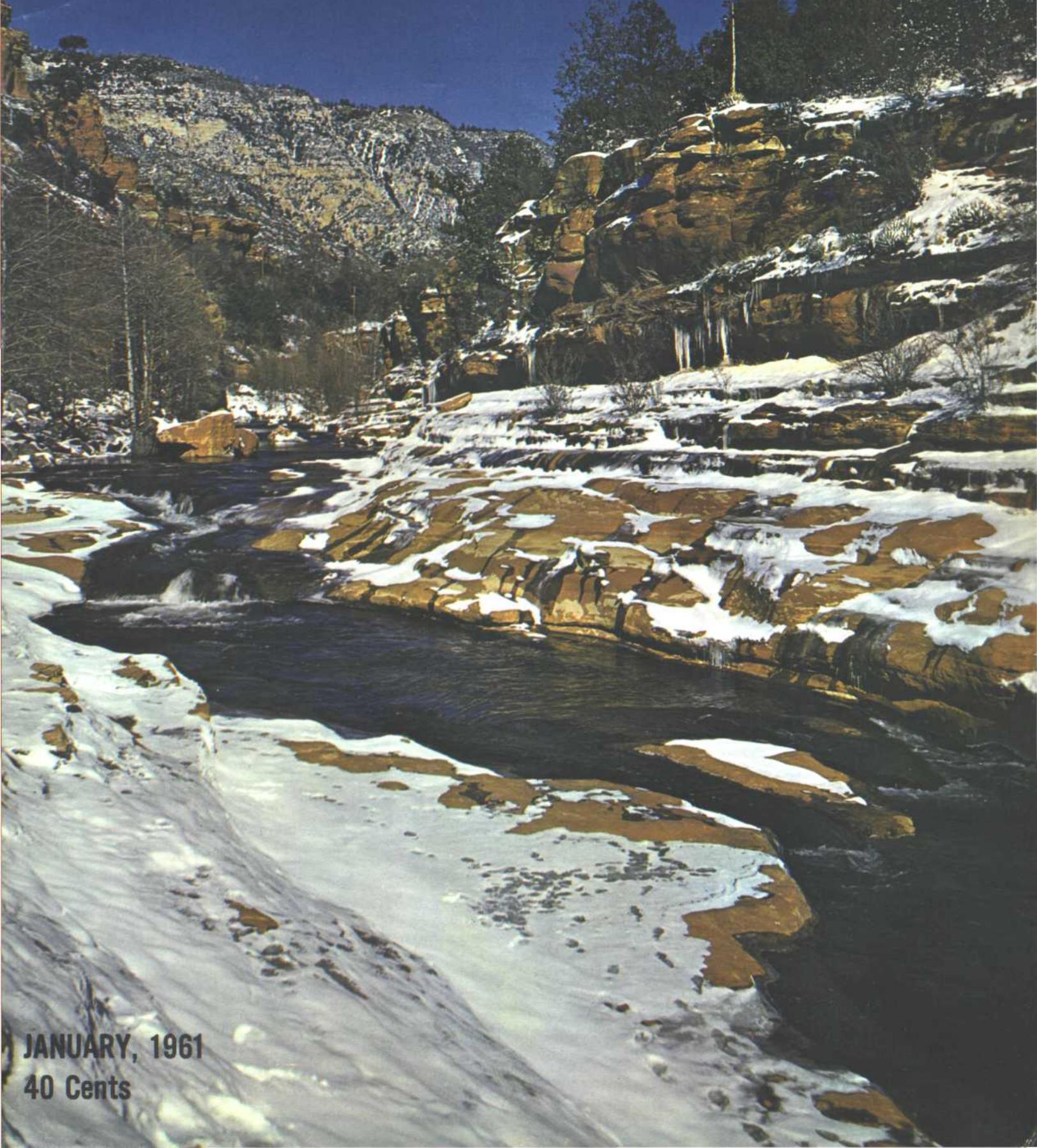


Desert

Magazine of the

OUTDOOR SOUTHWEST



JANUARY, 1961

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Desert Magazine

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- Sep 55—We Lost a Gold Ledge in the Panamints (Calif.)*
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- Nov. 55—Lost Gold of Jarbidge (Nev.)*

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- Jan 57—Lost Apache Gold in the Little Horns (Ariz.)*
- Mar 57—Pegleg Mine—Fact or Fable? (Calif.)
- May 57—Lost Silver in the Trigos (Ariz.)*

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- Nov 56—Utah's Rugged Needles Country (Carroll)*
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- Aug 55—Flowers That Blossom in August
- Sep 55—What Grass for the Desert Lawn?
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Artist's Lament

Once in a blue moon
 The desert has snow.
 Once in a blue moon!
 How, then, could I know
 It would cover the ground
 While I was away?
 Since my return
 I have watched every day
 For a glimpse of the falling,
 Feathery fluff,
 Patting the ground
 Like a powder puff . . .
 They tell me the desert
 Was candlewick white—
 I could weep to have missed
 Such a paintable sight!

—Helena Ridgway Stone

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(Unless otherwise specified below or in text, photographs and art work are by authors of features in which they appear.)

Page 3: Burton S. Turney. 7: R. C. Middleton. 8: Map by Norton Allen. 9: Bureau of Reclamation. 10: Adrian Atwater (second from top); C. C. Pierce Collection (third); Charley Mitchell (bottom). 11: New Mexico State Tourist Bureau. 14: Map by Norton Allen. 16: Hulbert Burroughs (valley). 22: Map by Norton Allen. 22-25: Vermilion Sea Field Station. 31: Harold O. Weight. 34: Southwest Museum. 43: painting by Bill Bender. **Back Cover:** illustrated by Monte Orr.

Desert

--magazine of the Outdoor Southwest--

CHARLES E. SHELTON
publisher

EUGENE L. CONROTTO
editor

EVONNE RIDDELL
circulation manager

Contents for January 1961

COVER	Photographer Darwin Van Campen of Phoenix calls this chilly scene, "Stream Through Winterland." Cover picture was taken in Oak Creek Canyon, Arizona.	
TOUR 7	Davis and Parker Dams	J. D. Earl
ATTIRE 10	Western Hats	Harrison Doyle
EXPLORATION 12	Arizona Desert Stream	Elizabeth Rigby
HOMEMAKING 15	"Second Chance" Cabin	Margaret Arensberg
PERSONALITY 16	Friend of the Cahuilla	Nina Paul Shumway
RECLAMATION 20	Water from the Sea	William E. Warne
SCIENCE 22	Vermilion Sea Field Station	John W. Hilton
PERSONALITY 26	Cowboy Shorty Boyd	Beulah Meeks
HIKING 28	Afoot with a Compass	Charles R. Ege
TRAVEL 31	California's SaguaroLand	Lucile Weight
ARCHEOLOGY 33	Ancient Sanctuary	James Tallon
NATURE 34	Indian Uses of Native Plants	Edmund Jaeger
PHOTOGRAPHY 35	Cactus Blossom's Life	Hiram Parent
BACK COVER	Hats that Won the West	Artist: Monte Orr

— also —

Poem of the Month: 3

Letters: 4 32: Hard Rock Shorty

New Desertland Books: 6 39: Trading Post Classifieds

Southwest News Briefs: 30 42: Editorial



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LETTERS

... FROM OUR READERS ...

Right Man For the Job . . .

To the Editor: Professor Lister's article in the December issue ("Plugging the Cultural Gap") is quite a feather in *Desert Magazine's* cap. Such a clarification was needed for a long time, and Lister was the man to do it.

PAUL HULDERMANN
Scottsdale, Ariz.

Confirming a Prediction . . .

To the Editor: In appreciation of your excellent article about the young artist Bill Bender appearing in your November issue, I am taking the liberty of sending to you a photo I made in Death Valley eight years ago.

I was attending the annual encampment of the 49ers and was camped at Texas Springs, when along came a young man



BENDER'S CLOSE SHAVE AT TEXAS SPRINGS

in a station wagon looking for a campsite. I motioned him to the spot next to me which was rather secluded, and there we spent the better part of three days and nights using a common campfire.

We were both alone and as we seemed to enjoy the company of one another, I learned enough about Bill to assure myself that this fellow was an artist at heart, although he did not confess to me until the second day that he was then painting and

had with him a picture for the art exhibit at Furnace Creek Inn.

I appreciate your story on Bill as it confirms my predictions made at the time of our meeting. I have seen him only once since. The photo I made was taken without his knowledge at a time he was shaving.

I thank you for your support of this very promising artist.

HENRY M. FORD
Yucaipa, Calif

The Desert Revisited . . .

To the Editor: At 86 I can no longer go to our beloved desert, but can relive it with Dr. Jaeger's articles in your publication.

Formerly, if time permitted, it was a camel trip in North Africa, an elephant jaunt in the Hindustan desert, or a visit to Peru.

Dr. Jaeger's November article, "Deer on the Desert," recalls tracks on the Mojave after a rain: the big pad of a mountain lion . . . the hoof marks of a doe . . . then a blur which must have been the death . . . beyond—only lion trail.

C. M. GOETHE
Sacramento, Calif.

Bodie Is NOT a Gyp . . .

To the Editor: First thing I read in the December issue was Merwin K. Warner's letter calling Bodie "a gyp."

What did he expect a real ghost town to look like? Bright lights and a drug store on every corner? Bodie is the best preserved ghost town in California because it is boarded-up. Without such protection, it would have been carted-off piece by piece by souvenir hunters long ago.

Mr. Warner complained about the "long

dusty, rough ride" to reach Bodie. Few true ghost towns are found alongside highways. They are tucked-away in off-the-beaten path locales.

THOMAS C. RATICAN
Los Angeles

To the Editor: May the 18 miles to Bodie never be paved, and the curio shop interests never find it.

ANNA MAY RATHBUN
Arcadia, Calif.

Moving A Saguaro . . .

To the Editor: In the November magazine you had a story about a giant saguaro cactus being transplanted from the wilds to the front yard of a residence. I have read that it is unlawful to remove desert plants.

A. JONES
South San Gabriel, Calif

(The saguaro was removed from private land. The law in question protects the flora on public land.—Ed.)

The Subject Comes Alive . . .

To the Editor: Your magazine is a ray of Southwest sunshine which we all look forward to each month. My young sons, Eaton and Gayland, peruse it from cover to cover, and their father and I read many of the articles to them.

Gayland's third grade class is studying American Indians. Several weeks ago we boxed every issue of *Desert* we had and Gayland took them to school. Your many beautiful and colorful articles on Indians come alive in a real way to the children. The third grade is greatly enjoying a happy education through your magazine.

MRS. A. W. COOK, Jr.
Cooksburg, Penn.

They Still Don't Work . . .

To the Editor: Some of your readers may remember my letter of October, 1957, wherein I stated "doodle bugs do not work." After three years I still say these so-called precious-metal locators do not work.

In response to that letter in the magazine, I got replies from all over the United States extolling the virtues of various doodle bugs. I was even taken to task by some for calling these devices "doodle bugs" rather than "locators."

Prices of sure-fire locators quoted to me ranged from *nothing* to several thousand dollars. All manufacturers were willing to prove to me—generally at my expense—that their doodle bugs did work; but during these three years all they have proven is that the instruments do *not* work.

I will grant that most operators I had contact with seemed to be smart enough to keep up their business or profession, and therefore are able to make a living. By

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this they must, if honest with themselves, admit that their doodle bugs are a failure. Even though they may tell of what riches their doodle bugs have or can find, these men continue to work for a living. Why? Simply because their doodle bugs have never proven successful. They may be alright to play around with as a hobby—but don't make any plans of becoming a millionaire by what they might locate.

HOLLIS J. GORDON
Independence, Mo.

Hero's Big Bang . . .

To the Editor: Being a railfan, I enjoyed the article in the November *Desert* on Jesus Garcia, "Sonora's Railroad Hero."

However, there is one point that needs clarifying: you say Garcia's body was found amid the wreckage of the dynamite-laden train; an earlier report I read said no trace of the body was found after the terrific explosion. Remember what one truckload of dynamite did to Roseburg, Oregon?

JOHN W. MAXON
Upland, Calif

The Prospectors' Case . . .

To the Editor: I note that your July editorial plugs for the prohibition of all prospecting in Death Valley. Sounds like good policy on the face of it, but let us look more into the matter. I can see no reason to prohibit Americans from prospecting there or any other place, for the landscape would not be defaced if we had proper laws.

I prospected in South Africa where they have a mining inspector who visits your claim periodically, measures the work done, and publishes the names of those who hold ground they can't work. No one is allowed to stake a hundred claims and hold a job in town, or turn in assessment work papers on ground that not a tap of work was done on.

In Africa you get a diamond claim just 30 feet square, and when you get worked out you report this fact to the mining inspector, who then comes out to inspect the claim. You don't get another claim until you get that ground worked out. Then the ground has to be leveled off just as it was when you found it.

