Oklahoma

Desert Magazine:

Carrie E. Sackriter's criticism of poetry in DM is entirely uncalled for. While some of it may not rank with a poet laureate's, I appreciate DM's generosity in allowing space as an outlet of expression for those who have been influenced and inspired by the desert. I find in some of the poems not only "diamonds in the rough" but polished gems. And those who describe places with which we are familiar make them all the more appreciated.

I am a desert and mountain enthusiast and when this global scrap is over, am going back to the Southwest—the peacefulness and solitude of its wide-open spaces.

AL LLOYD

Are "Kickers" Producers? . . .

Sioux Falls, South Dakota

Dear Editor:

Don't let any of those guys kid you about Desert. It is all we expect and all we want. Keep on as you have been going. Some of these "Kickers" belong to a class of people never satisfied and a class that never produced anything. Why don't they start something and make a success of it? It is mighty easy to kick but not so easy to produce.

DR. J. H. BECHTOLD

Diamonds—Rough and Polished . . .

Naco, Arizona

Dear Lucile Harris:

Regarding the lady, in the April issue, who does not like the poetry published in Desert. People who write poetry are usually inspired by beauty. I have enjoyed many good verses in Desert. I have studied with a fine teacher and I have written poems but I see good in the ones you print. The verses may not all have the "feet and rime" as I was taught, but they express thoughts very well.

A diamond in the rocks, when removed, cut and polished, becomes a lovely jewel. A poem, when brought to light and given a chance, may become a polished gem.

HORTENSE MONLUX McLEAN

Give Us Lauder milk . . .

Whittier, California

Gentlemen:

You are doing a good job of keeping us desert lovers from becoming too homesick for the sand and rocks and flowers. Give us plenty of Prof. Lauder milk and flora and fauna articles. Also, Here and There on the Desert is a fine feature.

H. M. FLETCHER

Defenders of the Cover . . .

Santa Cruz, California

Dear Miss Harris:

You can't please everyone. In answer to Mrs. McFarland's letter in January issue, I think the December cover was beautiful, ruins and all. For my taste keep the magazine as you have in the past. Covers, articles and simple, from-the-heart poetry. Tanya South writes deeply.

Sand will be a new adventure to us after Lauder milk's article and photographs in the January number.

MRS. K. W. MACDONALD

Oakland, California

Desert Magazine:

Just a line in defense of December cover. I think it is beautiful and most fitting to the magazine. And as a Christmas cover it is truly an inspiration.

MRS. LORENZA ELWOOD

Milwaukee, Wisconsin

Dear Editor:

I have just finished reading the February issue and cannot refrain from adding my praise for the magazine. I add my agreement to Cecile J. Ransome in regard to the December cover. I too felt inspired by the beauty of it because it reminded me of the "unconquered spirit." Hope we have other such unusual types.

I am deeply interested in geology, rocks and minerals, and wish we had more reason in Milwaukee for field trips but this territory yields mostly fossils. Wisconsin Geological society has interesting meetings nevertheless.

LIBBIE BERAN

HERE AND THERE...on the Desert

ARIZONA

Hualpai Hermit Dies . . .

KINGMAN—William Watson, 80-year-old hermit, was buried near his lonely Hualpai mountain cabin in early spring after a cattleman looking for strays discovered his body on floor of his kitchen. For more than 30 years he had led solitary life, living on wild berries and roots, occasionally killing wild game. No food was in cabin and death was due to starvation. His early life remained a mystery, but in cabin was discovered set of Harvard Classics. He had marked verses in well-thumbed testament to be read at his funeral.

Former Governor Dies . . .

PHOENIX—Thomas Edward Campbell, first native Arizonan to become governor of the state, died March 1 following cerebral hemorrhage. He was born in Prescott, January 18, 1878, was first graduate of Prescott high school. He had been postmaster, mining engineer, member of territorial and state legislatures and tax commissioner before being elected governor, 1918. He had held many important national and international posts.

Navajo Wear New Jewelry . . .

WINDOW ROCK—Along with their traditional turquoise and silver jewelry, Navajo Indians here are proudly wearing war medals awarded Navajo heroes on battlefronts of the world and sent home to their folks on the reservation. Mrs. Henry Tallman, whose brother was killed in action and was awarded the Purple Heart posthumously, wears the medal with her ropes of turquoise. Among other medals seen are many Thunderbird insignia of "Fighting 45th" infantry of American Indians now in Italy.

Pow Wow Plans Considered . . .

FLAGSTAFF—Tentative plans have been made for All-Indian Pow Wow here in July. Pow Wow committee, Judge H. K. Mangum, president, is considering as tentative dates July 1 and 2, July 3 and 4 or July 2 and 4. Definite decision depends on availability of livestock and attitude of business men towards holding celebration this year.

Dons Hold Fiesta . . .

PHOENIX—In place of the cancelled annual trek to Superstition Mountain, the Dons, with their Donnas, in colorful Western costumes, entertained a thousand guests March 26 at Pueblo Grande with a fiesta program, including Indian and Spanish lore and nature study.

Rain Sing Wets Marines . . .

HOTEVILLA—There's a time and place for everything, the assault Marines who fought in Marshall Islands will tell you. It was bright and warm and sunny as they stretched out on decks of a transport after an engagement. They relaxed in the sun, tried to forget cold rain drenched nights in foxholes. Pfc. Eugene Sekaquaptewa, whose home is near here, wanted to entertain them. He began to chant traditional rain song. The Marines listened, were lulled by soothing chant. Fifteen minutes went by, sky blackened, rain fell. Amazed, apologetic Pfc. said, "Honest, fellows—I didn't try to make it rain."

Arizona May Grow Own Corks . . .

PHOENIX—Local nursery is doing its part to "make America independent of other parts of the world for its supplies of cork." End of March, they were offering without cost 3000 cork oak seedling trees for transplanting, to residents of Salt river valley where it is believed such trees can be grown successfully. Seedling trees were propagated at Boyce Thompson arboretum near Superior, as project of Crown cork and seal company. Charles E. McManus, head of company, has spent several years studying possibility, has brought Melchior Marsa, head of Seville, Spain, cork-producing firm, here on advisory trip.

Navajo Seeks Cooperation . . .

FORT DEFIANCE—Reversing his stand on government's stock reducing program, Henry Chee Dodge, Navajo tribal council chairman, urged sheep growers to comply with the program. Speaking in the crowded court room where three Navajo charged with grazing more sheep than range permits allow drew suspended sentences, he said, "We are asking the government to help us with plans for betterment of the whole tribe and we should get this stock reduction program out of the way so we can go ahead with these plans."

Benjamin Franklin Harrison, prospector and miner in Yuma and Ogilby areas for past 20 years, died March 16 in Yuma.

Lon Jordan, 50, Maricopa county sheriff, died February 28. He was succeeded by his wife.

Harvey L. Mott, news editor Arizona Republic, was elected March 5 to presidency Arizona press club, succeeding Don Phillips, University of Arizona press bureau.

CALIFORNIA

Emergency Line for Palo Verde . . .

BLYTE—Palo Verde valley, after long effort on part of irrigation district and California electric power company, at last has been assured of transmission connection with district's 675 horsepower diesel power plant near Intake, for emergency power when current is off from Imperial valley line during storms or other disturbances. Arthur Mullin, superintendent power company's Blythe substation, was notified in March that materials for 12-mile line have been released by war production board and power company would start immediate construction to be completed by April 10.

Alien Land Suits to Start . . .

EL CENTRO—Approximately 18,000 acres of Imperial county land valued at \$2,700,000 will be involved in 144 civil suits against aliens holding land by having themselves appointed legal guardians of their minor children. District Attorney Charles G. Halliday is preparing data for suits requested by Attorney General Robert Kenny of all California counties. This county is said to have largest acreage under guardianship, except San Joaquin. Frequently Americans had complained that alien Japanese lived on and operated farms which were supposed to belong to their American-born minor children.

IID Power Hook-up Complete . . .

PARKER DAM—In peacetime February 28 would have been the occasion of an elaborate celebration by people served by Imperial irrigation district. On that date, at drop 4 hydro-plant on All-American canal, electrical energy generated here was synchronized with the district system, which included tie-in between Parker Dam - Imperial irrigation district power and major part of the former California electric power company system which district purchased October 15, 1943.

29

PALMS

INN



THE HOTEL AT THE
PALMS

* * *
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* * *
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* * *

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Date Committee Appointed . . .

INDIO—At a mass meeting of 80 Coachella Valley date growers March 12, position of their industry in national wartime picture was outlined by Eugene C. Jarvis, secretary-manager of United date growers association. Through efforts of their Washington representative, J. Wallace Stevenson, they have been able to avert restriction of price ceiling, point rationing. To relieve board of directors of responsibility of preparing the necessary briefs, cost analysis and other data to support Mr. Stevenson's work, following committee members were chosen to act for the industry in government control matters: Kenneth Peck, Frank Schubert, Lee J. Anderson, Coachella; Perry W. Van Der Meid, William W. Cook, H. L. Cavanaugh, W. G. Jenkins, Dr. Hunter, Indio; Mrs. Sylvia Harris, El Centro; Col. Dale Bumstead, Phoenix, Arizona.

