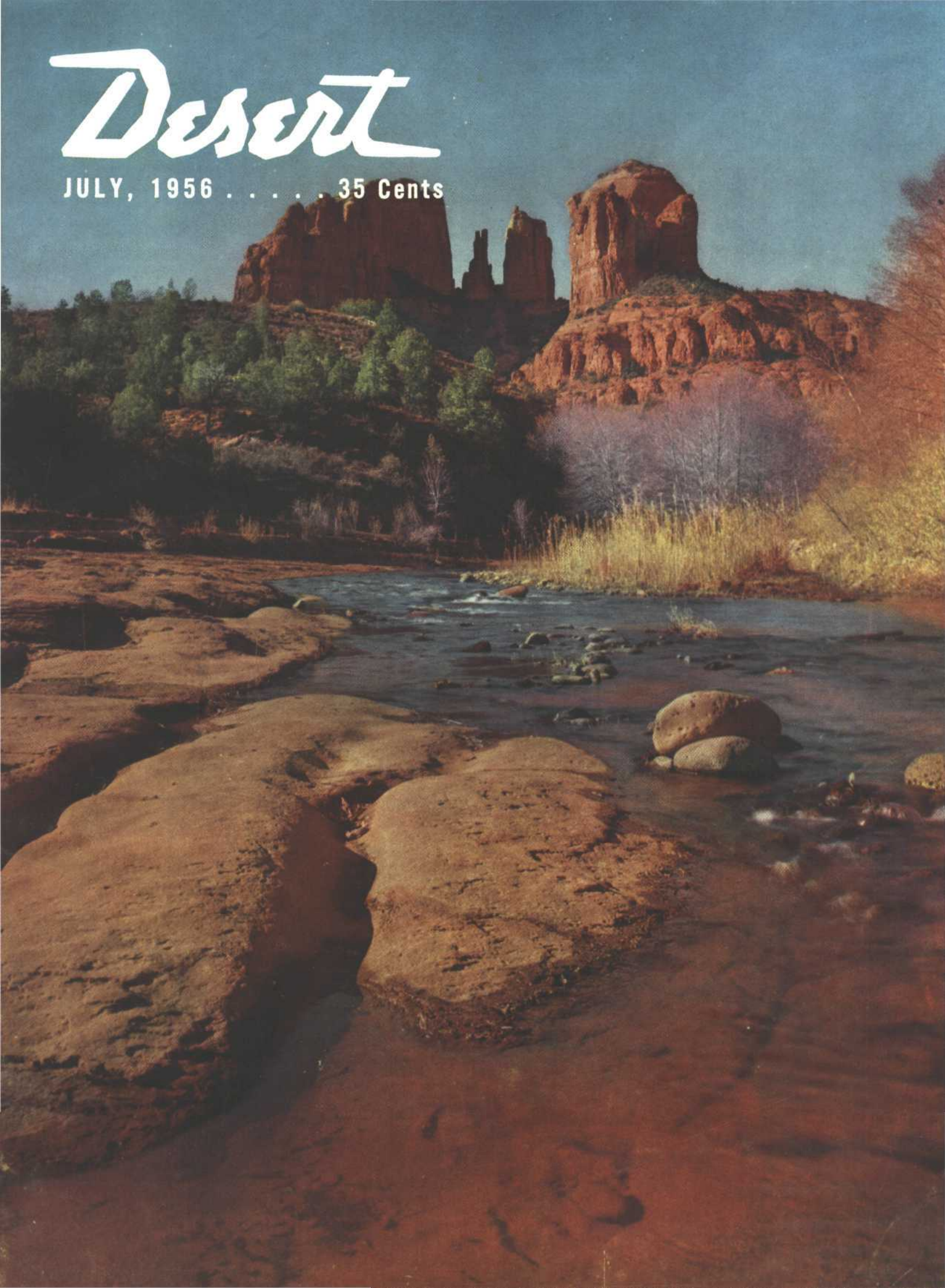
Desert

JULY, 1956 . . . . . 35 Cents



In reverie the old prospector sees his gold mine in the skies. This effect was obtained by super-imposing three negatives. The prospector is Rocky Mountain George of Nevada. Photograph by Adrian Atwater, Carson City.

CAPTIVE

By Gladys Cutler
Detroit, Michigan

My dreams of desert willow, sweet acacia, gray-blue sage,
Of Our Lord's candle, cactus, and pale primrose build a cage.
Walled in by haunting memories of starry spreading phlox,
I feel the spell of cliff rose and bright cholla on the rocks.

I always will be grateful that I once breathed desert air
And stood entranced where cactus bloom, bewitched and unaware
That in this far-off verdant land I never would be free
From dreams of sweet acacia and the desert willow tree.

• • •

FLOWERING CRYSTALS

By Alice Tenneson Hawkins
San Pedro, California

This luminous cluster of crystals had birth,
Like seeds of a plant, in a geode that drew
The elements out of enveloping earth
Until these blossoming amethysts grew.

DESERT GLEANING

By Amy Viau
Santa Ana, California

I cannot stay the dawn on desert sands,
Nor tether moonlight to its silent breast;
But I can hold to me the loveliness
I glean from a view of these on desert-crest.
I cannot pause the stars to longer shine
With jewel brightness through the desert night;
But I can keep with me the splendored view
Of dark-veiled desert, candled by starlight.

Service

By Tanya South

To you, who have the ragged seam
Of life, yet long so much to glean
The inner tapestry, take courage.
Fate has a special place for storage
Of essence of all Service wrought.
All high ambitions, truly sought
May from the humblest hardships stem,
Until they touch the very hem.

Forsake no Service you've begun.
There is reward for all good done.

The Old Prospector

By Frank Hyde
Castle Hot Springs, Arizona

Give an old prospector tobacco and beans,
A rusty pick and some new blue jeans

A sure footed burro to pack his stuff,
'Cause out in the hills the goin's tough.

He'll stake you a claim on the rim rock high;
Right up close where the clouds go by,

And bring you a tale of a fabulous mine,
On some lonesome peak, near a wind swept pine.

If you want to know what the mine is worth,
Well, loosen your shirt and tighten your girth

If you hike all day, you can find the ground;
Then just sit down for a look around.

There's your gold, in the sunset blaze;
Sapphire and Opal in distant haze

Riches galore when the moon will streak,
Platinum across a snow clad peak

It's something bigger than all our schemes,
And somehow vaster than all our dreams.

• • •

TRIAL

By Darrell Totten
Henderson, Nevada

In the desert book, where all may look
Read what you chance to see.
Many a year is recorded here—
And this book is true history.

As the human mind tries hard to find
New fields of thought to reap,
Dim ruins show how man, long ago,
Established the customs we keep.

Desert hills hold their silver and gold;
Ghost-towns hold their disguise—
And those who've learned how each page is turned
Read on in the book of the wise.

• • •

NONE SO BIG

By B. R. Bradley
Tempiute, Nevada

I've a bushel of words
All sorted for speed
But none are so big
Or so wide as I need!

They will not reach
To the far off sands,
Nor will they stretch
Over desert lands.

So I have my words
All scattered about,
And lift up my soul,
And my heart devout.

• • •

EMPTY

By Mabel Banks Piper
Bloomfield, Nebraska

I visited your little house today:
The furniture had all been hauled away,
Except a paintless time-scarred kitchen chair
On which I sat a moment in despair,
Feeling as if the soul had left the place
With you no longer there to lend it grace.
The rooms were desolate and strangely still,
No curtain waving at the window sill,
And as I walked within the silent walls,
They echoed to my hesitant foot-falls.

Unbidden, memory imaged, like a frown
Upon the mountain's face, an old ghost town.

DESERT CALENDAR

June 17-July 14—New Mexico Photographers Exhibition, Art Gallery of the Museum of New Mexico, Santa Fe.
June 29-July 1—Rodeo, Elko, Nevada.
July 1-4—Hopi Craftsman Exhibition, Museum of Northern Arizona, Flagstaff.
July 1-4—Frontier Days Rodeo, Prescott, Arizona.
July 2-4—28th Annual Southwest All-Indian Pow-Wow, Flagstaff, Ariz.
July 2-4—Fiesta Gadsden Purchase, La Mesilla, New Mexico.
July 3—Days of '47 Cavalcade and Fireworks, Salt Lake City, Utah.
July 3-4—Rabbit Ear Roundup Rodeo, Clayton, New Mexico.
July 3-4—Annual Grants, New Mexico, Rodeo.
July 3-5—De Baca County Mounted Patrol Rodeo, Fort Sumner, New Mexico.
July 4—Local Fourth of July Celebrations throughout Southwest including Pageant of Progress, Bisbee, Arizona; Celebration, Ajo, Arizona; Fireworks, Phoenix, Arizona; Annual Rodeo and Celebration, Show Low, Arizona; Fireworks, Williams, Arizona; Celebration, Carlsbad, New Mexico; Rodeo, Red River, New Mexico; Annual Cowhands' Rodeo, Cloudcroft, New Mexico; Rodeo, Silver City, New Mexico; Old Town Spanish Fiesta, Las Vegas, New Mexico; Rodeo, Cimarron, New Mexico; Fireworks, Lancaster, California; Aquacade, Palmdale, California.
July 4-5—Annual Round Valley Rodeo, Springerville, Arizona.
July 4-7—Annual Mescalero Apache Indian Ceremonial, featuring daily program of Indian Dances starting at 5 p.m.; Rodeo on July 4, 5 and 7; Apache Arts and Crafts on Display on Grounds; Mescalero, New Mexico.
July 4-7—Reno, Nevada, Rodeo.
July 7-8 — Sunshine Festival, Pearblossom, California.
July 12-14 — Ute Stampede, Nephi, Utah.
July 12-14—Rodeo de Santa Fe, Santa Fe, New Mexico.
July 12-14 — Black Diamond Stampede, Price, Utah.
July 13-24—All Faces West Pageant and Pioneer Days, Ogden, Utah.
July 14—Corn Dance, Cochiti Pueblo, New Mexico.
July 16-20—White Mountain Riders Annual Five-Day Trek, Springerville, Arizona.
July 16-24—Days of '47, Salt Lake City, Utah.
July 19-21—Professional Rodeo, Vernal, Utah.
July 19-21—Mounted Patrol Rodeo, Clovis, New Mexico.
July 19-21, 23-24—July 24th Celebration and Rodeo, Ogden, Utah.
July 21-24 — Fiesta Days, Spanish Fork, Utah.
July 22-29—Navajo Craftsman Exhibition, Museum of Northern Arizona, Flagstaff.
July 25-26—Spanish-Colonial Fiestas of Santiago and Santa Ana, Taos, New Mexico.
July 29—Sheriff's Posse Parade and Rodeo, Flagstaff, Arizona.

Volume 19 **JULY, 1956** **Number 7**

The Desert Magazine is published monthly by the Desert Press, Inc., Palm Desert, California. Re-entered as second class matter July 17, 1948, at the postoffice at Palm Desert, California, under the Act of March 3, 1879. Title registered No. 358865 in U. S. Patent Office, and contents copyrighted 1956 by the Desert Press, Inc. Permission to reproduce contents must be secured from the editor in writing.

RANDALL HENDERSON, Editor — EUGENE L. CONROTTO, Associate Editor
BESS STACY, Business Manager — EVONNE RIDDELL, Circulation Manager

Unsolicited manuscripts and photographs submitted cannot be returned or acknowledged unless full return postage is enclosed. Desert Magazine assumes no responsibility for damage or loss of manuscripts or photographs although due care will be exercised. Subscribers should send notice of change of address by the first of the month preceding issue.

SUBSCRIPTION RATES

One Year.....$4.00 **Two Years.....$7.00**
Canadian Subscriptions 25c Extra, Foreign 50c Extra

Subscriptions to Army Personnel Outside U. S. A. Must Be Mailed in Conformity With P. O. D. Order No. 19687

Address Correspondence to Desert Magazine, Palm Desert, California

Generally the passengers hiked along the rocky shore while the boatmen were running the rafts through the rapids. This was done to lighten the boats in the boulder-strewn channel, rather than because of any hazards involved.

Boat Trip in the Canyon of Lodore

Rubber boats, available as salvage since World War II, have revolutionized the sport of fast water navigation on western rivers. Today, adults and children of all ages book passage on trips that 50 years ago would have been undertaken only by the most foolhardy adventurer. Here is the story of a 61-party excursion through one of the most treacherous canyons in the West.

By RANDALL HENDERSON
Map by Norton Allen

WHEN MAJOR John Wesley Powell explored the Canyon of Lodore in the Green River of Utah and Colorado in 1869 one of his boats was wrecked and three members of his party nearly lost their lives in a series of rapids to which he gave the name Disaster Falls.

Last summer, under the sponsorship of the Sierra Club of California a party of 61 men, women and children went through this same Lodore Canyon—with no hardship more serious than an occasional ducking. To them it was just a glorious vacation outing.

The clumsy wooden boats used by the Powell party took a terrific beating from the rocks of Lodore Canyon. The 25-foot rubber bridge pontoons shaped like a huge elongated doughnut, used by the Sierra Club expedition, lumbered through and over those boulders without damage or hazard. It is true most of the Sierrans hiked along the shore while the boatmen took the rafts through the worst rapids—but this was done to lighten the load rather than because of any danger involved.

The 6-day Lodore Canyon trip was arranged by the Sierra Club as one of the wilderness outings in its 1955 schedule. Other boat trips were scheduled for Yampa River and Glen Canyon of the Colorado. The Club's summer outings also include hiking trips in the high Sierra, burro trips in the Kings River country and knapsack explorations in various mountain areas.

I chose the Lodore Canyon outing because I wanted to become better acquainted with the Dinosaur National Monument and the sites of the proposed Echo Park and Split Mountain dams around which a bitter controversy had developed. Since then, the two dams have been eliminated from the Upper States reclamation program, due largely to the opposition of the Sierra Club and other conservation groups which take the position that all national parks and monuments should be held inviolate against commercial encroachment.

Our rendezvous for the outing was Vernal, Utah, and all day July 13 members of the party were arriving by train, bus and private car with sleeping bags and duffel for six days on the river.

At Vernal we were met by Glen Johnson selected by the Sierra Club as leader of this and other river expeditions. Before the trip was over we had gained a genuine liking and respect for this sandy-haired Scotsman and the bagpipe he had brought along for our entertainment.

Vernal is the home town of Bus Hatch, veteran riverman who was to furnish the boats, boatmen and commissary for the expedition. Hatch has been handling these river trips for the Sierra Club since 1953 when river outings were inaugurated by the Sierra organization. The boatmen and commissary helpers were mostly college boys on vacation jobs. Hatch selects lads with some experience as oarsmen, and then takes them on for a season's training before they qualify as boatmen. There are no lack of applicants for

vacation work which offers so much of interest and adventure.

Soon after sunrise July 14 the party met at the Hatch home where antiquated school buses were waiting to transport the party to Brown's Park in the northwest corner of Colorado where the boats were to be launched. We traveled east on U.S. 40 to Elk Springs, Colorado, where a dirt road wound off across the desert, crossing the Yampa and Little Snake Rivers and rolling hills of juniper and pinyon.

It was three in the afternoon when we rolled down off the plateau into the Green River bottom which is Brown's Park—or Brown's Hole as it was known in the early days when it was a hideout for cattle rustlers.

While coffee was being made and cold lunch served to the passengers, the boatmen were busy with a portable power pump inflating the big doughnuts which were to carry us through the rapids below. The tubes which form the sides of the pontoons are three feet in diameter, and there are four air compartments in each raft. With rubber floors these pontoons were built for U. S. Army Engineers' use in temporary bridge construction. These and smaller rubber rafts available as salvage after World War II have revolutionized the art of running the fast water rivers of the West. They are slow and clumsy—but almost indestructible. Skilled boatmen who run the rapids for sport have little enthusiasm for them because they are so unwieldy. But they have given to fast water adventure a degree of security which has attracted to the spectacular rapids of the Snake, Green, San Juan and Colorado Rivers large numbers of voyagers who would not otherwise have access to the scenic canyons of the West.

While the boatmen were inflating the big rafts, other members of the party were assembling the kayaks or foldboats in which they planned to accompany us down the river. Glen Johnson had a one-place kayak and Ray Simpson and Robert and Katherine Danse had brought two-place crafts of the kayak type.

Downstream two miles were the Gates of Lodore, where the mountains closed in to form the entrance to the Canyon of Lodore. The name of this canyon was suggested to Major Powell by Andy Hall, the cook on his first expedition. Andy had been reading Robert Southey's poem commemorating the waterfall of that name at Cumberland, England.

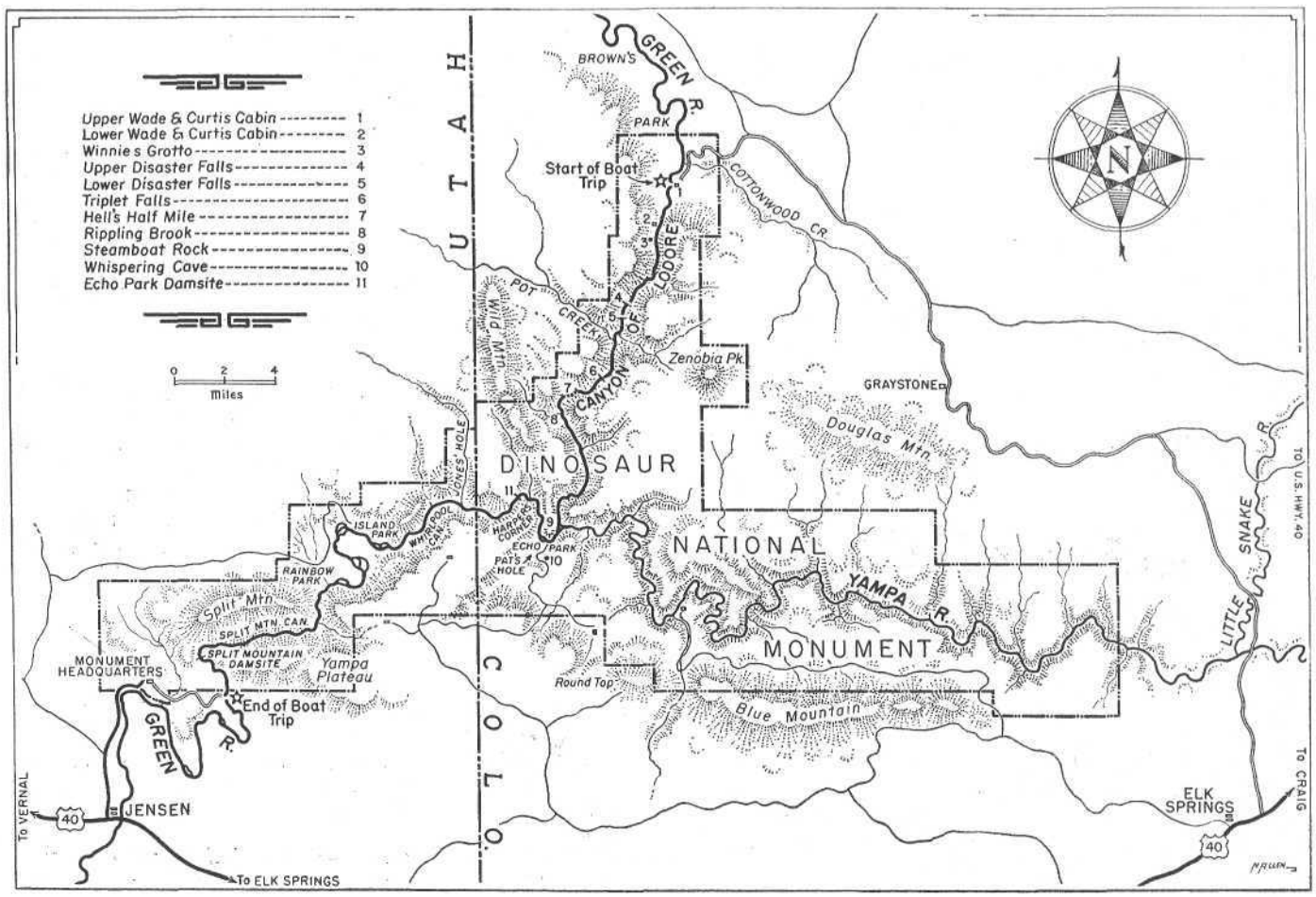
At 5:30 in the afternoon our six 13-ton pontoons shoved off toward the Gates, with the three kayaks gliding through the sluggish current just ahead. Skipper Bus Hatch estimated the flow of the stream at 4000 second feet.

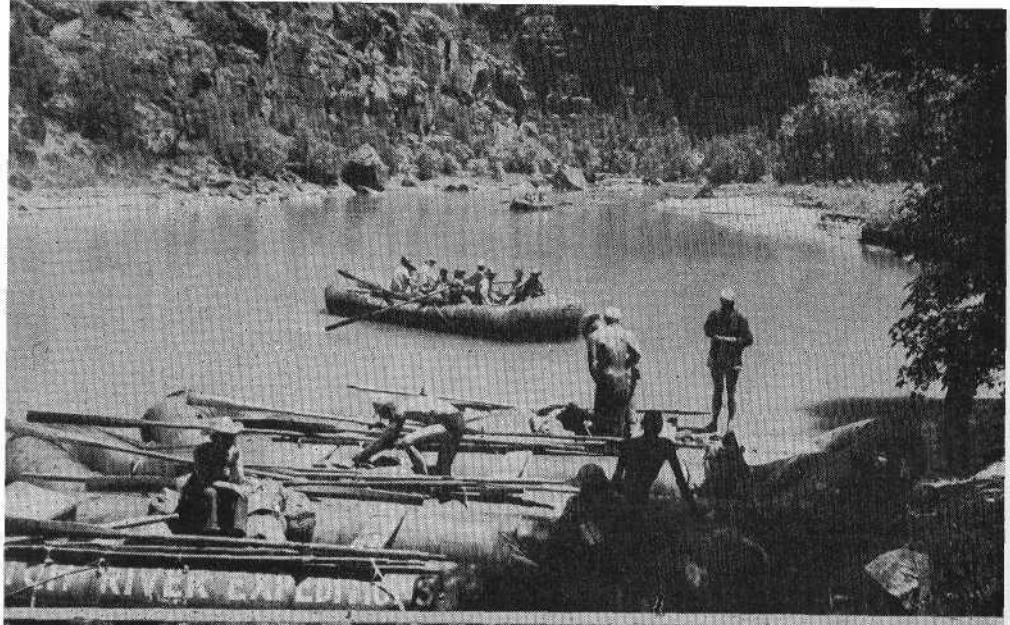
I was assigned to the boat of Roger Upwall who had been graduated from high school in Salt Lake City the previous month and expected to take engineering at the University of Utah in the fall. Roger had made several trips through Lodore Canyon on Bus Hatch expeditions and proved to be a competent boatman and pleasant companion.

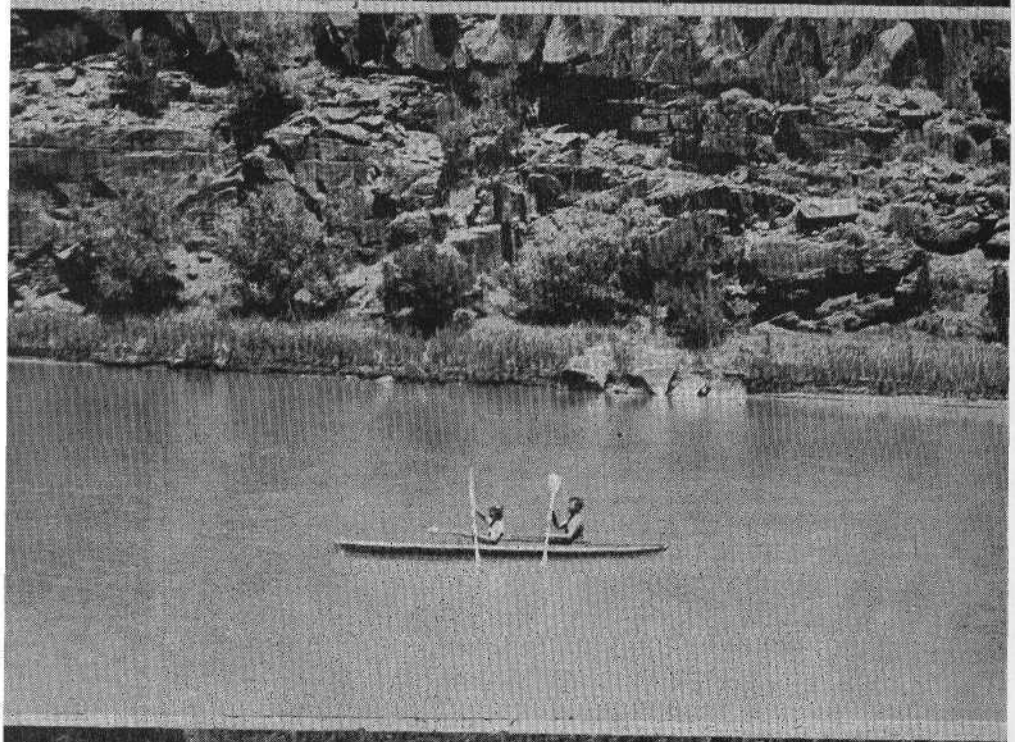
We passed through the Gates of Lodore and at six o'clock the boatmen pulled in to a shady shore at the old Wade & Curtis cattle camp where the cooks soon had a hot dinner ready. That night we spread our bedrolls on the ground—anywhere we could find a level spot, for 61 sleeping bags will take a lot of space if there is to be any degree of privacy.

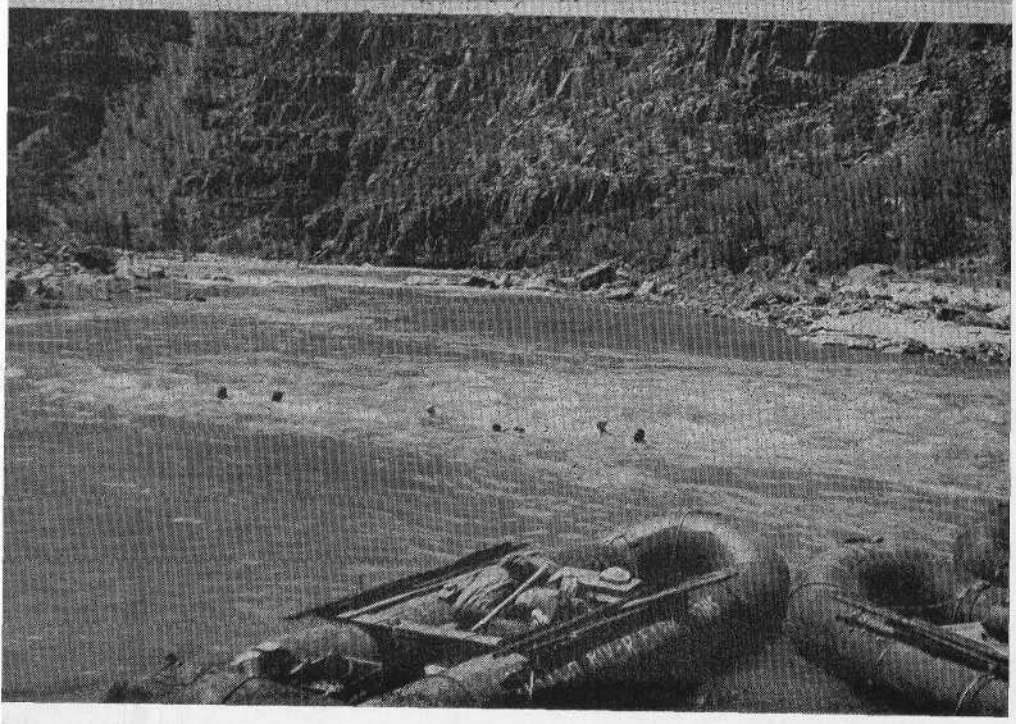
We were off at nine the following morning, and I left in the lead boat so I could visit Winnie's Grotto, a narrow slit of a side canyon discovered by the second Powell expedition and named by John F. Steward in honor of his daughter. Ferns were growing under a great overhang where seepage water dripped from many little crevices in the wall.