In America you can go out and stake a hundred claims and keep your job in town. Look at the recorder's books in any mining district if you don't believe it. One man I know has over a hundred claims and works every day in town. If an honest prospector wanted to stake and work one of these claims he would be called a "claim jumper," and ordered off by the "paper hanger."

I have written to our senators about this and received side-track answers; apparently our politicians love confusion.

I have several uranium claims in Death Valley. I made my headquarters in Ballarat, and I wish you could just see some of those "understanding people who love the desert" who come out from Los Angeles on the weekend and camp near our old adobe.

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universal interest . .

**The Classified Ads in the
DESERT MAGAZINE'S
TRADING POST**

Direct line merchandising, seller to buyer,
in the Trading Post (see pages 39, 40, 41)

They throw out garbage and beer cans and don't even have the decency to cover their own filth. We had to get farther away from "civilization" in order to live decent. If that is the kind of people you want to take the place of us prospectors, you will have Death Valley all to yourself.

The prospector is the most conservative of any man on earth. He has to be. He lives next to nature and loves the desert. Not so with your city beatnik. Just visit a prospector's camp and you will see what I mean. In our African camp we buried all garbage, and do the same at our Death Valley camp.

There are all sorts of minerals in Death Valley, free to all good Americans; but the city beatniks lack the guts to get out and prospect.

Up on Telescope Peak and in that area there is gold, and I have got good readings of uranium in several places. It is low grade, but will be good enough to work when the high-grade is gone.

You should plug for decent mining laws. Prohibit anyone from holding ground they can not work or do not work; have a mining inspector (civil service) to inspect every claim, and report those who are delinquent in the papers—then you will see few "holes in the ground."

Every prospector should be required to have a license, the same as hunters and fishermen. In South Africa the miners' license costs about \$4.80. No one is allowed to dig up ground on the public domain without this license. The license fee pays the mining inspector's salary and expenses.

We can work to make America beautiful with the right laws; not by driving the prospector off the public domain. Rather, let us regulate the casual city weekender and beatnik who scatter their garbage about the desert.

These same city slickers shot up the little burros in Death Valley and left them to suffer and die. The burros don't bother anyone. They get their sustenance up in the canyons and only come out to the springs to drink at night. I cannot imagine the mentality of the man who would want to shoot one of these creatures, and then let it lay.

I have spoken to dozens of prospectors in Death Valley about the little burros. I didn't find one man among them who has ever shot one of these creatures.

BARNEY LEE
Gentry, Arkansas

The War Is Won . . .

To the Editor: I was deeply interested to learn from Melissa Branson Stedman's letter published in the December issue of your magazine that our cold war adversaries are now carrying out their nefarious missions by means of peyote buttons instead of double martinis. It is most heartening. The thought of a foreign spy approaching one of our governmental eggheads with a candy-sack full of peyote is intriguing, but not frightening. If what Mrs. Stedman says is true, I am sure we have the cold war won right now, with no further effort needed. I want to thank her for the good news.

ROBERT H. TREGO
Unionville, Nev.

BOOKS of the SOUTHWEST

A PRACTICAL GUIDE TO FLUORESCENCE

Fluorescence fascinates the rockhound. Nothing in his collection brings forth such exclamations of awe and wonder as the gorgeous glow awakened in a drab-looking rock when the ultraviolet light is turned on it.

Most hobbyists are not content to stop at seeing fluorescence—they want to know what it is. *Ultraviolet Guide to Minerals* is designed to aid them in this search for the basic knowledge of fluorescence. The first part of this recently published book deals with the art of identifying minerals by their fluorescence under ultraviolet light. This leads to a unique set of charts for

quick and simple identification of minerals. There also are chapters and charts on: rare minerals, industrial minerals, surveys of ores, fine points of prospecting, and radioactive minerals.

Ultraviolet Guide to Minerals was written by Sterling Gleason; 244 pages; index; illustrations (color, and black-and-white); \$6.95 from Desert Magazine Book Store (see footnote below).

PAST AND PRESENT OF TOMBSTONE, ARIZONA

Fine contemporary photographs with a feeling for the old, highlight a paperback square-format (11x11") book entitled *Tombstone Picture Gallery*. Tombstone, of

course, is the souvenir town in southern Arizona which survived the Earps, Clantons and McLaurys, and is now struggling to live through the Tourist Age.

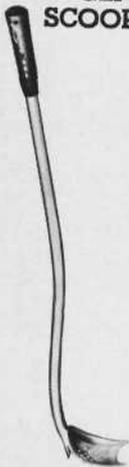
All in all, Lloyd and Rose Hamill, husband-and-wife photo/journalism team, do a creditable job with their "Photographs and Drawings Plus Elegant and Moving Prose." The book also parades some good-looking old type faces.

Tombstone Picture Gallery sells for \$2 which, the authors point out, is "less than the price of a good supply of snuff." 24 pages. Can be purchased by mail from Desert Magazine Book Store (see details below).

Books reviewed on this page can be purchased by mail from Desert Magazine Book Store, Palm Desert, California. Please add 15c for postage and handling per book. California residents also add 4% sales tax. Write for free book catalog.

SOUTHWEST SHOPPING GUIDE

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This new tool is specifically designed for professional or amateur "rockhounds." Made of strong aluminum alloy, 36-inches long, the Gem Scoop is sturdy, but light. It can be used to "reach" for hard-to-get rocks; rake the ground; or as a non-slip hiking cane. Manufactured by Estwing, famed makers of the original rock pick - hammer. List price: \$7.50.



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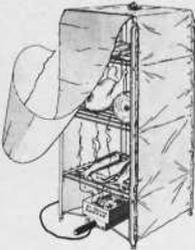
"Instant" camping is provided by this handy and practical camper. Tent sets up in one minute; space for double bed, cots, camp kitchen, luggage. Comes in one-wheel and two-wheel models. Tent is removable to convert camper into utility carrier.

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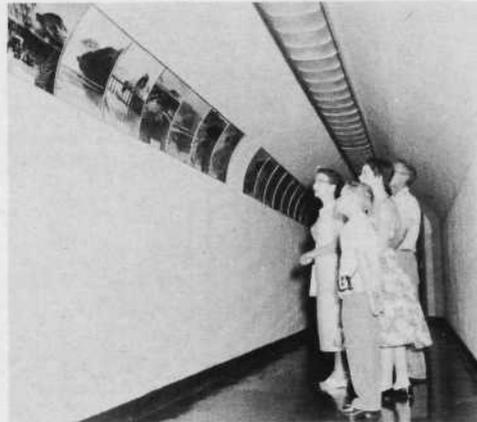
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By **J. D. EARL**, administrative officer, Parker-Davis Project*

Do-It-Yourself Tours

AT PARKER AND DAVIS DAMS



PARKER AND DAVIS dams—unlike their “big brother” upstream on the Colorado River, Hoover Dam—are not “show dams.” Hundreds of thousands of persons visit Hoover every year, and uniformed guides are needed to handle the crowds. But Parker and Davis are much smaller than the spectacular concrete plug in Black Canyon, and they are off the beaten path of the “typical” tourist (although Parker and Davis are right in the middle of heaven for the fisherman, boatman, water skier and desert back-country explorer).

In recent years more and more people have discovered the beautiful blue lakes in mid-desert—Havasu Lake be-

hind Parker Dam, and Lake Mohave behind Davis—which provide some of the best fresh-water recreation in the nation. It was natural that these folks would be curious about the two facilities that back-up these large bodies of water.

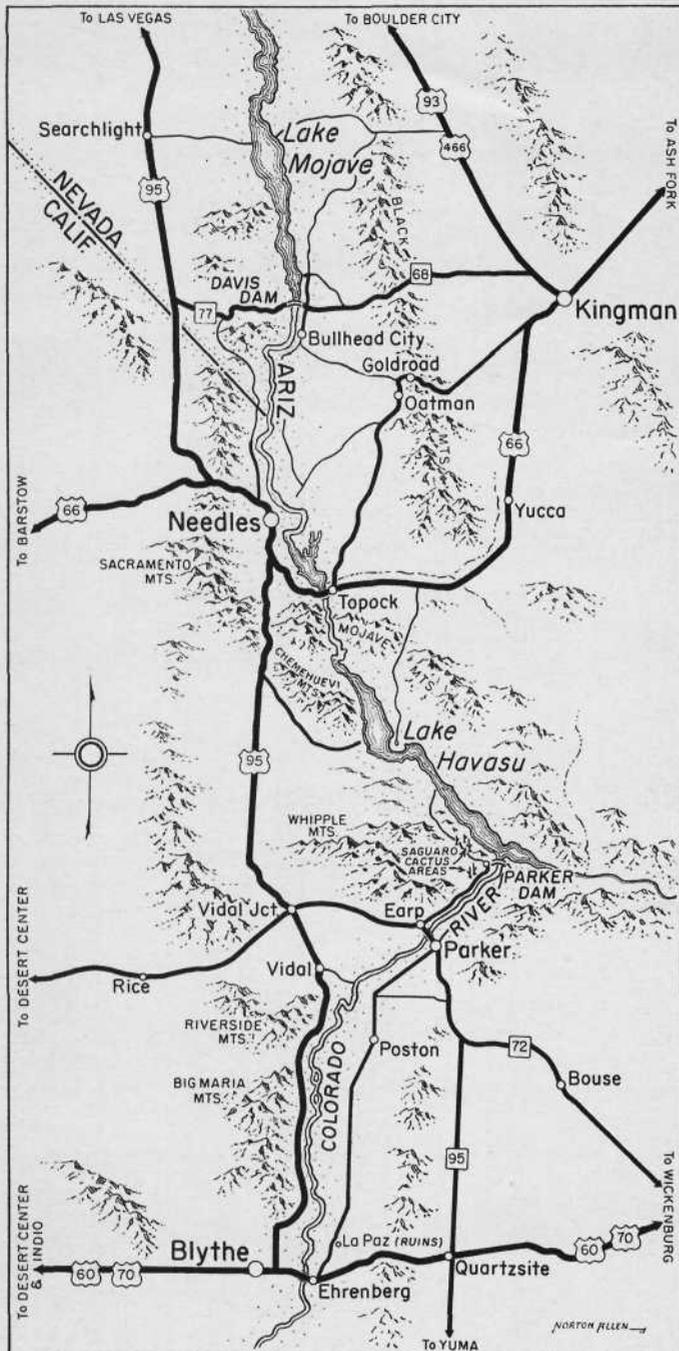
But years ago, when the Bureau of Reclamation was planning these dams, no one anticipated this interest, and no provision was made to let the taxpayers tour their dams. Needless to say, many disappointed persons were turned away.

All this was changed a few seasons ago when the dams were thrown open to the public on a do-it-yourself basis.

A great deal of preparation went into this project, under the general direction of Project Manager E. A. Benson, who first suggested the idea in the Bureau of Reclamation. Assistant Project Manager F. G. Scussel was assigned the job of overall coordination, particularly with regard to the layout, and the electrical and mechanical controls necessary to safeguard both the public and powerplants.

Transmission Division Chief Otto Mangum was charged

*J. D. Earl was born in Bunkerville, Nevada, on a tributary of the Colorado River, and was raised on an irrigated farm. He has a degree in Business Administration from The George Washington University, and is currently working toward a Master's Degree in Public Administration at Arizona State University. His wife, Jeanne, is a native of Lakeside, Arizona, and they have four children.



with obtaining and installing the necessary communications equipment so that a push-button tour could be developed, for no Bureau of Reclamation personnel would be available at either dam to accompany visitors, answer questions or make sure people emerged safely from the concrete caverns inside the powerplants.

I worked with Bill Williams of our Regional Office in the writing of the necessary scripts for the automatic magnetic repeating tape recordings that were installed at strategic points along the tour routes. And our imaginative draftsman, "Buz" Bacon, came up with schematic drawings, cross sections and illustrated maps—all designed to make the tour educational as well as entertaining.

In all this work, we were guided by four overriding considerations:

1. The tours had to be interesting.

2. They could not interfere with the day-to-day operation and maintenance of the two dams and powerplants.

3. There could be no measurable continuing expense involved, so that no charge would have to be made to those taking the tours.

and 4. The tours could be brief or extended, depending upon the spectator. (Who hasn't lost patience on a guided tour with the inquisitive amateur engineer who attempts to rebuild the whole dam and powerplant every time the guide asks: "Are there any questions?")

The actual physical work involved the preparation and placing of directional signs both inside and outside the powerplants; changing elevator controls to facilitate automatic operation; the placement of barriers at points dangerous to the public; and the installation of tape recorders and loud speakers.

Otto Mangum and I went into seclusion to cut the tapes. The play-back sounded beautiful in Phoenix, but at the powerplants the roar of the generators and turbines made much out of my best modulated tones. After considerable experimenting with amplifiers, loud-speakers and squawk deadeners, visitors can now follow what I have to say about the various powerplant operations. If a person doesn't understand how the generators, turbines, rotors and governors combine to produce power for an electric light in some far distant city, they have but to give the recorder button another push to hear my voice repeat what the electrical engineers told me to say. Frankly, I don't understand all of it myself. Another good point: the tapes shut-off automatically. There's no need to wait around for the entire lecture, though all of them are very short.