Alvah D. Hicks, pioneer Palm Springs developer, owner Palm Springs builders supply and Palm Springs water company, died in March.

Snow Caps Chocolates . . .

NILAND—Residents here awoke one fine mid-March morning to find Chocolate mountains beautifully snow-capped. It had been many years since snow had been seen on the Chocolates. Temperatures were reported not to have endangered uncovered vegetables growing here.

Along Strawberry creek near Idyllwild 4200 rainbow trout have been planted. Fishing season opens May 1.

San Geronio Inn, Banning, has been sold to Mr. and Mrs. R. T. Barton of Los Angeles.

NEVADA

Indian Agent Goes to Alaska . . .

STEWART—Don C. Foster, superintendent Carson Indian agency, which covers all of Nevada except two counties and includes three California counties, has been appointed general superintendent of Alaskan Indian service. Foster's new headquarters will be in Juneau. His successor is Ralph Gelvin of Arizona.

Scrugham to Push Davis Dam . . .

LAS VEGAS—Senator Scrugham, following refusal of war production board to resume construction of Davis or Bullshead dam on Colorado river, has brought the matter to department of state. He had informed WPB that "In the pending treaty with Mexico involving the Colorado river, the consent and approval of the senators from Nevada is specifically based upon the resumption and completion of the work on the Davis dam, and there is approximately \$8,000,000 which has been appropriated for this purpose." He stated further, "It is my belief that the construction of the Davis dam within the near future is most necessary for the production of additional electric power for the rapidly expanding industrial life of the Nevada-Arizona-California area and that the building of this project will not hamper or hinder the successful prosecution of the war."

More Dam Power Recommended . . .

CARSON CITY—Installation of additional electric transformer capacity for Nevada at Boulder dam was recommended March 22 to Nevada Colorado river commission by E. W. Rockwell, Los Angeles consulting engineer. One installation considered would cost about \$600,000, with transformers placed at power house below the dam. Another method would require installation at BMI plant, costing \$250,000. Objection to latter is the inter-connection of circuits.

Huge Postwar Project Outlined . . .

RENO—Proposed postwar flood control-irrigation-power development plan would cost about \$17,000,000, would reduce Lake Tahoe's upper water level 1.1 feet, would construct dams and reservoirs on Truckee, Carson and Walker rivers. Nevada would receive about 65 per cent benefits, California, 35 per cent. Governors of two states, with committees, are considering detailed reports of engineers.

Nevada Wool Clip Down . . .

CARSON CITY—Despite higher wool price of 1943, Nevada sheep men received \$107,000 less for wool clip than in 1942. Total 1943 value was \$2,035,000. Reasons for loss were lighter average weight of fleece, 20,000 less sheep clipped, advancing cost of feed, larger number being sent to California for wintering.

NEW MEXICO

New Mexico State Fair . . .

ALBUQUERQUE—New Mexico state fair, September 24 through October 1, is expected by Leon H. Harms, secretary, to attract the "largest crowd in fair history" drawn largely from within the state. Attractions planned include a rodeo, palomino and quarter horse shows, livestock displays, fireworks, horse racing.

The Desert Trading Post

*Classified advertising in this section costs five cents a word, \$1.00 minimum per issue—
Actually about 1½ cents per thousand readers.*

MISCELLANEOUS

Wanted to Buy—Genuine pre-historic Indian obsidian arrowheads and spears. Lynn Crandall, Box 697, Idaho Falls, Idaho.

MUSEUM SUPPLIES WANTED: Anything suitable for museums. Rocks, Minerals, Fossils, Guns, Horns, Beadwork, Meteors. Catalogue 25c. Museum Supplies, 6601 Oshkosh, Chicago 31, Ill.

WRITERS: Broaden your market horizons. Send for Free Circular D-54, describing Unified Sales Plan for international placement of your work. Otis Adelbert Kline, Literary Agent, Established 1923, 507 Fifth Avenue, New York 17.

FOR SALE—10 beautiful prehistoric Indian arrowheads, \$1; 10 tiny perfect bird arrowheads, \$1; 10 perfect arrowheads from 10 different states, \$1; 2 perfect stone tomahawks, \$1; 4 spearheads, \$1; 5 stone net sinkers, \$1; 10 perfect fish scalers, \$1; 2 hoes, \$1; 4 perfect agate bird arrows, \$1; 5 perfect flint drills, \$1; 7 perfect flint awls, \$1; 10 beautiful round head stunning arrowheads, \$1; 4 fine perfect saw edged arrowheads, \$1; 4 fine perfect flying bird arrowheads, \$1; 4 fine perfect drill-pointed arrowheads, \$1; 4 fine perfect queer shaped arrowheads, \$1; 4 rare perfect double notched above a barbed base arrowheads, \$1; 5 perfect double notched above a stemmed base arrowheads, \$1; 12 small perfect knife blades of flint, \$1; rare shaped ceremonial flint, \$1; 3 flint chisels, \$1; 7 crystals from graves, \$1; 10 arrowheads of 10 different materials including petrified wood, \$1. All of the above 23 offers for \$20. Locations given. 100 arrowheads, \$3.00. 100 very fine mixed arrowheads all perfect showy colors and including many rare shapes such as drill pointed, double notched, saw edged, queer shapes, etc., location and name given, \$25.00. List Free. Lears, Glenwood, Ark.

THE ROCKHOUND COLONY GROWS—

Eighteen to date. We'll have a name by next issue. So many have written they are coming in April to buy that I expect we'll soon be sold out. If you belong to the rockhound fraternity and are looking for a fine location and a nice place to live, write for particulars. We want only the best people and want you to be satisfied or we don't want you. We want a colony that will be TOPS in every way. Come and look things over. The Colorado Gem Co., Bayfield, Colo.

The BASIC FACTS of your unknown self. Do you know their beneficial nature and where to find them? Address: BASIC-RESEARCH LABORATORIES SYSTEM, 785 Lafayette Street, Denver 3, Colorado.

25 Genuine Indian arrowheads, \$1.00; Tomahawk head 50c. Cat. of Indian relics, crystals and ore specimens. Geo. Holder, Glenwood, Ark.

LIVESTOCK

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

"Karakul Fur Sheep — America's Great Livestock Opportunity—You can be a part of this fascinating business and have your Karakuls cared for by experienced rancher. Write for details, James Yoakam, National Distributor, 1128 No. Hill Ave., Pasadena, California."

REAL ESTATE

For Imperial Valley Farms—

W. E. HANCOCK

"The Farm Land Man"

Since 1914

EL CENTRO — — — CALIFORNIA

Indian Status to be Studied . . .

SANTA FE—House of representatives voted in March to direct its Indian affairs committee to investigate status of American Indians, to make recommendations to better their economic welfare and decrease costs of operating Indian bureau. Chairman Sabath (D., Ill.) of rules committee said it was believed \$10-\$15,000,000 annually could be cut from bureau expenses of the approximately \$32,000,000 appropriations. Rep. Mundt (R., S.D.), author of the resolution, denied he had introduced it because a senate committee last June made a report which included recommendation for immediate abolition of Indian bureau. He said he believed, however, the bureau eventually should be eliminated "over a period of many years." There are about 360,000 Indians in this country and 40,000 in Alaska.

Southwest Too Big for Nazis . . .

CLOVIS—Two nazi war prisoners who escaped from Eighth service command camp in Texas discovered the Southwest to be much bigger than their geopolitik courses had informed them. They had wandered for three days after leaving their enclosure and were amazed to find they were still inside the military reservation. Another, three days on train bound for prison camp, remarked confidently, "We're in Mexico now. I know no country in the world is this big." (Eighth service command embraces 154,000 acres in Texas, Oklahoma, Arkansas, New Mexico and Louisiana.)

Mrs. Kenneth M. Chapman, wife of former director of Laboratory of Anthropology, Santa Fe, died March 14 in Colorado Springs.

New Mexico American Legion has set June 23-24 as dates for annual convention in Albuquerque.

UTAH

Urges Postwar Travel Plans . . .

SALT LAKE CITY—Utah organizations were urged by Dr. Howard R. Driggs, president American Pioneer Trails association, to proceed at once with plans to mark notable trails and historical points and to prepare accommodations for hundreds of thousands of visitors who will come west after the war. Dr. Driggs, professor emeritus of English education at New York university and native Utahn, declared, "The program not only will increase postwar travel, expected to be tremendous, but by reviving stories of the pioneers and interesting children in the freedom-loving traditions of their fathers the program will build morale and thus help prosecute the war."

Supply Depot to be Expanded . . .

CLEARFIELD—Storage and shipping facilities of naval supply depot here, already largest of its type in country, will be expanded by \$3,600,000 appropriation. Earlier this year the depot received allotment of \$995,000 for additions and improvements which already are under way. Among plans for another building program are cafeteria and dispensary additions, new firehouse, recreational facilities, new barracks for WAVES. Several hundred more WAVES are expected at the depot soon.

Salt Lake Artist Dies . . .