By eleven o'clock we could hear the roar of rapids below, and a half hour later the boats pulled to shore at the









head of Disaster Falls. Actually there are two falls here with a half mile of very rough water between. The river drops 48 feet within a half mile, and the water pours through a score of narrow channels between huge boulders, some of them barely wide enough for the pontoons.

Skipper Bus announced that the passengers would walk along the shore while the boatmen ran the rapids, and the big rubber rafts bumped their way through without difficulty. Ray Simpson ran the falls in his kayak but the others portaged their foldboats.

It was easy to believe that Major Powell's wooden boats would have had trouble in this cascade. Normally the Powell expedition would have lined the boats and portaged the dunnage in such a place, but one of the boatmen following Powell missed the Major's signal to pull ashore, and crashed the boat on a rock. The three boatmen were thrown into the torrent, but kept afloat until they reached a bar some distance downstream. Considerable food and some valuable instruments were lost in the wreck.

At mid-afternoon we made camp on a sandbar at the mouth of Pot Creek. With an ample supply of driftwood we had a campfire program that evening. Dr. Harold Bradley, former professor of bio-chemistry at the University of Wisconsin and now a director of the Sierra Club, told us that evening about the long fight waged to preserve Dinosaur National Monument, and all parks and monuments, against the encroachment of interests which would convert them to power reservoirs and cattle and mining enterprises. With population steadily increasing, we need more recreational areas, not less, he said. "These scenic canyons and wooded mountains should be kept as a wilderness area for all Americans to enjoy."

We were awakened the next morning by the music of Glen Johnson's bagpipe. There were bacon and hotcakes for breakfast, and then in accordance with the commissary routine, each member of the party made up his own lunch from a portable table piled high with bread, cheese, pickles, jam, peanut butter, cold meat and fruit. Cellophane bags were supplied as containers.

Above—Between rapids there were many miles of smooth sluggish water.

Center — Robert and Katherine Danse took their kayak through Lodore.

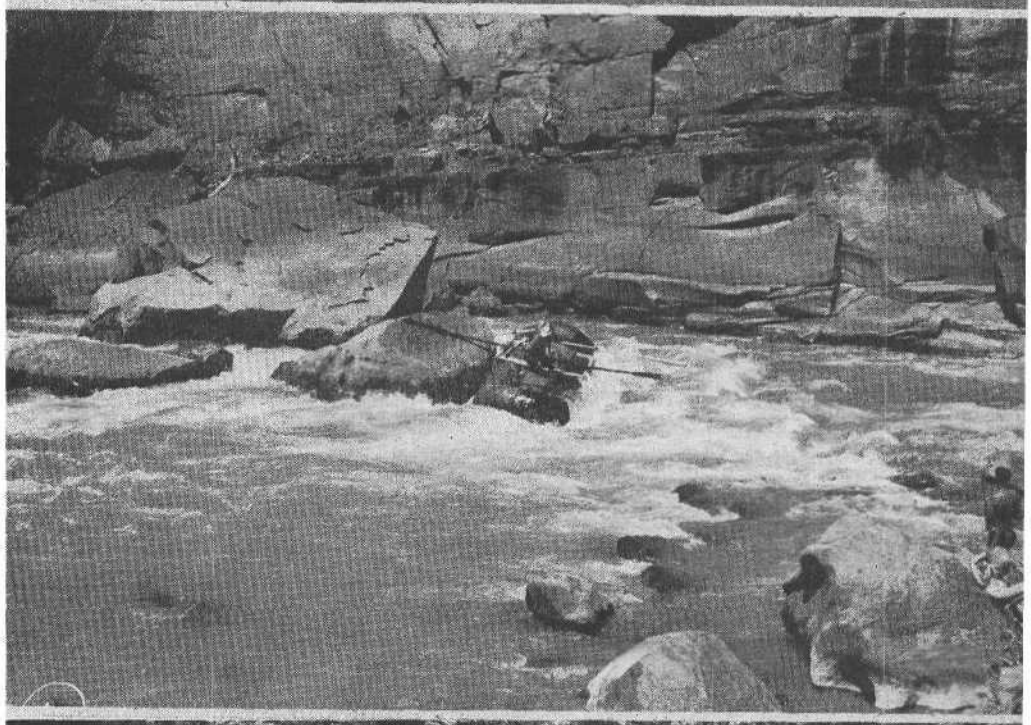
Below—For variation, some of the passengers swam part of the canyon.

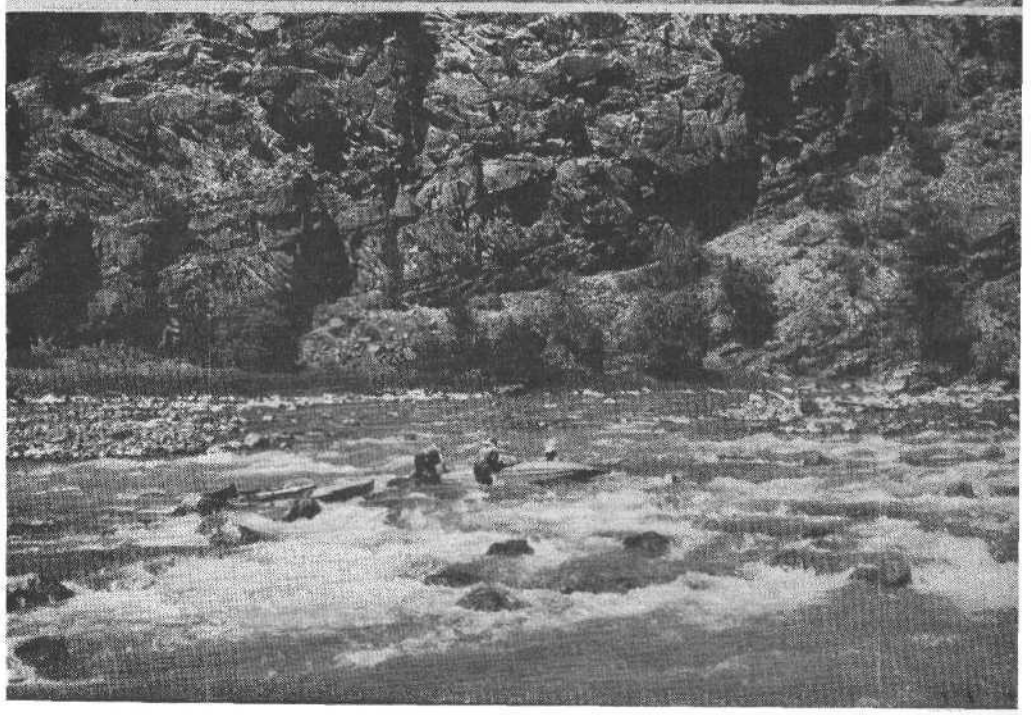
At mid-morning we came to another of Lodore's raging cascades—Triplett Falls, and below that is Hell's Half-Mile. Some idea of the difficulties encountered by the Powell party along this sector of the river is given in an entry in the diary of one of the boatmen, George Y. Bradley. He wrote:

"Have been working like galley-slaves all day. Have lowered the boats all the way with ropes and once unloaded and carried the goods around one very bad place. The rapid is still continuous and not improving. Where we are tonight it foams and roars like a wild beast. The Major as usual has chosen the worst camping-ground possible. If I had a dog that would lie where my bed is made tonight I would kill him and burn his collar and swear I never owned him. Have been wet all day and the water flies into the boats so badly it is impossible to keep anything dry. The clothes in my valise are all wet and I have nothing dry to put on, but fortunately it is not cold for though I have nothing but shirt and drawers to put on and they are only half dry, yet I am not cold though the sun does not reach us more than 5 or 6 hours in the day. I fell today while trying to save my boat from a rock and have a bad cut over my left eye which I fear will make an ugly scar. But what odds, it can't disfigure my ugly mug and it may improve it, who knows?"

We passengers hiked along the rocky shore for nearly a mile while boatmen ran the pontoons through the churning torrent.

Ray Simpson wanted to run his kayak the entire length of the canyon. It was a bold idea, but he came to grief in Hell's Half Mile. With Dave Allen as passenger, he shoved off above Triplett Falls, but struck a rock and the little canvas-covered boat was leaking badly and partly submerged by the time he reached the rough water below. Halfway through, the craft struck another rock and collapsed. Fortunately the water was only shoulder deep and he and Allen were able to extricate themselves from the tangle of canvas and wooden frame.

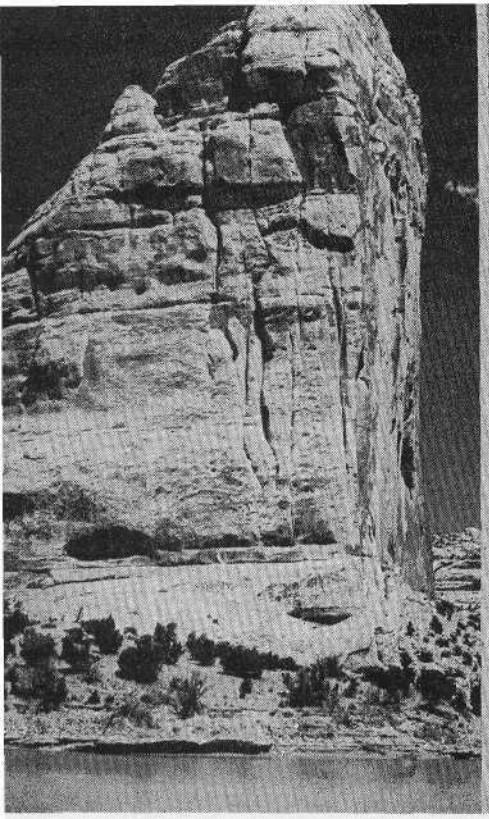


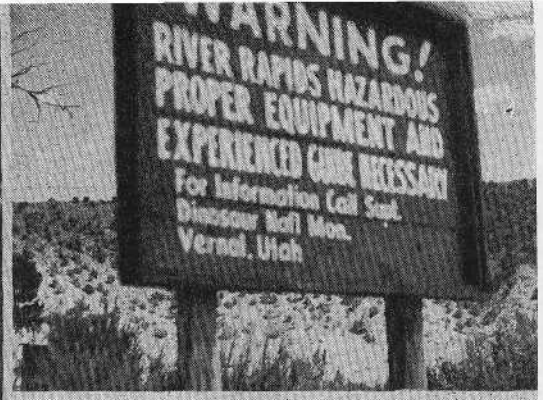


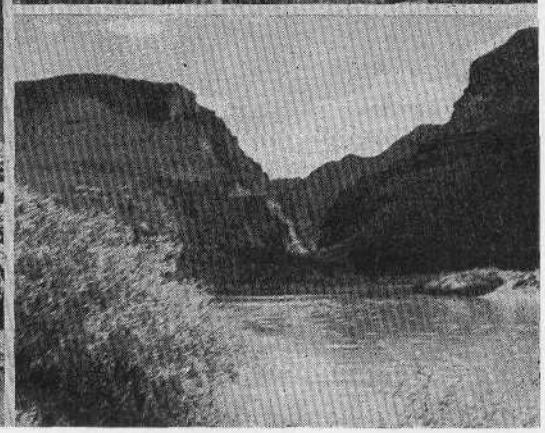
Above — The big bridge pontoon lumbered through the rapids without hazard.

Center — Occasionally one of the rafts would collide with a boulder with no harm to either passengers or boat.

Below—Ray Simpson's kayak was wrecked in lower Disaster Falls—and when Glen Johnson went to the rescue he nearly lost his kayak. The water was only shoulder deep and no one was hurt.







Steamboat Rock just below the junction of the Green and Yampa Rivers. The Rock has perfect sound reflecting qualities — hence the name Echo Park has been given the lovely camp ground across the river.

Above — Sign on the river bank in Brown's Hole where Lodore Canyon expeditions generally launch their boats.

Below—Gates of Lodore—the entrance to Lodore Canyon below Brown's Hole.

In the meantime, Glen Johnson had portaged his kayak around Triplett Falls, and then, to avoid the long rough carry around Hell's Half Mile, had re-entered the water. He was doing a masterly job of avoiding the rocks and halfway through was riding in a clear channel when just ahead and in a rocky channel to the left he saw Simpson and Allen floundering in the water. In an effort to help them he turned out of his course and a moment later collided with a rock. Although badly damaged, he was able to keep his kayak afloat and after he had given what assistance he could to the other boatmen he continued on to smooth water below.

Robert and Katherine Danse had played safe by carrying their kayak the entire distance of Triplett and Hell's Half Mile.

We camped that night at Rippling Brook. The season had been dry and the brook no longer rippled, but I found a little spring up among the rocks of a side canyon. At the campfire program that evening I told about River Rats of the past and present—of boatmen with whom I had become acquainted in various river voyages—Norman Nevills, Doc and Garth Marston, Frank Wright, Harry Aleson, Georgie White, Kent Frost, Don Harris and Jack Brennan, all of them skilled in the navigation of fast water.

The next morning we had an easy run to Pat's Hole, more widely known today as Echo Park. Here, at the base of Steamboat Rock the Yampa River joins the Green. We had been riding in fairly clear water, but evidently there had been a storm up along the Yampa somewhere for it was running muddy water, and our Green River became a brown river.

Some of us took time out for a three-mile hike up the road to Whispering Cave. The temperature was 94 degrees in the open, but due to subterranean air drafts the thermometer dropped to 64 degrees inside the cave which consists of two narrow passageways into a cliff.

Lodore Canyon is entirely in the Dinosaur National Monument and at Echo Park the Park Service maintains a register for visitors (*Desert Magazine,* Dec. '53). Of the 465 motorists and voyagers who had registered for the season to July 17, a majority had come from Colorado, with California second and Utah third.

We ate lunch in the shade of great boxelder trees which make this little valley a natural park. It is a lovely camping place, but the trail to reach it is rather rough—whether you go by the road or the river.

After lunch we continued our voyage and encountered no serious rapids. Three miles below Echo Park we passed the site of the proposed Echo Park dam which since then has been stricken from the Upper Basin reclamation bill. Some of the ladders used by the engineers in surveying the damsite could still be seen high up on the canyon walls.

Below this point the canyon began to open up and we camped that night at Jones Hole where a tributary creek brings in a fine stream of clear water.

There were two springs of cold water along the shore here, and a forested sandbar that made it an ideal campground. We remained over a day at this camp. Some of the Sierrans hiked five miles up the stream and reported they had seen Indian petroglyphs along the way. Others passed the time swimming in the river. Most of the party had air mattresses, and swimming parties of a dozen or more would hike upstream a quarter of a mile and then take off with their inflated mattresses as buoys and paddle down the half-mile river frontage along the bar.

While the Sierrans were hiking and swimming, Bus Hatch and his boat crew spent the day barbecuing a lamb which had been brought in by land route for the occasion. That night the skipper and his boys staged an impromptu parade headed by the bagpipe, and made a ritual out of removing the well-roasted lamb from the pit. We had a great feast.

During a six-day voyage such as this, one is constantly in association with interesting people from many places—people who love the outdoors and can laugh at inconvenience and discomfort. The youngest member of our party was 7-year-old Scott Bradley who made the trip with his family, and a 77-year-old of the same name although not related—Dr. Harold Bradley who has been a teacher all his life. Several family groups were in the party.

From Brown's Park to Echo Park we passed through some of the most gorgeous scenery in America, and since Skipper Bus and his boatmen took full responsibility for maneuvering the rafts through rough water, we were free to enjoy the ever-changing panorama of Lodore Canyon every minute of the day.

One of the diversions when the boats were moving with the current between precipitous canyon walls, was the water fights. When the boats drifted close together a boatman would flip an oar and send a spray of water over the passengers of another craft—and that would be the signal for a fierce melee. Bailing cans, drinking cups, oars—any weapon which would dip water was used to deluge the "enemy" boat and

Glen (Brick) Johnson, leader of the Sierra Club expedition. Brick and his bagpipe sounded the sunrise reveille each morning.

Boatman Roger Upwall of Salt Lake City—college boy oarsman who piloted the author's neoprene raft through Lodore Canyon.

Bus Hatch of Vernal, Utah. He has been running boat trips on the Green, Yampa and Colorado Rivers for 30 years.

its passengers with water, and everyone got into the act. With the midday temperature at 90 degrees it was no hardship to be wet — and no one escaped a soaking.

Bus Hatch, who runs several such expeditions on the Green and Yampa rivers each summer, is a building contractor who arranges his business so he can spend his summers on the river. He purchased several of the 13-ton pontoons from war surplus four years ago, and in 1955 ran five river trips for the Sierra Club. The same number are scheduled for 1956. The cost to each passenger, including transportation from Vernal to the river, the boat ride and food for the six days is $55.00. The chartered trips of the Sierra Club are limited to members and their guests.

Leaving the delightful camp at Jones Creek we passed through Whirlpool Canyon where the rapids were so easy the boatmen did not stop. Then through Split Mountain where another of the Reclamation Bureau's dams was scheduled to be built before the item was deleted in Washington.

Our journey ended as the canyon gave way to open country below Split Mountain, and buses were there to take us to the headquarters of the Dinosaur Monument where we spent an hour listening to the rangers and visiting the quarry where the bones of ancient denizens of this land are being uncovered.

Then back to Vernal—hoping that the Canyon of Lodore would always remain open and accessible to voyagers who would re-discover the beauty of this gorge year after year in the future.

DESERT PROTECTIVE COUNCIL FAVORS MORE PARK AREAS

A resolution asking California's Division of Beaches and Parks to consider the inclusion of Pushawalla Canyon, Bee Mesa and contiguous native palm oases in the state park system was passed by the Desert Protective Council directors at a meeting late in May.

Pushawalla Canyon in Coachella Valley is one of the more spectacular among the native palm canyons on the Southern California desert. It is not accessible by road at the present time but the reclamation and subdivision of Coachella Valley lands is being extended in that direction, and members of the Council expressed the view that the canyon should be given the protection of park status before it is made accessible to traffic.

The Protective Council also endorsed a proposal made by Weldon Heald and civic leaders of Nevada that the Lehman Caves National Monument in Nevada be enlarged to include much of the Snake Range just west of the Nevada-Utah border, and that park status be given to the entire area. This region is a scenic combination of desert valleys and timbered mountains, and includes the only live glacier east of the Sierra Nevada range.

At a recent meeting the Protective Council also endorsed the idea of giving park status to the Death Valley National Monument and possibly extending its boundaries to include part of Saline Valley.

This is a picture of Fred Harman (Red Ryder) and Little Beaver as they look when making personal appearances. The horses are Thunder and Papoose.

Red Ryder's Creator is a Cowboy, Too!

Although he is too modest to admit it, Cartoonist Fred Harman of Albuquerque, New Mexico, has a real-life prototype for his cowboy character Red Ryder—himself! Just like Red, this mild-mannered cowboy is a hero in his own right and the two of them together have done much to make this world a better place in which to live.

By LaVON TEETER

THERE'S FUN, adventure and education in watching Red Ryder and Little Beaver and all the other fascinating characters of the Red Ryder comic strip gallop throughout the Southwest! Under the guiding hand of their creator, Fred Harman, America's cowboy cartoonist, their thrilling performances are created, for the greater part of the year, at a spreading ranch-style home in Albuquerque, New Mexico, where Fred and his attractive wife, Lola, live. No wonder the scenes are splashed with cactus, sage, yucca, sand and sunshine!

Fred, a former cowpuncher himself, is much in demand whenever he leaves his drawing board long enough to appear in public. Whether it is in Colorado where he spends the summer months, at the fair in Albuquerque, the fiesta in Santa Fe, the rodeos in Texas and Arizona, or at colorful outings in California, he is immediately surrounded by hordes of youngsters demanding his autograph and wanting to know what their favorite hero is going to do next.

"Everytime I look out at that audience," Fred told me as he looked up from some pen and ink sketches and studied the jagged line of the Sandia Mountains framed by his studio window, "I think twice about what I'm going to have Red do!" There are estimated to be 40,000,000 readers of the Red Ryder comic strips and the monthly Red Ryder comic books. In addition there is a Little Beaver comic book which comes out about eight times a year. Also there are Red Ryder movies and radio programs and there is going to be a Red Ryder television series. In all of them Red Ryder is the kind of cowboy parents like to have their children emulate. Red does not smoke or drink or use strong language and in many of the strips vivid moral lessons are taught.

The Fred Harman strips expound the historical and reflect an interesting and accurate knowledge of the Southwest at the turn of the century. The writer knows the country of which he writes. He knows its customs and traditions and he knows his horses and his range. He's lived life on the desert. All his background scenes, the plains and mountains and arid regions, the homes and stores, the bridges and roads are real for the early 1900s of which Fred draws. So are the people. The old prospector? He was hittin' the trail in 1903. The Indians? Dress, blankets, hogans—all authentic. The sand storm? Fred has ridden through too many of them not to savvy completely their stinging savagery. He is a nationally recognized authority on Indian lore and the Pony Express. Roy Rogers remarked that "men of the plains and rodeo are grateful to Fred Harman for being one artist who depicts the West as it really is."

Readers of the Fred Harman comics collect a great score of valuable information about this part of their country. One Red Ryder story carried the message of soil conservation for a potential 30,000,000 readers as it showed how Red applied some of the best practices used to establish and maintain the productiveness of the land. The technical and promotional material presented was scientifically accurate and practical. The resulting feature was so successful that Voice of America invited Harman to New York to make a broadcast on the subject of soil conservation. The first program was sent to the Far East. Later the information was translated into almost every language and spread throughout the globe by Voice of America.

Fred does not use much gunplay in the scripts, but what there is has a purpose. It is there to teach the proper care of firearms, to emphasize their

potential danger, and to instill healthy respect for them. "I want to help make good sportsmen," Fred told me and his slow drawl registered his sincerity as he put down a story teaching safety rules and proper methods of handling a gun and started to plan one based on the proper care of wild animals found throughout this region.

Fred's comic characters have real life prototypes all exuding the strong likeable flavor of the southwest. The cartoonist got his idea for Red Ryder from a cowpuncher who was his boyhood pal. Be that as it may, for everyone else Fred Harman has become the prototype of his comic hero. One has only to see Fred, tall and lanky, wearing his bright red shirt, cowboy boots, big-buckled belt, tilting his Stetson, patting his big, black horse, Thunder, swinging his rope, to know that here is Red Ryder!

Little Beaver is the one exception to Harman's insistence upon authenticity for he has been given the appearance of a story-book rather than of an actual Indian child. In his antics, however, Little Beaver accurately resembles the children of Fred's many Indian friends.

Harman also has drawn and painted many beautiful pictures. His art has appeared in magazines and his drawings hang in art museums. His pen sketches have an eye-catching charm. His oil paintings such as Little Beaver's portrait hanging above the huge stone fireplace in Fred's home or that of a Navajo weaver on the opposite wall, are extremely pleasing and meaningful in color and detail.

Fred Harman ranks high as a writer, too. He has a long list of published articles, short stories and poems. What is most amazing about this prolific writer and artist is the amount of time and talent he gives freely to make the world a happier, safer and better place.

"Remember—I am just one of many cartoonists doing this," he insisted as he told of the personal appearances he makes not only at fairs, rodeos and at theaters, but also at countless benefits raising funds and building morale for boys' clubs, crippled children, heart patients, Negro boys' clubs, hospitals and sanitariums.

Wherever Harman and Little Beaver go they are always surrounded by a happy throng of admirers.

"I guess we do some good or the government, F.B.I. and youth leaders everywhere wouldn't ask for us so often," Fred remarked as he explained the National Cartoonist Society's activities at home and abroad. This organization, of which he is a charter member, consists of 300 active cartoonists and writers whose work is syndicated or published. Many are big name cartoonists and their influence for good is tremendous as they fight the overemphasis on crime and sex. President

Eisenhower stamped his approval on their motives and accomplishments when, in the spring of 1954, he invited the society to a breakfast and accepted an honorary membership in their organization. Former President Truman was also an honorary member.

The National Cartoonist Society's philanthropic and patriotic work is of the highest order. "Right now," Fred said, "we are blanketing the entire world entertaining soldiers. We go on tours, usually in teams of 10, but split up into fives for each three hour show." The organization makes from five to eight trips a year. The government pays expenses, but the cartoonists donate their time and talent.

Fred's group spent six weeks touring camps in England, France, Germany, Turkey and Africa in 1953. "Our show overseas consisted of a series of chalk-talks and singing and whatever else we thought would interest the servicemen," he explained. "The group gave nearly 60 shows during the tour."

Harman recently returned to New Mexico from a 25,000 mile trip to Korea and Japan where he toured military installations.

Fred is swamped with fan mail. Thousands of boys want to know how they can be cowboys and live the life of Red Ryder. As many girls want to be cowgirls; others would settle for being Red's girlfriend, but Fred keeps Red strictly in the bachelor category.

Fred Harman has enough awards and citations to paper his den—if he could be inveigled into moving his gun collection out long enough to make it possible. There are boys' club certificates, awards of merit, certificates of appreciation, certificates of esteem, letters from presidents of the United States, letters from military leaders, from men in the service and from all classes and races around the world.

Usually, however, Fred has little time to read mail or consider rewards of any kind. His comic characters are decidedly on the active side and keep him constantly at his drawing board solving their problems. Once in a while he does let Little Beaver keep out of trouble long enough to take a short siesta under the bluest skies any Indian boy ever saw. Little Beaver shades his eyes as he looks toward the desert horizon, and smiles at the flowering yucca in the foreground of clumpy sage and sands. Then Fred Harman's Little Beaver always says, "Me likeum! You betcha-um!"

• • •

NEW LEASING REGULATIONS OF INDIAN LANDS TOLD

A new set of regulations on the leasing of Indian lands held in trust by the Federal Government, which will permit leasing in some cases up to 25 years in line with a Congressional law enacted last August, was announced by Secretary of the Interior Douglas McKay.

Under the old law most leases of Indian land were limited to a five-year period although longer leases were permitted in some cases.

"Because of this limitation," McKay said, "there has been for many years little or no interest in leasing Indian lands for business, recreational or other purposes involving substantial investments which can be amortized only over a comparatively long period. As a result, many Indian landowners have been deprived of valuable rental income on properties which are well situated for long-term leasing. The enactment of last August and the new regulations are designed to correct this inequitable situation and permit the leasing of Indian lands for their highest and best purposes."

The duration of leases for nonagricultural (public, religious, educational, recreational, residential, or business) purposes will be determined in each case by the requirements for amortization of the capital to be invested. Where circumstances justify, such leases may be made for as long as 25 years and renewals for not more than an additional 25 years may be made with the consent of both parties.