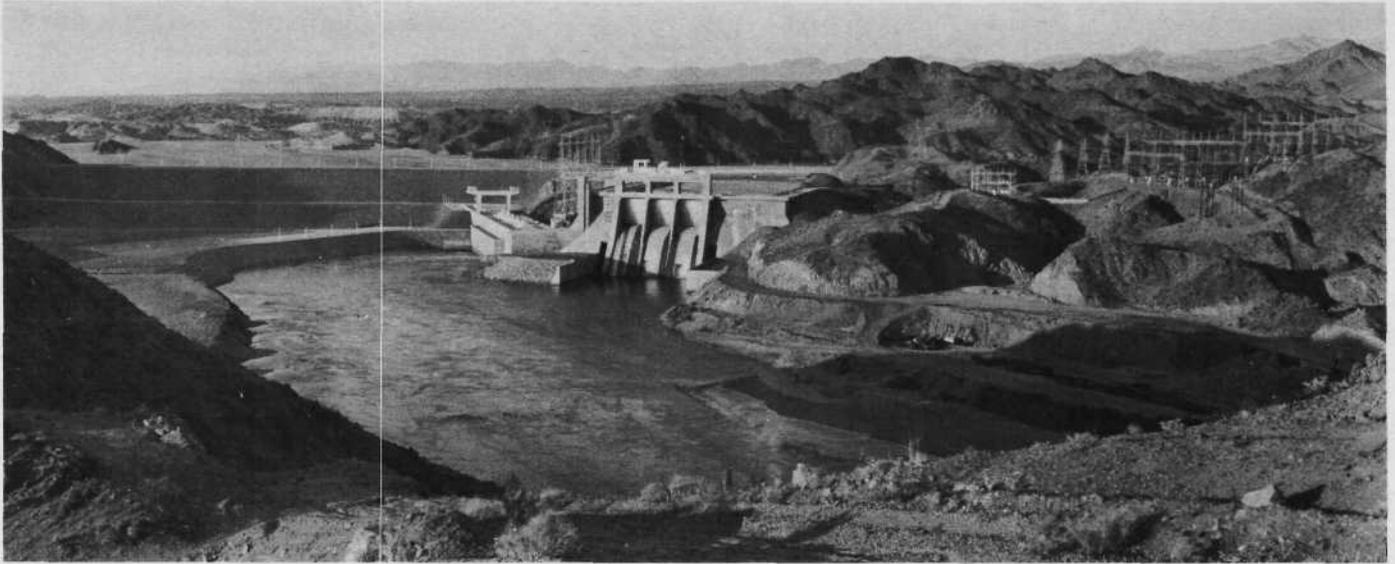
Davis Dam is an earth- and rock-fill embankment with a concrete spillway, intake structure and powerplant. It was completed in 1950. The Davis Powerplant, with an installed capacity of 225,000 kilowatts, generated its first power early in 1951. Electrical energy goes to Southern California, Arizona and southern Nevada.

To reach Davis from Southern California, drive east on Highway 66 through Barstow and Amboy; or take Highway 60-70 to Desert Center where an unnumbered highway takes-off northeast to Vidal Junction. Either route will intersect Highway 95, which is followed north to a point where Nevada Highway 77 heads east to Davis Dam. The trip takes about five or six hours from the Los Angeles metropolitan area. From Arizona take either Highway 66 from Flagstaff, or 93 from Phoenix. Both will pick-up Arizona Highway 68 at Kingman, which leads to Davis Dam. It is a four or five hour drive from Phoenix to Davis Dam.

Parker Dam, constructed by the Bureau of Reclamation with funds advanced by the Metropolitan Water District of Southern California, provides a forebay and desilting basin for the District's Colorado River Aqueduct, which supplies municipal and industrial water to the Los Angeles and San Diego coastal areas. The dam is a concrete barrel arch structure, completed in 1938. Its powerplant, with an installed capacity of 120,000 kilowatts, first generated power in 1942. Part of this energy is used for pumping water along the aqueduct.

Parker Dam is more remote than Davis. From California you leave U.S. 95 at Vidal Junction, head east to Earp, and then north where an unnumbered road dead-ends at Parker Dam. From Arizona a new partially-paved road north from Parker parallels the Colorado River on the Arizona side, and leads to Parker Dam. It takes between four and five hours from metropolitan Los Angeles and three to four hours from Phoenix to reach Parker Dam.

At both powerplants we have clean rest rooms, comfortable lounges and plenty of cool drinking water. Soda



DAVIS DAM, LOOKING NORTH FROM THE NEVADA SIDE. CONCRETE SPILLWAY AND DAVIS POWERPLANT ARE IN CENTER OF PHOTO.

pop is available from machines—but no food or gasoline are sold at the dams. If visitors are hungry, or need gas or a bed, or want to fish or put a boat into the water, they can be accommodated at nearby facilities.

At Havasu Springs Resort on the Bill Williams arm of Havasu Lake is located a concessionaire under license to the Fish and Wildlife Service, which administers all such facilities on the lake as part of its responsibilities in connection with the Havasu Lake National Wildlife Refuge.

A concessionaire of the National Park Service, administrator of facilities within the Lake Mead National Recreation Area, is located at the Lake Mohave Resort on Katherine Wash behind Davis Dam.

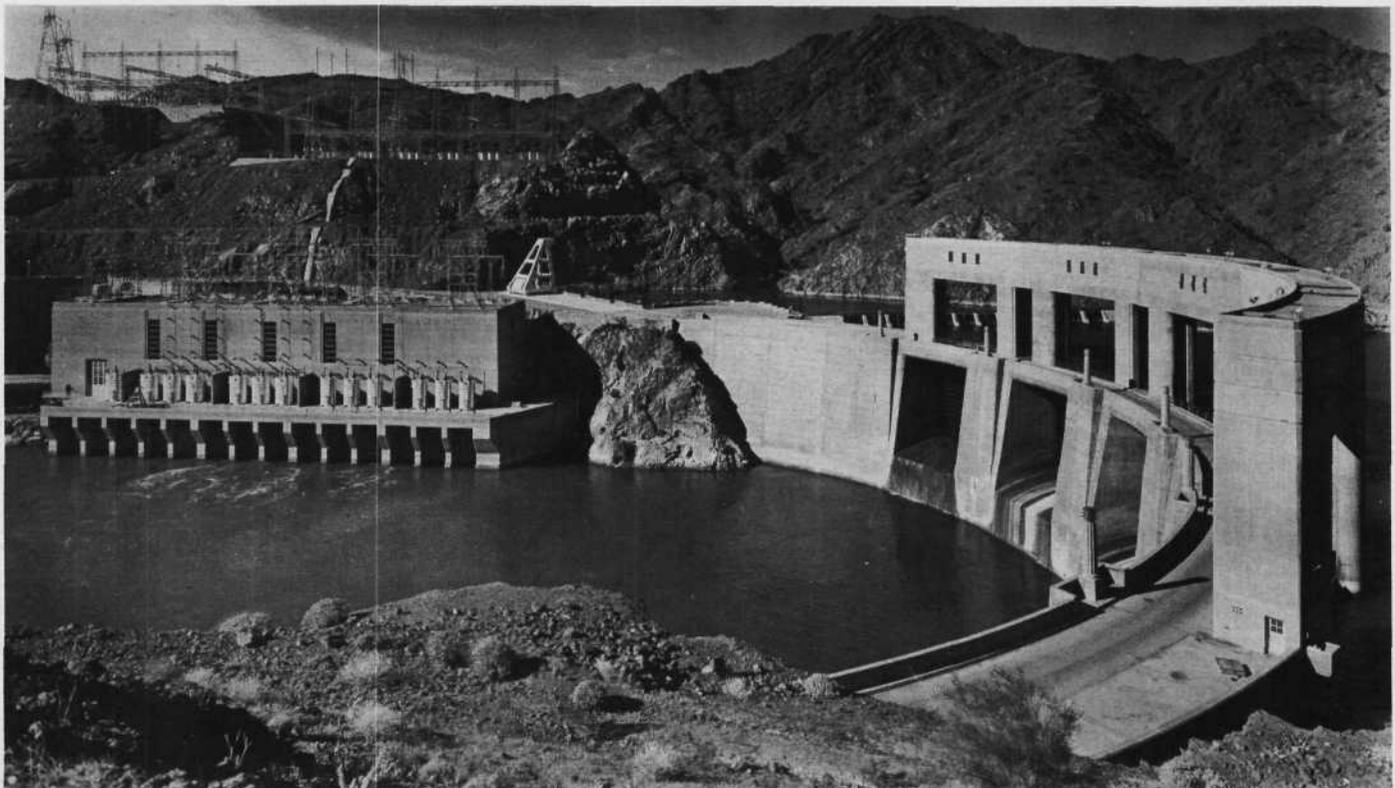
Both powerplants are open from 8 a.m. every day of the year. Someone is always there because water runs and

turbines turn and generators spin and people flip on light switches 365 days a year.

We're enthusiastic about the do-it-yourself tours. And from the many favorable comments received, it is obvious that the public likes them too. Today powerplant personnel can devote all of their time to the important business of generating and transmitting power and energy throughout the Southwest. At the same time visitors are able to poke around in the dams and powerplants (so long as they keep on the prescribed routes) without bothering us a bit.

The tours are becoming increasingly popular. Last Easter week, some 3000 persons went through Parker Powerplant. In a period of five months, visitors from 33 states, eight foreign countries and four provinces of Canada signed the register at Parker Dam. Quite a contrast to a few years ago, when someone likened the two dams to "gray fortresses on the lower Colorado River." ///

THE DOWNSTREAM FACE OF PARKER DAM, AT RIGHT; PARKER POWERPLANT, LEFT, IS ON CALIFORNIA SIDE OF THE RIVER





lives; that one hat can be worn in fun only at a sporty angle, and the same hat, shaped a little differently, can complement a square jaw and a pair of deadly serious eyes.

Hats have saved lives; and hats have triggered deaths. With joy, hats are thrown into the air; upon challenge, tossed into the ring.

The hat had a major role in the building of the West, and the Southwest in particular. Both were created by virile young-in-heart men and women (and young people are fond of flaunting their personalities through their headgear). The angle at which a man wore his hat, or the shape of that hat, could stir up an instant fight. And the bolt of controlled lightning a dark-eyed blonde, sitting demurely on the seat of a covered wagon, could pour on some young unsuspecting male wayfarer from under the brim of a pert (black) sunbonnet, was something to tell your grandchildren about!

Rationally, you would never expect to see a college boy—who should be wearing a beanie—stroll to his classes in a homburg; or a statesman in striped pants and a claw-hammer coat wearing a turned-up floppy-brimmed felt *a la* Errol Flynn just in from the Australian Bush.

Frederick Remington depicted the Spanish-American War and Western soldier wearing a gray felt, crown creased fore and aft, pinched a bit in front, with both back and front brims turned up to a 45-degree angle. This was authentic Western for almost a century, with many civilians affecting the style.

The hat type worn by mining and civil engineers, geologists, mineralogists, surveyors and forest rangers seems to have originated with the cavalry officer. General John J. Pershing wore it in Mexico in 1916. It has a fairly flat brim, comes in black, pearl-gray or dark green, with a moderate four-dented crown.

Younger men on the Western deserts and cow country wore, in general, brims pulled down in front to shade their eyes from the brilliant light.

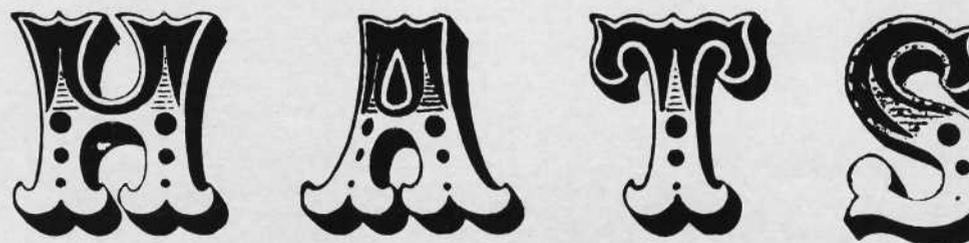
Wm. F. "Buffalo Bill" Cody in his younger days wore a hat with the brim up on front and a little to one side,

LIKE EARS, the "beaver" you wear is an extension of your personality. And because of this facet, no two men or women ever crease or wear a hat alike—or at least shouldn't.

In the Southwest, the primary consideration for wearing a hat was and is to obtain shade or warmth. After this is achieved comes the instinctive urge for variation and self-expression.