SALT LAKE CITY—Norman Jacobson, 59, member of Associated Artists of Utah and Salt Lake Art Barn, died here March 10 of pneumonia. He had illustrated many books, some of which he wrote. For 17 years he had traveled around the world, conducting exhibitions in most capital cities. He had lived here three years.

Utah state junior livestock show is scheduled for May 4, 5 and 6 in Spanish Fork.

Utah pharmaceutical association will hold 52nd annual convention at Hotel Ben Lomond, Ogden, June 5 and 6.

Ogden Pioneer Days is scheduled for July 21-24 inclusive.

Utah state dental society will dedicate annual convention in Salt Lake City, June 7, 8 and 9 to 100th anniversary of nitrous oxide gas as an anesthetic.

Robbers' Roost Round-Up will be held in Price, June 28, 29 and 30.

Salt Lake county fair will be held August 23-26 at Murray county fairgrounds.

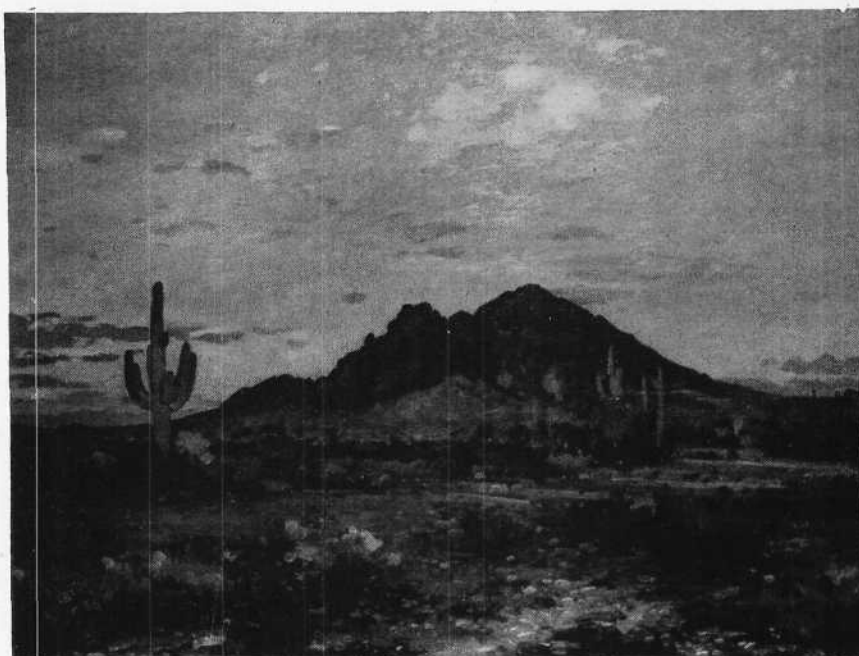
Ogden livestock show will be held November 4-8 inclusive.

A WESTERN THRILL

"Courage," a remarkable oil painting 20x60 feet, the Covered Wagon Train crossing the desert in '68. Over a year in painting. On display (free) at Knott's Berry Place where the Boysenberry was introduced to the world and famous for fried chicken dinners with luscious Boysenberry pie.

You'll want (1) A 4-color picture of this huge painting suitable for framing. (2) A 36-page handsomely illustrated souvenir, pictures and original drawings, of Ghost Town Village and story of this roadside stand which grew to a \$600,000 annual business. (3) Two years' subscription (12 numbers) to our illustrated bi-monthly magazine of the West. True tales of the days of gold, achievements of westerners today and courageous thoughts for days to come. Mention this paper and enclose one dollar for all three and get authentic western facts. Postpaid.

GHOST TOWN NEWS,
BUENA PARK, CALIF.



"SUNLIGHT ON THE MOUNTAIN" . . .

Desert artist Lon Megargee's color lithograph of Camelback Mountain in natural red-gold and smoky azure of Arizona. Each 16x12 print signed by the artist and printed on white mat suitable for framing. A colorful bit of the Southwest for your living room, a beautiful gift for your desert-minded friends. \$3.00 postpaid.

California buyers add 2 1/2% tax.

Send orders to . . . DESERT CRAFTS SHOP, El Centro, California

Mines and Mining . .

Washington, D. C. . . .

To stimulate further mica production, Colonial mica corporation, agency of Metals reserve company, until June 30, 1944, will pay a bonus of \$1 a pound, making total current price \$6 a pound, to producers meeting certain specifications. Colonial also will meet the guaranteed price of \$5 a pound until December 31, 1944, to those meeting requirements. Value of Colonial purchases of domestic sheet and punch mica in 1943 was approximately \$3,200,000, compared with about \$750,000 for 1942.

Pasadena, California

Special war training course in mining geology given tuition-free by California institute of technology started April 11, meeting two evenings weekly for ten weeks on institute campus here. Course includes methods of surface and underground mapping, interpretation of mine maps, important rocks and minerals, types of ore deposits, sampling and ore evaluation. Applications should be made to War training office, California institute of technology, Pasadena 4, California.

Goldfield, Nevada

Postwar prospecting by airplane was seen as a logical development by Hans Lundberg of Toronto, one of world's foremost pioneers of geophysical, magnetic and electrical prospecting methods at March meeting in New York of American institute of mining and metallurgical engineers. He said airplane prospecting is expected to substitute for foot travel and what prospectors call the running of lines. No details about flying prospecting instruments could be made public because of military possibilities. Lundberg urged that mining schools and universities prepare for postwar training in practical prospecting.

Santa Fe, New Mexico

Just when Francis C. Wilson, attorney-turned-oil man, was preparing to abandon an oil well, fearing sulphur water was about to be reached, oil was struck and well turned out to be a good one. It is located in West Eunice field, Lea county.

San Francisco, California

California Journal of Mines and Geology, published by state division of mines, Ferry building, April, 1944, features geology of San Benito quadrangle. Location and geographic features, geomorphology, stratigraphy, structure and structural history, paleogeography, mineral resources are main features considered. A geologic map to accompany the study will be ready for purchasers before summer of 1944.

New York City

McHenry Mosier of U. S. bureau of mines told joint meeting of Society of Economic geologists and American Institute of Mining and Metallurgical engineers that mercury has been taken from list of critical minerals. This has been brought about by government loans, aid from bureau of mines, and high prices. Present annual production of more than 50,000 flasks may have to be curtailed through strict government controls, as present stocks seem to be quite sufficient, he said.

Darwin, California

Geology of tungsten deposits of Darwin Hills, Inyo county, California, is subject of recent article by L. Kenneth Wilson, geologist for E. L. Cord mining interests. High grade scheelite ore was first discovered in Darwin area in 1940 by Curley Fletcher, president and general manager of Darwin consolidated tungsten, was followed by acquisition of 23 mining claims in the area by Cord interests 1941. Wilson's detailed report on geology and mineralogy of the deposits is available from author at 640 Muir avenue, Lone Pine, California.

Denver, Colorado

Coal producers of Colorado, New Mexico, Utah and Wyoming will discuss problems of their industry and relation to war activity at Rocky Mountain coal mining institute to be held here June 8, 9 and 10. Gomer Reese of Oak Creek is president. Utah officials are Claude P. Heiner, vice-president; Paul L. Shields and Wilford Ruff, executive board members for Utah.

Bishop, California

Total of 249,523 tons of borate material, valued at \$4,953,174, was produced in California in 1943, bulk from two properties in Inyo county and two in northern San Bernardino county. Material included sodium borates from Kern county, crystallized borax prepared by evaporation of brines at Searles Lake in San Bernardino county and Owens Lake in Inyo county, and a small amount of colemanite from Death Valley. Production for 1942 was 203,716 tons.

Reno, Nevada

Robert S. Moehlman, in charge of Anaconda Copper mining company's Nevada geological exploration, has been chosen chairman of Nevada section, American institute of mining and metallurgical engineers for the ensuing year. Paul Gemmill of Pioche, engineer and geologist for Prince consolidated mining company, is the new vice-chairman.

Salt Lake City, Utah

Discovery of long suspected but hitherto unproved coal area in northeastern Sanpete county has been made by U. S. geological survey and bureau of mines. Report of geological survey's senior hydraulic engineer, Ralf Rumel Woolley, discloses the field (referred to as Mt. Pleasant coal area) to vary from high to secondary quality and to be located on west front of Wasatch plateau, 800 to 2000 feet below the surface. The thicker beds in the lower levels are in the Blackhawk formation of upper Cretaceous age.

Washington, D. C. . . .

Over vigorous protests of mining industry, war production board announced that April 30, 1944, would mark end of premium price payments to domestic tungsten producers due to fact that stocks are in excess of a year's estimated needs. The board said similar action would be taken on foreign tungsten purchases. Eligible producers, after April 30, will be paid regular market price of \$24 per unit (20 pounds to short ton) of tungsten content of their ore, in contrast to the premium price of \$30 per unit.

Tucson, Arizona

Thomas O. McGrath, 61, Arizona mining expert and manager of Control mines, died March 29. He had been associated with Arizona mining activities since 1906. He was past president Bisbee chamber of commerce.