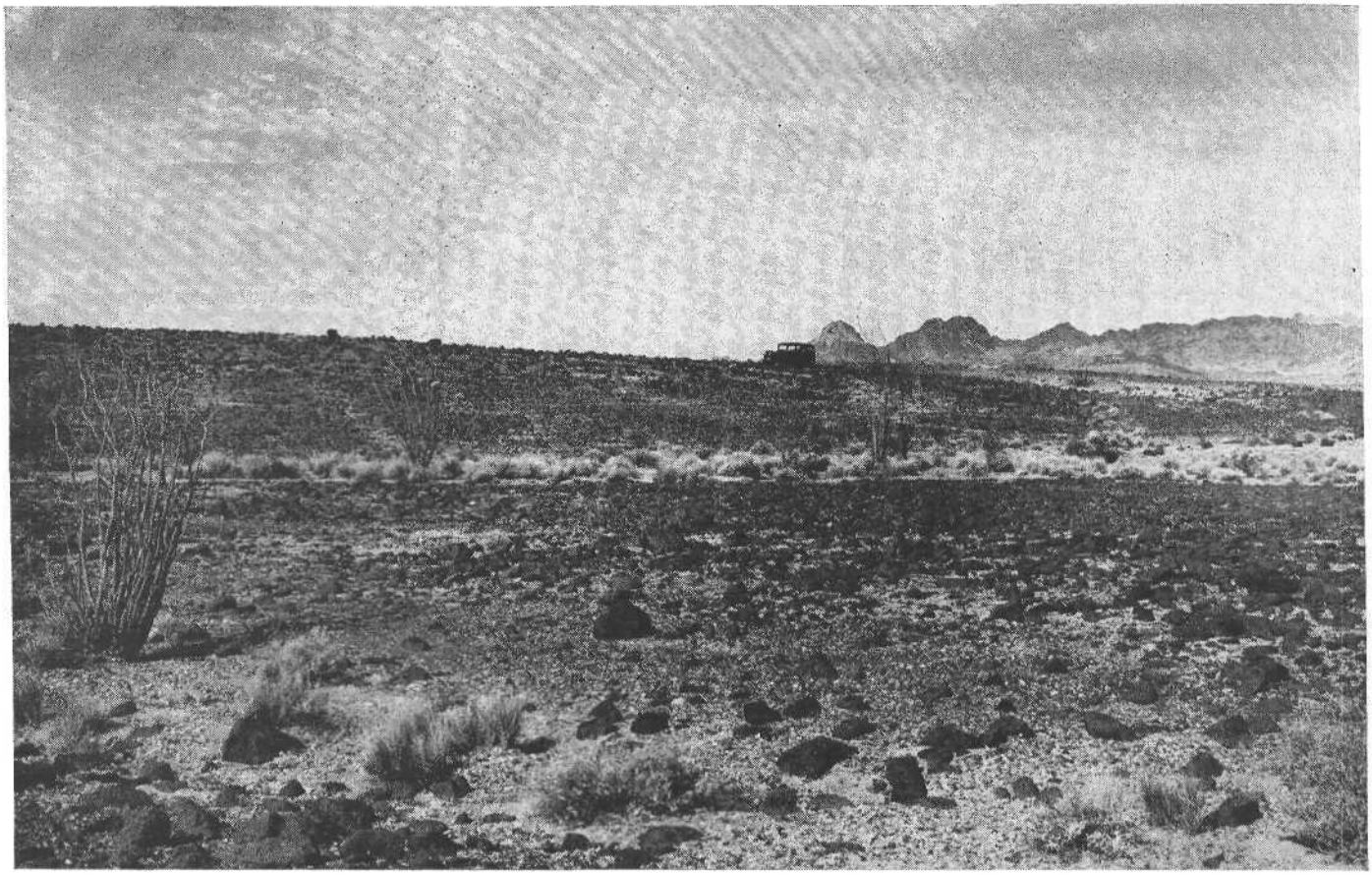
Agricultural leases, however, are limited to 10 years except in cases where the production of specialized crops or the development of soil or water resources would require substantial investments which would, in the judgment of the Secretary or his authorized representative, justify longer leases up to a maximum of 25 years.

Grazing leases may be executed for as long as 10 years where substantial developments or improvements are involved.

DESERT QUIZ:

In the history of the Southwest a few names stand out above others because of some special part played in the exploration and conquest of the desert country. Some were missionaries and there were prospectors, Indian chieftains, writers and outlaws. From the list of names in the column on the right, select the one which best fits the description in the center column and write in the correct name in the blank space. A score of 12 to 15 is good, 16 to 18 is excellent, and if you do better than that you may go to the head of the history class. Answers are on page 36.

1	Padre who accompanied the Anza Expedition.	Fray Marcos de Niza
2	He built a castle on the Desert.	John D. Lee
3	A famous Apache chieftain.	Chief Palma
4	Nevada's richest lode was named for him.	Harold Bell Wright
5	He led the Mormon Battalion to California.	Thomas Blythe
6	Padre who blazed a trail across Utah.	Father Garces
7	Executed for the Mountain Meadows Massacre.	Pauline Weaver
8	He bought a huge tract of desert for Uncle Sam.	John Butterfield
9	He sought the Seven Cities of Cibola.	Philip St. George Cooke
10	He lost three hills topped with black gold.	James Gadsden
11	He wrote *The Winning of Barbara Worth.*	Ed. Schieffelin
12	A famous Yuma Chieftain.	Cochise
13	He blazed the way for Coronado.	Father Escalante
14	He met a martyr's death at Yuma.	Father Font
15	Credited with the discovery of gold at La Paz, Arizona.	Death Valley Scotty
16	Pioneered the southern transcontinental stage line.	Pegleg Smith
17	Credited with the discovery of silver at Tombstone.	Henry T. P. Comstock
18	New Mexico's most notorious outlaw.	Coronado
19	A town near the Colorado River was named for him.	Mark Twain
20	Famous reporter of Virginia City.	Billy the Kid



The wide, level mouth of Chocolate Pass that may once have been the bed of the Colorado River. At right are Chocolate Mountains. Gemstones in this area are found scattered among lava boulders washed down from the volcanic hills thrusting into the pass.

Petrified Palm in an Ancient Stream Bed

Years of collecting have reduced the quantity and quality of gem stones in the popular Indian Pass collecting area in Southern California's Chocolate Mountains. But a few miles northwest of this pass is an easily reached extension of this vast gem field where the rockhound can find petrified palm root and fiber and agates. And there is a fascinating mystery concerning these rocks at the foot of Chocolate Pass for many believe they were carried here by the mighty Colorado River which somehow was diverted through this now arid defile countless ages ago.

By HAROLD O. WEIGHT
Photographs by the author
Map by Norton Allen

FOR MANY years rock collectors have searched the area between the Cargo Muchacho Mountains and Indian Pass for dumortierite, agate and palm root. This field was described in *Desert Magazines* of April '38 and February '49 and it has been a popular area for gem club expeditions.

More recently reports have come to me that good material had become very scarce there. But I suspected that most of the collecting had been done in a comparatively small area along the road to Indian Pass, and I wanted to return there and determine if possible the extent of the field.

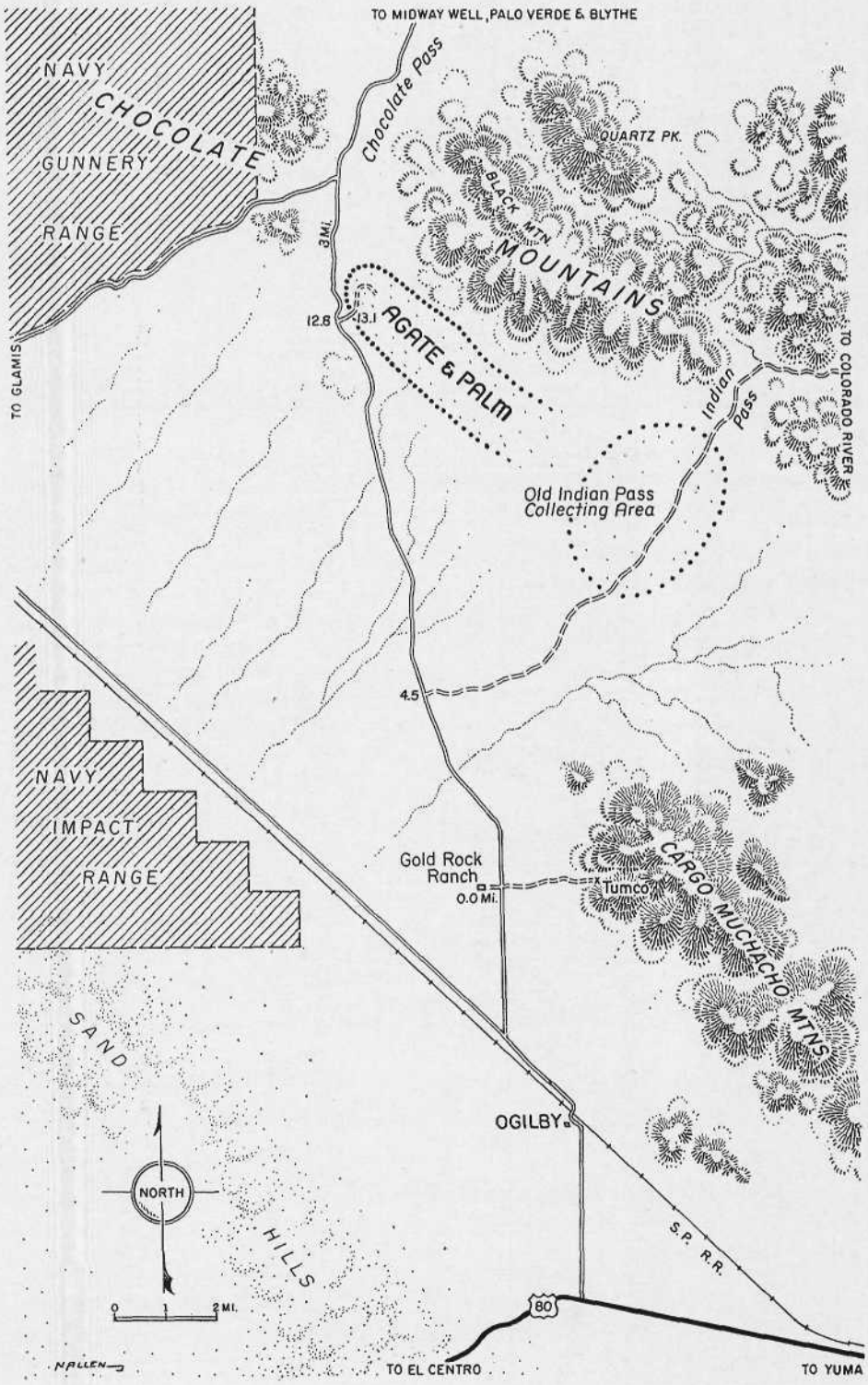
Also, this is one of the most beautiful segments of the Colorado Desert, the one place in California where the lovely Fairy Duster—an emigrant from Arizona — has crossed the Colorado River and established a foothold.

It was a gorgeous winter day when Lucile and I left our Twentynine Palms home for a further exploration of this field. We had invited Adelaide Arnold to go with us—and her dog General. There are several routes by which we might motor to Chocolate Pass. We chose the one that gave us the maximum of desert scenery and a minimum of crowded highway by going through Joshua Tree Monument to 60-70 and following it east to the Wiley Well turnoff where we turned south. Below the well we followed the winding road along the western edge of the Palo Verde Mountains and down Milpitas Wash. Remembering pre-war days of exploring dead-end twisty trails and sandy washes in this region—and post-war days when the bladed road was in poor repair—I was amazed at the good condition of the route. Since the Milpitas stretch passes along the edge of one of the desert country's most

magnificent palo verde-ironwood forests (with smoke trees, desert willows and Condalias, too) it is good to know that part of the time, at least, it is accessible to ordinary passenger cars.

Reaching the Ogilby-Palo Verde county road where it comes out of the Palo Verde Mountains at the edge of Milpitas, we turned right toward Ogilby. In a short time we passed Midway Well, which once furnished water for the old Paymaster silver mine several miles to the southwest. There were some whopper cloudbursts in that country during the summer and fall of 1955, and one of the runoffs had carried away the stone and cement work around the well in the wash.

From the well we started up the gentle slope to broad Chocolate Pass. The low plants of the Fairy Duster (*Calliandra eriophylla*) began to show in the shallow washes. And these members of the fantastically varied pea family, relatives of the ironwood, palo verde and smoke tree, were already showing the long silky reddish-purple threads of their blooms. The goatnut appeared, too, and in the pass itself we saw two large Chuparosa bushes in full crimson bloom. Deerhorn cactus became more numerous and the Bigelow chollas increased in number as we dropped down the southern slope of the pass.



This road through Chocolate Pass has become quite newsworthy in the past months. It is the one which the Imperial County Board of Supervisors wants improved as a link between the Imperial and Palo Verde valleys, to replace the Beals Well road which the Navy is moving to have condemned and permanently closed to civilians. At present it appears that the Navy will provide funds for the alternate road, although details of the transaction are not final.

About 10.5 miles from Midway Well the Glamis road branches to the right. We continued on the Ogilby road for another three miles, then turned left (east) to pick up the remnants of a washed auto-trail. Following it three-tenths of a mile we stopped at the edge of a shallow wash a few hundred yards from a low rock-covered rise which should, if my memory served me, carry cutting rocks. Unloading sacks and prospecting picks we took to the hills—and within five minutes found colorfully - replaced pieces of both palm root and fiber.

The sun was low when we reached the field, but by the time it was behind the far Lagunas we were back at the car, each with a collecting sack loaded with prizes that included palm and colored mosses and agates. We did not, however, find even a piece of the blue dumortierite — "desert lapis" — which once was abundant farther to the southeast. There was evidence—little collections of broken rock around chipping boulders—that other collectors had been in this field, some long ago, a few quite recently. But the relative abundance of good material demonstrated that it had not been worked the way the Indian Pass area had.

After dark we returned to the main road and drove the dozen miles to Gold Rock Ranch. We hadn't seen Carl and Margaret Walker of Gold Rock for some months, and Carl immediately took us to admire the progress of his Rock Room. The Walkers, who built Gold Rock and before that lived at nearby Tumco mining camp, have been in this country for nearly 30 years. During all that time they have collected rocks and pieces of wood and relics of the mining and freighting pioneers of the land which piled up around the ranch, in the windows, on the walls and on the porches.

During the last summer Carl cleared

out one of the big rooms at the ranch house, built tables and shelves and installed the Walker collection there. It makes quite a show!

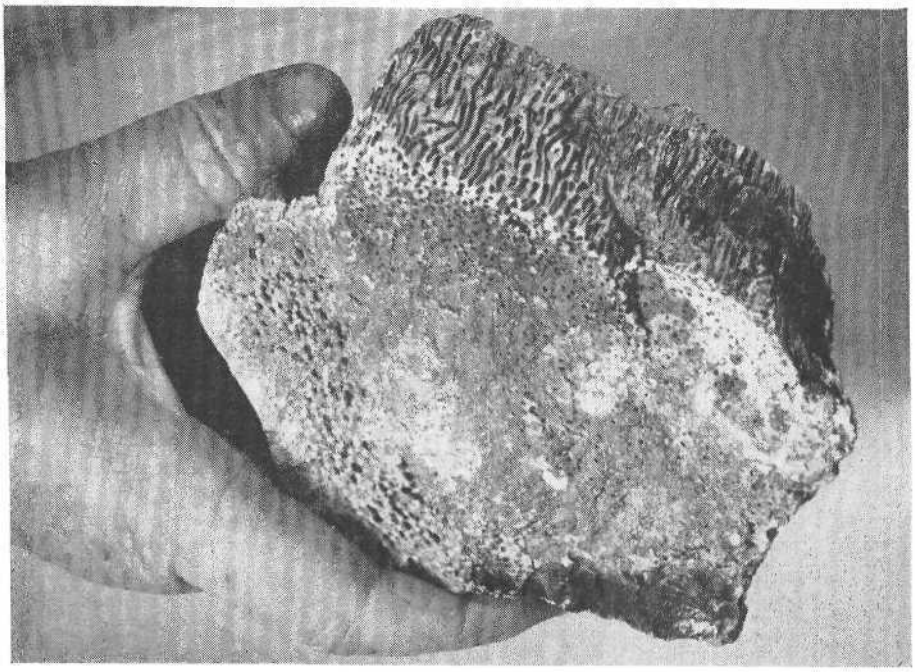
Since I wrote about the Walkers and the Indian Pass palm rock about seven years ago, hundreds of rockhounds have dropped in to see them. In the cooler months scarcely a day passes without one or more collectors turning in from the county road—which Carl and Bob broke through and had taken into the county system about 1930—to ask about road or rock conditions, or just to say hello. That evening, two rock hunting couples, the Ashtons from Los Angeles and the Johnny Edgars of Long Beach, were in the Gold Rock living room, discussing past and future collecting trips. Big gem societies, such as Rohr and Convair of San Diego, have made the ranch their headquarters during rock hunting encampments, with campfire meetings attended by hundreds. And one of the features of the Rock Room is a series of maps spotted with hundreds of colored pins marking the home towns of visitors from every state in the Union and many foreign countries.

Carl Walker welcomes them all. Just before we left the ranch in the morning for another round of collecting he said—as he has many times before—"Tell the rockhounds to come in and see us. We've been in this country a good many years and know it pretty well, and are glad to pass along anything we know about it or about the rocks."

Back near the foot of Chocolate Pass, we turned again onto the same abandoned trail, but by twisting and maneuvering we got up on the rough collecting ridges and drove over them for some distance. Then we hiked. We found, as we had suspected the night before, that whatever might be the circumstances over on the Indian Pass road, collecting here was still good for anyone who would get out and hunt. Much of the good rock, it might be noted, is coated with manganese "desert varnish" and cannot be taken at face value. A little careful chipping often is necessary to check pattern, color and quality.

Only one thing is sadly changed since I first hunted rocks here—from dawn to dusk the air is seldom free from the palpitation of destruction. From the great sand dunes, where the Navy has an impact area, came the rumble of planes and of explosions. Before long we heard the pneumatic thumping of machine guns and saw fighters, high to the west, making passes at a tow target.

The Navy gunnery range boundaries are all to the west of the Ogilby-Palo Verde road so the planes should have been no source of worry. But the night before I found a fallen tow target right in this collecting field, and Carl Walker told me several such targets have been found well outside the range boundaries and that firing planes frequently violated those boundaries. Although Gold Rock Ranch is even farther outside the boundaries, he has the smashed remains of a crashed robot-type target which barely missed the ranch house, hitting just across the road.

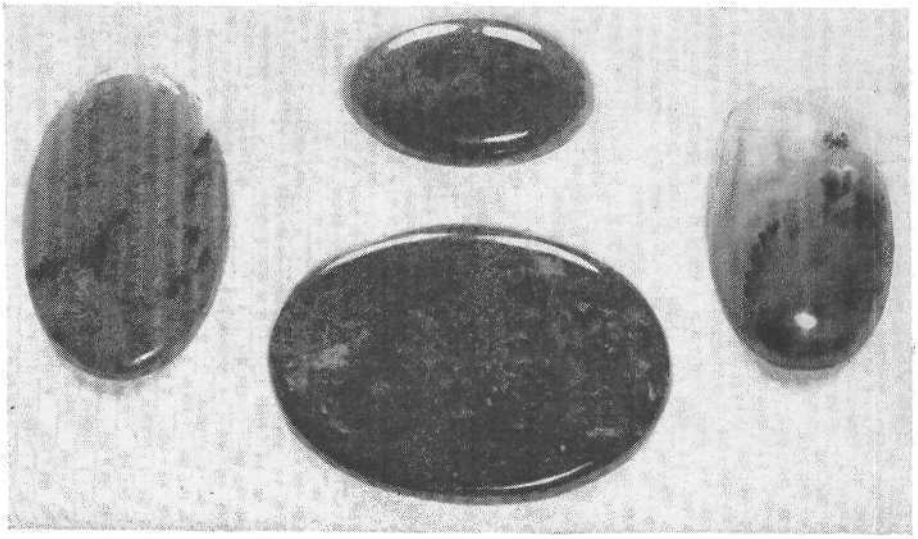


Palm fiber, brown, white and red collected on this trip.

When I first collected here, I tried to trace the palm root and other cutting rocks to their source. I followed along the base of the huge lava ridge above the rock area—known as Black Mountain—and found no indication of petrified palm or gem jasper up those slopes. I checked through Chocolate Pass and there seemed to be none of this cutting rock above a certain level. I hunted along the base of the Chocolates west of the pass and found no comparable field.

I concluded that these stones must have been deposited in old lakebed sediments, as is supposed to be the case with the palm root near Yermo

Cabochons cut from material in the field east of Chocolate Pass. Left: golden "moss" in clear chalcedony with bits of black. Upper center: Chinese red moss feathering into olive green. Lower center: Red moss and fern with a little blue chalcedony showing through. Right: Gold, brown and light carnelian "ferns" with fortification agate.



Carl Walker of Gold Rock Ranch in his rock room and museum.

and at other Mojave Desert locations. But it puzzled me that so much should have congregated at this one spot with no similar field, so far as I knew, anywhere else around the edges of vanished Lake Cahuilla.

My friend, Ed Rochester, believes that the Colorado River once flowed through this area and that the palm and other exotic rocks found here were deposited by the wandering stream. The rocks are not as water-worn or in as great variety as those in the familiar Colorado River terraces because the river supposedly only flowed through Chocolate pass for a short period.

Does it seem impossible that the mighty Colorado once poured through this barren, arid gap? No matter what the true story, any set of circumstances which brought these beautiful rocks must through necessity be fantastic.

Consider that first a moist tropic or semi-tropic land existed somewhere in this present desert, where the palms developed and matured. Then came cataclysm — changing climate or vulcanism or invading seas, and the palms were killed and buried. Then came the long years of pressure and seeping silica-rich solutions, with the cells of the dead trees replaced, one by one, with beautiful, hard, shining rock, colored by minerals in solution. Then they were eroded out, broken up and somehow carried by water to this place. With that background, the theory of the wandering Colorado seems quite plausible.

But if it once flowed through Chocolate Pass, why did the Colorado return to its channel past Yuma? There are a number of possible reasons. Once vulcanism ceased, it may be that the raging summer floods of the great river topped the rock barrier and chewed their way through it. Or earth movements may have shattered the rock dam, permitting the eroding waters to pour through. Perhaps, even, in that same vulcanism, the Black Mountain above the rock fields thrust itself upward, lifting the level of Chocolate Pass and turning the river back to its old way.

WANTED—
A picture of Jim Dayton

One of Death Valley's best-loved characters in the latter part of the last century was Jim Dayton. Jim met a tragic death in 1898. Many visitors have visited his grave—beside that of Shorty Harris on the floor of Death Valley—and invariably they ask, "Who was Jim Dayton?"

Recently Audrey Walls Lloyd of Midland, Texas, has given the answer to that question in a 2500-word biographical sketch which is to be published later in *Desert Magazine.*

Desert's editors have pictures of the 20-mule team borax wagons on which Jim was a swamper, and other photographs — but so far we have been unable to obtain a picture of Jim. If any reader of *Desert* has such a picture, or knows where it can be obtained, we will be grateful for any help given us in our quest—for a photograph of one of the finest characters who ever lived in Death Valley.

SPOTTY RAINFALL ALTERS RIVER RUNOFF FORECASTS

Irregular rainfall was reported over the Southwest during April and has resulted in revisions of river runoff forecasts by the U.S. Weather Bureau. In general, precipitation was above average over the headwater area of the Colorado River from Glenwood Springs to Granby, Colorado; drainage area of the Green River in Colorado; northern portion of the Sevier Basin and along the Pavant Mountains; the Truckee and Carson River basins; Mojave basin; and Chewaucan and Silvies basins.

Below normal precipitation was reported over the Great Salt Lake basin; southern portion of the Sevier and Beaver River basins; San Juan River basin; and Rio Grande basin.

Figures after the river names below are the percentages of predicted streamflow in relation to the 15-year averages (1938-1952).

Colorado Basin. Colorado at Granby, Colo., 113, at Hot Sulphur Springs, Colo., 114, at Glenwood Springs, Colo., 116, at Cameo, Colo., 107, at Cisco, Utah, 87, at Lees Ferry, Ariz., 88, at Grand Canyon 87; Fraser 107; Williams 114; Blue 119;

Roaring Fork 97; Plateau Creek 81; Taylor 106; Gunnison 73; East 97; Uncompahgre 67; Dolores at Dolores, Colo., 59, at Gateway, Colo., 39; San Miguel 43; Green at Warren Bridge, Wyo., 123, at Linwood, Utah, 108, at Green River, Utah, 104; New Fork 108; Pine Creek 113; Henrys Fork 98; Yampa 119; Elk 111; Little Snake 98;

Duchesne at Tabiona, Utah, 96, at Myton, Utah, 79; Strawberry 77; White 105; Price 58; Huntington Creek 71; San Juan at Rosa, N.M., 74, at Farmington, N.M., 63, at Bluff, Utah, 62; Navajo 70; Los Pinos 76; Animas 66; Florida 71; La Plata 62; Virgin 56.

Great Basin. Bear 83; Logan 92; Blacksmith Fork 93; Weber 85-91; East Canyon Creek 85; South Fork Ogden 104; Ogden 98; Spanish Fork 75; Provo 92; American Fork 95; Little Cottonwood Creek 95; Big Cottonwood Creek 93; Mill Creek 91; Parleys Creek 86; Emigration Creek 76; City Creek 88; Six Creeks 92;

Sevier 48-54; East Fork Sevier 58; Beaver 63, Deep Creek 27; Mojave 34; West Fork Mojave 22; East Walker 114; West Walker 145; Carson 172; Humboldt 137; South Fork Humboldt 154; Martin Creek 132; Truckee 178; Chewaucan 206; Silvies 131; Owens 109.

Rio Grande Basin. Rio Grande at Wason, Colo., 71, at Del Norte, Colo., 74, at Lobatos, Colo., 33, at Otowi Bridge, N.M., 42, at San Marcial, N. M., 27; South Fork Rio Grande 86.

ON DESERT TRAILS WITH A NATURALIST - XXVII

Last Stand of the Pronghorn

Today the deer and the antelope no longer roam over much of their former range. Man is slowly crowding out the former and has come fairly close to annihilating the latter. This month Dr. Jaeger tells of these and other dwindling species of Desert Southwest mammals who are threatened with the fate of the bison and passenger pigeon.

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

DURING THE autumn of 1941 Dr. D. C. Clark, Paul Walker and Frank Wilkins of Redlands, California, were camping on the south side of the Chuckawalla Mountains of the Colorado Desert of California. On the mesa one mile southeast of Williams Mine and four miles southeast of Chuckawalla Springs they reported seeing a small band of pronghorn antelope and were able to get within 600 feet of them. The animals were down-wind and were approached from behind a small intervening rise which explains how they were able to come as close to the herd as they did.