We are all familiar with the clownish hats worn at county fairs, or on New Year's Eve; the "cocky" hat pulled down over one eye; the jaunty or "sporty" hat worn on the back of the head; and the flamboyant adventurous hat turned up in front. But all these, wrapped in one, cannot approach the midget-brim monstrosity that style-happy men are wearing today. How the Shade of Bat Masterson must wince! But even old Bat would be the first to admit that there are as many hat shapes and styles extant as there are human personalities, and that change in hat style is inevitable.

Few give any great thought to the extreme roles hats can play in people's



held in place with a pinned ornament. He changed styles as he grew older.

Many Southwestern hat types, especially those of the Navajos, had bands of braided vari-colored horse hair with silver, beads, or polished turquoise ornaments. The Navajo, inherently conservative and deeply religious, generally wear flat brims and undented crowns.

Wyatt Earp wore a flat-topped "telescoped" "toughnut" type dark felt, with a fairly flat brim. This hat still has a wide vogue over the desert and cow country, and dates back to long before the turn of the century.

Billy the Kid wore a characteristically nondescript black slouch felt, pulled down in front, with a carelessly pointed high crown. Dudes and those who were inclined to be "tony" wore derbies or small felts, sometimes with the brims curled up all the way around, with uncreased crowns. Real "dressers," even in the mining and cow towns, wore silky velours in winter, and "sailor" straws in summer; women wore "sailor" or Leghorn straws, both held in place with long hat pins with which, if needed, they could quickly trim a "badman" down to size.

Like Will Rogers, Death Valley Scotty wore a standard slouch type Stetson pulled down in front. Many Westerners habitually wore rattlesnake skins for hat bands.

Hats can have a utilitarian use also, as was illustrated by a story that went the rounds in the early days about the Arizona range rider who got a bullet through the crown of his hat in a saloon gun fight. Unconcerned at his own close call, he yelled at his opponent, "Now how am I a-goin' to water my horse out in the sticks!"

Mexican vaqueros were addicted to wide-brimmed small-crowned sombreros, with chin straps. The bigger the hat, the more shade for their noon siestas.

The Panama in all shapes came into general use about the first decade of the present century.

Some men even today go so far as to wear a rainbow-colored feather under their hatbands, imitating in small fashion the Indian's ornate headdress—which, after all, is just a hat with a lot of feathers stuck in it!

But be that as it may, one thing you

See Illustrations On Back Cover

could be sure of in the rich old days—no man or woman would ever think of appearing in public without a hat!

Sporadic attempts have been made to introduce "pith" helmets to the Southwestern deserts, especially when movies were made in such locales as the rolling Algodones west of Yuma, but somehow the style doesn't seem to catch on, probably not fitting the American personality. One thing that does last though, is the "peaked" cap of the rockhounds, which is comfortable to wear in a car and in the field.

The vogue of the high crowned "ten gallon" hat was ushered in by Tom Mix, Buck Jones, Hoot Gibson and other Western movie stars shortly after the First World War. This hat had a wide low-curved taped brim, and was generally worn turned down slightly in front. It came in many colors, including snow-white.

None of the old timers ever wore the brim of their hats *rolled up* on each side as we see so much in evidence today at rodeos, and which, apparently, originated in recent years with the riders of the King Ranch in Texas. The style is prevalent throughout the Pan Handle of Texas and Oklahoma, and has been for some years. Go to any roundup today, and you will observe headgear atop both male and female as alike as the rows of peas in a pod.

A study of hundreds of hat pictures of old-timers throughout the Southwest showed but one (and a feminine one at that) wearing this side-brim roll. This one exception was Annie Oakley, "Little Sure Shot" of the Buffalo Bill Wild West Show in the 1890s. On her, with a little chin strap, it looked real cute.

Many present day movie and TV stars affect the modern side roll style, even when depicting *Old West* characters, in which, of course they are in error. They are as "out of character" as their *galluping* horses are when pulling vehicles. (A *galluping* horse is a run-away horse). Most of the old-timers spent quite a bit of their time keeping their hat brims flat. Like the "ten gallon" crown, the rolled effect



THE WAY BILLY THE KID—HAT AND ALL—REALLY LOOKED. COPIED FROM OLD DAGUERRETYPE.

can be carried to an extreme where it becomes a caricature.

Yes, I think you will agree, *hats do make the man*, as many old-timers learned the hard way to their great regret, trying to live up to the shape and angle they sometimes so innocently chose. ///

What Won The West

By HARRISON DOYLE

Desert Stream

Now You See It . . . Now You Don't

A marvelous spring
above the ghost town of
Bumblebee, Arizona,
feeds the thirsty sands
of a desert wash

BY ELIZABETH RIGBY

THE DRY WASH—a wide streambed with not a drop of water in sight—is a hallmark of American Southwest desert and semi-desert areas. Yet every desert rat worth his alkali cocktail knows better than to pitch

his tent in an arroyo during the cloudburst season lest he be drowned by a flash flood in that same dry wash. He knows also that if his canteen is empty he is likely to find the wherewithal to quench his thirst by digging into the floor of the wash where the sand shows signs of being damp.

Plant roots know this secret too. That the water table is frequently very close to the surface in a desert wash is attested by the surprisingly lush growth of trees, shrubs and other vegetation on its banks. It is not often, however, that the phenomenon is as clearly demonstrated as it is at Government Springs in the foothills of the ore-rich Bradshaw Mountains near the ghost town of Bumblebee, Arizona, some 60 miles north of Phoenix.

This remarkable spot (not to be confused with another Government Springs farther north, near Prescott) is located at the head of a small box canyon at an altitude of 2500 feet, and can be reached only by four-wheel-drive vehicle, on horseback or afoot from the takeoff point, which is 3½ miles north of Bumblebee at the edge of the graded dirt road between that settlement and the once-active sheep-shipping center of Cordes.

On our last visit to Bumblebee we prevailed upon Charles Penn, present owner of the town who moved from the East Coast to find his destiny and happiness in a wild Southwestern desert valley, to take us on a grand tour of the history-haunted hills. It didn't take much prevailing, since Charley likes nothing better than guiding interested visitors through the rugged country he now calls home. Government Springs is a must on his roster of places to show visitors, and he had told us something of its story in advance. Yet as it turned out he had withheld its most startling feature for a bizarre grand finale.

It was a raw and windy day, and only the saguaros, ocotillos, paloverdes and stunted mesquite which attempted to obstruct our progress, suggested a desert climate—and they were belied by the gray sky and the chill blow.

Charley knew all the roads, trails and burro paths—and it seems he drove the four-wheel-drive vehicle over considerable stretches of the latter. After we descended a washed-out track winding down the steep flanks of a deep gully, we hit the broad level bed of Government Springs Wash which seemed a true King's Highway compared to the high road.

We had had a comparatively wet rainy season for this part of the world, yet the wash was bone dry. As we rounded the final turn I was completely unprepared for the sight which greeted us—there, from an imposing wall of granite, issued forth a tiny sinuous stream.

This was Charley's O'Henry punch line to the tour.

"The Springs," he announced succinctly. "As I've told you, cavalry troops from Fort Whipple near Prescott



camped here in the old days. Before them the Indians. Now ranchers drive their cattle in here sometimes because of the water, and because the critters can't go beyond the box. The Springs are in the public domain, though, as you'll see if you look for them on a map. Anyone's welcome to come here. That is, if they can find the place." And Charley Penn chuckled with the gleeful triumph of the successful explorer.

Leaving the car at our guide's suggestion, we started clambering up the step-like boulders at the foot of the granite wall.

"Something up there might surprise you," Charley murmured.

It didn't take long to discover what he meant. Indians had once used this place as a campground, no doubt of that. We could see the smoke-blackened walls and roof of the natural rock enclosure where they had done their cooking. More interesting yet were the shallow grinding pits, the *metates*, they had scraped out of the flat-surfaced granite. And when we leaned over the edge of the boulder we found ourselves looking down on a deep limpid pool.

It was the water from this spring-fed source which, spilling over the rim of its narrow stone basin, fed the ephemeral little stream which had so astonished us upon our arrival.

Charley scooped up a cupful for us to sample. It was cold and delicious.

With its ample supply of pure water and its shielding rampart of rock, what a perfect hideout this spot must have made for Apaches avoiding white Americans, for prospectors fleeing Apaches, for horse thieves in fear of the law

(a glen high on the mountain above still bears the name Horse Thief Basin), for high-stepping horsemen of the United States Cavalry on the trail of red warriors or side-winding bandits alike—unless, of course, all should have happened on the refuge simultaneously.

Then Charles Penn, who had implanted the seeds of such retrospective reverie in our minds, brought us back to the eternal verities. There were more springs, he told us, around the corner on the far side of the granite wall, and so far as he knew they had never failed to flow copiously. This made it the more amazing that the snakelike rivulet which owed its life to their bounty should, within a few hundred feet, vanish abruptly, swallowed up without a trace, by the thirsty sand.

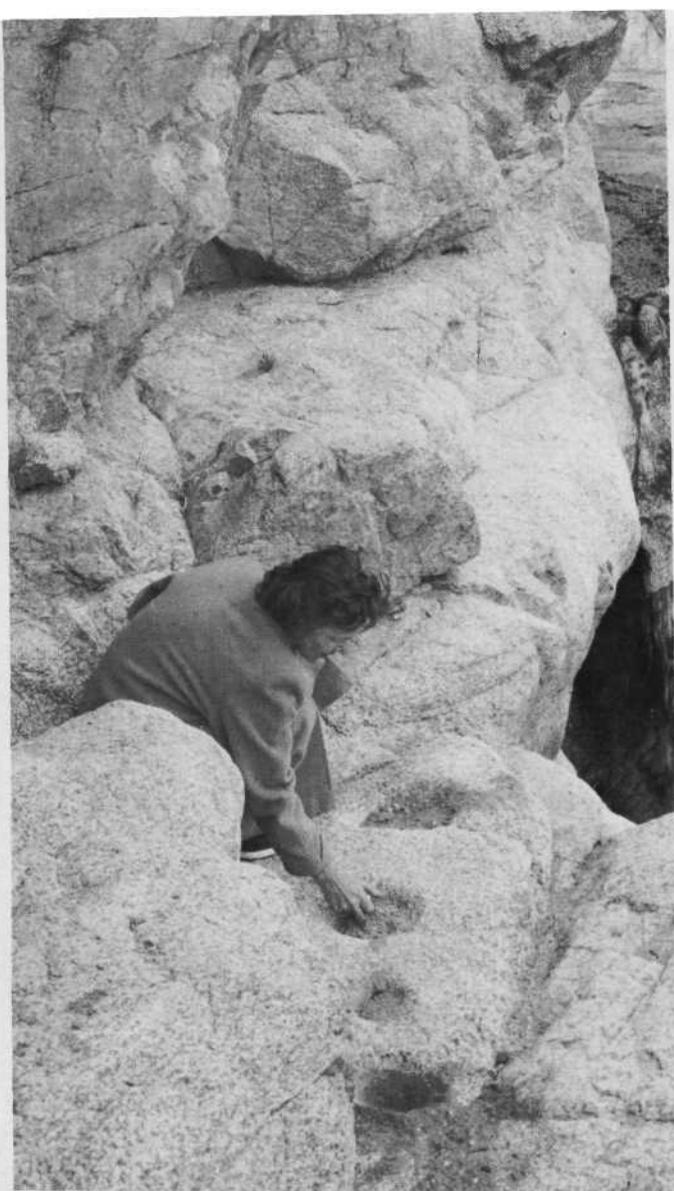
"Strange, isn't it?" said Charley. "But then that's the way with many a desert stream. Now you see it, now you don't. Just another of nature's marvels."

The early history of these Yavapai County places is written into their names. You need only know how to decipher the code. In Territorial days it was customary to apply the word "Government" to any locality used by Federal troops, and the use of the springs near Bumblebee by cavalry detachments sent out from Prescott to protect miners, pioneer settlers and stagecoaches traveling the risky route from Prescott to Phoenix over the original Black Canyon Highway, is affirmed in an old manuscript discovered recently by Charley.

According to this document the first known use of the Springs by the military was in 1863. In that year a group of United States soldiers under a Colonel Powers was stationed there on outpost duty against the Indians who lived in the valley; and until the redmen had finally been



Oldtimer Bill Black and his horse Sugar know all about Government Springs. Often, prospecting in the hills, they've stopped their thirst at the cool pool at the head of the disappearing stream. Here Bill, looking north, recalls an early adventure for Charley Penn's benefit. "Yes," he says, "hadn't been for those springs, we'd like to've died that day, hot as you know what. But here we are. Got a Coke in there at the store?"



Shallow grinding pits scraped out of granite show Government Springs was once a favored Indian haunt

subdued, this place continued to serve as intermittent headquarters for the U.S. Cavalry.

It was in 1863, also, that a party of venturesome prospectors attempted to rob a honey-filled beehive in the cliffs above the creek which runs through the valley. In normal bumblebee fashion, the bees objected; and the badly stung prospectors magnanimously decided to memorialize the occasion by naming the creek in honor of their determined winged attackers.