Santa Fe, New Mexico

In announcing summer projects for newly reorganized state bureau of mines and mineral resources, State Geologist John Kelly, bureau director, stated, "We feel that New Mexico's greatest development in the postwar era probably will be in the field of minerals—including metallic and non-metallic mining and oil and gas." Among the projects are the printing of "Manganiferous Deposits Near Silver City," a bulletin by Lawson Entwistle; revision of bulletin "Fluorspar in New Mexico;" study of oil and gas possibilities of Chupadero Mesa east of Socorro; county-by-county economic survey.

Salt Lake City, Utah

Mrs. Alice L. Gilson, 96, widow of S. H. Gilson, discoverer of mineral gilsonite, died here January 29. At age of six she crossed the plains from Missouri. She married Samuel Henry Gilson in 1865 in Nevada where they lived until 1870, when they came to Salt Lake City. A pioneer in aviation, Mr. Gilson is said to have constructed airplane models which drew attention of Curtis and Wright brothers. He discovered the mineral, named in his honor, which is used as base for paints and varnishes. He died in 1913.

GEMS AND MINERALS

ARTHUR L. EATON, Editor

DISTINGUISHED AUTHORITY ON MINERALOGY DIES

George Letchworth English, author of *Getting Acquainted with Minerals*, died January 2, 1944, at his winter home, Winter Park, Florida. He also wrote *Descriptive List of the New Minerals* and shortly before his passing had completed a volume titled *In the Field for Minerals* which soon will be available.

NININGER DISCOVERS STONY METEORITE IN KANSAS

Interest in meteorites has been heightened recently by the find reported by H. H. Nininger of the American meteorite laboratory, Denver, Colorado. As the representative of an oil company, Nininger was traveling through Cowley county, Kansas, where he found a two pound stony meteorite almost in the dooryard of a farm house. Nininger reports that he had stopped to pump a drink from the farm well, when he noticed the large, rusty looking specimen among the bushes at a short distance. This in itself was a rare find, as such good luck seldom falls to the student of meteorites, but it was especially rare, as this is the first meteorite found within from 50 to 100 miles of the spot.

FORMERLY "WORTHLESS" OVERBURDEN RECOVERED

C. V. Firth, metallurgist at University of Minnesota, reports that research metallurgists have found a method of converting billions of tons of now worthless "lower slaty" overburden rock on the Mesabi range to pure iron powder.

The "lower slaty" rock is ground into a black mud, treated with acid and oxidized. Pellets of pure iron are produced. These pellets are ground into powder which can be pressed into molds and baked at 2000 degrees Fahrenheit. Cost per pound is about five cents. Gears, bearings, brake drums, etc., are cast. Casting process produces a metal product accurate to one thousandth of an inch, with a strength between that of cast iron and steel.

NEW PROCESS DEVELOPED TO RECOVER ALUMINUM

It long has been known that most clays contain a very high percentage, sometimes as much as 50 per cent, of aluminum. Several processes are known for removal of the aluminum from clay, as cheaply as from bauxite, but technical difficulties have made them impractical. Among these difficulties are the essential presence in one place of large quantities of the clay itself, limestone, and the fuel needed for the removal of the metal. It is necessary to use two tons of limestone to each ton of ore. But, even with these difficulties, a South Carolina company already has successfully carried out the process in a pilot plant and now is constructing buildings on a commercial basis.

GRAND JUNCTION CLUB PLANS YEARLY PROGRAM

Mrs. Richard H. A. Fischer, secretary Grand Junction, Colorado, mineralogical society, submits the following interesting program planned for 1944:

Feb. 7—Colored pictures of settings in Colorado museum of natural history and scenic spots in western Colorado—Robert M. Porter, naturalist and photographer.

Feb. 21—Development of oil shale and history of the discovery of the western Colorado deposit—Frank Merriell, C. E., Colorado river authority.

March 6—The Morrison formation and what to expect to find in various locations—W. L. Stokes, Ph.D., Princeton.

March 20—Early Paleozoic sediments of the Rocky mountain region—D. Duncan, M. A., University of Montana and Princeton.

April 3—An outline of western Colorado geology—Richard P. Fischer, Ph.D., Princeton.

April 17—An illustrated lecture on "My years spent in mining gold in Arabia"—Theo. Barrett, E. M., University of Minnesota.

May 1—Cut gem and mineral exhibit by members of the society.

May 15—Photographic slide lecture on Philippine mines and the U. S. Army coal mines—C. R. Reinhold, E. M., University of Minnesota and former superintendent of U. S. Army coal mines.

Members of the Rocky mountain federation traveling through Grand Junction, Colorado, are invited to attend these outstanding lectures.

It once was believed that bloodstone had the power to cause tempests and lightning, to guard the wearer's health, bring him respect of others and guard him from deception. The gem was supposed to check hemorrhage and frequently was cut heart shape for this purpose.

COLORFUL MINERALS

WULFENITE

Wulfenite, molybdate of lead, is very colorful, ranging from yellow and orange to aurora red and even scarlet, or grey. It sometimes forms large groups and clusters of thin tetragonal crystals in one of these colors, or even showing more than one. Other specimens show flat tabular crystals with finely beveled edges scattered over the surface of the ore. The crystal groups are very heavy as they have a specific gravity of almost seven. Beautiful specimens can be obtained from the desert regions of New Mexico, Arizona, or Old Mexico.

UNUSUAL AND RARE CUT GEMS--

in Precious Topaz, Golden-Beryl, Rhodolite and Hessonite Garnets. Also rare green.

ALL KINDS OF AGATES \$1 to \$10 Dozen

Spinel of all kinds. Cabochons in Turquoise, Emeralds, Azur-Malachite, Golden-Starolites, Swiss-Lapis, etc.

All kinds of Scarabs.

CEYLON ZIRCONS—50c per carat.

STAR SAPPHIRES—\$1 per carat.

COLOMBIA EMERALDS—\$10 up each.

Synthetic Stones. Rare Cameos, Necklaces, Stickpins, etc. Rough Gems for Cutting in Garnets, Tourmalines, Quartz-Topaz, Nephrite, etc.

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Brooches, \$5.00 and Up

Bracelet and Ring Sets, \$15 and Up

Plus 10% Excise Tax and 2 1/2% Sales Tax

Petrified Picture Wood and Moss Agate — Jewelry Hand Made in Sterling Silver Mountings

RINGS — BRACELETS — NECKLACES
BROOCHES — TIE SLIDES, ETC.

Mail Orders Filled Anywhere in U. S. A.

ELLIOTT'S GEM SHOP

26 Jergins Arcade Village Long Beach 2, Calif.

Entrance Subway at Ocean and Pine
Open 10 A.M. to 10 P.M. Daily

Western portion of Imperial county, California, produces numerous small crystals of common feldspar. Many of these crystals are less than one inch in length. They occur in narrow ledges of feldspar between much larger deposits of rapidly decomposing granite. The granite, as it breaks down, allows the feldspar to escape into the sand below, where it is rapidly scattered far and wide. Color varies through white or grey to flesh pink.

In Sierra Leone, a British territory in north-west Africa, a gem quality diamond weighing 530.5 carats in the rough recently was picked up. This is far the largest gem diamond ever found in this British colony. Largest previously reported was less than 200 carats.

California journal of mines and geology reports a new rock found in the San Gabriel mountains called mylonite.

AMONG THE ROCK HUNTERS

East Bay mineral society, Oakland, enjoyed a sound film on alloy steels at first March meeting. Members displayed their specimens relating to the subject. At March meeting, R. Whalley illustrated with kodachrome slides his talk on a pack trip through the high Sierras.

The Rockpile, bulletin of East Bay mineral society, lists names and addresses of dealers and others who sell minerals but do not advertise.

Leland S. Chapman says that the fact that malachite will stain rock 250,000 times itself has cost investors and prospectors millions of dollars.

Dr. A. Goetz of Cal Tech talked on the growth of a crystal at March dinner meeting of Los Angeles mineralogical society. Mont A. Forbes also spoke briefly on the life and work of Professor Joseph Le Conte.

Los Angeles mineralogical society has been busy recently in making constitutional amendments and changes.

Capt. J. D. Hubbard, E. M., states that despite popular misconception that California has no coal, every form of coal except anthracite is found in California. California Indians used coal deposits for ages and are still using them. Miles and miles of coal deposits are located in northern California coast counties.

J. T. Clementsen, Garden Valley, El Dorado county, California, reports a good deposit of asbestos.

Lapidary branch of Long Beach mineralogical society has a new mud saw which was initiated at the March meeting held in Bill Carlson's shop, 562 Darnell street, Bellflower.

Dr. James H. Hance, former dean of school of mines, University of Alaska, Fairbanks, spoke on cold weather effect on mineralogy and geology of Alaska. This lecture completed his talk begun at February meeting. He also discussed origin of gold in placers. Members displayed Alaskan minerals, rocks and souvenirs. The group held their annual spring party March 25.

Elmer Eldridge was in charge of the program at March meeting of Sequoia mineral society.

Pvt. Dora Andersen of the WACs, home on furlough, attended the annual Sequoia banquet.