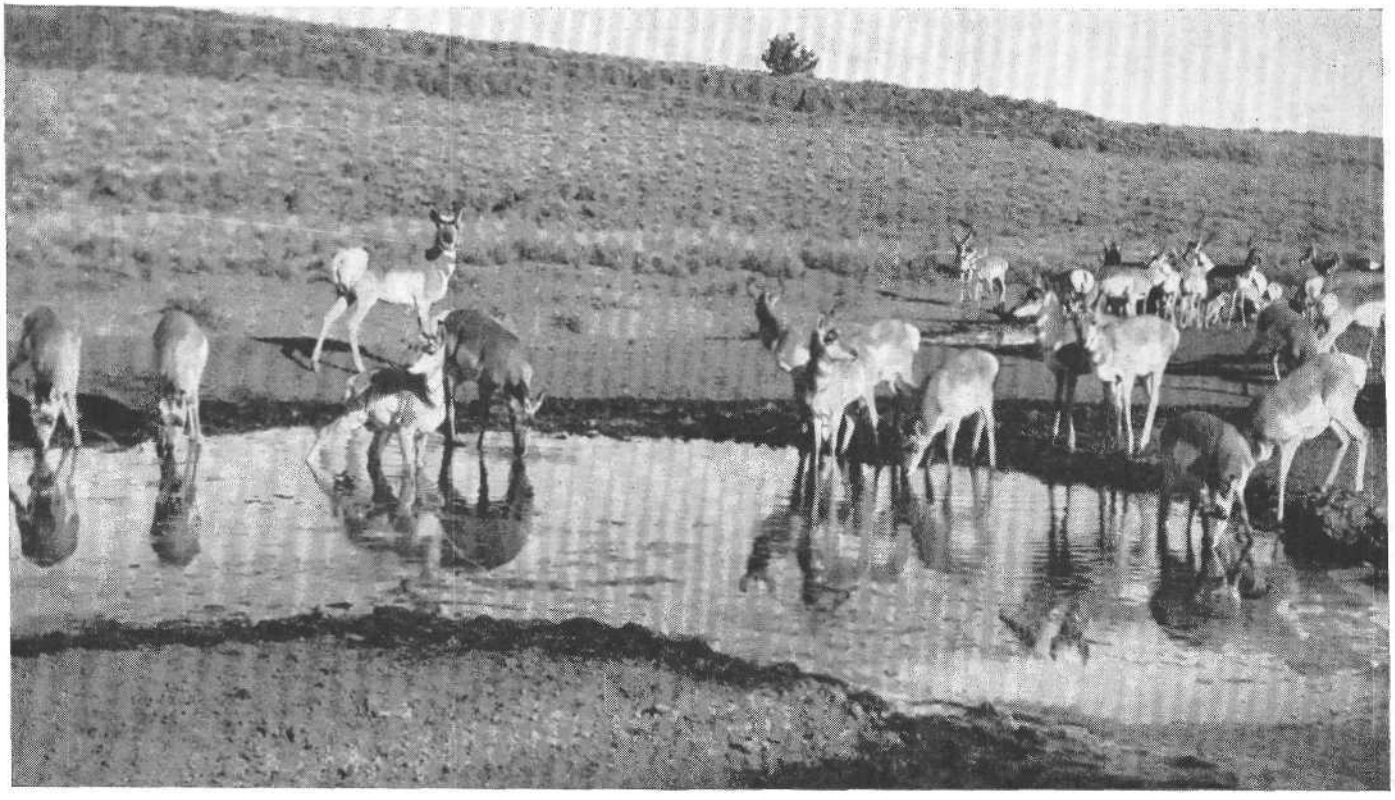
These men are competent observers and know well the pronghorns because of previous experience with them. I cannot doubt the authenticity of their account—the last record of pronghorn on our Colorado Desert.

These interesting animals were able to maintain their stand up to the time of World War II because this was an exceedingly wild area, practically without roads and little visited by man. Through it runs the large Milpitas Wash whose numerous fan-like branches drain most of the northeast slope of the Chocolate Mountains and the broad fans of alluvium between these mountains and the Colorado River. Here was a place of abundant food, shelter and opportunity to successfully evade predators and hunters.

It is very doubtful if any of that original group of pronghorn survived the war period since the district was widely over-run by military men on maneuvers. Old roads and jeep and tank trails literally run everywhere over this once remote region.

The last written account I know which specifically mentions pronghorn on the Colorado Desert is in a letter written to the author by C. Hart Merriam, long chief of the United States Biological Survey, in response to an inquiry about the validity of a report of a recent (about 1900) observation of antelope as far north as Coachella Valley. Dr. Merriam wrote: "I am sure this is an error for I had previously traveled much in this area and surely would have heard of them if not actually seen the animals. It is quite possible that this statement is based not on personal experiences but on accounts of prospectors or other

Pronghorn gathering at a waterhole on the Charles Sheldon Antelope Refuge, Nevada. Photo by E. J. Greenwalt, U. S. Department of Interior Fish and Wildlife Service.



travelers and that the herds referred to were those of the Milpitas Wash area some 60 miles southeast of Indio."

At one time pronghorn antelope were widely scattered throughout the southern Mojave Desert which has those wide open spaces so necessary for their survival. The last bands I have heard of were along the Mojave River near Cave or Afton Canyon, around Antelope Valley (hence the name), and on mesas near Randsburg; but these are gone now. In the high artemisia deserts of southwestern Nevada this fleetest of all American game once roamed the broad valleys in great numbers. Such Nevada place names as Antelope Mine and Antelope Spring attest to their former presence in comparatively recent times. Even as late as 1930 I picked up cast-off antelope horn-sheaths at Antelope Mine.

This beautiful creature of sprightly manner, swift-getaway and abounding curiosity, once occurred in millions from the Mississippi to California. But hunters, slaughtering them right and left as they did the bison, and the settlement of the country which led to the loss of much of their range, soon decimated the pronghorn to a point near extinction. Today they are found only in well-protected herds in game refuges, national parks and monuments, and on some private ranches where they are gradually staging a come-back, increasing to nearly 200,000 at the last count. (See *Desert,* April '56, p4.)

The passing of the antelope in the Southwest is a deplorable loss to our arid-land fauna. The only other animals near its size and form that occasionally still may be seen are the desert bighorn and the mule deer. I once was lucky enough to see a mule deer near Canyon Spring to the north of Salt Creek Wash, which runs eastward from the Salton Sea. A surprise it was, indeed! It was early winter and the animal was probably a stray from the Santa Rosa Mountains on the west edge of the Colorado Desert.

Recently in the very early morning I have seen burro deer in the Wiley Well vicinity at the south base of the Little Chuckawalla Mountains. Much more commonly they are found roaming along the banks of the Colorado River where they feed on willow twigs on the bottom-lands. The burro deer is larger and paler in coloration than the mule deer of the mountains, and get their name from their very large burro-like ears. They formerly ranged into the Imperial Valley north along the Salton Sea as far as Indio; some are also known in northeastern Baja California. As a rule they never wander many miles from water, especially in warm weather when daily drinks are necessary. They generally roam about in small groups of four or five but sometimes in bands of eight or 12.

They are more common in Sonora, Mexico, and these Colorado River animals in California and Arizona are probably only strays northward. Up to about the beginning of the century travelers quite often reported seeing them but as the river bottoms are more and more being given over to agriculture the chances of glimpsing these interesting and rather rare deer are becoming less and less.

Speaking of animals seldom seen on the west side of the Colorado River, which acts as a barrier to many plants and animals such as the Harris ground squirrel and the gila monster, I must mention an observation made by my friend Stanley Phair of Santa Monica, California, a trustworthy observer. Very much to his surprise he saw in the brightness of his auto headlights a small band of javelina or Mexican wild pig, also called peccary, running alongside the road some miles southeast of Wiley Well. This is the only record of the peccary I know of in California. How they got here I am at a loss to explain. Javelinas are fairly common in southern Arizona (Organ Pipe Cactus National Monument) and from northern Sonora southward to Sinaloa in Mexico. On rare occasions one may see a wild pig in northeastern Baja California. I well remember my surprise when a small herd of them ran through our camp just as my companions and I were getting into our sleeping bags in the hills east of the Ojos Negros Ranch.

Collared peccaries are "salt and pepper" colored, long-haired, pig-like creatures with arched backs and stubby tails. The boars are equipped with long protruding tusks that can lash out when attacked and deliver deep cuts. An aggressive herd of javelinas is nothing to take lightly. They emit a musky malodorous scent from glands on the neck and back, especially when they are surprised or excited, and because of this they are sometimes called musk-hogs. Their food consists of anything edible, from roots to lizards and insects.

Keep your eyes open. You, too, on your Desert Southwest travels may see a burro deer or one or more of the quick-moving native pigs with grizzled coat. An exciting day it will be for you. But, we can no longer promise you the sight of a pronghorn antelope on our Colorado or Mojave deserts. You must travel through the sagebrush deserts of southeastern Oregon or northwestern Nevada to see in numbers this graceful creature which is not a true antelope, as its common name belies, but the only living member of a family of animals called Antilocapridae. Like the true antelope it has horns consisting of a core of bone with a horny covering, but unlike the old world antelope, this horny sheath is shed annually; moreover the horns of the pronghorn have a single fork or prong, whereas those of a true antelope are unbranched. It is indeed unfortunate that this noble and unique American mammal is gone from much of its former range. Perhaps we can profit from this loss by taking strong steps now to preserve the remnants of desert bighorn, burro deer, and javelina and other dwindling species from total extinction. I am sure you feel as I do that too many of our animals have gone the way of the bison and the passenger pigeon.

THE Desert MAGAZINE CLOSE-UPS

Nona Mott, author of this month's "Get Juan to do It for You," has lived in Hereford, Arizona, for the past seven years. There her husband Brent farms 500 acres of irrigated land planted to alfalfa and seed corn—in fact the Motts supply most of the Mexican June corn seed used in the state.

Mrs. Mott's busy schedule includes time for her hobbies of raising tropical fish, hybridizing iris and writing.

Juan occasionally is employed by the Motts and if there is no cement or plastering to do he works in the fields. "He still is as independent whether shoveling mud while irrigating or doing an intricate piece of plaster work," Mrs. Mott writes.

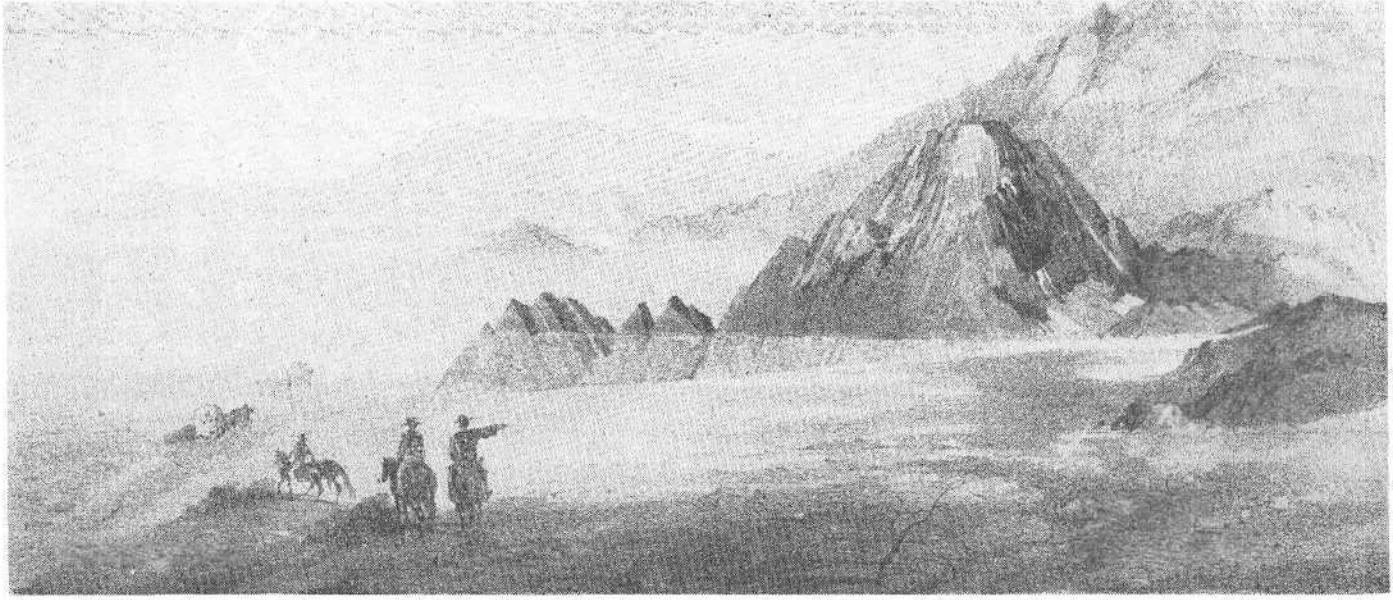
* * *

LaVon Teeter of Albuquerque follows her December, 1955, *Desert* feature, "Land of the Luminarios" with another story set in her home state of New Mexico. This month she tells about Cartoonist Fred Harman in "Red Ryder's Creator Is a Cowboy, Too!"

Mrs. Teeter writes that her family loves to take weekend outings, and everytime she pulls out a pencil and pad on one of these trips now, her children cry out: "Mother is going to write a poem or somethin' about this!"

* * *

The poem, "What Hills Are These," in *Desert's* May issue, written by Mildred Breedlove of Las Vegas, Nevada, has won a national award in the biennial contest of the National League of American Pen Women.



Water line and shores of the ancient lake. This sketch is from the original Lt. R. S. Williamson report of 1854 and was made by Charles Koppel who was a member of the exploration party along with Blake and others.

He Discovered the Dead Sea of the Cahuillas...

In early 1854 the San Francisco "Commercial Advertiser" announced to the world that a young geologist-mineralogist, William P. Blake, had discovered the remains of a 2100-square-mile lake within the boundaries of the recently expanded nation in inland Southern California. Blake named the former lake, the shores of which are recorded on the rocks and slopes of present-day Coachella Valley, in honor of the Indians who dwelled on its shores—Lake Cahuilla. The old lake has long since evaporated, but its basin is filled today by another body of water, the Salton Sea.

By FRANKLYN HOYT

IN NOVEMBER, 1853, William P. Blake, geologist and mineralogist, on a trip of exploration through what is now the Coachella Valley of California, discovered evidence that an ancient fresh water lake once had covered this region. Blake named it Lake Cahuilla. Today, a new lake of salt water in the same basin, is known as Salton Sea.

Blake was a member of an exploring party ordered by Secretary of War Jefferson Davis "to survey and explore the country lying west of the lower Colorado" in search of a route for a transcontinental railroad.

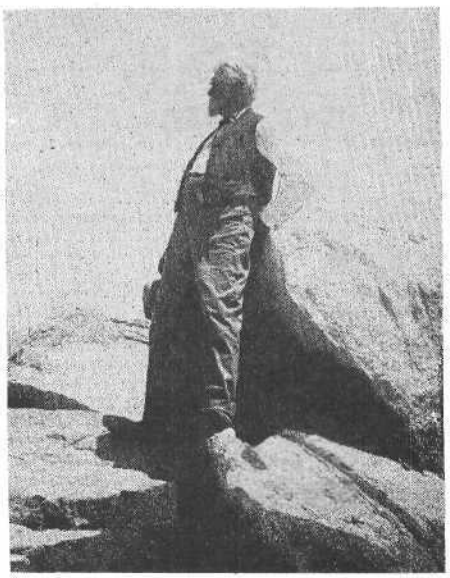
An advance party of seven men had left New York by steamer in May, 1853, and reached San Francisco a month later. Blake was not with the original party. The post of mineralogist and geologist had not been filled at that time, and Lieutenant Williamson, who was in command of the expedition, appealed to Professor Spencer F. Baird of the Smithsonian Institute to find someone for him. Blake was chosen by Professor Baird, and he joined the party in San Francisco two weeks after it arrived.

From San Francisco the members of the expedition took a side-wheeler to the Army quartermaster depot at Benecia and here the expedition was fitted with five wagons, mules and the other supplies and equipment needed for the five-month adventure. Early in July the expedition was ferried across an arm of San Francisco Bay to Martinez. There were 49 men in the party when it left Benecia, two lieutenants of the U.S. Army Topographical Corps, a civil engineer, artist, draftsman, geologist, five teamsters, 28 mounted soldiers with their commander, and eight other men hired for cooking and general duty.

From Martinez the wagons slowly traveled south through Livermore, down the San Joaquin Valley to Walker's Pass. This pass was carefully explored to determine its feasibility for railroad purposes, and then the party retraced its way to Bakersfield. After examining Tejon Pass and *Canada de las Uvas* the exploring party was split into two sections. Lieutenant Williamson and the pack mules were to explore the Mojave River, and then proceed toward San Diego. Lieutenant Parke was to take the four six-mule-team wagons and the light spring wagon, which carried the scientific instruments, and explore the Cajon and San Gorgonio passes. In about three weeks the two exploring parties were to meet near Warner's ranch.

Blake was with the wagon train commanded by Lieutenant Parke which slowly climbed Cajon Pass along the

William Blake at Travertine Rock, 50 years after he discovered ancient Lake Cahuilla.



route now followed by Highway 138, and then descended the long grade into the Mormon settlement of San Bernardino. Supplies were purchased from the enterprising Mormon merchants, and the mule teams headed eastward toward San Gorgonio Pass and the unknown desert beyond. Camp was made near the present town of Beaumont at a ranch owned by "Mr. Weaver, an experienced mountaineer." The following night, November 14, tents were pitched where Banning was built nearly half a century later.

After spending a chilly night there the party was up early, and before sunrise the mules were plodding down the pass between the lofty peaks of San Gorgonio and San Jacinto. Blake estimated that Mt. San Jacinto was between 6 and 7000 feet high—a poor guess considering he was 4000 feet short of its actual height. He called this majestic mountain "San Gorgonio," a name which has somehow been transferred to the slightly higher peak on the northern side of the pass.

That night Blake and his companions spread their blankets on the warm sand near the Whitewater River, which had a trickle of water in it where they camped, but "a short distance below, it spread out over the gravelly surface, and became completely absorbed by the sand." Soon after sundown the wind began to rise, and they were lulled to sleep by the blowing particles of sand which made a "rustling sound as they poured over the rocks and settled in all the hollows and crevices which the wind could not reach."

Before the sun had begun to color the distant hills the mules were slowly plodding around the base of Mt. San Jacinto toward "a green spot in the distance" which turned out to be "two large springs of water rising in the bare plain." Blake called this oasis Hot Spring, after the local Indian name Agua Caliente, but this has since been changed to Palm Springs. One of the springs formed a pool 30 feet in diameter and was three to four feet deep. Ten feet away was a cold spring which was not quite as large. "A growth of rushes forms a narrow margin of green vegetation around the spring and its outlet. Willows and mesquite bushes grow there also; and I found a young palm tree spreading its broad fan-like leaves among them." Blake, who took his job as scientist very seriously, got out his thermometer and found that the hot spring was 120 degrees F.; the other, 82 degrees.

Hot Spring was a favorite Indian camping place, and when the wagons arrived the women were cooking supper while their children swam in the warm water.

That night camp was made near the springs, but the expedition did not remain long in this beautiful oasis. Before sunrise the teamsters were hitching the mules to the wagons and the cooks were frying bacon and boiling coffee.

The wagons kept close to the Santa Rosa Mountains, following the approximate route of Highway 111 which runs through Palm Springs and Cathedral City to Indio. This part of the Coachella Valley Blake found to be "peculiarly dreary, and but little or no vegetation was visible." For miles the desert was covered with rocks "broken and piled together in confusion."

Water was scarce in this dry, sand-blown region, but 12 miles from Hot Springs the Indian guide led them to Pozo Hondo, or Deep Well, located near present-day Palm Desert, "at the base of a high sand-drift." This well was a funnel-shaped hole 25 feet deep which the Indians had dug out of the moist clay. Only a trickle of water oozed from the clay walls, and this had to be carried out in buckets over the steps cut in the steep sides of the well. After considerable work the explorers had 20 buckets of rather poor water—enough for cooking and drinking, but not enough to satisfy the thirsty mules. Mesquite trees surrounded the well, and in the shelter of these trees supper was cooked and blankets unrolled.

It was on the following day, while traveling in a southeasterly direction along the foothills, that the ancient beach line was discovered. Blake was greatly impressed by this startling find, and in his report he devoted several pages to the evidences of this pre-historic sea. Pieces of the "calcareous crust," as he called the coral, were broken from the rocks and found to be easily crumbled and cellular in structure. Trapped in the coral were small spiral shells, others were on the ground, "appearing to have been blown into heaps by the wind. They were so numerous in places as to whiten the ground. Five or six species of the genera, *Planorbis, Anodonta, Physa* and *Amnicola,* were soon collected, and showed that the former lake was of fresh water."

Thinking of a time long ago when a freshwater lake had filled this depression, Blake allowed his imagination free reign and dreamed of refilling it so that steamers could puff up the Colorado River and across the lake to the vicinity of Whitewater. "It is, indeed, a serious question," Blake wrote in his Geological Report, "whether a canal would not cause the overflow of a vast surface, and refill, to a certain extent, the dry valley of the Ancient Lake. . . . An overflow and submergence of the valley would produce great changes in the climate of that region, and permit navigation by small vessels from the Colorado to the base of the San Bernardino Pass."

During the morning they crossed several Indian trails, and at noon met a family of startled natives. In typical Indian fashion the young men came first, carrying bows and arrows and an old flint lock; they were followed by the head of the family, a wrinkled old man. The old man explained his surprise by saying that their country had never before been visited by white men with wagons. Unwrapping some dirty rags from around a large, stinking, yellow ball the old man urged the white men to help themselves. This yellow ball was pounded mesquite beans, "an important article of food to them, but prepared in that way, and partly fermented, was not a very agreeable refreshment to us."

In the late afternoon several springs were passed which had been enlarged by the Indians until they were holes two or three feet deep in the clay. Around the best of these springs were located Indian villages, or rancherias, almost completely hidden in dense groves of mesquite trees. Crowds of Indian men came out to meet the wagon train, some riding fine horses, but most walking. The Indian women and children were as curious as the men, but too shy to come close to the white men. Instead they climbed to the tops of the elevated platforms used to store melons and grain, and from these they got a fine view of the passing wagons.

Four miles west of present-day Thermal the Indian guide led the expedition to a spring of good water surrounded by abundant grass for the mules. But before the mules could be unhitched and the tents pitched a swarm of nearly naked Indian men and boys anxious to barter melons, squash and barley for flour, salt pork, bacon and sugar came into camp. By trading with the Indians, the party replenished its supply of grain for the mules and enjoyed the luxury of fresh vegetables.

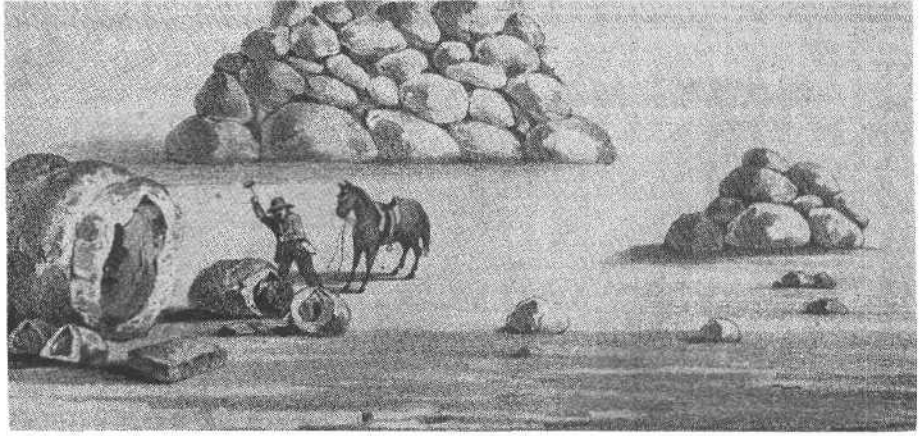
After eating their best supper in weeks, mesquite branches were thrown on the fire and the relaxed men talked over the adventures of the past day. Without warning a band of half naked Indians suddenly stepped out of the darkness, led by the *Capitan* of the village and his head men. Blake knew that Indians never got to the point immediately so he took this opportunity to ask the chief about the ancient shoreline which could be seen high on the hills. The chief said that his people had a tradition of an *agua grande* which had once covered all of this valley and was filled with fine fish. On the shores of this lake lived multitudes

of geese and ducks. His forefathers had lived in the mountains near the lake, but they often came down to hunt wildfowl and trap fish. *"Poco, poco,"* the water in the lake subsided, and his people moved their villages down from the mountains and into the valley which had once been covered by water. Once there had been a great flood when the water suddenly returned; many of his people were drowned, and those who survived returned to the mountains.

Finally the chief got around to the real reason for his visit: why had the white man with his mules and wagons invaded their country? Lieutenant Parke explained that the "Great White Father" was making preparations to build an iron road through their land. The Indians seemed immensely pleased with this news; happily they went back to the village with visions of salt pork, flour and bacon dancing through their heads.

The Indians had never before enjoyed such good fortune, and they celebrated with a grand feast and dance which lasted all night, keeping the entire party awake with "their strange songs and indescribable noise." At four o'clock in the morning Blake gave up trying to sleep and crawled out of his blankets to take the temperature of the spring. It was 56 degrees; the air was four degrees colder.

Before sunrise the wagons were packed, the mules hitched, and the expedition thankfully escaped from the noise of the celebrating Indians. After traveling eight miles their Indian guide directed them to another spring "where the water rose to the surface in abundance, and formed a pool 20 feet or more in diameter, surrounded by an artificial embankment three or four feet high. The water was clear and good." They remained at this spring until three o'clock in the afternoon, resting in the shade of mesquites in preparation for the most difficult part of their journey across the unknown desert to Carrizo Creek.



Koppel's conception of Travertine Rock, "the projecting spur of the mountains upon which the water-line was remarkably distinct."

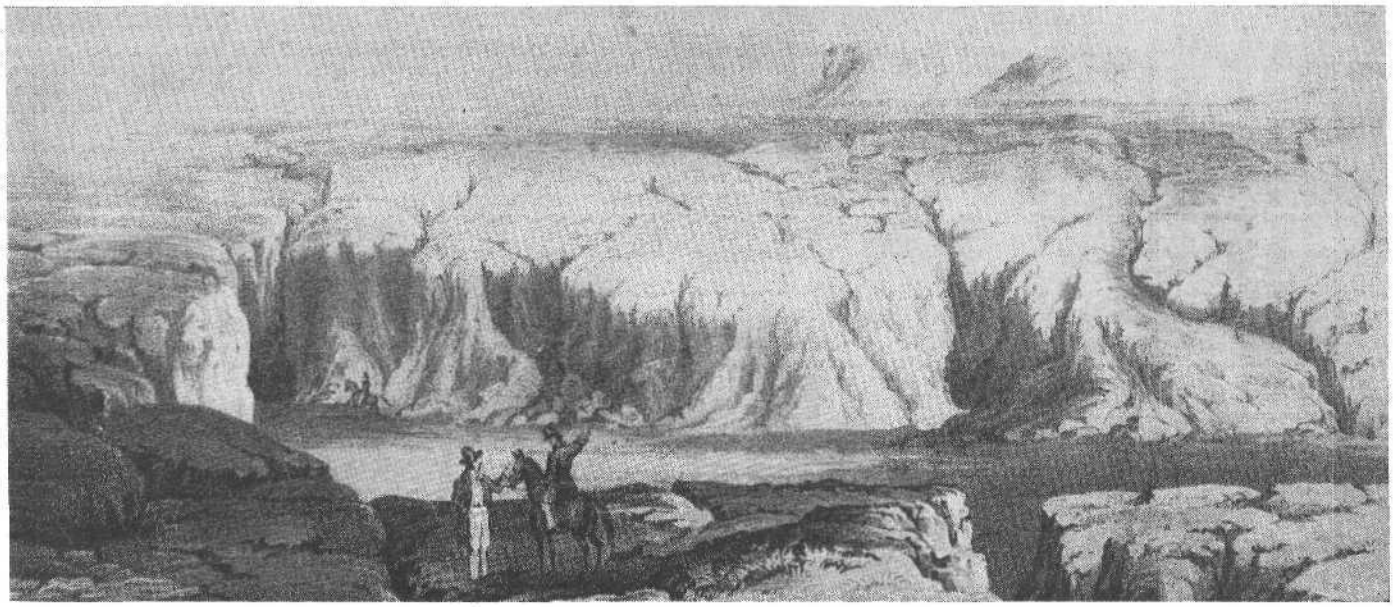
The mules were given a final drink, water tanks were filled, and the men drank of the last good water they would taste for four days. The Indian guides could not be persuaded to go beyond this spring, "saying that there was neither grass nor water, and that we could not take the wagons."

From the spring the wagons headed southeast, following the approximate route of Highway 99 which skirts the shores of the Salton Sea on its way to Brawley and El Centro. Five or six miles had been covered and the sun was beginning to set when the expedition passed a projecting spur of the mountains where the ancient beach line was remarkably distinct — the Travertine Point of today. The beach seemed to be high above the valley floor, but Blake thought that it could be easily reached. Spurring his horse to a fast walk, he left the wagon train and rode toward the mountains.

When he arrived at the edge of the hills Blake found that the rocks which had appeared small from the wagon train were in reality huge granite boulders, 10 to 30 feet in diameter, piled together in great confusion. Between the boulders were many large spaces and long galleries, and the entire surface of the rocks was covered with a white incrustation. "At many of the over-hanging projections of the rocks this incrustation had become detached, by its great weight, and had fallen down to the foot of the cliff in large blocks. These disclosed the fact that this calcareous investment was, in some places, nearly two feet in thickness."