As it happens, 1863 was a banner year in the history of mining in Arizona's Yavapai County. It was in that year that the fabulous strikes at Weaver Gulch, Antelope Hill, Richmond Hill and Wickenburg were made. Three years later, after visiting the region, the celebrated mineralogist Hermann Ehrenberg wrote that the country contained "a continuous range of gold-bearing rock . . . embracing an area of at least 1000 square miles." And of one district in the general vicinity of Bumblebee another early account stated, "every hill is . . . mineral-bearing."

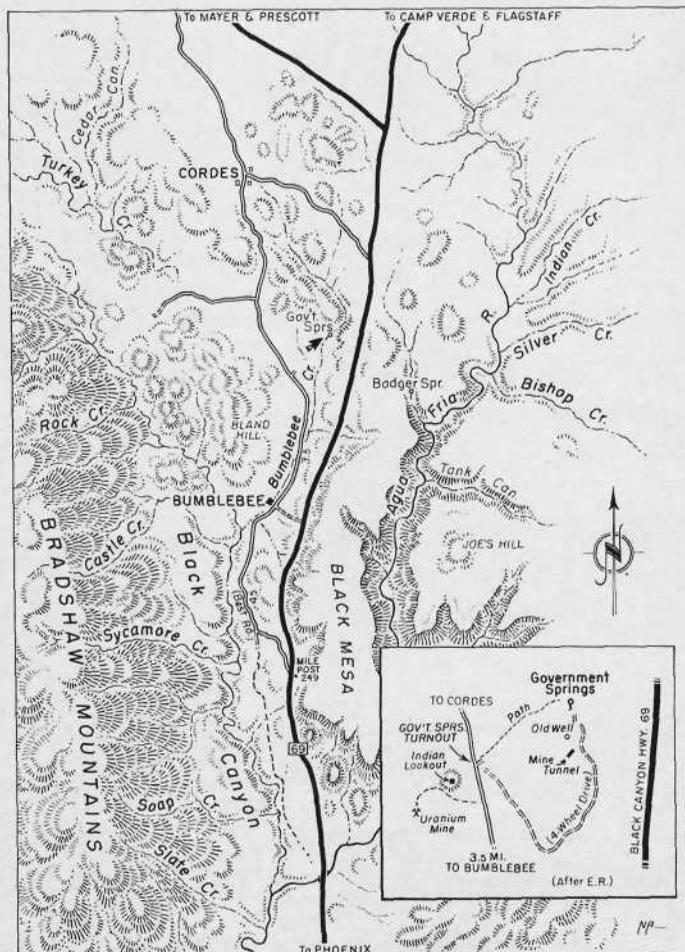
By 1876 the Bradshaw Mountains and Bumblebee Valley were literally honeycombed with mines and with prospectors' hopeful diggings, while mines throughout Yavapai County as a whole, both gold and silver, were more numerous than in all other parts of Arizona Territory combined. Richard J. Hinton, whose *Handbook to Arizona* appeared in 1878, declared this was largely because the region was not vulnerable to Mexican depredations as were

the southern Arizona mines, and was more easily protected against marauding Indians.

Yet Indians roamed Yavapai County in considerable numbers, and Bumblebee Valley, because of its creek and its springs of clear cool water, as well as because of its mountain fastness, was one of their favored haunts. As did Indians elsewhere the Yavapai Apaches resented the coming of the miners and white settlers, and did what they could to dissuade the freight and passenger coaches from passing through their homeland.

The town of Bumblebee, once a bustling way-stop on the only north-south route through this part of the state, is now privately owned by the Penns. It has fewer than 20 inhabitants, most of them friends or relatives or employees of the Penns. It has a postoffice which serves a wide surrounding area, in which live ranchers, miners and prospectors. The store is operated (at a loss) by the Penns for the accommodation of travelers and neighbors. It is possible to buy the basic foods in limited amounts (canned goods, bread, dairy products, some meat, soft drinks and candy), but anyone planning an extended stay in the area would be wise to stock-up ahead of time. Gasoline, oil and air for tires are available.

A visit to Bumblebee may be conveniently made by anyone planning a trip to the recreational areas in the Bradshaw Mountains beyond Crown King and Horse Thief Basin. It is sometimes possible to rent one of the old miner's cottages (which have been moderately modernized, and are housekeeping units) at Bumblebee, but arrangements for this should be made in advance. In the absence of the Penns, or if none of the cottages are available (their rental, like the store, is simply a matter of accommodation, since the Penns are not in the motel business) camping out is the order of the day. ///



A Desert Cabin Called "Second Chance"

By MARGARET ARENSBERG

THE OLD MINE was abandoned because it didn't pay off. Nestled in the nearby rocks was an old prospector's cabin that looked more like a frontier jail than it did a home. It had iron bars on its narrow windows and big locks on its two iron doors. But, to our city-weary eyes, these 40 acres in the dry hills of eastern San Diego County, California, were a dream come true. We bought the property for a vacation home.

The house was built of rocks and cement. It had but two small rooms, a porch to protect and give dignity to the front doorway, a tiny entrance hall and a big fireplace of red brick. The iron doors were thick and heavy, decorated with elaborate hand-wrought iron hinges. Each door had two trick locks, and the windows had one-inch iron bars sunk into six-inch cement walls. The kitchen windows were boarded over, closing out a distant view of Palomar Mountain. Holders for guns, a niche for a bootjack, and corner shelves for lantern and crucibles made up the cabin's "furnishings."

The old prospector who built this home must have been afraid of both the elements and chance passersby. We learned later that he was an elderly Swiss gentleman, a lace designer and world traveler who turned to prospecting and mining in his old age. The house expressed qualities of his personality — the touch of the lace de-

signer appeared in iron trimming on the windows, and fancy designs were on corners of the house and on archways. This was not the typical desert miner's cabin.

First thing my husband did was to cut and clear away the undergrowth that swarmed around the cabin. This was our "fire insurance policy." Next he repaired the mile of dirt road that led from the paved highway to our place. I took over the task of making the cabin clean and livable. This was the only time I was glad the place was so small.

For furnishings I resorted to pieces unwanted by other people — an old office desk cut in half served as a table, a camp butane stove became my kitchen, and an old ice box kept food safe from rodents (although it didn't do much to keep it cold). I painted the inside walls a cheery yellow, and my discarded blue checked gingham house-coat was converted into ruffled curtains and cushion covers. For foot stools I used a pair of wooden buckets rescued from a painter.

It seemed significant to us that these old discarded furnishings were being given a second chance to be useful—a "place in the sun." The old cabin itself was receiving its second chance, too. It was a natural. We named our desert place, "Second Chance."

The years have brought many changes to Second Chance. The original 40 acres of canyons and hill-sides have been increased to 120. We added three rooms and a bath, cement patios for outdoor living. Knotty pine walls left in natural tones are a congenial background for the second-hand furnishings. The marble top from a bureau of Gay '90s vintage has a second chance to show its beauty as a desk top. An old clock now chimes away in a pleasant homey manner, glad again to show its face after years

spent in a dark attic. A handmade wooden potato masher and butter patters, over a hundred years old, are kitchen decorations. A stone fruit jar, the kind used before glass jars were invented is now a prized flower vase. The vinegar jug of the past, a candleholder, a coffee grinder and iron tea kettle have been restored to usefulness.

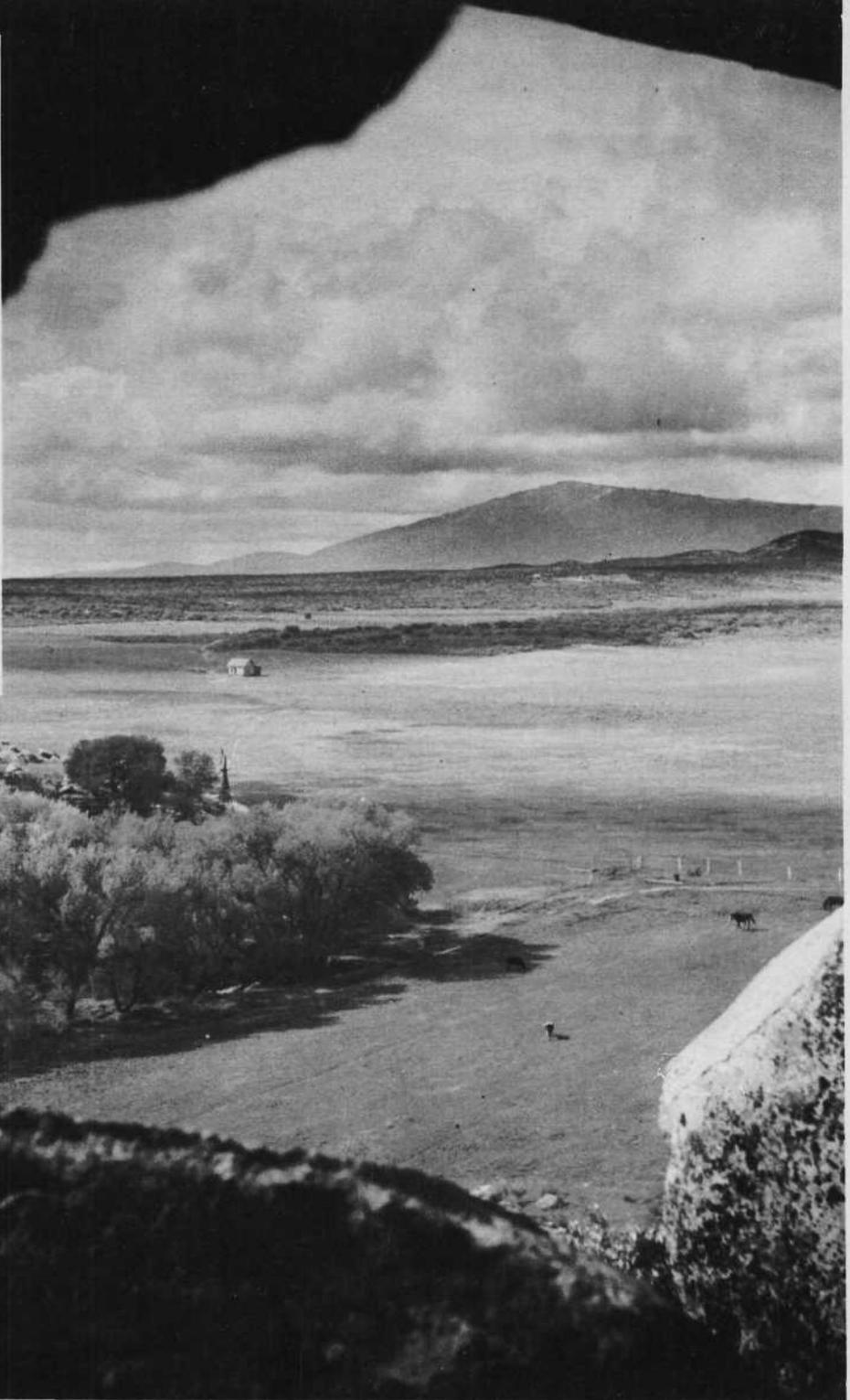
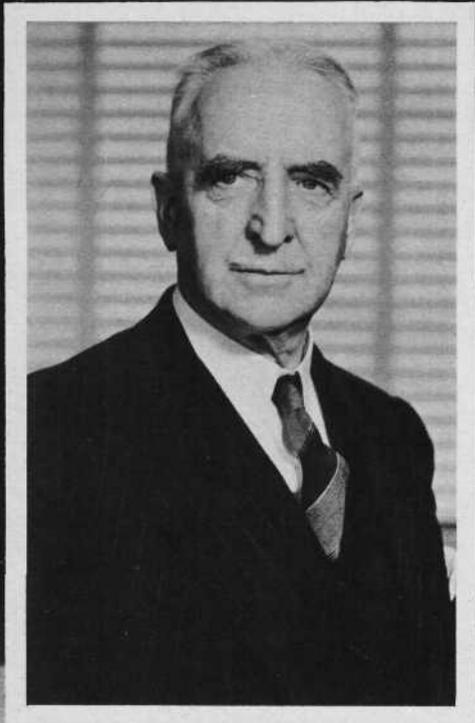
The point is this: the cabin has character. Our desert home exudes desert atmosphere.

This is Indian country. The tribesmen here believed that a person returning to his wickiup would have good luck if he brought something in hand to enhance the premises. For that reason, each guest who wanders over Second Chance's desert grounds is encouraged to return to the cabin with a rock—small or large—for my friendship wall. The rock fence grows longer and higher each year—and each rock in it brings to mind a friend or a happy incident.

But, life in this yucca-studded land is not all peaceful and serene. We have had our thrills and dangerous experiences. Once a glass of cold water saved my husband from being crushed to death. He was digging for water and had climbed out of the well for a drink. No sooner was he out of the hole when a boulder caved in our precious spring. A heavy downpour of rain—three inches in an hour—sent a wild thundering wall of water down a nearby "dry" wash, tumbling boulders over young trees, washing out bridges and road, breaking water pipe. A big night-prowling cat left his five-inch paw track by the bird bath.