Imperial Valley gem and mineral society had the best attended meeting of the season March 4 at the Chesnut home in El Centro, Mary Jane Neal and Eva Wilson, hostesses. Members displayed their pet specimens, making an exhibit so interesting that it was held open all day Sunday for the benefit of the public.

Long Beach mineralogical society names each meeting for a mineral. February was petrified wood; March, copper minerals and geodes. A specimen display of the mineral under discussion is held by members. Charles E. Rogers of Standard oil company showed the motion picture Land of Liberty at March meeting of the society.

E. W. Steele of American smelting and refining company, talked about the unexplored interior of Brazil at March meeting of New Jersey mineralogical society, Plainfield, N. J.

GEM MART

ADVERTISING RATE
5c a Word — Minimum \$1.00

INTRODUCTORY OFFER—One dollar each lot. Five all different Fluorescent Agates—polished. Thirty rough Mexican Opals. Fifty nice pieces Turquoise. Twenty different polishing specimens. Postage ten cents. Minerals and gems on approval. DR. RALPH MUELLER, Professional Building, Kansas City, Missouri.

AGATES, Jaspers, Opalized and Agatized woods, Thunder eggs, polka dot and other specimens. Three pound assortment \$1.50 postpaid. Glass floats, price list on request. Jay Ransom, 3852 Arboleda Ave., Pasadena 8, Calif.

\$2.50 brings you prepaid six rare and beautiful crystallized Arizona minerals. Vanadinite, Dioptase, Wulfenite, Willemite, Chrysocola, Azurite. Specimens 1½x2 or larger. Wiener Mineral Co., Box 509, Tucson, Arizona.

100 Jewelry Stones removed from rings, etc., \$2.00. 12 articles of Antique Jewelry, rings, pins, etc., \$3.00. B. Lowe, Box 311, St. Louis 1, Missouri.

Choice Palm Root—Full of eyes showing root and trunk structure. Very colorful. Sliced for Cabochons. 25 cents per square inch. Satisfaction guaranteed. GASKILL, 400 North Muscatel, San Gabriel, Calif.

Beautiful agate, flower jaspagate, picture jasper and dinosaur bone. Assorted lots of cutting material, gem quality, ten pound package \$10.00. Four pound package \$5.00. Send postage. Mrs. Richard Fischer, Box 555, Grand Junction, Colo.

Swisher's rocks, minerals and petrified woods. Island corals, shells, shell costume jewelry, fine copper minerals from Bisbee, Arizona. Fine quartz crystals from Arkansas. Also fine line of Art Figurines. Swisher's, 5234 So. Broadway, Los Angeles 37, California.

12 pre-historic Lizard scales. 4 Colorado mineral specimens 1 x 1½, all for \$3.00. Ad in April issue is still good. Jack The Rockhound. P. O. Box 86, Carbondale, Colo.

Minerals, Fossils, Gems, Stamps, Coins. Pistols, Glass, Bills, Indian Relics, Bead Work. Catalogue 5c. Cowboy Lemley Curio Store, Las Cruces, New Mexico.

Serpentine core drillings ½ in. diameter to 12 in. in length. Nice for cabinet. 15c inch. Postage please. C. Earl Napier for Rock. Yosemite Highway above Knights Ferry, Calif.

COPPER WATER REPLACEMENT SOUVENIRS (limited supply) from California's Copper City. Solid copper nails (once common iron nails) which have "turned to copper" through the action of copper water from the mines. One 4½-inch specimen, 50c, or a pair attractively assembled, \$1.00. Postage prepaid for cash, or sent C.O.D. plus postage. Edwin N. Dawson, Box 83, Copperopolis, Calif.

Six Beautiful Quartz Mineral Specimens, \$1.00 postpaid. Selman Stone, Pine Valley, Calif.

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

ROCK COLLECTORS, ATTENTION! Notice address change. 2 only—Choice iron pyrite XL groups 9x7x3-inch and 7x5x3½-inch each at \$25.00. 1 only—Choice limonite after pyrite XI. group, 7x5x3½-inch, at \$25.00. 1 fine benitoite, neptunite, natrolite, spec. 2½x1½-inch over 26 XLS at \$25.00. 1 museum spec. 12x11x2½-inch over 60 XLS, \$100.00. 1 large sky blue fluorite and barite XL, group 11x6x5-inch \$35.00. Other groups from \$2.50 up. Groups of amethyst phantoms in qtz. XLS \$2.50 to \$7.50. 1 museum group 15x9x5-inch over 100 points and lots of pyrite XLS, \$100.00. Past offers all good. No catalogs. The Rockologist (Chuckawalla Slim), Garvey Trailer Park, 941 E. Garvey Blvd., Garvey 32P, Calif.

Worm bored Petrified Wood, \$1.00 per pound. Dinosaur Bone, 50c and \$1.00 per lb., plus postage. Bill Little Gem Cutting, Hesperus, Colorado.

20 mixed fossils \$1.00. 100 ancient Indian arrowheads \$3.00. 10 tiny bird arrowheads \$1.00. List. Lear Howell, Glenwood, Ark.

Agate Jewelry and Oregon Agates: One dollar with ten cents for postage brings you four sawed moss agate slabs in excess of ½ inch by ¾ inch for making cabochons or ring sets. These are quality. E. Lee Sigfrid, 211 Congress, Bend, Oregon.

Water clear Quartz Crystals of the finest quality obtainable, single points from 10c to \$2.50 each. Clusters or groups from 35c to \$25.00 and up. Beautiful Cabinet Specimens at \$5.00, \$7.50, \$10.00 and \$15.00 each. Wavelite 50c lb. Egg size specimen of strong magnetic ore 25c. Wholesale and retail. Satisfaction or money back guarantee. J. L. Davis, 303 Ward Ave., Hot Springs, Arkansas.

Montana Moss Agates in the rough for gem cutting, \$1.00 per lb. plus postage. Elliott's Gem Shop, 26 Jergins Arcade, Long Beach 2, Calif.

50 assorted ring stones, including genuine and synthetic, \$7.50. Genuine Zircons, blue or white, 3 for \$3.75. Twelve genuine Cameos or Opals, \$2.50. B. Lowe, Box 311, St. Louis 7, Mo.

Tourmaline matrix, in quartz crystals, \$1.00 to \$30.00, tourmaline pencils, 50c to \$5.00, Essonite garnet-green-clusters, 50c to \$3.00, unique specimens. Sagenite agate, \$1.00 to \$4.00, specimen rough nodules. Gem list 10c. Return specimens if not satisfactory. The Desert Rats Nest, 2667 E. Colorado St., East Pasadena, Calif.

Gem Jasper from Indian Ridge, Ohio. Beautiful pastel colors. Makes lovely cabochons; 2 ounces rough for only 25c, or \$1.50 per lb., postpaid. Lake Superior Agates 10c each and up. Wyoming Jade, gem quality, slabs of all kinds. Send for list. James W. Riley, RR. 2, Springfield, Ohio.

Orange Belt mineralogical society discussed gems at March open forum held in San Bernardino junior college. Jay Wilson spoke on diamonds, Ada Ranney on zircons and Virginia Ashby on tourmaline and other gems of Pala, San Diego county. Twenty-one members and two visitors were present.

Mrs. Frances Pittman, publicity chairman of San Fernando valley mineral society, reports election of the following officers: Cash Ferguson, president; Don Graham, vice-president; Verna Mann, secretary; Charles Clark, treasurer. Secretary's address is 14508 Delano St., Van Nuys, Calif. Members Willard Perkin and George Parker talked on crystal origin and electronic theory respectively at March 9 meeting. Perkin has a collection of crystals from all over the world.

Wm. T. Reburn, research and development department of American potash and chemical corporation, talked on organic minerals at March 15 meeting of Searles Lake gem and mineral society. Harvey Eastman showed colored movies of the Trona area. The group field-tripped March 19 to the eastern slope of the Argus range, just north of the Slate range crossing.

Helen Griffing, secretary Western Nevada rock and mineral club, reports that the group has suspended active operations for the duration. Miss Griffing has opened a shop featuring western curios, rocks and minerals at 33 W. First St., Reno, Nevada.

Kathleen Owen, president, was hostess at March meeting of Golden Empire mineral society, Chico, California. Officers of the group are: Kathleen Owen, president; Julia Schaffer, vice-president; Genevieve Jezler, secretary-treasurer; Mary E. Meakins, librarian; Roy Pearson, Leta Little, Russell Beale, directors.

Harry Lee Martin talked on zinc mining at March meeting of Pacific mineral society. Martin is chairman of zinc committee of the mining association of the southwest and president of Argentina consolidated mining company with mine and mill at Goodsprings, Nevada. Members of the society made a field trip to Goodsprings a couple of years ago.

Seattle Gem Collectors' club at March meeting elected following officers: Lloyd L. Roberson, president; Walter L. Larson, vice-president; Mrs. Ralph U. Gustafson, secretary; Jack Dennis, treasurer. Mrs. Arthur Foss spoke on Copper Ores and exhibited fine specimens of the various forms which she collected on her recent Arizona trip.

M. E. Peterson, teacher of mineralogy at Canoga Park, was guest speaker at April meeting of San Fernando Valley mineral society. He talked on how to find minerals in the field, giving suggestions on identification and field tests for beginners.