Soon after passing Travertine Rock the sun went down behind the Santa Rosas, but because there was no water or feed for the mules the wagons continued slowly on by the light of the

Nearing San Felipe Creek the expedition "lost much time and expended much labor" crossing these ravines in what is known today as the Borrego Badlands. From a sketch by Koppel.



moon. Soon after dark the train of wagons crossed a large alluvial fan covered with gravel and giant boulders.

In this same area—known today as the Borrego Badlands — there were many deep ravines which were terrible obstacles for the heavy wagons and weary mules. In some places these water channels were so narrow that it was almost possible to jump across; yet they were 20 or 30 feet deep. For hours the men and mules struggled across one ravine after another. When one of these deep fissures was encountered the wagons would be driven along its edge until some place was found where shovels could be used to build a road to the top. "The bed of a small tributary, or side fissure, was generally selected, and leveled by shovels so that the mules could be driven up and down." By midnight everyone was exhausted, and although there was neither water nor grass for the mules it was decided to rest until daylight.

Early the following morning, November 19, the mules were again hitched to the wagons, and the train moved slowly southward in search of the emigrant road which ran through Warner's Ranch to Fort Yuma. Thousands of concretions of all shapes and sizes were found. "One of the more sandy beds furnished great spherical nodules as large as 10-pin balls or bomb-shells. Some of the balls were connected together by a smaller sphere, which made them resemble dumb-bells. Such was the variety of forms displayed on the surface, that it was not difficult to find specimens resembling various fruits and vegetables, fancy pastry, and confectionery. In nearly all of these strange and irregular forms the original planes of stratification were distinctly visible."

About sundown the scout, who had been riding ahead of the wagons, came back to report that there were sand dunes ahead. Everyone was terribly discouraged. Progress through the sand was painfully slow, for by this time both men and mules were "almost exhausted from exertion and want of water. The poor mules began to fail, and cried out in their peculiar, plaintive manner, evidently desiring water." Shortly before dark the wagons passed between two large dunes, and the mule drivers found their way blocked by another deep ravine similar to those encountered the previous night. Since it was nearly dark and everyone was exhausted, it was decided to rest until moonrise before attempting to cross. Shortly after eight o'clock the moon came up, and by 10:30 the wagons were across.

Again they were forced to travel all night, their second without water, traversing deep ravines, plodding through bottomless sand and winding around high sand dunes. In spite of this depressing terrain Blake was deeply impressed by the beauty of the desert at night. He wrote in his diary that "the extreme purity and clearness of the atmosphere on this desert becomes strikingly evident at night. The sky remained unclouded; and the stars shone out with that number and brilliance so characteristic of clear, frosty nights in the north; and the moon rose above the horizon with a clear, round disc, apparently unmodified by any vapors near the ground."

After two nights and a day without water or grass the mules began to give out. Some had to be unhitched from the wagons and allowed to follow along behind as best they could. Lieutenant Parke announced that it would be impossible to take the wagons much further, and they would be abandoned unless water was found soon. At four o'clock in the morning a change in the atmosphere was noted by everyone in the party; "there was an occasional dampness, or sudden coolness, together with the odor of vegetable decomposition. The mules of the train were the first to recognize these indications of the proximity of water, and they became animated and pressed forward with eagerness. The riding mules pricked their ears and sniffed the air, while those that had been allowed to run loose in the rear of the wagon charged forward in a gallop. We soon reached the brink of a chasm or ravine in the clay similar to those before described, except that there was a small shallow stream of water at the bottom. This was San Felipe Creek. The cry of 'Water!' arose from those who reached it, and it was repeated with loud shouts of joy from one end of the train to the other."

Along the edge of the stream grew coarse grass and tulles which the mules ate, although with little relish. The water was so impregnated with salt and magnesium sulphate that it deposited a thick, white crust along the margin of the stream. But the water was cool and not too disagreeable in taste. After everyone had drunk his fill, fires were lighted and the cooks began preparing breakfast. It was a wonderful meal, except for the coffee which was made from the brackish water and proved to be "exceedingly nauseating."

All day the party camped at San Felipe Creek, resting men and mules for the next dash across the barren wastes to Carrizo Creek. Blake took advantage of this rest period to explore the desert. Near camp he found a few pieces of "silicified" wood and a perfect, clear crystal of calcite which looked like Iceland spar.

Two men were sent out on mule-back to search for the wagon road to Yuma, and they returned that evening with the report that it was about 20 miles away. The following morning, November 21, the expedition got an early start and the emigrant road was reached that afternoon without difficulty. The wagons turned sharply northwest along the dusty trail toward the mountains. The road gained several hundred feet of elevation and then made a sudden descent into the valley of Carrizo Creek, which was entirely dry. After considerable digging in the bed of the creek, water was found and camp was made near the creek in a grove of mesquite trees.

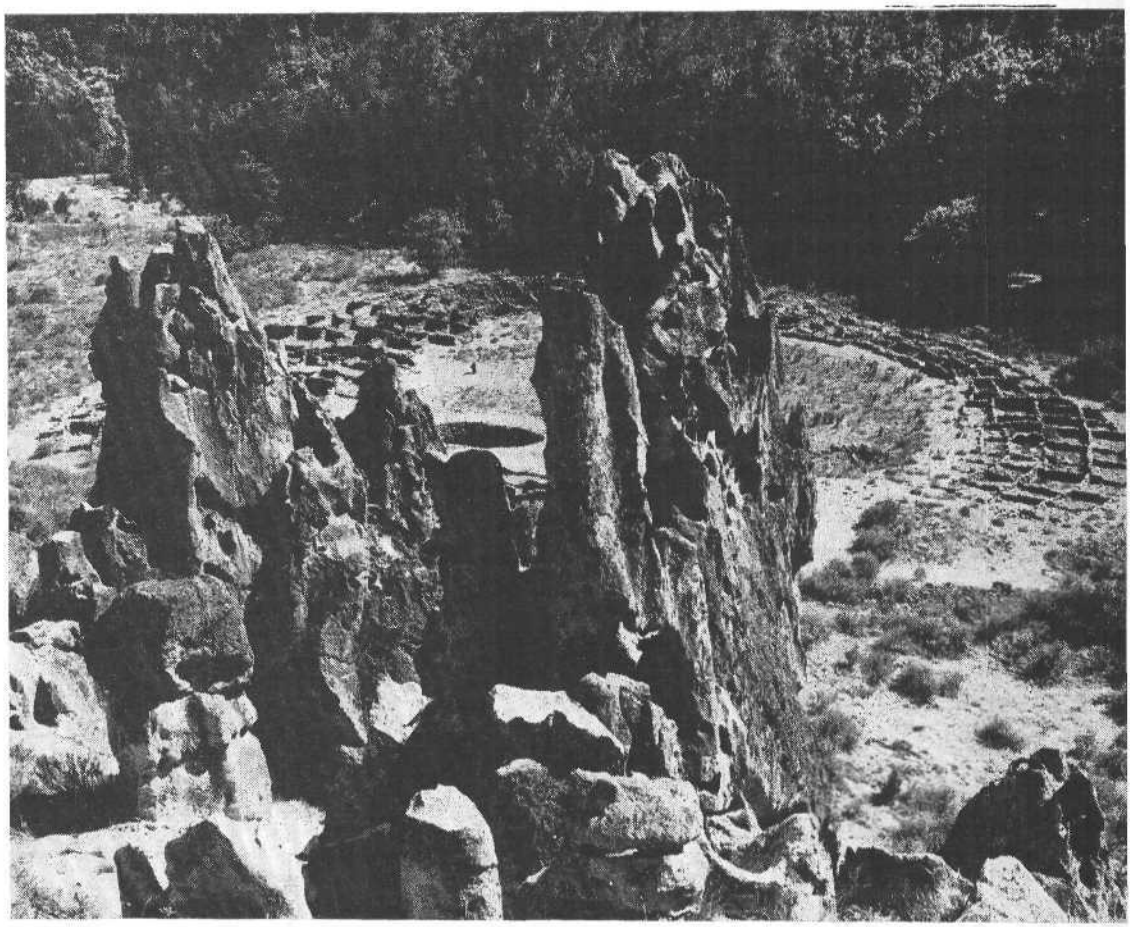
Leaving Carrizo Creek early the next morning the expedition passed a valley one or two miles wide containing a grove of palm trees, and then continued on to Vallecito. Plenty of water was found in the springs which boiled up from a grassy bank on the side of a low hill, although the water was somewhat disagreeable, being "charged with sulphuretted hydrogen." Vallecito was a pleasant place to camp, the springs surrounded by willows and mesquite, and the tents were pitched near an old adobe cabin.

From Vallecitos the party went on to the Indian village of San Felipe where many small fields of corn were planted along the edge of the creek and the many fine springs. Here they pitched their tents and prepared to wait until the other party arrived from the Mojave. Three days later a man stopped at their camp on his way to Yuma, and told them that the other exploring party was already camped at Warner's ranch.

It is only 16 miles from San Felipe to the broad, beautiful valley in which J. J. Warner had established his cattle ranch. On the way to the meeting place they passed the ruins of Warner's old adobe which they were told had been burned by the Indians.

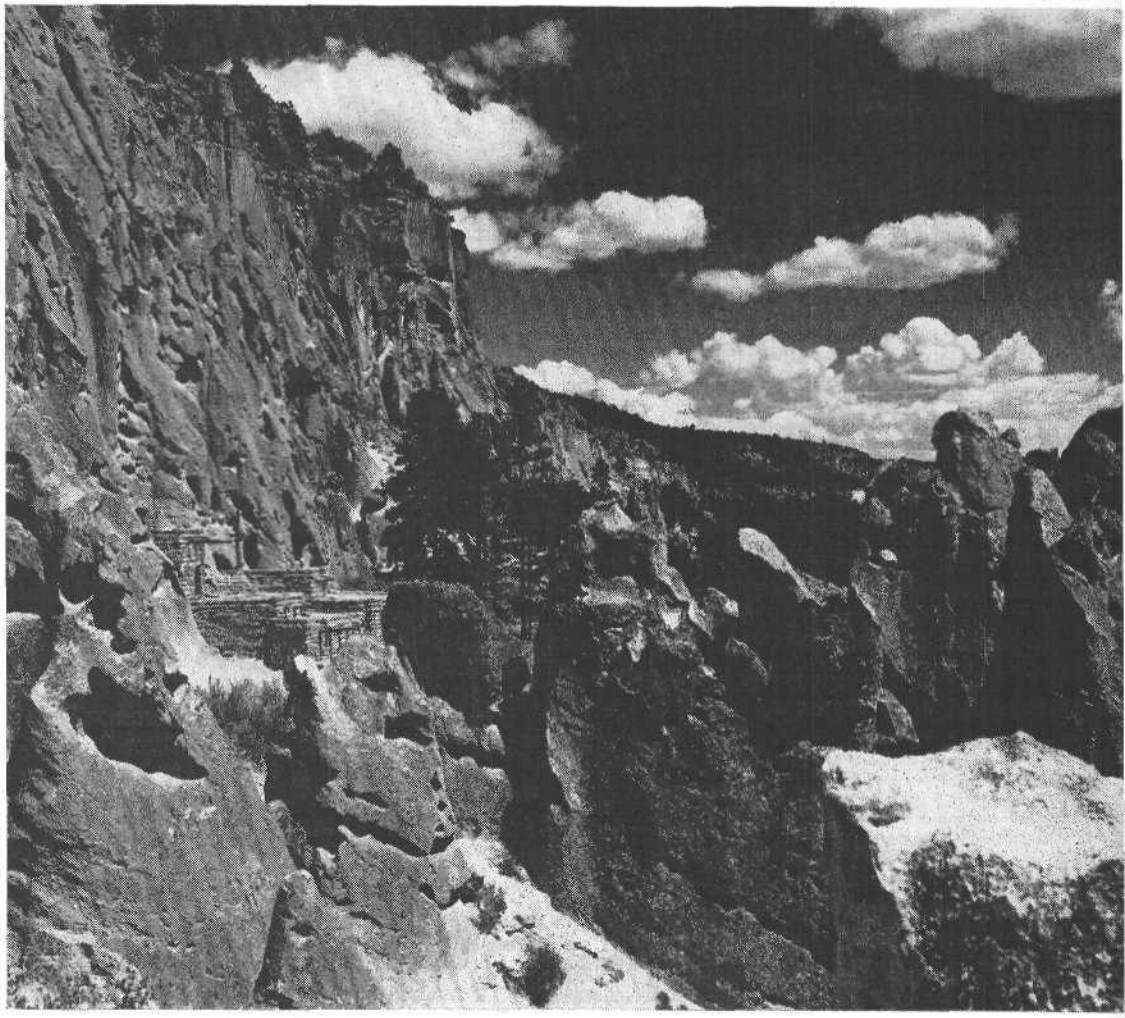
On the first day of December the entire expedition started out for Fort Yuma along the route which was used four years later by the stages of the Overland Mail. After a week of hard traveling across the Imperial Valley the fort on the Colorado River was finally reached, and three days were spent resting the mules before the return trip was begun. The Bay of San Diego was reached in eight days, and on the 23rd of December Professor Blake and his companions boarded the little steamer Southerner for San Francisco. They day after Christmas, 1853, the ship steamed through the Golden Gate, bringing to an end the first scientific exploration of the Colorado Desert of Southern California.

Tyuonyi Pueblo



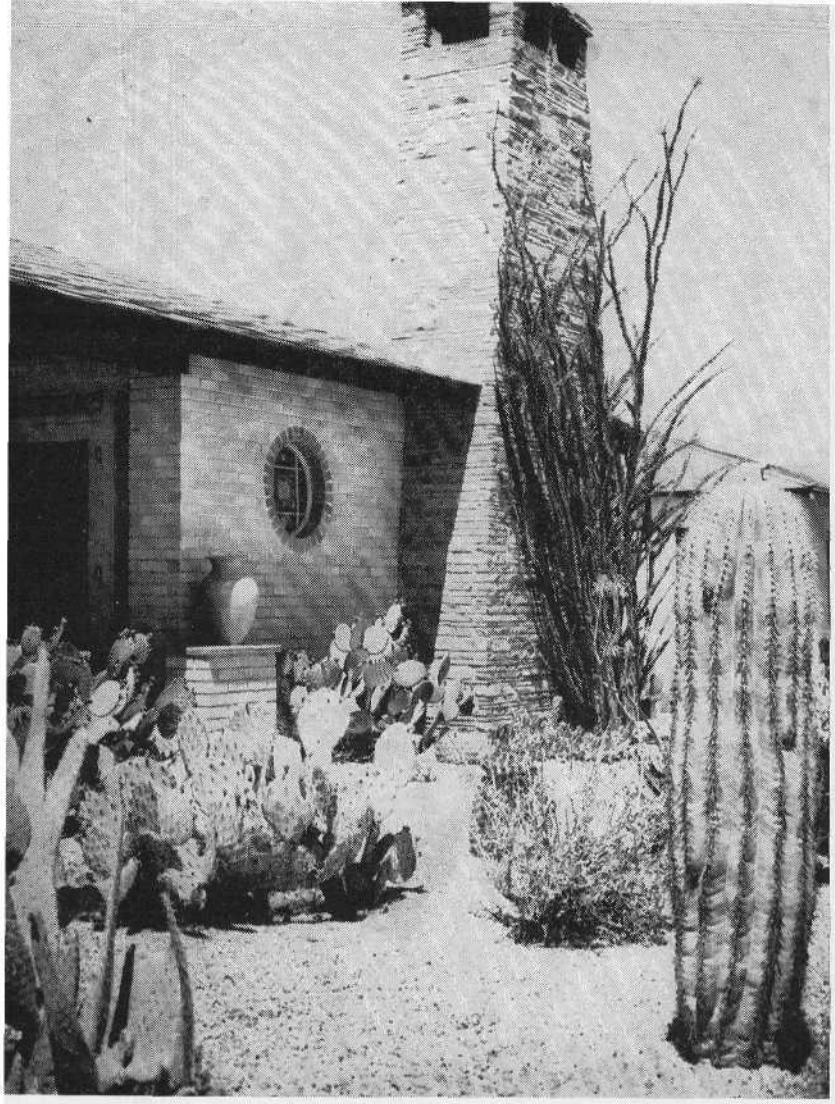
Circular Ruins

Arts, crafts and traditions of Chaco Canyon, Mesa Verde and other pueblo and cliff-dwelling peoples were blended into a new Rio Grande culture by drouth-harried exiles from those deserted sites. Together they found refuge in Frijoles Canyon, New Mexico, a verdant haven, deeply eroded in soft tuff or consolidated ash of a volcanic plateau by "El Rito de los Frijoles" — The Little River of the Beans. There they built Tyuonyi Pueblo. Its circular ruins on the canyon floor and sheer cliffs honey-combed with cliff-dweller apartments are the chief attractions of the little paradise that is Bandelier National Monument in New Mexico.



View from the Ruins . . .

Everyday a stupendous canyon vista greeted the dwellers in 250-room Tyuonyi Pueblo located in the depths of a stream-cut gorge. No doubt its challenging surroundings did much to inspire development of this flourishing culture center, during a time known to archeologists as the Regressive Pueblo Period. Tyuonyi's absorbing story was lived between 1300 and 1600 A.D.



Desert Natives make effective landscape for Mr. and Mrs. L. R. Hills' home in Tucson, Arizona. Ocotillo is growing against the chimney. Cacti in the foreground, from left, Cows Tongue, Santa Rita, Christmas Cactus and Saguaro.

HOME ON THE DESERT

Landscaping with Native Desert Plants

With a little imagination and wise selection of stock, any desert dweller can have an attractive garden of native plants—and the possibilities for interest and unusual effects are unlimited. This month Ruth Reynolds tells of this type of landscaping which requires much less upkeep than the conventional front yard undertakings.

By RUTH REYNOLDS
Photographs by Helen Gardiner Doyle

DURING THE rainy season — beginning in mid-July — the Southern Arizona desert will come strangely, actively alive as the thirsting plants drink greedily and are revived and replenished after a long wait for water.

In June it is a land of repose. During these summer days preceding the rains, the air is breathlessly still and the land shimmers in the sun's white heat. In this long afternoon of the year, the desert appears most endowed, I think, with patience, quietude and wisdom not common to the rest of the world. Now more than ever its living, growing things are symbolic of character, courage and beauty.

However, I have a feeling that few people can experience the desert in any season without wanting to claim kin with this wise old land and the marvelous things that grow upon it with so little sustenance.

Perhaps from such subconscious wishing springs the often gratified desire to gather about us some of these growing things.

At any rate hardly a desert home lacks at least one cactus or other native specimen in the garden, and many are landscaped entirely with native plants and shrubs.

There was a time, not so long ago, when little else was expected to grow for us, but that theory has been thoroughly disproved.

Today desert landscaping continues to be popular—not from necessity, but by choice. Aside from sheer preference, some desert dwellers may choose this type of gardening for reasons of health and moisture incompatibility. Others may be influenced by the expense or scarcity of water.

For whatever reason it is chosen, its possibilities for interest and unusual effects are unlimited, and of course, no other plan of landscaping is so exclusively the home-on-the-desert's own and so unattainable elsewhere.

Here in Tucson I see it used to achieve very modern designs quite in keeping with the contemporary architecture of the newer homes.

To discover a charmingly desert-landscaped home is for me a pleasant experience—like meeting a group of old friends assembled in a neighbor's garden.

Recently I came upon such a group at the home of Mr. and Mrs. L. R. Hills. If these "friends"—the cacti and other desert plants—had been less well turned out, less artfully presented, I might have acknowledged them merely as acquaintances who had strayed slightly off limits. For it does often happen that cacti and such—always so pleasingly spaced on the desert—lose much of their charm in a collection.

The Hills' collection ornaments the whole front yard—fills it, you might say, and yet leaves it somehow nicely uncluttered, and sets off to advantage the attractive but unpretentious yellow brick house.

The garden's focal point is a large ocotillo growing against the chimney. Never have I seen one more strikingly displayed, although the ocotillo is, above all other plants, the acknowledged desert classic. Silhouetted against a wall or the open sky, cultivated or wild, it is always beautiful. Its wand-like stems rise gracefully erect—in this case to about 15 feet—and flare gently outward. They may put on and take off their covering of small very green leaves several times a year, as water is given or withheld. In spring each stem is tipped with an orange-scarlet flower spike. Marilla Merriman Guild, in her

poem, "The Ocotillo in Bloom," describes them as:

A flock of scarlet birds
Against the deep blue sky;
With every wing outspread
And yet they do not fly;
They flutter there
And poise in air;
A flock of scarlet birds
against the sky . . .

While I prefer this poet's eye view of the ocotillo, botanists describe it as *Fouquieria splendens,* unrelated to its cactus companions but a thorny relative of that wierd, inverted cone-shaped Boojum Tree or Cirio which haunts areas of Baja California and Sonora.

Next to the ocotillos in order of importance — and size — in the Hills' garden are the yuccas (*Y. elata*), two of them quite large. There are many types of yuccas—all of them attractive —but these with their palm-like, fine bladed foliage high up on the plant, lend a particularly dramatic touch to the scene. Being of the lily family, they too are among the non-cactus members of this cactus garden.

That, primarily is what it is, and with the exception of an exotic cactus from India, a Texas native Cow's Tongue (*Opuntia linguiformis*) and a few aloes, they all grow in the surrounding desert.

Liberally included are the native Opuntias — Santa Ritas, Beavertails (*O. basilaris*), the Christmas cactus (*O. Teracantha*) and various chollas.

There are barrels—bisnagas (*Ferocactus*), the hedgehogs (*Enchinocereus*), an unbranched saguaro and others.

The Hills spend most of the summer at their home in Boliver, New York, where they amaze their friends and neighbors with colored slides of their cactus garden in bloom. Imagine the reaction of easterners to a colored slide of one of the opuntias covered with indescribably gorgeous purple-red blooms, or the purple-padded Santa Ritas with their waxen yellow flowers, or any other cactus in bloom for they are all nothing short of sensational, and equally so is the yucca's tall spire of creamy blossoms.

The Hills are little concerned with gardening problems, so I discussed them with their landscape architect-gardener, F. Valdez. He procures plants from nurseries which propagate them or buys large plants from desert land owners. He plants them in natural desert soil without fertilizer; waters them frequently until they become established and then only every four or five weeks. Even these natives, especially the larger plants, cannot very well obtain a toe-hold in caliche but a garden filled to a depth of a foot or so with any fill dirt and surfaced with a few inches of top soil will suffice. If the ground is covered with gravel, as the Hills' garden is, weeds are discouraged, moisture is retained and appearance is improved.

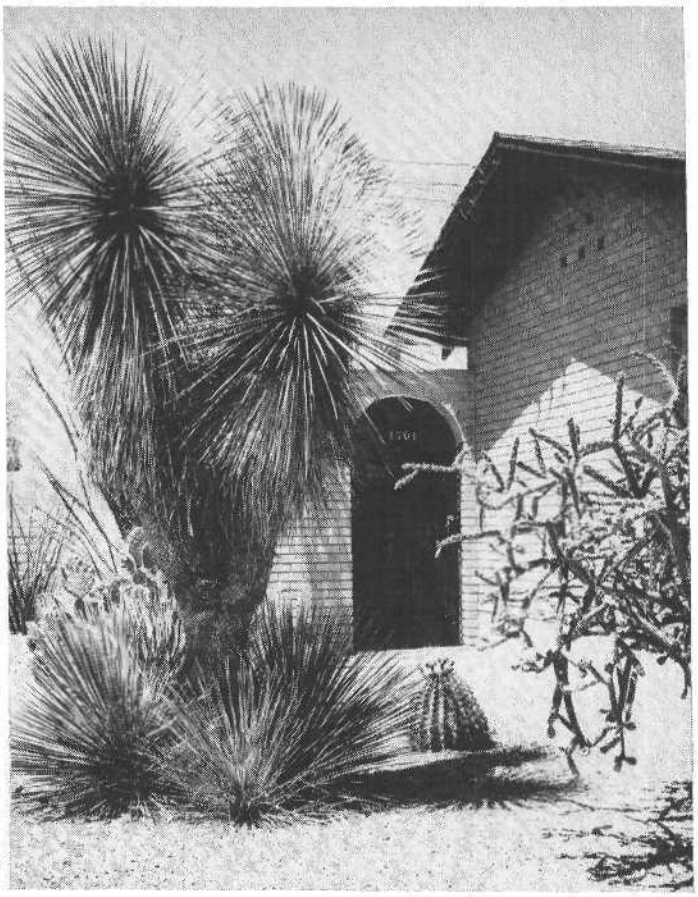
The initial cost of such landscaping is comparable to other types but the upkeep is less expensive and requires much less work. Many cacti, especially the jointed opuntias, which may be propagated by joints, should cost very little but a sizeable saguaro or yucca plant would run somewhere around $25, a large ocotillo somewhat less.

Being so impressed with the garden's design, I asked Mr. Valdez where he had learned architectural landscaping. He looked a little bewildered for a moment. "Learned?" he said, "I have been doing this many years but I do not think I have ever learned to do it. All my life I have seen these plants growing on the desert and I try to make them look at home in the garden."

What school could have taught this man of the desert more?

This flagstone walk leading to the front door is flanked by an unusual barrel cactus, foreground, Indian cactus, yucca, cholla and beavertails, and at right, ocotillo.

A large yucca with small ones at its base adds a dramatic touch to the garden at the end of the house. Gravel discourages weeds, helps hold moisture, aids appearance.



LETTERS

Rat Species Re-Discovered . . .

Anaheim, California

Desert:

I have read with interest your May, 1956, editorial comment on the box-car monstrosities built on some of the Jackrabbit tracts.

The brother of a man with whom I work built one of the "orderly and friendly" type cabins on his five acres near Twentynine Palms in which he intended to spend his winter weekends in the enchanting desert country.

A few weeks after it was completed, he drove to the location with his family and some friends. The cement slab was a permanent monument to his erstwhile endeavors at homesteading. Some "friendly" person or persons had appropriated all the lumber—including doors and windows. His pocketbook is thinner, but he learned that there are several specie of desert rat.

CLYDE DAWSON

Latins Did Have Shorthand . . .

Huntingdon Valley, Pennsylvania

Desert:

J. F. MacPherson's letter on Latin shorthand, and your reply in the April issue induced me to look up the subject of shorthand in the Encyclopaedia Britannica.

A Latin shorthand was invented in 63 B.C. by Tiro, a contemporary of Cicero. His system was taught and used extensively on through the Middle Ages. It does not seem unlikely that the Jesuits were still using the Tironian system as late as the 16th century.

If the above facts lend credibility to the first part of the story told by MacPherson's acquaintance, do they not make one wonder whether there is something to the tale about the great cave in the Trigos, notwithstanding your own wide knowledge of the area?

ERNEST RECHEL

• • •

Joshua Trees in Utah . . .

Clearfield, Utah

Desert:

For some reason the writers of *Desert Magazine* are reluctant to admit that the Joshua Tree does grow within the boundaries of Utah.

In Norman C. Cooper's "Weird Symbol of the Mojave," (January, '56) the author admits the tree grows in Utah, then later takes it back. In one paragraph it is stated,—"The trees extend from the lower boundary of the Joshua National Monument on the south, north through Antelope Valley to Central Nevada and east into Beaver Dam Mountains of the southwest corner of Utah." Six paragraphs later the author writes, "It is endemic to western North America and grows only on the desert of California, Nevada and Arizona."

DEWEY MOSS

• • •

Predator List Revised . . .