The evening silence brings a special peace of mind that is good for city nerves which have been under tension and pressure. No tranquilizer pills are needed after working all day as a plumber's helper or a very amateurish stone mason. ///





THE CAHUILLA VALLEY NEAR ANZA. INSERT: GEN. DAVID BARROWS.

The story of a
distinguished man and his
life-long interest
in a band of
native Southern Californians

By NINA PAUL SHUMWAY

Friend OF THE CAHUILLA

THE CAREER of the distinguished scholar, educator and military authority, the late General David Prescott Barrows, was a sequence of exciting and illustrious chapters. But when I knew him, during the closing years of his long and notable earth-span, his liveliest interest still centered around his friendship with the Cahuilla Indians. The remarkable adaptation to a hostile environment of desert and semi-arid mountains by these people had inspired General Barrows' early study, *The Ethno-Botany of the Cahuilla Indians of Southern California*, published in 1900, the first authoritative study of the Cahuillas and still the definitive work in its field.

His acquaintance with the Cahuillas began in 1891 at Paui—a little Indian settlement near a warm spring in Cahuilla Valley not far from the present site of Anza through which the motorist now passes as he drives over the paved link between the Palms-to-Pines highway (state 74) and the coast.

On that long-ago August day, some 275 Cahuillas and as many Indians from neighboring tribes had gathered to celebrate the annual fiesta of San Luis Rey. Among the natives were a few white settlers—all wearing guns on their hips.

About mid-afternoon David Barrows, a tall youth of 17 and one of the first two students to enroll at newly founded Pomona College, arrived driving a team of fine horses to a light Concord wagon. With him was Frank Brackett, a professor at Pomona. Having learned through the grapevine of the fiesta, the two had driven over from their summer camp at Strawberry Valley (subsequently named Idyllwild) to gain first-hand knowledge of what promised to be an interesting and novel event.

The center of festivities was a grassy swale where booths and a large *ramada* of poles covered with leafy branches had been built near the hot spring. In some of the booths meals were served at 25c a plate, and these rustic cafes were popular with both Indians and whites. After pitching camp nearby, the newcomers mingled with the crowd, young Barrows raptly absorbing every detail of the native games and sports which made up the afternoon's entertainment.

At night came the big campfire, the tribal songs and dances—the Whirling Eagle dance, the Fire dance, the War dance, *He-no-tera-toma* and others—in some of which David took part with enthusiasm.

The interest of the lad who entered so zestfully into the celebration that August night must have been completely captured by his initial experience, for in the following years he came back again and again to camp among the Cahuillas, observe their way of life, learn many words of their language, widen his acquaintance and make new friends. Foremost among the latter were members of the Costo family—Juan Maria, the eldest, Gabriel, Ignacio, Isidore and Martin; also a daughter, Rosa.

In 1895, after graduating from college, he brought his bride, Anna, into the Indian country on their honeymoon journey. For six weeks they camped at various Indian *rancherias*. Then as the time for the annual fiesta of San Luis Rey approached, they drove to Cahuilla to witness the event and enjoy a visit with their friends there.

During their stay they tried to promote a horseback trip to the Cabezon (now Coachella) Valley—home of the Desert Cahuillas; but none of the mountain Indians was willing to take a white woman on such a hazardous journey. The newlyweds had to be content with the trails of Santa Rosa Mountain and Torres (Toro) Peak. Over these primitive routes they were guided by the youngest of the Costo brothers, Martin.

This lad, described in General Barrows' memoirs as "a beautiful boy," they found to be not only an excellent guide but a young man of fine character. Martin's qualities so appealed to the esteem and affection of Anna and David Barrows that when asked by his family to take the lad back with them, that he might gain more education than was provided by the little Indian school of the district, they gladly consented.

Thereafter the young Cahuilla became a loved member of the Barrows household. He remained with them several years, first in Claremont, then in San Diego where Dr. Barrows was professor of history at San Diego State Teachers College.

Meantime, scholarly interests had not superceded the cherished project of a trip to the *rancherias* of the Desert Cahuillas. In August, 1897, while vacationing in Cahuilla Valley, Dr. Barrows learned that an acquaintance, Celestino Torte, who lived in old Santa Rosa village, had been over the trail earlier that summer.

Dr. Barrows went at once to see him and they discussed the matter for some time. Finally, Celestino agreed to provide horses that "savvied" the desert, and to guide the expedition.

Next day the two men met at the foot of Torres Mountain, and their adventure began. As if in salute, a summer thunderstorm sent out crashing volleys as it broke on the peak high above them. But no rain fell on the lower slopes.

The black broncos Celestino furnished were small and tough—desert-wise and inured to the hardships of the trail. Their ridgepole backs were scarred by many a saddle gall; their unshod hoofs were hard as flint.

The route they followed across Pinyon Flat from Vandeventer Flat and thence down the steep and rocky eastern face of the Santa Rosa Mountains below Asbestos Peak, was not actually a *peet* (trail), but simply a tortuous way through rocks and gulches.

As they went they botanized, Celestino discovering every few rods a specimen of fresh interest, the native uses of which he described.

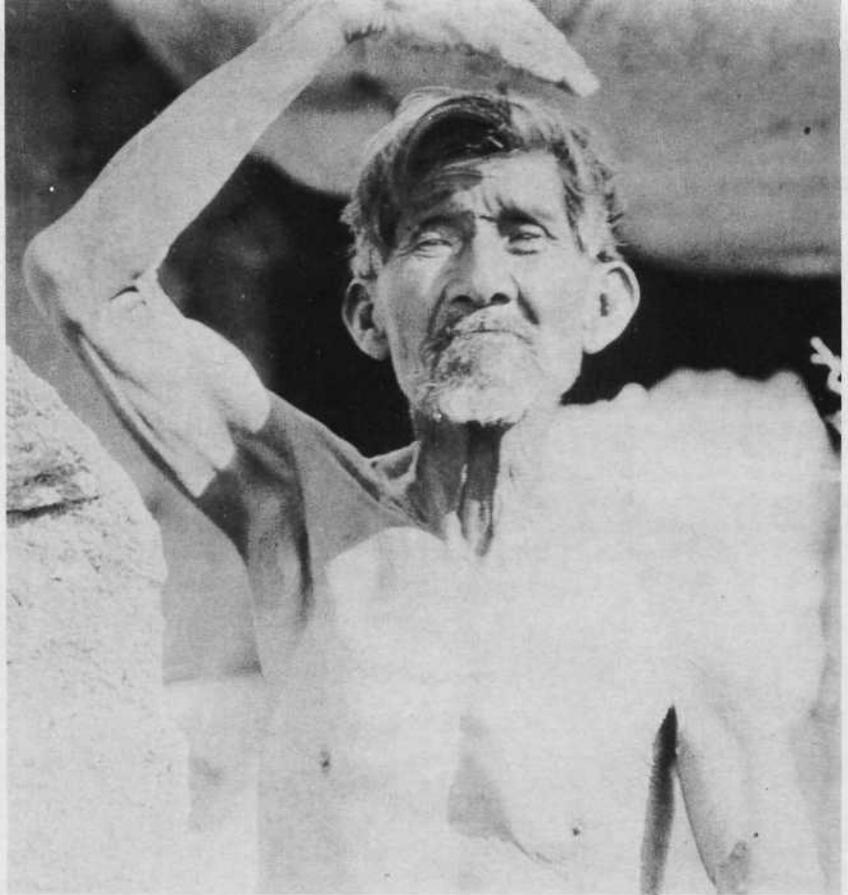
Toward sundown they crossed Pinyon Flat and camped that first night above a gorge which held a spring. Here on the mountainside had been a Cahuilla village called *Ku-a-le-ke*, occupied, Celestino explained, in the days when the Cahuillas were a strong people. Now their numbers were diminishing, the old trails had grown dim with disuse, and a few grinding holes and cooking stones were all that was left of the village.

At dawn the two men were mounted and on their way. An hour's ride brought them within full view of Cabezon (Coachella) Valley. From their perch on *Cawish Wa-wat-acha* (Mighty Mountains) Celestino pointed out on the opposite range the *Cawish Po-po-hu-ut* (Mountains of Tule and Mesquite Bushes—today known as the Little San Bernardino), hunting terrain of the Chemehuevi Indians

Nina Paul Shumway of Palm Desert (in winter) and "The Tors," her mountain homestead (in summer), is a member of a prominent pioneer family who came to the Coachella Valley of California in 1909. In 1925, following a seven-year absence from the desert, she gave up a secretarial position at Stanford University and returned to the Valley to devote herself to writing. After several modestly successful years in her chosen field, her father's death left a date garden and mail-order business which required most of her energies. But, early readers of Desert Magazine may remember her occasional contributions to these pages. Her book, "Your Desert and Mine," the revealing first-person account of the victorious struggle which made a blazing wilderness one of the richest valleys in the world, recently was published. (\$6.75, Desert Magazine Book Store).



OLD PHOTO SHOWS A CAHUILLA WOMAN, CINCONA LUBO, DISPLAYING ACORNS GATHERED IN MOUNTAINS



FRANCISCO NOMBRE, A DESERT CAHUILLA

from the Colorado River, friends of the Cahuillas who came to the range for mountain sheep.

Far below lay the blazing expanse of the desert floor, its quivering gray barrenness broken only by dark splashes of distant mesquite clumps. A few of these marked the sites of Indian villages—Indio, Cabezón, La Mesa, Torres, Augustine, Martínez and other habitations still more distant.

By the middle of the afternoon they were on the desert and pushing forward with all the strength under the scarred hides of their tough little broncos. After crossing the wide outwash apron of what is now called *Deep Canyon*, the present site of Palm Desert, they camped for the night at Indian Wells where there remained of the deserted *rancheria* only a few blackened posts and one of the Cahuilla's unique walk-down wells.

Concerning these wells, Dr. Barrows wrote in his *Ethno-Botany*: "The Cahuillas call these wells *temal-ka-wo-mal-em*, a pretty figure. *Ka-wo-mal* is the word for a *tinaja* or water olla, and *temal* is the word for the earth or ground. There is no question but that the Cahuillas learned of themselves to dig these wells, and this practice cannot perhaps be paralleled elsewhere among American Indians."

During their stay on the desert floor, the travelers crossed the valley twice, visiting all but the two farthest *rancherías*—Agua Dulce and Alamo. The crop of mesquite beans had been unusually abundant that year and the women in all the villages were busy gathering, grinding and storing in huge basket granaries the rich harvest which furnished a large part of the food of the Desert Cahuilla. In every home by day and far into the night could be heard the thump of stone pestles in the wooden mortars as the dried beans were being pounded into flour.

The beans were also an excellent livestock food. Yet

for all this plentiful supply of provender, the Indians' livestock was in sorry straits. A long period of drouth was drying up wells and waterholes. Four horses died at Martínez the day the travelers arrived, and the previous day five head of cattle had perished of thirst.

The prolonged drouth meant trouble for Barrows and Celestino, too. They suffered from thirst as they painfully worked their way back across the last stretch of desert and up the rocky flanks of the "Mighty Mountains." By dark they were exhausted and still half a day's ride from water.

Remembering the thunderstorm which had broken above them the day of their start, Celestino, wise in these matters, explored a ravine, found a damp spot, and dug. Into the small pits a little water slowly seeped. Beside these tiny pools they made their camp and that night they ate almost the last of their provisions.

But, the only real misfortune suffered on the trip occurred the next day. Celestino's horse had developed a cruel saddle gall. Its master bathed and rubbed the sore, hunted strange plants and applied native remedies including a poultice of pounded datura leaves, known to be strong medicine. But nothing availed. By noon the poor beast was in a terrible plight, his withers swollen as large as a man's head.

At the foot of Torres trail Celestino stopped. Fearing his horse would die, he decided not to go on to Cahuilla but to head directly for Santa Rosa village. So there where the journey had begun, the two men said good-by—never to meet again. The demands for his remarkable abilities in many wide-flung fields of service, soon separated Dr. Barrows from his Cahuilla friends and except for a brief visit when he took young Martín Costo to Cahuilla Valley so the boy could see his mother before leaving for

Pennsylvania to attend Carlisle Indian School, Barrows did not visit the Cahuillas again for more than 50 years.

Beginning with his appointment in 1900 to serve as a member of the Taft Philippine Commission to reorganize government in those islands, Barrows achieved honors in many fields—educational, governmental, military. Chief of the Bureau of Non-Christian Tribes, director of Education in the Philippines, acting President of the University of California, member of the Hoover Relief Commission in Belgium, Major of Cavalry in the National Army, aide to the Commanding General in Manila on an inspection trip of the Archipelago, emissary on a military mission to Siberia, President of the University of California for four years, Professor in the Department of Political Science at Berkeley, lecturer in South America in behalf of the Carnegie Endowment, Theodore Roosevelt professor at the University of Berlin, organizer of the National Guard in Nevada, Utah and California, Major-General commanding California's 40th Division—these were some of the activities that, with travel in many lands, occupied him for half a century.