War production board has just released figures which show a 75 per cent increase in the aluminum production of the United States for 1943. The amount of aluminum produced in the country during the 12 months reached a total of almost two billion pounds. The surplus may cause the temporary closing of some aluminum plants.

W. Scott Lewis says that in order to keep bornite and pyrite specimens bright one should make a solution of two ounces oxalic acid to a quart of hot water. Soak specimens over night, wash to remove acid and when dry brush them briskly with a stiff brush. (N.B.—Don't pour oxalic acid into sink or similar material. It destroys the finish.)

Cogitations . . .

Of a Rockhound

By LOUISE EATON

• Th' furst thing unrockhouns says, nine timz outta ten, when they sees sumwuns rox is "Eny gold in um?" But gold is about the last thing rockhouns looks for 'r thinks uv. If a rockhoun should ever discover a gold vein 'r find sum nuggets he'd be about the most surprized hombre in the U.S.A. Probably wouldn't even scrutinize it careful cuz it didn't look like good polishin' material.

• Desert flourz 'n desert people is a lot alike in sum ways. They neither uv um transplants very well 'n aren't happy in a nother habitat. Both is tuf, tho. Ethereal as they seems, desert lilies, flox, verbeanas, etc., out lasts any carefully cultivated blossom when picked and put in water. Likewise, desert folkes stands

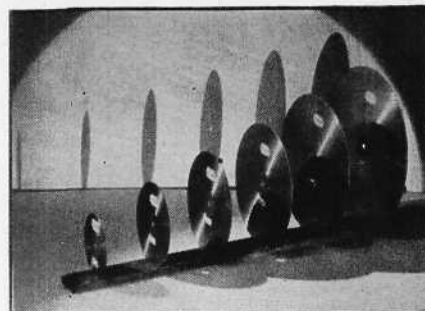
a lot uv punishment, but with a little care 'n not too many hard nox they also lasts a long time. Folkes and flourz is alike in wun more way: they strikes back quick if yu tromple on um. Ev'ry plant has thorns—and peepul has thorny tempers—they fights furst 'n talks afterwards.

TRUE OR FALSE ANSWERS

Quiz on page 18

- 1—False. Lowest U. S. elevation at Bad Water, Death Valley.
- 2—True.
- 3—False. Varies according to color and continents where found.
- 4—False. Greatest Pueblo evacuation occurred about 1299. Spaniards came about 1540.
- 5—False. Boulder Dam is in Black canyon.
- 6—True.
- 7—False. According to Jaeger, with one or two exceptions "not fully understood" all shells are of mollusks which lived in fresh water lakes formed by incursions of Colorado river.
- 8—False. El Paso is south of Albuquerque, on lower Rio Grande river.
- 9—True.
- 10—False. Desert Lily is white with bluish-green band down middle of back of each petal.
- 11—True.
- 12—False. It is calcite colored green, with hardness of 3 instead of jade hardness of 7.
- 13—False. Source of commercial turpentine is species of pine.
- 14—True. 15—True.
- 16—False. They live in trees or tree-like plants such as yuccas.
- 17—True. Present sea is due to inflow of Colorado river, 1905.
- 18—False. Diet includes swifts, horned lizards, young snakes, grasshoppers, crickets, various worms.
- 19—False. Noncrystalline forms include flint, chert, jasper.
- 20—False. Alarcon was first Spaniard to see Grand Canyon.

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AMATEUR GEM CUTTER

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

By LELANDE QUICK

Shortly after I had written last month's copy on the danger to amateur gem cutters of contracting silicosis I received a letter from Charles Simpson of Quincy, Washington, who said, "Good men have died from silicosis caused by breathing silica dust from sanders. I don't think enough good people realize the danger and I think a warning should be published." My warning was then at press and it's too early for advice from my recent query but I expect some and I will publish it when received.

In the meantime the thought occurs to me that if the masks worn by doctors and nurses in the operating room are enough protection for asepsis surely they should be adequate for safety measures by gem cutters. They may be purchased from local hospital supply firms. In fact, I think a handkerchief over the mouth would be a great protective measure. Once I saw the dust-laden lungs removed at autopsy from a coal miner and I have sympathized with their labor demands ever since. It would shock most of us to see what could happen physically to a person careless about inhaling too much dust from sanders. To repeat, anyone with a predisposition to lung disease or with a history of it in the family, should be cautious.

Simpson says he has 200 years of cutting ahead of him and he'd rather leave a few unfinished slabs than die a few years too soon. Now 75, he retired last July from his job as custodian of the Ginkgo state park near Vantage, Washington (see Graveyard of an Ancient Forest" in August, 1940, Desert Magazine) and he has a hobby house named after his famous twin squirrels cut from a petrified log and illustrated as noted. Petrified wood enthusiasts would do well to write Charlie, who has one of the greatest piles of all varieties of silicified wood in existence although he doesn't say it's for sale.

In March, 1943, Desert Magazine, I told how L. E. Perry had adapted his gem cutting prowess to the war effort by becoming a grinder of lenses and prisms, after an earlier suggestion of mine in September, 1942. The result of this item was that several people wrote to him, or were referred by me to him, who came to California from all over the country and got grinding jobs. Perry became an expert and originated a safety idea that saved the government many thousands of dollars for which he received a bonus. A recent letter from him states that "the people who secured the work and the government owe a debt of gratitude to your good article in Desert Magazine for you have helped thereby in the war effort." Thank you, friend Perry. I have an idea that no hobby has been adapted as readily to the war program as has gem grinding. The lack of precision grinders was one of the severest bottlenecks in our early organization, a bottleneck that was broken only because of the amateur gem cutters who solved the problem.

W. T. Baxter is author of "Jewelry, Gem Cutting and Metalcraft," one of the best books on the subject and one that I always recommend to beginners and old hands alike. It is therefore with pardonable pride that I quote from a recent letter received from him: "Once again I write you and say congratulations upon your page in Desert Magazine. No fooling, I really look forward to it each month. It is through such work as yours that more and more people are becoming

interested in gem cutting and also those who know something find additional informative material. I think you are doing a wonderful piece of work."

There is nothing I want to do more than unselfishly help to revive the lost lapidary art, and to have an authority like Baxter tell me I am succeeding is a cause for a great lift of spirit. This stint has taught me as much about human nature as it has about gem cutting. But I love it all, Mr. Baxter, and I hope I keep at it for a long long time. Thank you so much for your generous encouragement.

On May 20 and 21 there will be dedicated at Makoti, N. D., an international hearth composed of stones from every state and province in the United States and Canada and from countries all over the world. If you have a fine polished specimen that you wish dedicated to some service man dear to you, send it to Rev. O. E. Dolven, chairman, at Makoti, N. D. I think it would be a deathless remembrance and a magnificent gesture for all mineralogical societies having members in the service to have their names permanently recorded by a donated rock properly inscribed to the memory of those who serve. This shrine will be cared for by countless generations as it is being included in a building of Hope Lutheran church at Makoti. If you are interested, write Rev. Dolven at once regarding the Makoti Soldiers' International Hearth.

In speaking of opals in lucite recently the impression seems to have been created with a few folks that I was opposed to the use of plastics for anything, which certainly was not the case. Plastic is a remarkable medium for the preservation of many things. Nature started it all by imbedding insects in amber, always an interesting phenomenon, and recently I have seen many novel uses of plastics—a preserved pet parrot, rocky mountain fever ticks, strawberries and Virgin valley opals in paper weights. I am even toying with the idea of having a fountain pen stand made for myself with inclusions of some opal chips that I cannot otherwise utilize. There are good and bad methods of making plastic articles. Many are merely two or more pieces pressed together and they come apart. As in all other things you get what you pay for.

LAPIDARY HELPS AND HINTS . . .

The problem of supplying water to gem grinding wheels is very real to some. There is no need for an elaborate plumbing job.