Anaheim, California

Desert:

Thank Heaven for the Desert Protective Council! Through their proposed revisions (*Desert,* May, '56), Nature's diminishing "so-called" predators may be spared the fate of so many of their brothers: extinction by thoughtless and greedy men.

Now that the Council has proposed these revisions, how do they go about getting each and every one adopted by the law makers of California? And what can any of us who are concerned about these laws do to help expedite these revisions?

CAROLE DAWSON

Carole Dawson: We appreciated your letter, and will pass its content along to the Desert Protective Council. The only way we know to get action is through our state senators and assemblymen—the men who make the laws. The more letters they receive on the subject, the more likely they are to give heed.—R.H.

• • •

In Love With Desert . . .

Kokomo, Indiana

Desert:

My husband and I recently spent 17 months in the Southwest. We made several tours and took many walks in the desert, and completely fell in love with it.

We are in our 40s and would like very much to correspond with some of your readers of like age who live on the desert. Our street address is 1015 E. Laguna Street.

MRS. JERRY LEWELLYN

• • •

Juniper Sheds Capsules . . .

Flagstaff, Arizona

Desert:

Your quiz editor slipped on question 20 of the May, '56 True or False Quiz —the juniper *is* a cone-bearing tree. It is true that the fruit is berry-like, but it is a berry-like cone and not a berry-like capsule.

W. B. McDOUGALL

Hard Rock Shorty of Death Valley

By HARRY OLIVER

"Mosquitoes seem to be pretty thick up around here," the stranger was saying as he sat in the Inferno store waiting for the clerk to fill his order for canned goods.

"Yep, lots o' them," answered Hard Rock Shorty. "We don't pay no 'tention to 'em. Ol' Pisgah Bill wouldn't kill one if it wuz chewin' his ear off."

"Yes, I know. Some people seem to be immune to the poison of mosquitoes."

"Naw, that ain't the reason Pisgah leaves 'em alone," said Shorty. "He likes 'em 'cause they saved his life once. Happened down at Badwater where they's millions o' skeeters.

"Bill'd been out prospectin' around fer several days an' one hot afternoon he laid down under a mesquite tree fer some shade. Didn't see a big rattler coiled up there — also enjoyin' the shade. The reptile nipped him on the left shoulder, an Bill couldn't apply none o' them remedies like makin' a turnakit or suckin' out the poison on account o' the place where he was bit. He wuz two days from camp and no doctor in 300 miles so he jest figgered that was the end and laid down waitin' fer nature to take 'er course.

"Went to sleep after while and didn't wake up 'til the next mornin'. Felt all right an' had forgot about that snake bite, but there on the ground all around him wuz millions o' them big Badwater skeeters. All of 'em dead.

"Then Bill remembered about that rattlesnake, an' felt his shoulder an' 'xcept fer bein' a little sore it felt all right. Then Bill figgered it all out. Them 'skeeters 'd come along an' sucked all the poison outta that snake bite.

"So Bill never swats a skeeter any more."

"Get Juan to do it for You"

Old Juan was an exasperating rascal whose chief talent was provoking his employers to tears and raging tantrums—but he was also the area's most skilled artisan in cement and adobe. . . .

By NONA B. MOTT

OLD JUAN is a living legend around Bisbee, Arizona. No one recalls that he ever looked any different than he does today, and he continues to command respect for his ability to make more lasting adobe bricks than anyone else in the border area.

Juan is a citizen of old Mexico, small in stature even for a Mexican. He seems to have shrunken with the years — although no one, including Juan himself, knows how old he is. During the years he has worked as mason, plasterer and adobe-maker in the community he has worked for many people. Sooner or later he provokes all of them to tears or tantrums —and this he seems to enjoy no end.

At times he has the expressionless face of a cocoanut. But that same face can express all the emotions in the book — the twinkling eyes of good humor, the wrinkled nose of disgust, the puckered mouth of scorn and rebellion — and perhaps none of these facial contortions indicate his true feelings or mood.

My first contact with him came after my husband and I bought a farm a few miles from the Mexican Border in Southern Arizona. Coming from the East we had much to learn.

The house on the newly purchased farm was an ancient four room unplastered adobe structure. It was my responsibility to make it livable. Any advice I asked of the neighbors for miles around brought the same answer, "Get Juan to do it for you." Some of the replies were accompanied by a twinkle, some a sort of vacant stare. This seemed the one and only response to my problem, so I started the long process of solving it.

First task was to find Juan. After hunting through several Mexican gathering places, and all the Immigration Offices along the Southern Boundary of the United States for some 50 miles each way, I finally located him. He lived in Old Mexico, about 15 miles away, which meant that if he worked for me I would have to go after him each morning and return him to the border at night. I had no other choice.

The next Monday morning, bright and early, I was at the border waiting for Juan. Two hours later he nonchalantly sauntered into view, with no explanation for his tardiness. He barely had clothes enough to cover him decently, and for shoes he wore sections of auto tires held with skimpy pieces of grass string. He carried no trowels, no shovels, no levelers, nothing! When I asked him what he was to work with, he informed me he was sure I had everything he would need; or this is approximately the gist of all he said. Mostly, I got the idea from motions he made rather than the words.

I had no tools that remotely resembled what he would use, so we went to the hardware store to stock up. And I do mean stock up. I may as well have owned a supply store before Juan finished selecting what he was sure he would have to have to do the job.

About noon we arrived home with

Juan. Photograph by R. D. Luther

the makings of a contracting business, including Juan. Then he had to eat. With all I was learning about Mexicans it wouldn't have surprised me at all, for him to inform me after lunch he would now take a little siesta. Instead he took two hours to eat.

At two in the afternoon we reached the stage of "looking the situation over". Juan, by motions and jabbering, made me understand he would need some tubs. The only thing I had which could pass for these were my new laundry vats.

"Oh, si, Senora, es bueno." To mix cement! I certainly did not approve, but for the "cause" I gave in.

"Only, don't leave concrete in them."

"Oh, no, Senora." But what did I find the next morning? Two full inches of hardened cement in the bottom of each! And I'm positive he understood me.

Juan plastered away eight whole days. I'm sure I could have finished in three or four at the most. Everyone told me what a wonderful job he was doing, and how lucky I was to have him. I was "lucky" enough to catch him just before he cut a two-foot square from the corner of one of my good wool rugs. He just had to have it to smooth the plaster, he explained. Well, he could use the seat or leg of his old pants. And I doubt if he would have ever missed even that much from them, as ragged as they were.

On the eighth day about four in the afternoon we finished, and Juan began gathering his "belongings" for his final trip home. To my amazement he loaded the car with every tool, board and piece of rag he had used. Indignantly, I asked him what he meant to do, take them home with him?

"Y-a-a-s," was the answer, but as this was the reply to everything I had said to him in eight days I assumed it could mean anything. But, apparently, he meant exactly what he said this time, for when I tried to unload them and explain that they were mine, he immediately switched to a large and final "NO!"

As usual, when something was going amiss, I went to find my husband. He speaks Spanish fluently. I thought perhaps Juan was misunderstanding me. But there was no mistake on either side. It seemed that any tools Juan used automatically became his.

By now I was thoroughly angry. He could "darn well walk back home, and also, darn well leave my tools here." My husband explained that I had a Mexican citizen practically borrowed; we were not finished with our building and I may want him to do more cement work for me; did I want the Mexican Government to sue me? and maybe I had better take him home, tools and all. I did, but still was not convinced the old demon hadn't planned it all just this way. He had a very smug, satisfied look on his face as he went out of my sight. I entirely forgot I had begged him on bended knee to do the work for me in the first place.

Two years later we added another room to the house, and sure enough, again needed Juan to finish the 16 by 32-foot cement floor. I went after him this time determined that he provide his own tools.

He sulked for half a day trying to make me believe he had none, but living on the border for two-and-a-half years had taught me a few of the Mexican ways. Some are quite practical. Especially those of *No sabe* and *Manana* which mean, respectively, "I can't understand a word you are saying" and "Don't be in such a hurry!"

I out-waited him. Muttering and frowning he went away. I was sure I had seen the last of Juan, but decided to wait awhile longer. An hour passed. Just as I used up my last ounce of patience Juan came into view with no less than 50 pounds of trowels of different sizes, shovels, levelers, boards, rags and various other trappings new to me. As he loaded them in the car I examined them carefully, and did not recognize one of them as a tool I had purchased for him originally. I felt much better. Evidently I was not the only one he had hoodwinked into furnishing him a set of working equipment. I was sure he had never bought them himself. But with all his growling and black looks, as always, he made a beautiful job of my front room floor.

Now, many years later, Juan, looking much the same as he did when I first saw him, is still to be found drifting along the border towns between Arizona and Old Mexico, and if there is cement or plastering to be done, I have joined all others in the stock reply, "Get Juan to do it or you."

Here and There on the Desert . . .

ARIZONA

Parker Road Accepted . . .

PARKER — Yuma County Supervisors have decided to accept the proposed million-dollar paved road connecting Parker and Ehrenberg, that the U. S. Indian Bureau will build if the county agrees to take it into its road system, which means the county would have to maintain and police it. The new road will span the 17 miles between Japanese relocation Camp No. 1 in the center of the Parker Valley and U. S. Highway 60-70 at Ehrenberg. The existing road, from Parker to Camp No. 1, will be resurfaced.—*Yuma Sun*

• • •

Indian Driving Questioned . . .

FLAGSTAFF—An opinion as to jurisdiction over Indians driving on U. S. Highway 89 within the Navajo Reservation has been requested from the state attorney general by Laurence Wren, deputy Coconino County attorney. The action followed an announcement by P. H. Nelson, chief of law and order for the U. S. Indian Service at Window Rock, that only Indian police have control of Indians using U. S. 89 on the reservation.—*Coconino Sun*

• • •

New Colorado Bridge . . .

YUMA—Yuma's new million-dollar Colorado River bridge was officially opened in mid-May with a ceremony attended by 3000 persons. Officials of California and Arizona exchanged compliments on the cooperation existing between the two states in highway construction matters. Participating in the festivities was Gertrude Horan of Winterhaven, the first woman to walk across the old river bridge. — *Yuma Sun*

• • •

Research Station Opened . . .

DOUGLAS — The American Museum of Natural History's Southwestern research station at Painted Canyon Ranch was opened to the public recently, slightly more than a year from the date the site was acquired. The station, located on Cave Creek in the Chiricahua Mountains about 65 miles northeast of Douglas, recently completed its laboratory, a building of native stone containing the most desirable features for the scientific workers. The research station will be open the year around, and only charge to visiting scientists will be for board. The Chiricahuas were selected as the station site because they include five life zones of animal and plant life.—*Phoenix Gazette*

Glen Dam Road Authorized . . .

PHOENIX—The Arizona Highway Commission approved a resolution authorizing expenditure of $100,000 to build a dirt road from The Gap to the site of Glen Canyon Dam. The road will extend an estimated 55 miles across the Navajo Indian Reservation through Copper Mine to the damsite on the Colorado River. State Highway Engineer William E. Willey was instructed to complete arrangements with the Indian Bureau for use by the state of Indian Service road-building equipment in the area.—*Coconino Sun*

• • •

Indians Develop Lands . . .

FORT APACHE — An extensive plan to develop the recreational facilities of the Fort Apache Reservation has been set in motion with construction of a 12-unit motel soon to be started. Tables for 250 new camping units already have been built, and they will be distributed throughout the reservation where trout fishing, the cool mountain climate and the beautiful pine-forested scenery are the chief attractions. The plan also includes more campgrounds, better roads to make more fishing streams accessible, signs to direct visitors and service stations to serve the public.—*Phoenix Gazette*

• • •

CALIFORNIA

Museum Funds Allocated . . .

DEATH VALLEY — The Death Valley Museum, a major project of the Death Valley '49ers for the past two years, has been approved by Gov. Knight. Its construction is scheduled to start during the 1956-57 fiscal year. The recent session of the State Legislature voted an appropriation of $350,000 for the museum in a bill by State Senator Charles A. Brown of Shoshone. The legislative enactment requires that a site be provided without cost to the state. It is understood that both the federal government and the Pacific Borax company have offered land for the museum, but the exact location has not yet been determined. — *Los Angeles Times*

New Name Selected . . .

CALEXICO—A new name, emphasizing the international nature of the organization sponsoring the annual International Desert Cavalcade pageant, was selected recently. Originally the Calexico Winter Festival Association, the organization was re-named the Greater Imperial Valley Winter Festival Association last year, and in late April this was simplified to International Desert Cavalcade Association. Ed Ainsworth, Southern California feature writer, was hired to produce a new script for the 1956 pageant. — *Calexico Chronicle*

• • •

Blythe Road "Promising" . . .

BLYTHE — Senator Thomas H. Kuchel informed residents of Palo Verde and Imperial Valleys in mid-April that the senate committee considering the bill passed by the house of representatives on April 12 authorizing $660,000 for relocation of the Blythe-Niland road has not yet completed its work. Kuchel said he anticipated favorable action by the senate on the $2 billion military construction bill which includes the local road authorization. Palo Verde and Imperial Valley residents saw the House action as a major victory in their seven-year fight to secure a direct route between their two valleys to replace the road taken over by the Navy across the Chocolate Mountain Bombing Range. —*Palo Verde Valley Times*

• • •

Joshua Park in Budget . . .

LANCASTER — Possibility that Antelope Valley might soon realize its dreams of a Joshua Tree State Park in the Indian Museum area appeared closer. The state's 1956-57 budget calls for an appropriation of $250,000 to set up such a park either in Antelope Valley or in the Victorville area. — *Valley Press*

THE DESERT TRADING POST

Classified Advertising in This Section Costs 12c a Word, $2.00 Minimum Per Issue

INDIAN GOODS

VISIT THE Three Flags Trading Post on 395 Highway, 4½ miles south of Coleville, California. Genuine Indian made goods at reasonable prices. Desert Dave or The Duchess will show you around.

5 FINE ANCIENT Indian arrowheads, $2. Flint eagle ceremonial, $2. Perfect Folsome, $5. Spearhead, $1. List Free. Lear's, Glenwood, Arkansas.

PAPAGO INDIAN baskets. Wholesale. Keystone. Baskets are in short supply this year. David L. Young. Coleville, Calif.

OVER 600 fine old baskets. Many rare Navajo rugs, both old and new, Bayeta-Germantown. Artifacts, gems, and fine Indian jewelry. Open daily 10 to 6, closed Mondays. Buffalo Trading Post, Highway 18, Apple Valley, California.

FIVE FINE Prehistoric Indian arrowheads $2.00. Perfect stone tomahawk $2.20. Effigy pipe $5.00. Perfect flint thunderbird $3.00. Flint fish hook $3.00. List free. Five offers for only $12.00. Arrowhead, Box 1249, Hot Springs, Arkansas.

ORDER BY mail: Indian Made Thunderbird necklace $2.95. Papago Tray Basket $2.50. 18 by 36 inch Navajo rug $3.95. Price includes postage and sales tax. Three Flags Trading Post, Coleville, California.

WAR BONNET, black tipped white feathers, $12.50; beaded buckskin saddle bag, $12.50; 24" strand trade beads, $1.00; 20" strand tube beads, $1.75; strand of 20 rare, large tube beads, $3.75; 5 ancient arrowheads, $1.00; 3 drills $1.00; 3 birdpoints, $1.00; 5 warpoints, $1.00. Paul L. Summers. Canyon, Texas.

REAL ESTATE

BEAUTIFUL, PARTLY level, 20 acres including famous Coral Reef Mt., many superb building spots. Full price $6000. The All American Canal wanders lazily through an 80-acre farm surrounded with lovely desert mountains just 7 miles from Indio. It's for sale, $26,500. Ronald L. Johnson, Thermal, California.

CHOICE HOMESITES and acreage. Salton Sea vicinity. For full information write Pon & Co., Box 46 DA, Azusa, Calif.

FOR SALE — 6 unit motel with laundry room. Overnight units, air condition, gas vented and electric heat. Nicely landscaped. Cool shady patio. There are other facilities, too. This is on a main highway. If interested write Box 673, Salome, Arizona.

SAVE, BUY direct from Government, Surplus farms, land, homes, etc. List $1.00. Box 169-DMA, East Hartford 8, Conn.

BOOKS — MAGAZINES

OUT-OF-PRINT books at lowest prices! You name it—we find it! Western Americana, desert and Indian books a specialty. Send us your wants. No obligation. International Bookfinders, Box 3003-D, Beverly Hills, California.

INTERESTED IN NEVADA? A new miniature album just printed contains 10 fine kodachromes of historic mining towns around Nevada, with brief descriptions and locations. "Historic Highlights of Nevada" available now for just 25c in coin or money order to: E. W. Darrah, P. O. Box 606, Winnemucca, Nevada.

RARE GEOGRAPHIC magazines for sale. Write Frank Drew, 901 Ormond Lane, Redondo Beach, California.

HAVE REAL fun with desert gems, minerals and rocks. The rockhound's how-to-do-it magazine tells how. One year (12 issues) only $3.00. Sample 25c. Gems and Minerals, Dept J-10, Palmdale, Calif.

FREE! BIG 40 page book "Where to Look for Uranium in California" when you subscribe to Western Mining Magazine—one year, $2.00, a real value. Western Mining, Box 787, Sonora, California.

WANTED—Back issues of Desert Magazine. Will pay $5 for Nov. '37; $1 for Apr. '38; $1.50 for Sept. '38; $1.00 for Feb. '39, in good condition. Desert Magazine, Palm Desert, California.

MISCELLANEOUS

ADDRESS UNKNOWN. If June Haines Betsworth will please contact the Desert Magazine office a check is here awaiting her.

NO MATTER who you are, where you live, or who has tried to repair your Radiation Instruments, let us do it right, fast. Don't send us cheap toy counters. Since most radioactive test pieces with instruments are inaccurate, we calibrate by U. S. Bureau of Standards radium gamma ray standard. IGWTD, Hot Springs, New Mexico.

HARDY CACTUS, some rare, free price list, Nancy Duck, 507-30 Road, Grand Junction, Colorado.

PAN GOLD: $1 for 75 panning areas in 25 California counties. Geological formations, elevations, pertinent notes. Panning pans $2.75, $2.25. Leather nugget and dust poke $1. Fred Mark, Box 801, Ojai, California.

COUPLE, 40, healthy, responsible, congenial, available immediately. Adept at dealing with people and making friends. Capable assuming full management motel or similar business. Last place 6 years, 50 unit court. Best references. Wm. Ashton, 12 Edgar Ave., Dunellen, New Jersey, 2-2942.

SANDBLASTED MANZANITA, desert woods, seed pods of all kinds. Wholesale and retail. Showroom and headquarters, Banner Queen Ranch Trading Post. 7 miles east of Julian, California, on Highway 78.

SECTIONIZED COUNTY maps — San Bernardino $1; Riverside $1; Imperial 50c; San Diego 50c; Inyo 75c; other California counties $1.25 each. Nevada counties $1 each. Topographic maps of all mapped areas. Westwide Maps Co., 114 W. Third St., Los Angeles, California.

GOLD PROSPECTING Catalog — Listing, placer and lode maps, steel gold pans, mining and mineral books, books on lost mines, pocket magnifying glasses, mineral collection sets, blueprints of dry washers and wet washers you can build yourself. Catalog and Gold Panning Lessons — Free. Old Prospector, Box 729, Desk 5, Lodi, California.

BUILD YOUR OWN real swimming pool! Fun for the entire family! Easy plan and instructions, only $1.00. Delta Pools, Box 604, Stockton, California.

DESERT TEA. One pound one dollar postpaid. Greasewood Greenhouses, Lenwood, Barstow, California.

INTERESTED IN prospecting for gold and Industrial Minerals? Join United Prospectors and read Panning Gold. Write for application: United Prospectors, 701½ E. Edgeware Rd., Los Angeles 26, Calif.

INDIAN PHONOGRAPH Records. New singers! Latest songs! As well as many old-time songs and chants—all completely authentic. Write for free record list No. 5. Canyon Records, 834 N. 7th Avenue, Phoenix, Arizona.

SILVERY DESERT Holly plants: One dollar each postpaid. Greasewood Greenhouses, Lenwood, Barstow, California.

FIND BURIED Treasure, gold and silver, with Goldak's sensational 3½ lb. "Find-It" locator, only $49.50. Write for free literature on complete line of mineral, metal locators; Geiger and scintillation counters. Goldak, 1541 W. Glenoaks Blvd., Glenoaks, California.

LADY GODIVA "The World's Finest Beautifier." For women who wish to become beautiful, for women who wish to remain beautiful. An outstanding desert cream. For information, write or call Lola Barnes, 963 N. Oakland, Pasadena 6, Calif., or phone SYcamore 4-2378.

GHOST TOWN ITEMS: Sun-colored glass, amethyst to royal purple; ghost railroads materials, tickets; limited odd items from camps of the '60s. Write your interest—Box 64-D, Smith, Nevada.

BUY SURPLUS direct from government at tremendous savings. Farm tools, machinery, feed, truck, jeep, tractor. Hundreds of others. List $1.00. Box 169-Daa East Hartford 8, Connecticut.

RENT A COUNTER. $55 total deposit. Rental 51c a day plus batteries. 10 day minimum. Get terms. IGWTD, Hot Springs, New Mexico.

Riess Taps Water Supply . . .

PALMDALE — Stephan Riess of Simi Valley (*Desert*, April, 54, p18), the famous water wizard who has located many "impossible" wells in seemingly water-less country, has brought in a well four miles from the heart of Palmdale which is capable of delivering 550 gallons a minute. The well, a typical Riess undertaking, was drilled into solid rock atop a mountain slope where experts predicted there was no water. The water in the Palmdale well stands at a constant level 35 feet below the surface and is 1090 feet deep.—*Valley Press*

Equal Pay for Braceros . . .

MEXICO CITY, MEXICO—New migrant labor agreement providing "equal pay" for Mexican farm workers in the United States will be submitted to both governments for approval, the Mexican Foreign Ministry announced. Modifications to the treaty under which Mexico sends approximately 300,000 workers annually to harvest U.S. crops, also included U. S. Labor Department supervision of health and working conditions. The ministry said that Braceros will be paid wages equal to those of local workers in regions where they will be employed.—*Yuma Sun*

• • •

Salton Record Shattered . . .

SALTON SEA BEACH—The record for the Salton Sea swim was broken twice on the same afternoon in early May by two swimmers who finished the 10½-mile stretch an hour apart. Danish Olympic swimming champion Greta Anderson of Long Beach, California, left the north shore at 8:30 a.m. and crossed over in a record four hours, 25 minutes and 20 seconds. One hour later, Professional Swimmer Tom Park, also of Long Beach, finished the course in a new record time of four hours, nine minutes.—*Coachella Valley Sun*

• • •

Land Development Seen . . .

BLYTHE — Leasing of more than 60,000 acres of river bottom land in the Colorado River Indian Reservation across the river from Palo Verde Valley may be under way shortly, under the vast free-enterprise development program of the nation's 53,000,000 acres of Indian lands. The new leasing regulations which put into effect an act of congress approved last August, provide that some Indian lands may be leased for up to 25 years, with provision for a 25 year renewal. — *Palo Verde Valley Times*

• • •

NEVADA

Military Ruins Land . . .

TONOPAH — The Department of Defense should either make use of the 1,800,000 contaminated acres of the Tonopah bombing range now lying idle, or provide the $18,000,000 necessary to make the land safe for other use, Rep. Cliff Young declared recently. "The military litterbugs have left Nevada with an $18,000,000 liability. I feel it is attendant upon them to rectify the situation," he said. Young said the land was "contaminated by unexploded ordnance. It consists figuratively speaking of 1,800,000 acres of booby-traps. This land is not now suited for farming, nor for mining, nor is it safe for recreation use nor hunting."—*Reese River Reveille*

Record Sum Wagered . . .

CARSON CITY—People patronizing Nevada's gambling tables during the first quarter of 1956 bet an estimated $142,891,500 and lost $28,578,300 of it. As a result the state collected an unexpected $1,143,055 as its share of gross winnings. It was a record tax sum to which was added $499,950 in table fees, $3530 from race wires and $1371 in penalties for a total boost to the state treasury of $1,647,906.—*Nevada State Journal*

• • •

Historical Group Formed . . .

CARSON CITY — Incorporation papers for the Eugenia Clair Smith Foundation for the Preservation of the Living History of Nevada, have been filed with the State of Nevada. The purpose of the foundation is to secure data on the history of Nevada from persons now living in the state. Such information, as it is gathered, will be segregated, edited and filed with the State Museum in Carson City, the Nevada Historical Society, the Bancroft Library in San Francisco, the University of Nevada and the Smithsonian Institution in Washington, and will be made available to service clubs, schools and chambers of commerce. Tape recordings, moving and still pictures will be made as quickly as possible, the foundation said.—*Wells Progress*

• • •

Hunting Rules Challenged . . .

GARDNERVILLE — Stephen James, a resident of the Washoe Indian Reservation, has pleaded not-guilty to charges that he unlawfully had possession of part of a deer. James allegedly shot and killed the deer and notified the warden of the incident in order to make a test case to decide whether Indians are bound by state fish and game laws while on their own reservations.—*Record-Courier*

• • •

Industry Tops Gambling . . .

HENDERSON—The five major industries in Henderson grossed $10,000,000 more in 1955 than all the gambling establishments in Las Vegas, according to figures released recently by the *Wall Street Journal.* The article points out that Henderson's industries grossed $70,000,000 in 1955 against $60,000,000 for gambling. — *Nevada State Journal*

• • •

Cave Sightseeing Tours . . .

ELY—Sightseeing trips to Lehman Caves from Ely will be inaugurated this summer under plans being made by Dick Brooks, operator of the limousine service to and from Yelland Field airport. Tours to the Ruth Copper open-pit mine, mill and smelter and possibly to other points are also considered.—*Ely Record*

Outhouses Outlawed . . .

TONOPAH—The county commissioners have decreed that all outhouses in Tonopah must be removed and the local government will do the work without charge—even to the erasing of all evidences of the buildings' past presence. Persons who decline to cooperate will probably find themselves facing condemnation proceedings if sanitation ordinances are violated. — *Tonopah Times-Bonanza*

• • •

NEW MEXICO

Sixth Year of Drouth . . .

SANTA FE—New Mexico entered its sixth year of drouth with no relief in sight. State agriculture leaders are wondering how the state's farmers and ranchers have managed to hang on so

long, and how much longer they can continue. The number of farms being at least temporarily abandoned is increasing, herds of cattle have been completely liquidated or moved out of the New Mexico drouth area and a total of 603,000 acres of crop and rangeland is "blowing."—*New Mexican*

• • •

Urge Speed on Dam . . .

FARMINGTON—The Upper Colorado River Commission has asked the Bureau of Reclamation to start work on the Navajo Dam in New Mexico concurrently with dams in Wyoming and Utah. New Mexico Commissioner John Bliss told the commission that his state is concerned about the status of the Navajo Dam portion of the big upper Colorado River project, which is planned for a later start than Flaming Gorge Dam in Utah and Wyoming, and Glen Canyon Dam in Utah. — *New Mexican*

• • •

Solar Furnace Started . . .

CLOUDCROFT—Confirmation has been received that the Air Force has begun construction of its giant solar furnace near Cloudcroft, the *Alamogordo Daily News* reported. The newspaper said Air Force engineers have laid out a site for the huge installation which is expected to figure prominently in space travel research.

Water Rationing Seen . . .

ALAMOGORDO — Despite water economies by most Alamogordans, there still are enough water-wasters to endanger the summer supply and make strict rationing an unpleasant possibility, City Manager Rolla Buck said. A voluntary restriction policy was instituted by the city on April 1 whereby householders with even house numbers sprinkle lawns on the even-numbered days of the month and those with odd house numbers sprinkle on the odd-numbered days. — *Alamogordo Daily News*

• • •

Surplus Food for Apaches . . .