Then, in 1949, when he and Eva, wife of his second marriage (Anna had died in 1936), were living in Berkeley, there came a telephone call that put him in touch again with the Cahuillas. Guadalupe Costo, daughter of his old friend, Juan Maria, had discovered the whereabouts of the man of whom her father so often talked with deep admiration and affection. To his joy, the General learned that Juan Maria still lived.

Now advanced in years, Barrows was on the point of retiring from the more pressing duties of his busy life, and as soon as he was able to make the trip, he headed for Cahuilla Valley, eager to renew the old friendship with Juan Maria.

In the valley the small groups of thatched *jacales* were gone, as were most of the people who had lived in them. Many slept in the little cemetery on the hill. Indeed, only a few families remained.

The Costos lived in a neat frame cottage across the road from the cemetery. A knock brought Nattie, the Costo daughter who kept house for her father, to the door. Then Juan Maria came out into the sunlight and the two old friends who had not met for more than 50 years were gripping hands.

Though no longer "strong as a derrick"—a reputation he had gained in earlier years, Juan Maria, great grandson of the famous Cahuilla chief, Juan Antonio, was at 104 still vigorous physically, and mentally alert. Only during the past five years had he ceased doing all work around the place, and up to two years before had continued to ride horseback.

Most of his long life had been spent in the Mighty Mountains where he had acted as a leader among his people. He could still recall the day when as a child he had seen the Mormons in their high-wheeled wagons arrive at the present site of San Bernardino. And once he had journeyed far from home. In 1906 he had gone to Washington to plead with the lawmakers in an attempt to secure the rights of his tribesmen to the land their forefathers had possessed for untold centuries before the arrival of the white man. His mission was hardly successful; but he did obtain something. Legislation was enacted giving the Indians title to the homesites they then occupied.

As long as time permitted, Juan Maria and the General talked together in Spanish, renewing old memories and catching up on the years of separation.

After an interlude of travel, Eva and the General returned to the desert the following winter. At this time we

became friends and because of my own eager interest in the Cahuillas, the General indulged freely in his favorite topic of which he and I never tired. Traveling in my station wagon, the three of us searched for new acquaintances among the few remaining Cahuillas on the local reservations. It was my privilege to provide transportation for a visit to Juan Maria's home and observe another meeting of the two men who, each in his own way, exemplified all that was finest in his race.

Unfortunately, Juan Maria had recently suffered a fall which left him physically disabled. But his mind was still keen and his eyes lighted at sight of the General. Juan Maria insisted upon sitting up while they talked, and to avoid overtiring him we were careful not to stay too long.

Afterward, provided by Nattie with a key to the gate of the cemetery, we wandered in the sunshine among the graves of the Costos, the Lugos, the Lubos and many others once familiar to the General. Ramona's grave was there, too. Like the others, it was bright with planted narcissus and wild poppies.

The General stopped at the warm pool of the spring below the hill to talk to a Cahuilla woman who stood knee-deep in the water, washing clothes. Startled by our presence an owl flew out of the bell tower of the deserted schoolhouse, successor to the one in which Martin Costo had learned to read.

Martin, "the beautiful boy" who had been like a son to Barrows, lay under the poppies beside his people. Following his graduation from Carlisle he had entered the Navy. During the first World War he was killed in an accident aboard the battleship Utah.

Nearby was the little Catholic church of which Juan Maria, whatever his native beliefs may have been, had become a member. In the near distance rose the bald granite face of Cahuilla Mountain and along the far skyline stretched snow-capped peaks. The nearby slopes were dazzling green, starred with wildflowers. Was the General seeing all this, I wondered, or was he seeing again the lively scene of long ago at the fiesta of San Luis Rey?

It was doubly fortunate that he and Juan Maria had their meeting that year, for by the following winter when the Barrowses again came south, the Indian patriarch was gone. He died in August, 1952, at the age of 107. His body was laid to rest with those of his family who had preceded him, in the little cemetery on the hill.

We went again the next spring to see Nattie. But Juan Maria's absence left a painful gap. Standing on the Costos' porch, the General looked down at the grassy swale below the house.

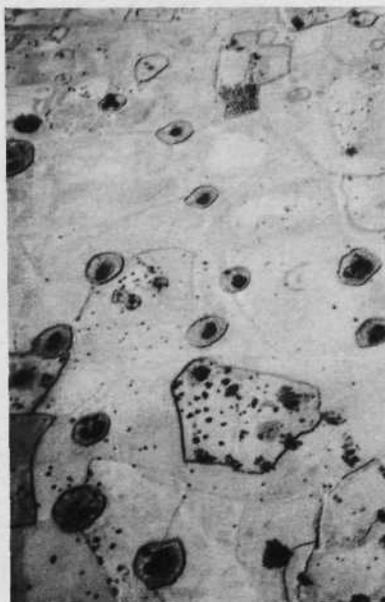
"There," he mused aloud in a tone nostalgic with memory, "is where they had the booths and ramada and the ceremonial dances that night. Nattie tells me it no longer belongs to her people. How changed—how changed it all is!"

In my treasured copy of the General's privately printed memoirs are these revealing lines: "I dwell on the hope that I can still, at the age of 80, make a successful trip with horses and pack animal with my Cahuilla friend, Domingo Costo, into the complex of the Santa Rosa Mountains. I long to re-experience the good rides in rough country, the finding of water and good feed for my horses, the campfire with coffee pot and frying pan, and blessed nights on the ground happily disturbed by the contented champing of my horses. This is the way I want my life to come to its maturity—sitting with a Cahuilla friend in the long evenings and listening to his accounts of the history of his spirited people." ///

Reclamation:



WATER FROM THE SEA



AERIAL VIEW OF SUNKEN GARDENS

By
WILLIAM E. WARNE

During the past months six articles have been written for this publication by William E. Warne based on his experiences in Iran (where he served in the early 1950s as administrator of our Point Four program). The article on these pages concludes his Iranian series, and the subject—water from the sea—is an appropriate one, for on January 2, Warne took office as California's Director of Water Resources.

A STRIP OF low-lying desert, here wider, there narrower, bordered the sea. The wasteland lifted gently to the base of formidable steeply-eroded dry mountains. Broad fanning outfall cones spread at the mouth of nameless canyons gave mute evidence that rain, when it did come, might be more terrible in its torrential behavior than the usual drouth.

Flying along the edge of the Persian Gulf, this panorama spread behind the wing of the DC-3, and I thought of the startling statement someone once made to me that more people had lost their lives by being drowned in the flash floods that pour down the *waddis*, than have died of thirst on the sands of the Sahara Desert. It hardly seemed possible that this could be true, yet there was the frightening evidence of the catastrophic storm nearly 35 years ago in Mountain Springs Canyon on our own California desert. I had seen how the seething waters of this flood had rolled boulders as big as boxcars like dice, and thrown them out toward Coyote Wells.

In these piles of debris poured out of the arroyos of this Iranian mountain range, again could be read the story. A man might pray a lifetime for water at the lower edge of such a talus slope, and meet his death as a consequence of the storm that finally came.

"But people live even here." I had noted a few utterly desolate appearing mud houses huddled beside the shore.

"Oh, yes," my Iranian friend answered. "People live here, but theirs is a difficult lot, and they are poor. There is so little water."

I saw round patches of green a few yards across sparsely dotting a plain. My curiosity was aroused.

We landed soon at Bushire, a place without natural endowment. It was an old seaport. A road, in recent years little used, lead from Bushire to Shiraz and Teheran. It once was a busy caravan route, but had been replaced by the railroad at Khoramshar farther west. A few leaky hulks stood at the quay. Brackish water was hauled in goatskin jugs by wagons from a stream six miles away, and sold by the cupful on the streets. There was no piped supply in the town. Temperatures stood at stifling levels, worse than anything I experienced on the Amazon, or in Maylayan jungles.

As we walked to the shade of the

shack at the edge of the airstrip, I asked my friend about the tiny green spots in the desert that I had seen from the air.

"This evening, when it is cooler," he promised, "we will go see some."

We were caught up in the official welcome just then, and I learned no more about the matter until, in the late afternoon, the whole party entered four-wheel-drive vehicles and went bouncing off into the desert.

We found one of the green spots not far off the road a few miles east of town. It was a sunken garden—a huge steep-sided hole in the ground with grapevines and fruit trees growing bouquet like in its bottom. The lip was ringed with a stone wall piled high with dry thorny bush to provide a barrier to man and beast. I could not find a way through this barricade, and could only guess that the owner had arranged so that a branch somewhere in the circle could be lifted to form a gate.

The water table has lowered gradually through the centuries, and the farmers simply lowered their farms by digging off enough of the surface so that deep roots could still reach moisture and shallow wells would yield bucketsful. In the course of time, they found themselves farming the bottoms of great pits. Similar "farms" along the Red Sea in Saudi Arabia are said to be so deep that date palms barely reach the surface of the surrounding terrain.

I had witnessed other desperate measures taken by the people along the Persian Gulf and the Gulf of Oman to maintain a precarious foothold on the inhospitable shore. At Bandar Abass great hive-like domes covered cisterns. The surface waters were led by a wide system of low dikes and ditches to them on those few occasions in a year when rain did fall. Since the water had to be held for virtually the whole year, these community cisterns presented contamination threats and grave health hazards. But they permitted life to go on.

In California, using the same technique, the Fish and Game Department has constructed gallinaceous guzzlers for quail and other small game and wildlife on otherwise waterless ranges. They hold only a few barrelsful of rainwater, but it is enough to make a life or death difference to little wild creatures.

In Jordan, the guzzler, on a much bigger scale, is called a Roman Tank,

and impounds enough water for bands of sheep. I have seen some with capacities of hundreds of thousands of gallons. These have made it feasible to use wide areas that produce grasses but have no other impounded or flowing waters.

Nowhere in the world, in all probability, is there greater need to obtain fresh water from the sea than the south shore of Iran.

In thriving burgeoning America, populations have been established in some areas where deficiencies in water supply have developed—and these regions are not all in the Desert Southwest. Looking ahead, water experts for years have foreseen increasing water needs and diminishing water supplies presenting problems widespread. In America, there is usually somebody who will try to do something constructive about such a problem.

In 1950 the United States Department of Interior, which has the Geological Survey and the Bureau of Reclamation among its family of agencies, began to stir with the awakening realization that one day the United States would need water from the sea.

The Navy Department had demonstrated during the second World War that waterless islands could be used by providing fresh water through distilling the salt water from the ocean. This invention was more or less a daughter of necessity, and costs were not considered a deterrent. The idea, however, gave useful stimulation to the longer range planning of the resource department.

Goodrich W. Lineweaver of the Bureau of Reclamation developed a modest program of research and experimentation which was authorized by the Congress in the summer of 1952. Since then, five different methods have been evolved and more than \$10,000,000 made available to establish pilot plants.

Sadly, no breakthrough to new technical vistas can be reported. In March, 1960, the Select Committee on National Water Resources of the United States Senate published a pamphlet on "Present and Prospective Means for Improved Re-use of Water." One of the outstanding installations reported by the committee, that at Aruba in the Netherland Antilles, produces 2.7 million gallons a day along with process steam and electric power at a cost of \$1.75 per thousand gallons. The maximum cost for municipal and irrigation waters in

the United States in 1952 were, respectively, 38 and 12 cents per thousand gallons. This indicates the economic gap still to be closed.

Distillation processes, such as that at Aruba and a large multi-flash sea water evaporation plant in Kuwait, use solar or non-solar heat resources. Other processes are: The electric membrane demineralization, using electro dialysis; freezing; solvent extraction and ion exchange. An electro dialysis plant has been constructed at Coalinga, California, to treat 28,000 gallons a day of brackish well water. The treatment costs \$1.10 per thousand gallons, which is cheaper than hauling the water by rail from the nearest good well, but hardly a bargain for most purposes and most situations. The freezing process seems to have greater theoretical possibilities, but in experiments so far it works best on low concentrations of salt.

While reclamation of water from the sea is still in the experimental stage, it nevertheless is possible to list more than a score of plants widely scattered in the world which are successfully producing potable water.

In the United States, where waters are plentiful but poorly distributed, there is apt to be a long wait before water from the sea will become a practical substitute for diversions for irrigation and most other uses. Water from other natural sources conserved, stored, and transported by canals and aqueducts in most circumstances should be cheaper to provide, until the sea water research has been carried much farther.

If, however, a deeply felt need existed, few experts doubt that it would take America long to devise and develop ways and means of utilizing the sea as a source of potable water. Most of us now take it for granted that we will do so in only a matter of time.