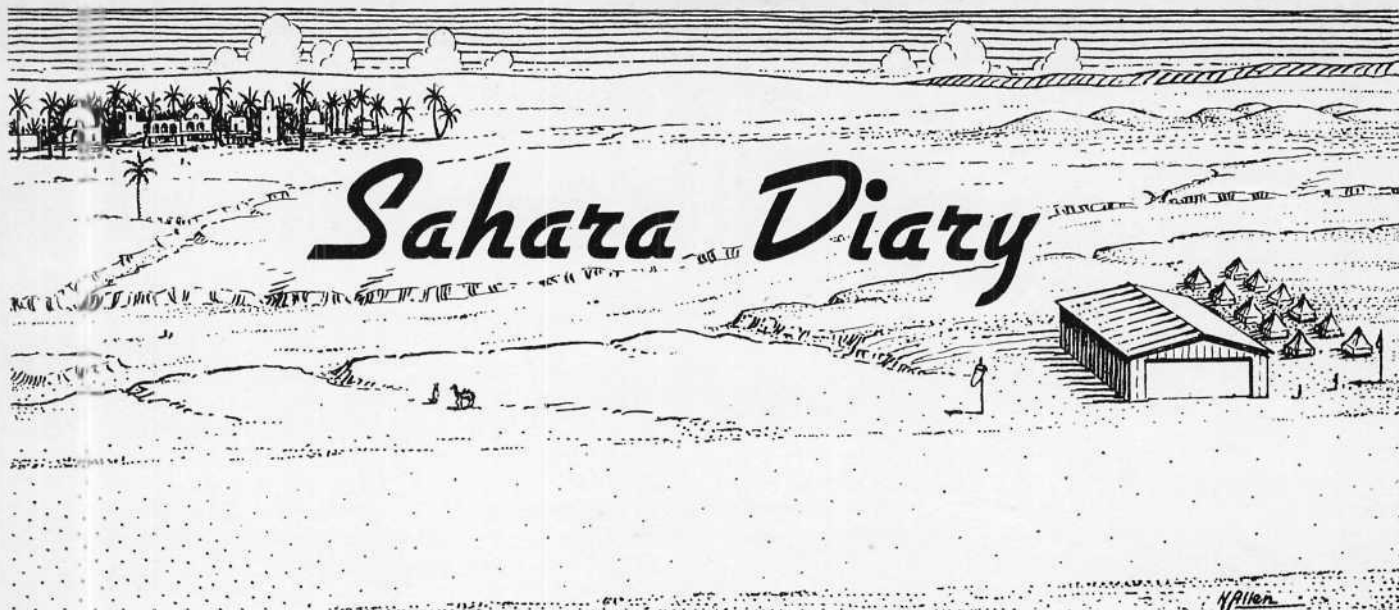
Get a five gallon spring water bottle or other container and put it on a platform over the grinding head. The bottle can be filled from a hose, a can filled from a bucket.

Go to the surgical nurse of your local hospital and ask for some discarded intravenous tubing. Siphon the water from your container through the tubing, controlling it with a spring-type clothes pin or an adjustable clamp which you can also salvage at the hospital.

Drill a hole in the top of your splash pan and insert the tubing or else attach to a soldered nipple directly over the grinder.

If you have two grinders get three pieces of tubing and a glass connector in the shape of a Y. With this arrangement you can run the water to either wheel by shutting it off on one side of the inverted Y.

This arrangement is so easy it's simple. I use it myself.



By RANDALL HENDERSON

WITH THE ALLIED FORCES IN AFRICA—"You will proceed by military aircraft" my orders read—and the destination given was a remote outpost in the heart of the Sahara desert. I had asked for a desert assignment, and this was it.

The station to which I was going is one of several flying fields maintained by the Allied Air Forces to refuel and service the planes which cross the South Atlantic and then head north or east across the great arid region of North Africa toward one of the theaters of war.

I had been over the Sahara as a passenger several months previously, but one cannot become acquainted with the desert by flying over it, any more than by speeding along its surface on a paved highway. I wanted to live among its rocks and dunes and eat from its date palms and have dark-skinned Arabs for neighbors for awhile. And perhaps there would be an occasional opportunity to go out along the camel trails in a jeep and explore the mesas and canyons.

But most important, I was to take command of a little detachment of American soldiers whose duty it is to keep 'em flying in a region where a forced landing often ends in tragedy. In the years immediately following the first world war I covered much of the American desert as a barnstorming pilot. I carried passengers at Palm Springs, Yuma, Blythe, Phoenix, Wickenburg and Las Vegas in the days when there were no established landing fields. Perhaps out of that experience I might contribute a bit of judgment to my Sahara assignment. Planes have changed much since those barnstorming days—but the desert has not.

Anyway, the desert is in my blood, and only a seasoned desert rat will know how eager I was to reach my new station.

* * *

We took off from a Mediterranean seaport—a field where combat and transport planes are buzzing in and out all hours of the day and night. Our route to the south was through a pass in a North African range of mountains. Snow-covered pinnacles towered on both sides of us, and once we were so close I could see the ripples on the drifts.

There we were over foothills, grey eroded humps and gullies—highlights and shadows. It was the type of terrain we would call "the badlands" in my part of the world. Gradually the hills flattened out and the color changed—and we were over the Sahara.

For hours we cruised above bare yellow sand, broken only by an occasional exposure of rock or a shallow arroyo marked by a

scraggly growth of shrubs. From the altitude at which we were flying there was no sign of human habitation. And yet I knew from my history and story books that the caravans of the desert tribesmen have been crossing this treeless plain for thousands of years.

* * *

The army's transport planes are built for service, not for sight-seeing. Two types of craft are in general use for carrying troops—the plush seat jobs and the bucket seats. Generally the plush chairs are reserved for high rank and special missions. We were in bucket seats, a row on each side of the cabin with the passengers facing each other as in an old-fashioned street car. The seats are of aluminum and shaped like a tin wash basin—and about as comfortable. But they are efficient.

The small porthole-like windows behind every other seat are below shoulder level and it takes a lot of twisting and squirming to see the terrain below—and not much of it at that. But this was desert, my kind of country and I wanted to see as much of it as possible. I turned and wiggled so much I had a sore neck, and the other passengers no doubt thought I was being sent home for some kind of war jitters.

It was late in the afternoon when the bucket seats began to soften. I know of no better way to describe the manner in which one senses the beginning of that long easy glide of the transport plane toward its landing field. Combat planes lose altitude abruptly. They go down like an elevator. You feel it in the pit of your stomach as if the elevator cable had broken at the 23rd floor, or higher. But when a transport plane goes into its normal landing glide the feeling isn't in your stomach—it is in the seat of your pants.

* * *

I caught a glimpse of the oasis as we circled the field—a town of mud buildings fringed with palm trees, along the banks of a wide sandy arroyo. Many of the buildings had domed roofs, and a few of these were glistening white. The only color on the landscape was the green fronds of the palms that extended for miles along the dry yellow water course. In a different setting, and without the white domes, it might have been a 'dobe village in New Mexico.

There was no surfaced runway here. We landed on the floor of the desert, a hard gravelly desert almost as serviceable as macadam.

The mechanics went to work on the plane as I lighted. A warm breeze was blowing. The sun was dropping into a golden

haze that hung over the low rolling hills to the west. I saw a fragment of quartz crystal in the gravel at my feet. I took off my necktie and the heavy woolen blouse that had served to protect me from the damp chill air of the Mediterranean. We climbed in a jeep and took off toward the barracks, along a rocky winding trail between thorn-covered shrubs—a trail that would be home to me anywhere in the world. That night the native house boys took my cot out under a pattern of stars that differed little from the canopy of many a night on the Southern California desert. This was the most familiar setting I have known since I said goodbye to the folks in the Desert Magazine office in October, 1942.

* * *

I am writing this after three weeks at my Sahara oasis. How quickly and how pleasantly these days have passed despite the pressing details of a new assignment. In a small way we perform all the functions of a full strength air base. There are problems of messing and billeting, of field maintenance, aircraft engineering, medical service, weather observation, radio communications, sanitation, recreation—we are a small American community transplanted to the heart of the Sahara.

The Sahara landscape here is as drab and lifeless as California's Death Valley, and yet Death Valley has so much fascination for visitors that Uncle Sam has made it a national monument and it is a mecca for hundreds of thousands of motorists annually. And I am sure that if this bit of desert with its green oasis and its turbaned tribesmen could by some strange magic be transplanted to western United States it would be no less popular as a tourist attraction than is the Valley of Death.

* * *

Last Sunday five of us took advantage of an intermission in the plane schedules to climb the highest peak on the local horizon—an altitude of perhaps 2300 feet. We drove the jeep cross country to within a mile and a half of the foot of the range where a barrier of rocks made it necessary for us to resort to our own power. Our route followed a rocky canyon that led toward the summit. We passed near two black tents of a Bedouin family camped on the mountainside far from any other habitation.

It was a steep climb—with vertical parapets separated by talus slopes where the rock gave way under our feet in miniature avalanches. Eventually we ate our lunch in the shade of a huge natural toadstool of rock that marked the summit. A tiny lizard took its station on a boulder near our feet and spent much of the noon hour inspecting the strange invaders with the white skins.

The trunks and fronds of numberless date palms stood out in dark contrast against the ribbon of yellow sand that extended across the desert valley far below us, and faded out on the distant horizon. Except for the presence of the palms, I have seen the same picture many times from the summit of desert peaks in Arizona and California. A well-defined trail climbed over the ridge not far from our lookout point. Later when we worked our way down over the boulders to the trail we discovered it was a caravan highway, a route that no doubt has been used by many generations of camels and their Arab drivers.

Caravans of camels and donkeys pass near the flying field every day. I have had to revise some of the camel lore I got from the story books. For instance, one of the historians told us that the reason the American experiment in camel transportation in the years immediately before the civil war failed was because the animal's feet could not stand the wear of the rocks on the Southwestern desert trails. But I know of no route across Arizona and New Mexico where the rocks are harder and sharper and more numerous than they are in this part of the Sahara. These camels can climb like mules. One section of the trail zig-zagged up the side of an almost vertical cliff with hairpin turns and a grade that would be steep going for a burro.