OTERO COUNTY—Steps toward setting up a program of surplus commodity distribution on the Mescalero Apache reservation in Otero County are being taken, Rep. Melvin E. Tays was informed recently by Earl R. Butler, state supervisor. Butler said his office would follow through on the Mescalero problem. He earlier said he felt the Indians had need for the commodities, and that it would come to them in addition to whatever welfare aid they may be receiving at the present time, if proper arrangements could be worked out. — *Alamogordo Daily News*

• • •

UTAH

Dinosaur Drive Started . . .

WASHINGTON, D. C.—Conservationists have unleashed a drive to make a Dinosaur National Park with a full-page advertisement in the *Washington Post and Times Herald* appealing to the Congress and general public to get the monument elevated to park status this year. The ad was particularly critical of Utah's senator Arthur Watkins who was described as "the arch foe of conservationists and national park friends in the Echo Park battle." Two bills to make Dinosaur a national park are pending before the Public Works Subcommittee of the House Committee on Interior and Insular Affairs. Due to the lateness of the congressional session it was regarded as unlikely that Congress would act on them this year.—*Salt Lake Tribune*

Monument Moving Protested . . .

DESERET — Residents of South Tract, Oasis and Deseret have protested the moving of the site of the Escalante monument to Delta. The monument, which marks the trail of the Spanish Padre Escalante, was moved by the Daughters of Utah Pioneers. The old monument was financed by contributions of Delta, Deseret, Oasis and Hinckley school children and was dedicated in 1927.—*Millard County Chronicle*

• • •

Navajo Damages Upheld . . .

WASHINGTON, D. C. — The United States Supreme Court unanimously reinstated an award of $100,000 damages won by a group of Navajo Indians because the government destroyed 116 horses and 38 burros in lower San Juan County, Utah. The Indians charged federal agents engaged in a wholesale slaughter of Indian livestock "as part of a preconceived plan to drive them from their homes by destroying their means of livelihood" in an area where several white stockmen had federal licenses to graze their animals. The U. S. District Court in Salt Lake City awarded the Indians the $100,000 damages for loss of their horses and burros, consequential losses and mental pain and suffering. It said actions of agents of the Federal Bureau of Land Management were willful, wanton and malicious. — *Salt Lake Tribune*

• • •

Ute Mix-Bloods Withdraw . . .

UINTAH RESERVATION—Indian Commissioner Glenn L. Emmons announced that nearly 500 mixed blood members have withdrawn from the Ute Indian tribe of the Uintah and Ouray Reservation in Utah. They are now setting up their own organization, he said. Emmons added that the action was taken under a law providing for a division of tribal assets between mixed blood and full blood members and for termination of federal trusteeship over the mixed blood group by August 27, 1961. The last tribal roll showed 490 mixed bloods and 1314 full bloods.—*Salt Lake Tribune*

• • •

Zion Park Integration . . .

WASHINGTON, D. C.—A bill to include the present area of Zion National Monument, known as the Kolob canyons, in the boundaries of Zion National Park was introduced by Congressman Henry Dixon of Utah. The measure is a companion bill to one previously introduced by Senator Wallace Bennett. If the bill is adopted, it will make a single national park of the Zion and Kolob Canyons. — *Iron County Record*

Act to Protect Indians . . .

WASHINGTON, D. C.—Two members of the Utah Congressional delegation served notice that steps would be taken to protect Navajo Indians from price gouging by unscrupulous merchants. Senator Arthur Watkins and Rep. Wm. Dawson called to the attention of Glenn L. Emmons, commissioner of Indian Affairs, a report that some southern Utah stores had a dual pricing system for Indians and whites. The Commissioner said the offending merchants should be warned individually, either by the bureau or by the tribe, or both, that unless this dual pricing is stopped immediately, all members of the Navajo tribe living in Utah will be advised to boycott the stores.—*Salt Lake Tribune*

• • •

Tourist Map Offered . . .

SALT LAKE CITY—Utah's official 1956 road maps are the most colorful and most tourist-conscious the state has ever put out, the State Road Commission announced. Issued for free distribution, the maps contain, on the reverse side, 14 full-color pictures of some of the state's most appealing scenic attractions.—*Salt Lake Tribune*

New and Improved Products for Desert Living

BATTERY-POWERED OUTDOOR LANTERN IS INTRODUCED

A modern-day version of the old-fashioned kerosene or gasoline fueled utility lantern, but powered by a new two-in-one dry battery which the manufacturers claim yields up to four times the life of the ordinary lantern battery, has been developed by Burgess Battery Company.

Designed for all types of outdoor sports use, the new all-purpose Radar-Lamp features a cottage-type lighthead incorporating a compact 2½-by-2½ inch circular unbreakable clear chimney which throws a wide circle of bright light. It was conceived also as a means of supplementing illumination for summer homes, cottages, for backyard barbecues, picnics, or lawn parties, as well as a working lantern for farmers, repair crews, construction gangs, and as professionally dependable emergency lighting for industry, schools, hospitals, offices, and civil defense purposes. It is windproof and weatherproof and utilizes a positive action silver contact switch as well as a standard auto lamp bulb for ease of replacement. Complete with batteries it sells for $8.95.

• • •

CONVERTIBLE LAND-WATER CRUISER SELLS FOR $3000

The Neptuna Corporation, 1127 Wilshire Blvd., Los Angeles 17, California, has placed on the market a $3000 combination house trailer and house boat. Known as the Neptune Land and Water Cruiser, the convertible trailer is 26-feet long and eight-feet wide.

On water, the floating Neptuna is propelled and steered by an ordinary out-board motor. On land, the Neptuna is towed in the same manner as an ordinary trailer. The Neptuna has built-in sleeping accommodations for four, complete kitchen facilities and lavatory.

The wheels retract into the hull for water travel.

MINES and MINING

Moab, Utah . . .

Delhi-Taylor has developed a second and very considerable bed of potash ore in drilling northwest of Moab. Company officials declared that "there appears to be sufficient high grade ore at shallower depths that, on the basis of a 1000-ton-per-day plant . . . we will have at least 25-year operating reserves."—*Pioche Record*

• • •

Washington, D. C. . . .

The U. S. Bureau of Mines is developing a potentially cheaper method for producing high purity titanium from scrap metal. Bureau metallurgists are using an electro-refining method which makes it possible to recover large amounts of the scrap metal not now being used. Thomas H. Miller, acting bureau director, said private industry has improved titanium production techniques remarkably since 1948, reducing the price of titanium sponge from $4.50 a pound in January, 1955, to $3.45 a pound today. "But," said Miller, "costs must be reduced much further if the usefullness of the material is to be fully realized."—*Humboldt Star*

• • •

Pioche, Nevada . . .

Bristol Silver Mine has discovered a rich copper, lead and silver orebody which may prove to be one of the most significant discoveries in Nevada in recent years. The find was made at the 500 foot level of the Bristol Silver Mine, 20 miles from Pioche. Engineers have estimated an ore reserve of between 15,000 and 40,000 tons. Preliminary shipments have assayed at $70-$90 per ton after freight and treatment charges.—*Nevada State Journal*

• • •

Vernal, Utah . . .

San Francisco Chemical Company President D. L. King announced that development would start immediately on the Humphreys Phosphate Company holdings 14 miles northeast of Vernal in the Brush Creek area. Humphreys, a local concern, has about 15,000 acres of valuable phosphate lands of which an option on an initial 3000 was taken by the San Francisco mining and marketing company. — *Vernal Express*

Eureka, Nevada . . .

The Eureka Corporation, with large silver-lead-zinc properties at Eureka, revealed that it plans to erect a mill in the near future. During the past few months underground development at the properties, consisting of drifting and diamond drilling, has progressed at an increased rate due to the fact that the underground water situation is well under control.—*Nevada State Journal*

• • •

Albuquerque, New Mexico . . .

Delhi-Taylor Oil Co. of Dallas, Texas, was given exclusive oil, gas and helium exploration rights on 5,000,000 acres of the Navajo Indian Reservation near the Four Corners area. The contract, giving the firm rights to nearly a third of the reservation, was signed before U. S. Judge Carl A. Hatch. Federal law requires an Indian contract of this type to be signed before a judge, and the contract will not become effective until it is approved by the Commissioner of Indian Affairs. Tribesmen will get 25 percent of all income at the outset, according to the contract. The company will also get 25 percent and the remaining 50 percent will be used to pay exploratory expenses. Later, all profits will be on a 50-50 basis. — *Phoenix Gazette*

• • •

Ray, Arizona . . .

A $40,000,000 construction program will be undertaken by Kennecott Copper Corporation at its Ray Mines Division in Arizona, it was announced recently. The program is expected to increase the division's production by 20,000 tons a year by 1958. Last year the division produced about 50,000 tons. The mining limits of the division's pit operation will be extended so adjacent and deeper sections of the ore body can be mined. The company also plans to build a smelter to handle the division's production. —*Phoenix Gazette*

• • •

Baker, Nevada . . .

New oil exploration drilling plans for the Baker Creek Unit were revealed recently at Shell Oil Companys Ely regional exploration headquarters. The new "stratigraphic test" will be drilled to a depth of 6000 feet in the 9275-acre unit located in Snake Valley, 60 miles east of Ely on the Nevada-Utah border. Shell Oil has been carrying on seismic and gravity work and surface mapping in the Snake Valley area for a number of years.—*Pioche Record*

• • •

Grants, New Mexico . . .

A new crude oil refinery is planned 50 miles west of Grants by El Paso Natural Gas Products Co., a subsidiary of the El Paso Natural Gas Co. Construction of the refinery is expected to take 15 to 18 months, with completion scheduled in the fall of 1957. In addition to regular and premium grade gasolines, the refinery will produce kerosene, diesel fuel, distillates and fuel oil. —*Grants Beacon*

Phoenix, Arizona . . .

The Arizona Department of Mineral Resources announced that copper mining in the state leads all other industries in weekly earnings with $104.90. Contract construction is second with $98.92; manufacturing third, $83.82; wholesale trade fourth, $77.87; utilities fifth, $75.39; and retail trade sixth, $62.61.—*Graham County Guardian*

• • •

Bingham, Utah . . .

Kennecott Copper Corporation continued its efforts during the past year to make rhenium a commercially salable metal. The material is found in what someday might be commercial quantities in ore from the big Bingham Pit. Extraction is confined to limited amounts processed by the western research center in Salt Lake City. A procedure for making strips and discs for electrical contact elements has been developed, and studies are continuing on the method for producing small rhenium rod and wire. —*Salt Lake Tribune*

• • •

Twentynine Palms, California . . .

Discovery of an isolated rich deposit of tungsten, zinc and uranium in the Twentynine Palms area was reported recently by mining engineer Weldon Draper of Altadena. He said that assays indicate a tungsten potential that is "absolutely fabulous" and zinc and uranium in quantities to make commercial mining feasible.—*Coachella Sun*

• • •

Carlsbad, New Mexico . . .

Announcements made in early May promise creation of an important American interest in the American securities market with a merger company to be established by United States Potash Company and Borax Consolidated, Ltd. of London, England. Preliminary discussions between directors of the potash firm and the directors of Borax Consolidated and officers of its American division, Pacific Coast Borax Co., were announced by Horace M. Albright, president of United Potash. A merger is expected to provide wide diversification of products by the combined companies already established as leaders in the two important fields.—*Eddy County News*

• • •

Window Rock, Arizona . . .

Developments in recent years in the Paradox and San Juan basins of Colorado, New Mexico, Arizona and Utah have pointed up the strategic position of Navajo Indian Reservation lands in the oil and gas future of the area. Oil firms operating on Navajo lands have spent more than $40,000,000 and about $18,400,000 has gone to the tribe in bonuses, rental payments and production royalties. So far, according to the publication, *Petroleum Information*, the return to oil firms has not matched the amount spent on bonuses alone, but "it appears that the production history of the reservation is just beginning."—*Phoenix Gazette*

• • •

Inyokern, California . . .

The Indian Wells Valley Milling Corporation disclosed that it will operate a tungsten mill four miles north of Inyokern on the Donahue-Sturges ranch. Officials in charge of the project were former operators of the Kaweah River Tungsten Co. near Porterville, and the reduction mill will be moved to Inyokern from that city.—*Indian Wells Valley Independent*

• • •

Winnemucca, Nevada . . .

Quicksilver ore said to run as high as eight flasks of the metal per ton is reported by Walter Low from a new deposit in the Mt. Tobin area about 50 miles south of Winnemucca. A temporary retort is now processing the ore.—*Pioche Record*

BOOM DAYS IN URANIUM

Congressional Panel Sees Steady Increase in Demand for Uranium

Demand for uranium will not merely continue, but will increase year after year for a long time into the future, a report issued recently by a special panel of nine experts indicated. The panel was named by the joint Senate-House atomic committee and issued its report after study covering 10 months.

The report predicts that more electricity may be produced from atomic sources by 1980 than is generated now by all conventional fuels. Because of expected expansion in the nation's demand for power, however, coal and related fuels need not fear competition from the atom. In short, the demand will always be sufficient to absorb all power, however produced.

The panel made three specific recommendations:

1. A high priority should be placed on a program to explore fully "the humanitarian benefits which can result from the application of atomic developments to agriculture."
2. An intensified program to bring "higher health standards to our people and the peoples of the world through the beneficial uses of atomic energy in medicine and public health."
3. The AEC and other interested government agencies should work with industry in the development of atomic-powered ships and locomotives.

Meanwhile, announcement was made by two private industries that they will begin construction this year on large-scale nuclear plants to provide electricity for commercial uses.

Consolidated Edison Co., New York, and Commonwealth Edison Co., Chicago, made their plans public after receiving permits from the AEC. Consolidated Edison said it expects to break ground this fall for a $55,000,000 atomic power plant in Westchester County. Its atomic reactor should begin generating electricity in 1960. Commonwealth Edison's plant will cost $45,000,000 and will be located on a 950-acre site at the junction of the Kankakee and DesPlaines rivers 47 miles southwest of Chicago. It also is scheduled for completion in 1960.

AEC Asks Nevada Lands for Outdoor Lab, Bomb Range

The Atomic Energy Commission has opened negotiations for a 12 by 40 mile strip of the Air Force's Las Vegas gunnery range as a new outdoor laboratory site. AEC officials said the area would be used by the Los Alamos scientific laboratory and the University of California radiation laboratory at Livermore, California. The commission also was seeking a use permit for a 24 by 26 mile area near Tonopah, to be used as a temporary bombing range for ballistic tests programs, the AEC said. — *Nevada State Journal*

• • •

Hecla Mining Company of Idaho has begun production from the deepest uranium deposit developed to date on the Colorado Plateau, in the Radon property in San Juan County, Utah. Hecla's shaft crew has completed sinking the Radon shaft to a depth of 690-feet.—*Pioche Record*

AEC to Purchase Uranium Derived from Lignite Ores

The AEC has concluded arrangements with the Ohio Oil Company, in association with Arthur E. Pew, Jr., of Philadelphia, under which the Commission has given assurance of its willingness to negotiate a contract for purchase of a specified quantity of uranium concentrates to be produced from uraniferous lignites. Lignites containing significant grades of uranium are known to exist in the western parts of North and South Dakota.

However, the lignites cannot be economically treated by the metallurgical techniques applied to standard uranium ores such as those found in the Colorado Plateau area. Considerable research and development work has been done with the objective of developing an economic process for recovery of uranium from the lignites. — *Pioche Record*

AEC Land Withdrawals in Three States Revoked

The U. S. Department of the Interior has revoked the withdrawal of several parcels of public lands and reserved minerals in patented lands in southwestern Colorado, southeastern Utah and northwestern New Mexico, and has restored this land to the public domain for possible public entry. The lands previously had been withdrawn and reserved for the use of the AEC in its search for uranium deposits.

Total acreage of the lands involved is 60,969 including 6623 acres in the Brandford Canyon and La Sal Creek areas of San Juan County, Utah; 8199 acres in the Polar Mesa area of Grand County, Utah; 19,192 acres in the Skein Mesa-Wild Steer Canyon area of Montrose County, Colorado; 11,876 acres in the Bluewater area of Valencia and McKinley Counties, New Mexico; 2561 acres in the La Sal Creek area of Montrose County, Colorado; 12,518 acres in the Yellow Cat area of Grand County, Utah.

The AEC anticipates that no additional public lands will be withdrawn for AEC exploration and that lands other than those having definite ore reserves now under withdrawal orders will be restored to prospecting. These were the views of Allen E. Jones, director of Grand Junction Operations Office of AEC.

• • •

What has been described as a huge deposit of high grade uranium ore has been uncovered in the Gillis Range, Hawthorne Mining District of Mineral County, Nevada, by the Holliday Mining Company, Inc., of Bremerton, Washington. Ore assaying as high as 2.00 percent has been discovered in quantity.—*Nevada State Journal*

Two major uranium strikes have been reported by Sam Brilliant, general manager of Skiles Oil Corporation, Mt. Carmel, Illinois, which has been prospecting on the Navajo Reservation upstream from Cameron on the Little Colorado River. Brilliant said one strike is about 12 miles upriver from Cameron and the other joins the Charles Huskon No. 2 claim of Rare Metals Company.—*Coconino Sun*

• • •

Apex Uranium hit what is believed the main body of ore in its Austin, Nevada, operations, after penetrating a dike 38 feet thick. The ore, all primary and of an extent considerably greater than anything found in the area heretofore, is in a vein whose known width is from six to eight feet, and may be considerably greater. — *Reese River Reveille*

• • •

Few U-Firms Underwriting Requests Being Received

Utah Securities Commission is receiving about an application a month for underwriting of uranium companies, Milton Love, director, revealed. He said that during the uranium booms of past years, some 262 companies had solicited registration of shares for sale to the public. Of that number, about 210 were approved. This resulted in raising an estimated $25,000,000 from the public, he noted.

According to his record, about 50 percent of these firms found uranium ore in drilling and mining. The rest have been unsuccessful to date. Love considers that "if 15 to 20 percent of those who discover ore make any money for stockholders, they'll be lucky. That means that 80 percent of the funds raised have gone down the flume."—*Salt Lake Tribune*

Atomic Power Held Answer To Rising Cost of Energy

Atomic power plants will be the answer to rising fuel costs and dwindling oil and coal supplies, H. V. Strandberg, chief engineer of the Seattle City Light Co. predicted.

"The impact of atomic energy will extend far beyond the generation of electrical energy," he said. Utilities serving areas where air conditioning has become a fixture in new homes are turning to the heat pump for generation of electricity to supply the load needed, Strandberg added. He predicted aluminum will supplant copper as a conductor for most purposes. He said he did not think copper production could keep pace with the demand in the next 20 years. —*Phoenix Gazette*

• • •

Formal notice of intent to build a uranium processing mill in the Austin, Nevada, area was sent to the AEC by Apex Uranium, Inc. Pending approval of its application, the company will continue shipping ore to Salt Lake City for processing.—*Reese River Reveille*

ANSWERS TO DESERT QUIZ

Questions are on page 12

1—Father Font accompanied the Anza expedition.
2—Death Valley Scotty built the castle.
3—Cochise was a famous Apache chieftain.
4—Nevada's richest lode was named for Henry T. P. Comstock.
5—Philip St. George Cooke led the Mormon Battalion.
6—Father Escalante blazed a new trail across Utah.
7—John D. Lee was executed for his part in the Mountain Meadows Massacre.
8—James Gadsden purchased desert land for Uncle Sam—the Gadsden Purchase.
9—Coronado sought the Seven Cities of Cibola.
10—Pegleg Smith lost the three hills covered with black gold.
11—Harold Bell Wright wrote *The Winning of Barbara Worth.*
12—Palma was a famous Yuma chieftain.
13—Marcos de Niza preceded Coronado on the trek to New Mexico.
14—Father Garces was killed by Yuma Indians.
15—Pauline Weaver is reported to have discovered placer gold at La Paz.
16—John Butterfield pioneered the southern stage line.
17—Ed. Schieffelin discovered the silver at Tombstone.
18—New Mexico's most notorious outlaw was Billy the Kid.
19—Blythe, California was named for Thomas Blythe.
20—Mark Twain was a journalist in Virginia City.

GEMS AND MINERALS

National Gem and Mineral Show Program Announced

Commercial and non-commercial exhibitors from coast to coast will show outstanding displays at the competitive National Gem and Mineral Show of the American Federation of Mineralogical Societies at St. Paul, Minnesota, July 12-15.

Among the outstanding exhibits will be one of jade, gem mosaic work, onyx dinnerware, spheres, gem maps, rare gems and minerals and fossils. Here is the program:

THURSDAY, JULY 12

9 a.m. — Registration, Home Activities Building.
10 a.m.—Midwest Federation Business Meeting, Wm. J. Bingham, presiding officer
11 a.m.—Judging of exhibits
1:30 p.m.—American Federation Business Meeting, A. L. Flagg, presiding officer
2 p.m.—Old Timers meeting
3 p.m.—Lecture—Art of Lapidary, W. J. Bingham
6:45 p.m.—Bus trips (free) to the Walker Art Center and the Minneapolis Institute of Arts to view two of the finest Jade collections in the Western World.
7:30 p.m.—Lecture—Minerals Through the Camera Lens, John F. Mihelcic
9 a.m. to 6 p.m.—Show open to members, dealers and out-of-state visitors only. This allows proper time for registration, judging of exhibits.
6 p.m. to 10 p.m.—Show open to general public.

FRIDAY, JULY 13

9 a.m.—Dealers Association Business Meeting
9:30 a.m.—Bus trips (free) to the Walker Art Center and the Minneapolis Institute of Arts.
10 a.m.—Official opening of gem and mineral show. Introductions—Marland Mills, President, Minnesota Mineral Club
Welcome address, Governor Orville L. Freeman. A. L. Flagg, President American Federation. W. J. Bingham, President, Midwest Federation. D. A. Thomas, National Convention Chairman.
Presentation of trophies and awards — Woodruff trophy, Midwest trophy, awards
1:30 p.m.—Bus trips (free) to the Walker Art Center and the Minneapolis Institute of Arts.
2:30 p.m. — Lecture — Light Waves and Color in Gems, Charles Smart
2:30 p.m.—Bus trip along scenic St. Croix valley to Taylors' Falls, Dr. George A. Thiel, professor of Geology, University of Minnesota, chairman
7:30 p.m.—Lecture—Story of Manufacture of Diamonds, M. Barnes
10 a.m. to 10 p.m.—Show open to general public.

SATURDAY, JULY 14

9:30 a.m.—Bus trips (free) to the Walker Art Center and the Minneapolis Institute of Arts.
9:30 a.m.—Bus trip (field trip) to South St. Paul quarry to collect fossils
9:30 a.m. — Midwest Federation business meeting
10:45 a.m.—American Federation business meeting
1:30 p.m.—Bus trips (free) to the Walker Art Center and the Minneapolis Institute of Arts.
3 p.m.—Lecture — Diamonds from the Ground Up, Gladys Babson Hannaford
6 p.m. — Banquet, Fiesta Room, Lowry Hotel, St. Paul
8 p.m.—Summer concert and ice show.
10 a.m. to 10 p.m.—Show open to general public

SUNDAY, JULY 15

10 a.m.—Field trip for Lake Superior Agate at Osseo, Minnesota
1:30 p.m.—Bus trips (free) to the Walker Art Center and the Minneapolis Institute of Arts.
3 p.m.—Lecture — Diamonds from the Ground up, Gladys Babson Hannaford
10 p.m.—Show officially closes
10 a.m. to 10 p.m.—Show open to the general public.

• • •

Scheduled to hold its show in conjunction with the July 20-28 Sonoma County, California, Fair, is the Redwood Gem and Mineral Society of Santa Rosa. The gem and mineral exhibits will have the central position of displays in the Fair.

WEEKEND MINERS MAY FIND BEST PANNING IN YEARS

Amateur prospectors may meet with the best gold panning in many years this summer in California's Sierra Nevada mountain streams.

Last winter's storms and floods are believed to have swept new gold deposits down from the high mountain country into the stream and river beds. State Geologist William B. Clark says the weekend gold miners should turn out in record number this summer to sift the flood silt. But he warned them not to expect a windfall, or even a good day's pay. Clark pointed out that during the depression thousands of jobless tried to make a living off gold mining, but the average payoff was $6.02 a week.—*Yuma Sun*

• • •

A gem and mineral show will be an added feature of the annual San Fernando Valley Agricultural District Fair, August 30, 31, September 1, 2 and 3. The event is held at the fairgrounds at Devonshire Downs, Northridge, California. Gem and mineral societies were invited to display locked case exhibits at the show in competition for ribbons in the various categories, and dealers can apply now for booth space from Kilian E. Bensusan, 7320 Sepulveda Blvd., Van Nuys, California.

• • •

The July 4-14 Albuquerque, New Mexico, All-Hobbies Show will feature the lapidary and gems and minerals collecting hobbies, according to John F. Beavers, chairman of the gem and mineral show. The affair is scheduled to take place in the gymnasiums of the Valley High School in northwest Albuquerque.

GEM MART

ADVERTISING RATE
12c a word . . . Minimum $2.00

GENUINE TURQUOISE: Natural color, blue and bluish green, cut and polished Cabochons — 25 carats (5 to 10 stones according to size) $3.50 including tax, postpaid in U.S.A. Package 50 carats (10 to 20 cabochons) $6.15 including tax, postpaid in U.S.A. Elliott Gem & Mineral Shop, 235 E. Seaside Blvd., Long Beach 2, California.

FOR SALE: Beautiful purple petrified wood with uranium, pyrolusite, manganite. Nice sample $1.00 Postage. Maggie Baker, Box 7, Hackberry, Arizona.

HAVE REAL FUN with desert gems, minerals and rocks. The rockhound's how-to-do-it magazine tells how. One year (12 issues) only $3.00. Sample 25c. Gems and Minerals, Dept. J10, Palmdale, California.

GEMS A-PLENTY: Beautiful baroque gems, large variety, tumble polished all over, $10.00 for one pound (about 100 stones). 10 lbs. of top grade gemstone prepaid for $7.00. Wholesale price to dealers on baroque gems and gemstone in the rough. Satisfaction guaranteed on every sale. San Fernando Valley Gem Co., 5905 Kester Ave., Van Nuys, California.

BEAUTIFUL FREE gold—Specimens $1.00 each. Return if not satisfied. Prices to dealers, J. N. Reed, Box 102, Cabazon, California.

VISIT GOLD Pan Rock Shop. Beautiful sphere material, gems, mineral specimens, choice crystals, gem materials, jewelry, baroques, etc. Over 100 tons of material to select from. John and Etta James, proprietors. 2020 N. Carson Street, Carson City, Nevada.

OPAL HANDMADE Jewelry. Also Cutting Opal, several types. Write for prices. Swigert, 2218 Louella Ave., Venice, Calif.

NOTICE—Send for an assorted approval selection of beautiful agate, etc. Robert E. Frazee, Box 316, Valley Center, Kans.

COLORADO MINERAL specimens, cutting and tumbling materials. Send 2 cent stamp for list and terms. Dealers please write for wholesale list. John Patrick, Idaho Springs, Colorado.

GEMS OF THE desert, tumbled polished baroques, Mexican lace and carnelian agate, Death Valley jasper agate, rose quartz, petrified wood palm, black fig, many others. General mixture, $6 pound. Mexican agate slices and various cuff link preforms. Slabs and findings. Earring size tumbled turquoise $8 pound, larger size $1 ounce. Price list. Golden West Gem Co., 7355 Lankershim Blvd., North Hollywood, California.

A DOLLAR DEPOSIT brings a brilliant polished approval selection of assorted slabbed agates. Rare Moss and Plume Nodules in 10 lb. lots $2 per pound plus postage. Helena Jones, 15420 Southeast Division, Portland 66, Oregon.

McSHAN'S GEM SHOP—open 5 to 9 p.m. except Mondays and Thursdays. Rocks, gems, cholla cactus wood. Mile west on U.S. 66, Needles, California, Box 22.

TUMBLE POLISHED gems. Good variety of material, colors and sizes. 100 approximately 1 pound, $4.40, tax included. Sent on approval. Pay for what you want only. Please send 25c for packaging and postage. Western Minerals, Box 61, Boulder City, Nevada.

DESERT MAGAZINE advertising gets results. Gold specimens sold out. Leaving soon for Nevada to mine. Tom Chapman, address: ???.

OWNERS OF B&I and Craftsman Gem makers. If you have trouble cutting uniform slabs a post card to A. G. Blucher, Box 542, Alpine, Texas, can help you overcome this difficulty.

TUMBLED GEM Baroque all polished. Small and large sizes 3 oz. $1.25. Gems in the rough, 5 lbs. for $4.00. Dixie Rock Shop, 3245 Prospect Ave., So. San Gabriel, California.

SLABS—10 square inches, 10 different varieties for $1.00 including agate, jasper, obsidian, petrified wood, etc. Rough chunks of same 25c lb. Baroque gems, tumble polished up to ¾ in. to 1 in. 10 for $1.00. Preforms, polished triangles, 1 in. to 1¾ in. $1.00 matched pairs. Singles .35c. ¾ in. squares matched pairs 75c. Add postage and 10% Fed. Tax. California residents add 3% tax. West Rock Shop, 737 Santa Rosa Ave., Santa Rosa, California.

ARIZONA GARNETS for sale in their natural matrix. 1/6 carat: 50c; 1/3 carat: $1; ½ carat: $2. Postage paid. Alfred's Package Store, Box 702, Superior, Ariz.

OPALS AND SAPPHIRES rough, direct from Australia. Cutting opal, 1 ounce $5, $10, $20, $30 and $60. Blue sapphires, 1 ounce $10, $30 and $60. Star sapphires 12 stones $10, $20, and $30, etc. Post free and insured. Send international money order, bank draft. Australian Gem Trading Co., 49 Elizabeth St., Melbourne, Australia. Free list of all Australian stones rough and cut, 16 pp.

U. S. GEM Quality Desert Roses (chalcedony) ½" to 2"—cabinet specimens or cutting material. All beautiful—no "duds" —at $2 per lb. (state size), 3 lbs. $5.00, postage, please. C. Earl Napier, 20472 Harvard Ave., Hayward, California.

GROWTH OF CRYSTAL IS MIRACLE OF NATURE

A crystal is one of Nature's most fascinating wonders—it is inorganic, and yet it grows.

A crystal attracts surrounding like-material to itself, arranges it with great geometric accuracy and cements the accumulated parts together. Place a crystal in a liquid or vapor composed of its like ingredients and the process of accumulation immediately begins. Even if a crystal is worn into a round grain of sand, placed in a solution containing the ingredients of which it is composed, it will grow into its former crystal-like form.

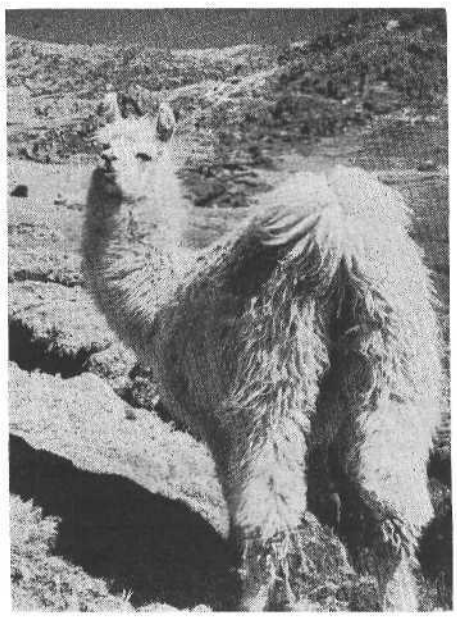
Under a microscope, a crystalline solution can be seen forming into crystals—and it is a marvelous sight. First, innumerable dark spots appear in the liquid. Soon the spots move into straight lines, like beads. The "beads" steadily coalesce into rods and the rods arrange themselves into layers until, finally, the crystal is recognized.

The process proceeds so rapidly that it is almost impossible to follow it closely. Actually, growth is a misnomer—what takes place is accumulation much like particles of iron flying to a magnet. But it is accumulation of the most orderly and precise fashion, architecturally superb. — Delvers Gem and Mineral Society's *Delvings*

Rock-Hounding in the Andes-- A Field Trip to a Silver Mine

By CRAIG BURNS, M.D.
President, Central Andean
Rocks and Minerals Society
La Oroya, Peru

When the gay people of New Orleans are celebrating Mardi Gras, the Peruvians celebrate Carnivales; three days of festivities and dancing, throwing of water-balloons and small bags of flour climaxed with the *corta monte*, when the natives dance around the tree, each giving it a whack with a hatchet —the person finally causing the tree to fall receiving the rather dubious honor of being master-of-ceremonies for the following year's celebration.



A few miles from Julcani, the author encountered this alpaca, a kind of llama.

I chose this three-day holiday for a field trip in search of silver minerals to Julcani Mine, located in the Central Andes almost directly below the plane route from Lima to the old Inca capitol of Cuzco, but almost inaccessible except to those willing to face thin air and the rigors of mountain life.

I left La Oroya, a smelting and refining town in a narrow Andean valley at an altitude of 12,200 feet, by the daily train which comes up in six hours from Lima and spends another four hours getting to Huancayo, which is on the Eastern slope of the Andes facing the jungles. I had on my old clothes and carried two army musette bags and a geologist's hammer and camera. Although this season is supposed to be summer here below the equator, we call it winter because it is the rainy season and all the mountain peaks are covered with snow.

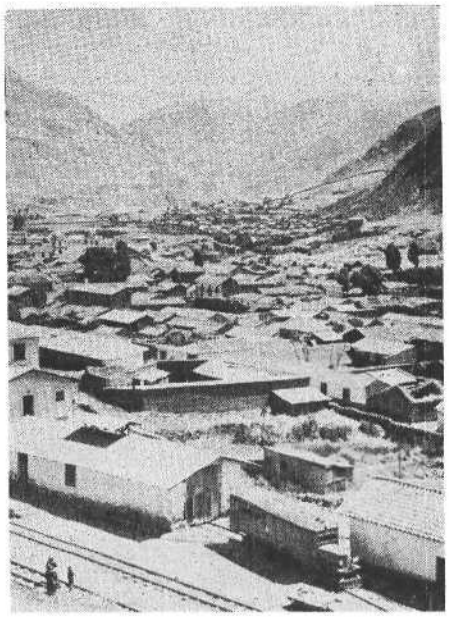
The 4-hour train trip following the Mantaro River (which eventually empties into the Amazon) is rewarding for the glimpses of the ancient forts and stone houses silhouetted on mountain tops, reminding one of the ancient civilization. These old mountain strongholds are located so that two others are visible in the distance from each one, and at the time of the first arrival of the Spaniards in 1525 a message could be sent from one fortress to another a good deal faster than telephone communications in present-day Peru.

In two hours we reached the fertile Jauja valley at 11,000 feet which contains tall eucalyptus trees brought in since the conquest by Pizarro. High on the hills on both sides of the tracks can be seen the old Inca granaries, circular rock columns about eight feet in diameter set off in groups—so many for the people, and so many for the Inca. Some of these rocks contain fossils shells and ammonites

Arriving in Huancayo at dusk, I had supper and went to bed at the Turista Hotel. A few of the larger towns in Peru have Turista Hotels built and maintained by the government. These hotels are nice—usually have hot water and the food is safe but not the drinking water. All the other towns and villages have nothing but adobe huts and buildings.

Arising early the following morning I walked to the autowagon station, where a bus mounted on train wheels runs on narrow gauge tracks three days a week to Huancavalica, three and a half hours away to the south. There is a road to Huancavalica, but a few miles of it were covered by a slide a few years ago, and it hasn't been reopened yet; so the only way to get to Huancavalica is by track-car. I was the only white person (gringo) on the car. We followed the River Mantaro again on its way down to the jungles. The valley has steep slopes with terraces on each side which serve the Indian farmers very well for growing wheat.

We followed the river down to its junction with another stream at an elevation of about 8000 feet, and then climbed up the valley of the second stream, emerging onto a picturesque, wide valley at 12,000 feet where the old Spanish town of Huancavalica is located.



Huancavalica, an old Spanish mining town. Autowagon is in the foreground.

At the station I was met by a truck sent from Julcani mine. We rose up out of the valley of Huancavalica, now slowing down for Indian women in native costume with babies on their backs, completely unaware of the possibility of traffic on the dusty road, now being stopped completely by a herd of llamas, bright colored ribbons dangling from their ears in celebration of the holidays. There were mountains and valleys with limestone ridges running now horizontally, now vertically. The earth was strewn with boulders and rocks; in places the Indians had gathered up the rocks into fences and chosas, huts with stone walls and grass roofs and no chimneys for the smoke filters out through the cracks. The stark landscape was animated by the movement of small herds of llamas, alpacas and the jolly little viscachas, a close relative of the

chinchilla which is native to these high regions.

In two hours I reached Julcani mine at an elevation of 14,000 feet. The mine is now owned by a Peruvian, Senor Benevides, and he was an excellent host, glad for company. Outside one of the mine entrances there sat two Indian women breaking large rocks brought out from the mine and throwing the mineral-rich pieces into a special pile. Here was mineral concentration in its most primitive form. From the pile of rocks, I was able to break away good specimens of stibnite (antimony sulfide), realgar (arsenic sulfide) and bismutinite (bismuth sulfide).

On the following day we walked through the mine from one side of the mountain to the other, and rode up over the top on mules, examining the vein outcrops that showed on the earth's surface. In the oxygen-scarce air at 16,000 feet, it is quite time-consuming and exhausting to hike and the mules were a great help. The outcropping mineral veins once rich in lead-silver ores were open in many places where the Spaniards had mined for silver, throwing the lead away. White barite (barium sulfate) crystals shaped like rose petals were closely associated with the lead-silver minerals, and I found some nice barite specimens among the old Spanish workings. Earlier in the mine I was able to obtain good specimens of argentite (silver sulfide), galena (lead sulfide) and boulangerite (lead-antimony sulfide).

My return trip to La Oroya was with a good deal of satisfaction for the two musette bags were now full and very heavy. I had been the first North American in two years to visit Julcani mine, and I will venture to say that you could count all the North Americans on your fingers who have strode over the surface outcrops since the Spaniards forced the Indians to open up the veins for their precious silver content.

• • •

SILVER SECOND MOST POPULAR PRECIOUS METAL

Silver, second only to gold in popularity as a precious metal, is fairly heavy and ductile. Though harder than gold, it is malleable enough to be hammered to a thinness of 1/1000,000th of an inch. It is a pity that silver is too expensive to be used for wiring, for it surpasses all other metals as a conductor of electricity.

Because of its attractive high white luster, silver has been used for jewelry and ornaments for thousands of years. From the very start of coinage, about 650 B.C., silver became the favorite metal for coins. The ancient silver coins of Greece are miniature works of art and greatly admired. More coins have been issued in silver than in any other metal. For lasting use in coins, silver has to be alloyed with copper. In American coins the ratio of silver to copper is 9 to 1. Unfortunately, silver has a serious drawback: it is helpless against sulphur in the atmosphere, which combines with it and produces an unsightly black tarnish.—Fred Reinfeld's *Treasures of the Earth*

ROCKHOUNDS WARNED OF NEW DANGER: CYANIDE GUNS

Rockhounds — especially those planning trips to the Northwest — are alerted to a new outdoor hazard, cyanide guns. Ranchers have rigged these coyote-killing booby traps in grazing lands where they report annual losses of hundreds of young calves to coyotes.

The cyanide gun is a metal cylinder six to eight inches long with a trigger attachment. The cylinder is inserted in the ground and the exposed end is equipped with a wad of cotton saturated with a chemical whose odor is supposed to attract coyotes. When the cotton is disturbed, the trigger releases a cyanide pellet which causes instant death to the animal—or anyone else—who inhales the fumes from it. A number of rockhounds' dogs have been killed by the guns to date. — Banning, California, San Gorgonio Mineral and Gem Society's *Pick 'n Shovel*

• • •

The Santa Monica, California, Gemological Society recently installed the following officers at its annual banquet: Grace Walker, president; Lyman Perrin, first vice president; Margaret Iams, second vice president; Gladis McRill, recording secretary; Marian Godshaw, corresponding secretary; Ernest Eberhart, treasurer. Regular meetings of the society are held the second Thursday evening of each month at the Girl Scout House, 1318 10th Street.

• • •

The Antelope Valley, California, Gem and Mineral Club will hold a show in conjunction with the annual Antelope Valley Fair and Alfalfa Festival at Lancaster, September 6-9. Those wishing to exhibit should contact A. Marquardt, 301 East Ave. I, Lancaster.

• • •

New officers of the Baldwin Park, California, Mineral and Lapidary Club are Harry Watson, president; Harold Ferree, vice president; Hazel Curran, secretary; Florence Larsh, treasurer; Lawrence Boyles, director-at-large; Alexander Welsh, Warren Stover, Edward Hanna and Almon Larsh, directors.

• • •

The Seattle, Washington, Gem and Mineral Show is scheduled for October 20-21 at the Civic Auditorium. Adrian Gallaher, chairman of last year's event, will again be in charge of the show. Eight area clubs are expected to participate.—*Nuts and Nodules*

AMATEUR GEM CUTTER

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

Many home gem cutters are building up large, magnificent and often valuable collections of cabochons, some having as many as 5000 or more superb and colorful stones on exhibit. In most cases these have not been cut to standard millimeter (mm.) sizes, and they are intended mainly as collectors' pieces, fancy, odd, unusual stones, and the like.

While the hobbyist gem cutter is not primarily concerned with the commercial value or possibilities of his cabochon collection, the day may come when adversity, illness and what not may overtake us. Under these conditions the home gem cutter may be obliged to resort to the sale of his gem collection. If these fine stones have not been cut to millimeter sizes, the collection will have far less value compared to the same collection in standard millimeter sizes.

The standard millimeter sizes will fit the standard ready-made mountings, while odd sizes will require custom built mountings, or require the cabochons to be recut. A valuable cabochon is worthy of the added cost of a custom built mounting, but the run of the mill cabochons are not worth this added cost from a commercial standpoint. Ready made mountings cost far less than those made-to-order.

Hence, under a forced sale, or a sale through an estate, a huge collection of cabochons would be first appraised in value in their availability from a commercial standpoint. If the gems are standard millimeter sizes the total value and sales possibilities would be greatly enhanced. On the other hand if they are not cut standard, the whole collection would have comparatively little value to the commercial buyer. It would then be a case of selling to some other gem collector, who would largely value the stones from a collector's standpoint. But in either case standard size pieces have the greatest value.

Attention should also be given to the proper slope of the edges or bezel of the cabochon. If this angle is not correct, recutting may be indicated in the event the stone is placed in a mounting. Altering the bezel angle would be a lesser problem than an entire recut to reduce to the nearest standard size.

Standard millimeter sizes apply to various shapes including round, oval, square, rectangular, etc. Practically all supply houses carry templates with standard sizes and shapes, intended for the convenience of the cutter. Not much more time will be consumed in using these stone size and shape guides when cutting. Not only will they give the nearest standard size, but the use of a template will also eliminate ill-shaped stones. The home gem cutter is often inclined to mark out a size and shape on a sawed slab to include the best and most desired portion for the finished cabochon.

* * *

This can still be done in cutting to standard size. Simply outline the part desired, and then fit over this the nearest standard millimeter size, and cut accordingly. After the blank is cut out on the diamond saw, the template is used from time to time during the grinding operation. In the grinding operation where the stone is cut to shape, about 0.5 millimeter (25 millimeters equal one inch) excess should be left on outline, as the sanding and polishing operations will remove approximately 0.5 millimeter of material. All this may sound complicated and involved, but it is not. A little experience will soon develop skill of size and shape judgment. The jump from one standard millimeter mounting size to the next larger or smaller is not great. Standard mm. sizes are used in both cabochon and facet cut stones.

* * *

In sawing geodes or agate-filled nodules, first look for the largest "dome" on the specimen. This dome is in the upright position when the specimen was forming. Saw through this largest dome, and it is likely you will expose the best "picture" or surface.

If the specimen is elongated or egg-shaped, saw lengthwise in order to obtain the best exposure. While there is no certain means of determining what may be on the interior of an agate-filled nodule, thunderegg, or geode, the above suggestions are likely to prove helpful.

Often a spherical or odd-shaped specimen may tend to slip in the saw clamp. A piece of Masonite attached to each side of the specimen will give a better grip. The saw can be allowed to cut through the Masonite, and this will tend to prevent damage to the "set" of the diamond saw.

In washing specimens after sawing or grinding, a bucket of water containing soap, borax, sal soda (sodium carbonate), or some similar cleansing agent, will prove convenient. A wire basket with handle is suitable to hold the specimens, and they can be readily removed for the final rinsing.

* * *

Among the most common cheap imitations of amber is Bakelite. A simple test will serve to distinguish between them. Amber is very light and will float in strong salt water, while Bakelite and similar substitutes promptly will "hit bottom." Hence, if the lady's strand of beads sinks in a solution of salt water, you can confidently inform her, if you dare, that there is something wrong. The cheaper types of amber —the "pressed" and "moulded" varieties— will, of course, float since they are actually the real article.

By RANDALL HENDERSON

IT NOW APPEARS certain that the Reclamation Bureau within the next year or two will be starting construction work on one of its major projects—the Glen Canyon dam in the Colorado River. Already the states of Utah and Arizona are promoting roads to the proposed damsite above Lee's Ferry—roads designed to divert as much as possible of the payroll money to their respective towns, and later, the tourist dollars.

The reservoir behind Glen Canyon dam will submerge some of the most colorful and spectacular tributary canyons in the Southwest—places with such names as Music Hall, Forbidden Canyon, Mystery Canyon, Hidden Passage, Twilight Canyon, the Crossing of the Fathers, and the Bridge Canyon trail to Rainbow Bridge. Those scenic places, I assure you, are just as intriguing as their names would suggest. They are accessible only by boat, and I am grateful to Norman Nevills, Frank Wright and Harry Aleson who made it possible for me to spend many delightful days among the pools and waterfalls and maidenhair ferns of these secluded coves.

If you want to visit this region before it is forever submerged, don't delay too long. There are several boatman guides who run the Glen Canyon water either from Hite on the Colorado or from Mexican Hat on the San Juan, and my old friend Art Green of Cliff Dwellers' Lodge charters up-river excursions from Lee's Ferry.

I know that many others will share my regret that this area is to be covered by the waters of the new lake which will be formed behind the Glen Canyon dam. I wish it could remain always a desert wilderness for the enjoyment of those who have the hardihood to travel difficult trails. But it is a selfish wish. The pressures of increasing population and diminishing natural resources make it inevitable that some of the western terrain which is now a virgin wilderness must give way to the commercial interpretation of progress.

There is some consolation in the knowledge that neither the dam nor the new lake behind it will destroy the natural beauty of southern Utah and northern Arizona. At higher levels along the main stream of the Colorado, and in the side canyons, new beauty spots will be revealed —and they will be much more accessible than the Music Hall and Hidden Passage of today. It is possible the new lake will provide an easy boat trip almost to Rainbow Bridge, and that thousands of Americans who have never seen this sculptural masterpiece because of its inaccessibility, will be able to view its majesty.

It is not too soon to begin making plans for the recreational use of the shores of the new lake. I hope that it may be feasible for the Reclamation Bureau, the National Park Service and the Indian Service to work together in the formation of a new national park to take in the scenic areas bordering the new lake.

The Navajo Indians have a stake in the project, for much of the Arizona shore line is within the Navajo reservation. Perhaps the protection and recreational use of the Indian lands contiguous to the lake may be made to serve the double purpose of providing a new scenic playground for Americans and a new source of income to a tribe which deserves a higher standard of living than it now has.

I subscribe whole-heartedly to the idea expressed by David R. Brower of the Sierra Club, "that we must vigorously and dynamically support the preservation of our scenic resources and especially our living wilderness."

But under the pressure of increasing population it is certain that compromises must be made, involving concessions both by those who would discard all aesthetic values wherever and whenever they interfere with commercial gain, and by those who would resist all encroachment on the remaining virgin terrain of our American homeland. The groups aligned on the side of conservation forced a compromise when Echo Park dam was deleted from the Upper Basin reclamation act. But in securing that concession, the Glen Canyon dam was sanctioned, and it remains now for those of us who would preserve our scenic resources to insist that in the construction and operation of the new dam the landscape of the gorgeous redrock country which borders Glen Canyon be protected in every possible manner.

* * *

And if you wonder why some of us feel that it is very important that at least a part of our American land heritage be maintained in its primitive wilderness state, I will suggest that there is no more refreshing or invigorating recreation on earth than a pack trip, a hiking trip or a boat trip into some of the wilderness areas still to be found in western United States.

As Aldo Leopold once wrote: "Recreation is valuable in proportion to the intensity of its experiences, and to the degree to which it differs from and contrasts with workaday life. By these criteria, mechanized outings are at best a milk-and-water affair. Mechanized recreation already has seized nine-tenths of the woods and mountains; a decent respect for minorities should dedicate the other tenth to wilderness."

I am sure that if the leaders in the political and economic world of today would spend a little of their time apart in the wilderness areas, as did the men who formulated the religious codes by which much of the earth's population is guided today, there would be much less of distrust and confusion and war.

BOOKS of the SOUTHWEST

LAST TALES OF DEATH VALLEY SCOTTY

During the last year of his life—the winter of 1953-54—Death Valley Scotty made his home at the fabulous Castle built by A. M. Johnson. His health was failing, but he was cheerful and when in the mood, liked to talk about his experiences.

One of those closest to him during this period was Earl C. Driskill, manager of the Castle for the Gospel Foundation. Driskill often listened to Scotty's tales, and while they were fresh in his mind, wrote them down.

And now these stories have been published in a small paper-bound book: *Death Valley Scotty Rides Again.*

Some of it is fiction—some fact. Scotty liked to make the crowd laugh, and if it was necessary to embellish the truth to make a good tale, he did just that. The author reported the stories just as he heard them—without any attempt to correct bad grammar or refine the language of the muleskinner that Scotty was before he became a showman.

These are salty tales—but Scotty remained true to his creed: He never said anything with malicious intent to hurt anyone. If he did not like them, he said so, and he was always loyal to his friends.

Published by the author, Photographic illustrations. 60 pp, paperbound. $1.00.

• • •

IMPERIAL VALLEY PIONEERS RELATE HISTORICAL EPISODES

Colorado River water was brought to the Imperial Valley of California in 1901—and then began the building of a great agricultural empire which last year yielded $146,000,000 in farm and livestock products.

Glimpses of the human effort which went into the reclamation of this below-sea-level valley are given in a paper-bound book, *The Imperial Valley, First Annual Historical Volume,* recently off the press.

Edited by Elizabeth Harris, historian for the Imperial Valley Pioneers, the book is written mostly by men and women who played leading roles in the history of this reclamation project. The Pioneers have selected a list of 13 men who are to be honored with some type of memorial. Heading this list are Dr. Oliver M. Wozencraft, credited with being the first to visualize the farming potential of the Imperial desert, Charles R. Rockwood, Dr. W. T. Heffernan and George Chaffey who played leading roles in the financing of the original irrigation system.

Proceeds from the sale of the book are to be used to finance additional volumes covering other phases of valley history. A copy of the book may be obtained by sending $1.00 to Elizabeth Harris, 139 West 6th St., Holtville, California.

• • •

1864 JOURNEY THROUGH NEW MEXICO DESCRIBED

The unedited reprints of six annonymous letters to the Santa Fe *New Mexican* make up a little book entitled, *A Journey Through New Mexico's First Judicial District in 1864.* Introduction and notes are supplied by William Swilling Wallace, associate librarian and archivist, New Mexico Highlands University. This book is the sixth in Westernlore Press' Great West and Indian Series.

Although these interesting letters on local conditions and leading citizens are unsigned, it is generally believed the writer was Judge Kirby Benedict who occupied the trial bench in the First Judicial District. The route taken by the party is from Santa Fe to Las Vegas via Pecos, and then north to Mora and from there to Taos.

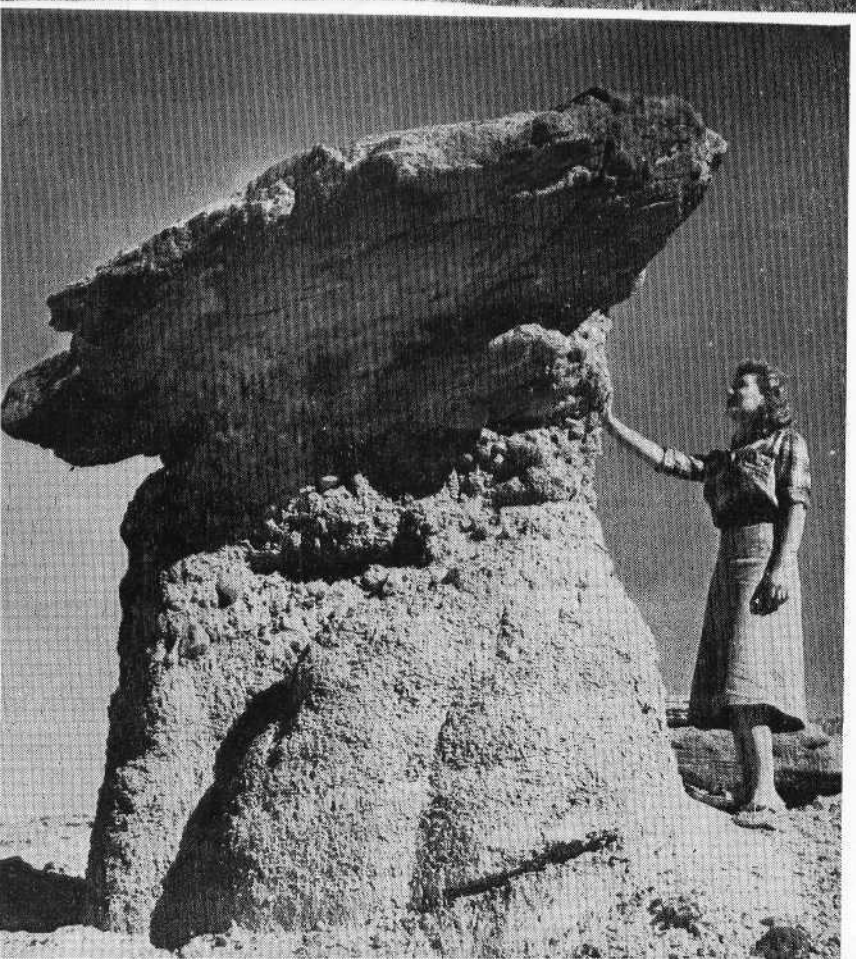
It was a colorful period and holds much interest historically because there were people living in that period who regarded the possibility of a general Indian uprising as no less a threat to the white man's civilization than is the atomic bomb of today.

Limited edition of 350 copies. Published by Westernlore Press, Los Angeles. 71 pages; illustrations. $3.50.

Books reviewed on these pages are available at Desert Crafts Shop, Palm Desert
Add three percent sales tax on orders to be sent to California

Papago Water Well . . .

First prize winner this month is Marjorie Riddell of Tucson, Arizona, who photographed this Papago Indian mother and her sons drawing water from an old well for their evening meal. Camera data: Rollieflex camera, 1/150 of a second at f. 22 on Tri-X film.



PICTURES OF THE MONTH

Mushroom Rock . . .

The Mushroom Rock in Redrock Canyon, California, is the subject for Clint Hoffman's second prize winning photograph. Hoffman is a resident of El Monte, California, and he used a Rolleicord camera; 1/100 second at f. 11, K-2 filter, Plus X film.