There were some cheese sandwiches left from our lunch, and I packed them down the mountain as a peace offering to the Bedouins. As we approached the black tents a woman and three naked children scampered off across the rocks like rabbits. They

climbed far up the mountainside before they stopped. We sat down on the rocks as if we owned the camp, and eventually they decided ours was a peaceful mission, and returned. They would advance a few paces and then stop and look us over. Finally they came close enough to recognize the food we waved at them—and that put everything on a friendly basis. Their fright, their hunger and the utter poverty of their camp recalled to my mind the desert Indians encountered by the Anza expedition in the Borrego area of Southern California, described so vividly by Father Font in his diary.

I am told that one finds these remote Arab camps among the rocks and dunes in many parts of the Sahara. How they live is a mystery not yet explained to me. The desert Indians in southwestern United States had yucca, agave and mesquite beans and countless other shrubs with edible seeds or bulbs or fruit. But there is no comparable plant life in this area. In fact, outside the oasis there is no vegetation worthy of the name. At the mess hall we use wood for fuel to heat the water boilers where our mess kits are cleaned. The Arabs have literally combed the country for miles around here gathering sticks and woody shrubs to sell to us. A woodcutter often spends a whole day going six or eight miles to get as much wood as he can carry on his head. Even at the low wages here it makes rather expensive fuel—but not as costly as the gas and oil brought in for airplane motors and the diesel generators for our communications plant. It costs Uncle Sam \$6.00 a gallon to fill a wing tank here.

Along the camel trail I saw one small outcrop of onyx—the striped type of crystalline limestone which John Hilton described in Desert Magazine, November, 1940, as "petrified bacon." Most of the rock in this region is limestone and slate, but along the canyon floor were great boulders of granite and an occasional "sponge" of travertine washed down from somewhere in the range beyond. This area is highly fossilized, but I will tell more about the fossils at a future time when I know more about them. I have sent Jerry Lauder milk a box of them, and I have no doubt that after a few sessions in his laboratory he not only will trace their family tree back a million years or more, but may disclose some of the dark secrets regarding their habits and eccentricities—and perhaps even a scandal or two.

* * *

March temperatures in this part of the Sahara are higher than in the California desert. The thermometer often reaches 95 degrees at midday, but the nights are cool enough for a couple of blankets. Cotton uniforms and sun helmets are worn throughout the year. Sandstorms? Yes, there are many of them—but they do not cause as much annoyance to Arab women as they do to desert wives where I came from. Housekeeping is a simple problem in a tent with a dirt floor, or even in a mud building, with no furniture or chinaware to keep clean.

But sandstorms do create a problem for airplanes coming this way. When the wind is blowing 40 miles an hour and the visibility is near zero we have to be very much on the alert in the operations office. Sometimes there are difficult decisions to make. But good weather reporting and well organized communications have greatly reduced the casualties which occurred in the early days of the war when these desert routes were being pioneered.

* * *

According to the standards of the desert at home, I am still very much of a tenderfoot in this Sahara outpost. But I have some advantage over most of the other men here. I learned long ago the art of shaving with cold water in a sandstorm, and to shake the rocks and bugs out of my shoes every morning, and the best way to drive a corduroy road, and not to try to go swimming in the silvery lake that appears out at the end of the runway every afternoon. The Sahara is teaching me some new lessons in desertcraft, and with the help of a rather temperamental old typewriter, I'll be passing them along to the members of the desert clan at home.



ESCALANTE'S JOURNAL IS GIVEN NEW TRANSLATION

A new translation of Father Escalante's Journal, with hitherto unpublished material, is the most recent contribution to Southwest literature by Utah state historical society, whose president Herbert S. Auerbach made the translation. The work, in form of Volume 11 of Utah Historical Quarterly, was edited by J. Cecil Alter.

A comprehensive introduction traces the origins of the Spanish in the New World, their first settlements and missions, the first trappers and traders, until the time, more than 200 years later, when Escalante set out with a ten-man expedition in an attempt to open a freight and mail route from Santa Fe, New Mexico, to Monterey, where California's second mission had been founded in 1770.

Although the expedition failed in its purpose, the five-month journey proved to be one of the most important explorations ever made into Colorado, Utah and Arizona. It was the first to stimulate interest in that area and it helped the Spaniards strengthen their claims to it. Escalante was the first white man to see buffaloes near the Green river, Utah; the first to view many of the scenic wonders of the territory and to visit the Indian tribes of the interior. He was the first white to cross the Colorado river, at a point near the Utah-Arizona state line now known as the "Crossing of the Fathers."

The value of Auerbach's translation is its fidelity to the original color and atmosphere. The first and only other known complete translation was that of W. R. Harris, published in 1909 by Intermountain Catholic Press of Salt Lake City. While it has the advantages of a free translation, the Auerbach version being more literal relates the journal more closely with Escalante's own day, thereby revealing more of the journalist and the spirit of his time.

There actually are five manuscript copies of Escalante's Journal. Besides that in the Newberry Library, Chicago, from which Auerbach's translation was made, there are copies at Seville, Spain, in Paris, Mexico City and in the New York public library. Which, if any of them, is the original, is not known.

There are 28 photographs and reproductions of old maps and Escalante letters. Appen., biblio., index. 142 pages. Paper bound, \$2.00, cloth \$3.00.

DANA'S CLASSIC TEXTBOOK FOR ADVANCED STUDENTS

One of the most remarkable scientific books ever written is James D. Dana's *SYSTEM OF MINERALOGY*. This book was published before Dana reached his 25th birthday in 1837. It later was revised by his son Edward S. Dana and Wm. E. Ford of Yale. The book has stood unquestioned for more than a century as the standard for all mineralogists. Its 1500 pages are very complete and accurate, but far too difficult for the amateur.

Edward S. Dana, a half century later, brought out the famous *TEXTBOOK OF MINERALOGY*, which is an abbreviation of the larger *System*. It was brought up to date recently by Dana and Ford. It contains for most persons the final answer to all mineralogical questions. It is very fine for advanced students and professionals.

John Wiley and Sons, New York. 851 pages. \$5.50.

—Arthur L. Eaton

• • •

ARMY POST IS SETTING FOR MEN IN CONFLICT

Although its Southwest army post setting would indicate a typical western, *ONLY THE VALIANT*, by Charles Marquis Warren, is a novel of character. It is the story of Captain Lance who had repressed his impulses to such a degree that he was afflicted with a sense of duty and honor as some are afflicted with disease.

The plot develops during a dangerous delaying action against the Apaches, for which Lance has chosen the ten men of the post who have the greatest hate and contempt for him. Hardly a one would not kill him, given the opportunity — and Lance chose them with that knowledge. "Ten dog soldiers, and the damndest ten a man could unite even in his wildest nightmare. He laughed wryly and silently, directing his mirth at the idea of these ten cavalymen forgetting their personal hatreds to fight a common foe."

Character portrayal of the men and women of the post, their inner conflicts, their development, is excellent. If it were not for the interest in the characters, however, unfolding of the story would seem slow. Life at the army post is vividly portrayed. But the desert setting during the conflict with Tucsos is sketchy.

Macmillan Company, New York, 1943. 327 pages. \$2.50.

OLD MEXICO IS SETTING FOR CONFLICT OF CIVILIZATIONS

If Hilary's boss hadn't sent her to Baja California to check on the "intangibles," the affair of the glorified casino might have turned into a successful business venture—as successful as the San Francisco advertising agency's enterprises usually were under the capable direction of Hilary Marshall and Calvin Hendricks. But Hilary needed a rest and Hendricks knew he could trust her to make an intelligent report on all the angles involved in opening the Playa in La Floreada, a remote village down the peninsula.

At the invitation of Consuelo Santayana, Hilary is the guest of her brother Armando, a Mexican rancher who is determined to save his community from the corruption of a typical border town. As Hilary becomes a part of the ranch and village life Armando's attitude gradually influences her own. It crystallizes when her former attitude is upheld by her boss who has come down to investigate basis of her evasive reports on the project. He never had let opposition deter him, and the idea of three or four people in the village having the power to stop him was preposterous. "There are always some reactionaries. But this place is so unique—a few difficulties, surely, could be overcome in time . . . It would be the making of the place." Hilary failed in her attempt to make him see that despite great physical poverty, economic security was secondary in their lives—it could never assume the motivating force in their lives which religion held.

What she failed to convey by words, nature demonstrated dramatically to each of the ranch guests—the helplessness of the City Man out of his environment, the loss of his perspective, his lack of understanding of a way of life other than his own.

In the end, those who were irrevocably City People, returned to the city; one who had gained a perspective returned to his painting in the city which before had defeated him; Armando's sister still was torn between two worlds; Hilary stayed, to help Armando work out the destiny of La Floreada, to preserve the best of their own civilization and to help develop a mutual respect between the two without conflict.

Zoe Lund Schiller has produced a lively readable story in *MEXICAN TIME*. Some of her characters are very human and understandable; others seem drawn merely to serve her purpose in developing her theme of the conflict of two civilizations. In her larger attempt, she has been fairly adept but not conclusive. Errors, as well as awkwardness, in use of Spanish, are at times irritating enough to defeat her attempt at "authentic atmosphere."

Macmillan Company, New York, 1943. \$2.50.

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