Unfortunately, along the shore of the Persian Gulf where need for water is urgently felt, there are no alternative sources of water, and the skills are presently lacking to resolve the problem by freshening sea water. Yet, nearby are the greatest proved oil reserves in the world, and natural gas in unimagined abundance. Since energy is a prime consideration in the processes now being tried, and Iran has energy in excess, perhaps this dismal shore after all could become the proving ground for a new form of reclamation—irrigation with water made fresh from the sea. ///



Science Gains A Beachhead In Baja California

By JOHN W. HILTON



THEY MIGHT have called it the "Baja California Field Station of the San Diego Museum of Natural History;" or the "Gulf of Lower California Field Station;" or, for that matter, any one of half a dozen names. But my friend George Lindsay, director of the San Diego Museum of Natural History, is a man with a flair for words. He called it "The Vermilion Sea Field Station."

Dr. Lindsay believes that science should be interesting to more people than it is. He believes that the function of a museum is to bridge the gap between the specialized scientist and the layman. It should be a living window on science where anyone can stop for minutes or hours to enjoy and learn at the same time.

Just as he believes the function of the museum is to be of service to the public; he holds that the museum's staff should be constantly researching

in the laboratory and the field to add to the store of knowledge offered to the public.

The San Diego Museum of Natural History is fortunate in the fact that one of the world's largest zoos is literally "next door" in the same Balboa Park, and that full cooperation between the two institutions has existed for many years. Likewise, the Scripps Institute of Oceanography in nearby La Jolla is in constant touch and active cooperation.

These three institutions and many others have from time to time sponsored extensive field trips into the wilds of Baja California. Almost every Baja-bent scientist whom I have talked to has expressed the feeling that there is too much country and too little time. In the old days the body- and nerve-wracking ordeal of making the land trip over the alleged "road to La Paz" took up most of the time and

energy of the expedition members. And when these investigators reached an area where they wished to study and collect, they were faced with the down-to-earth problem of housing their equipment, collections, and selves; plus considerations such as food, water, gasoline, boats, dependable plane service, and radio communication by overseas telephone.

Bahia de los Angeles on the gulf-side of Baja California has become, more or less by common consent, the center of such scientific activities for two main reasons: some of the above-mentioned basic needs are reasonably provided for here; and the bay is centrally located in the area in most need of study.

It was only natural that this place should be chosen as a permanent field station by the San Diego Museum of Natural History. The building they chose to house the station was a



CHRIS PARRISH, 17-YEAR-OLD JUNIOR NATURALIST, INTERVIEWS A YOUNG OSPREY. NEST WAS FOUND ON AN ISLET IN BAHIA DE LOS ANGELES.

THE VERMILION SEA FIELD STATION IS A LARGE AD-
OBE BUILDING LOCATED ON THE SHORE OF THE BAY



“natural,” too. It has nine spacious rooms. It is right on the shore, just south of the main settlement. And, best of all, it was available!

Here is where this report takes on a “this is where I came in” aspect. The building is best known to most old Baja hands as the “Walker house” or the “Mining house.” Here it was that I met the promoter, Mr. Walker, on my first trip with C. E. Utt. Here it was that I heard the first real tall tales of the peninsula by Walker, Utt, and Dick Daggett (the latter was born at the nearby mining town of Las Flores). And here it was—much later—that I took my wife, Barbara, our daughter Sharon, and our son Bill to spend three fun and work-filled summers.

To Barbara and me that old ramshackle building will always be “our house,” no matter who owns it or lives in it. We shall never forget the

starry nights on the great slab of cement that served as a porch and sometimes a sea wall, listening to the gentle laughter of the little waves on the rocks below, or the gusty sighing of a whale just off shore, or the bragging of a coyote who had found an extra fine morsel in our trash pile.

We shall always remember those breathless mornings when we rose as the first gold threw Angel de la Guarda Island into silhouette, and brewed a hasty pot of coffee, got fishing things together, or made ready for a shell hunting trip at ebb tide. How it all comes back—the excitement of the children—the breathless promise of new adventure, the feeling of great discoveries just around the corner.

Then there were the sunsets while we sat on the porch dining on fish or clams or sea turtle or other bounty of the Vermilion Sea. We used to watch the rose light kindle the islands to the

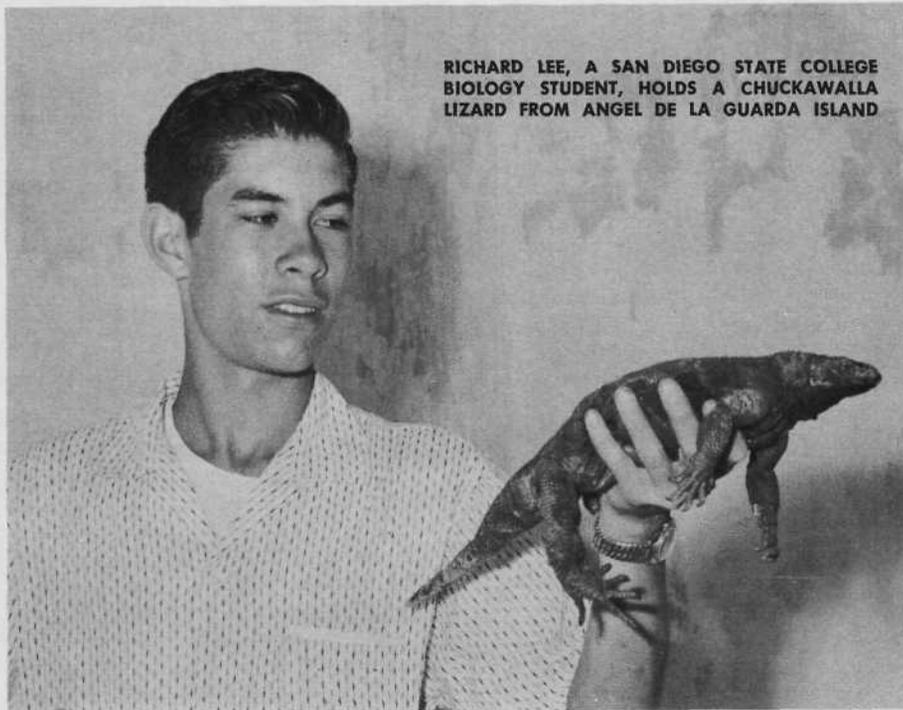
east, and the strange blue triangular shadow slowly creeping up the side of Sierra de las Animas. Then it was that we sat and watched the wheeling terns diving for small fish in our front yard, and the great black fork-tailed frigate birds hovering high, waiting for a fish to drop, then swooping down with incredible speed and snatching it without getting wet. We used to call it our TV program.

I could go on about the warm nights when phosphorescence (more correctly bioluminescence) filled the sea like a great bowl of living fire, and each moving thing left a trail like the milky way. Or catching fish and even three-foot sharks right off the porch. Or the day Barbara speared a two-foot red squid right in front of the house, and then spent hours with the *Fisherman's Wharf Cook Book* learning how to prepare it. These are the treasures no one can steal; they are only brightened by the sharing. May the new occupants have as much pleasure and work and learning as we had under that leaky roof (now repaired) and on that porch where desert and sea merge into a single entity along with yesterday, now, and forever.

The Vermilion Sea Field Station is no longer just a dream, but to those lucky ones who use it I am certain it shall become a precious memory that shall never fade.

All legal details have been cleared with the Mexican Government, and permits granted by the *Secretaria de Agricultura y Ganaderia* as well as the other agencies concerned. Some specimens already collected by San Diego field investigators at the station are at the University of Mexico, showing the international aspect of this project.

The National Science Foundation has granted a substantial sum to furnish, repair, and maintain the station



RICHARD LEE, A SAN DIEGO STATE COLLEGE BIOLOGY STUDENT, HOLDS A CHUCKAWALLA LIZARD FROM ANGEL DE LA GUARDA ISLAND

for the next three years. Equipment includes a four-wheel-drive vehicle to take scientists and students to outlying areas of the desert, a boat to take them to islands and beaches not accessible by land travel, and two-way radios. A list of equipment copied from the original budget provides a rough idea of what will be going on: "gasoline driven pump for salt water system, float for pump, plastic hose to building, water tables, aquaria and salt water plumbing, fish traps, mammal traps, plant presses and driers, preservatives, etc., also camping and packing equipment for land work, tent, stove, pack boxes, gasoline, lanterns, sleeping bags, canteens, etc."

The request for the grant reads: "The station will be extensively used by personnel from the museum engaged in collecting activities and field studies as a part of a biological survey project of Central Baja California."

The station will be used by the members of the San Diego Society of Natural History and the museum staff: Dr. Lindsay, the director; Ed N. Harrison, interested in birds of the area; Dr. Carl L. Hubbs, expert on whales and fishes; Dr. Gifford C. Ewing, who flies his own sea plane and studies physical oceanography, ecology of lagoons, whales and natural history in general; Dr. Reid V. Moran, curator of botany; Laurence M. Huey, curator of birds and mammals; Dr. John A. Comstock, entomologist; and Emory P. Pierce, curator of mollusks.

Its use, however, is not limited to members of the controlling institution. Any qualified investigator or student is welcome to use the facilities to further natural history research. The museum is actively working with biologists of the *Instituto Biologia* of Mexico. Dr. Enrique Beltran, sub-secretary of Mexico's federal department of forestry and game, has arranged complete sanction of this project with all federal departments. Dr. Margarita Brava of the *Instituto Biologia* has requested use of the station in her studies of fish parasites. James H. McLean, a Ph.D. candidate under Dr. Donald Abbott of Stanford University, would like to undertake a two-year study of the life history of the mollusks (sea shells to we ordinary collectors) and to make a collection from the entire area.

The list is growing. Eastern organizations are sending inquiries. Universities, marine laboratories and specializing students all want to come to Baja California, and there is only one field station on the 800-mile peninsula. Scientific history will be made in the old mining house my family once called home, and we are proud that



USING SHOELACES FOR NOOSES, CHRIS PARRISH CAUGHT THESE SPECKLED RATTLESNAKES ON ANGEL DE LA GUARDA ISLAND. SNAKES MEASURED 56 INCHES—RECORD LENGTH FOR THIS NEW SUBSPECIES.

we were there to see the start of the project.

In my article in *Desert Magazine* on Angel de la Guarda (Dec. '59) I described what I called "whispering rattlers." This intrigued some of the museum staff members. On one trip to Angel de la Guarda Island, Chris Parrish, junior naturalist of the museum, celebrated his 17th birthday by catching two more of the whispering rattlers, and setting the record for size in spotted rattlesnakes. Both specimens were 56 inches long. They will probably turn out to be a new sub-species of *Crotalus Mitchellii*.

With the advent of this new establishment we can rest assured that Angel de la Guarda and many of the other gulf islands will be explored over the years. It is with pleasure, tinged with just a little envy, that I turn the task

over to them. May they never tire of this land where whales and coyotes can keep one awake on the same night, where kangaroo rats have become beachcombers, where coyotes dig for clams and pull them above high-tide for the sun to open, where foxes fish for crabs with their bushy tails, where small sea gulls keep large pelicans as domesticated servants, and a unique species of bat lives by catching live fish.

From time to time I shall have the pleasure of reporting on the progress of this field station that stands with one foot planted in the Baja desert and the other in the Vermilion Sea. We may even take part in some of the field trips, especially to our beloved Isla Angel de la Guarda. There is a combination of desert and sea about this country which weaves a spell of magic that calls one back. ///



SHORTY BOYD AT THE ENTRANCE TO HIS "RANCHITO"

"He roped 'em, rode 'em, 'n branded 'em"

I DON'T UNDERSTAND these modern rodeos. Looks to me like they have the calf roped before he comes out of the chute . . . and then the critter lies down and crosses his legs so's they can be tied.

"These days a man will haul a horse 30 miles in a truck just to ride him 30 yards . . ."

These words come from five-foot three-inch Arthur "Shorty" Boyd of Vaughn, New Mexico — a cowboy from the old school.

Shorty's trademark is his wit and good humor. All the old cowboys in this part of the country know Shorty,

By BEULAH MEEKS

Beulah Meeks is a native of Iowa, but she has been a New Mexican for the past 50 years. She resides in Albuquerque. Her specialty is writing about pioneer days and people, and she also has written about the customs and life of Southwest Indians.

and mention of his name brings a smile to their lips. Life on the open range was sometimes dangerous, nearly always lonely. A sense of humor was as necessary for survival as a good horse, or a canteen that didn't leak water.

Shorty was born 70 years ago in Anson, Jones County, Texas. Three years later his family moved to the West Texas plains and Shorty grew up on a ranch, loving every minute of it. High-heel boots, leather chaps, 10-gallon hat and spirited horseflesh have been part of his life since his first memories.

When Shorty was 14 he went out into the world to make his living as a bronc buster. He worked for the L-S-O, Drag-Y and the famed 3,000,-000-acre X-I-T ranch.

"The work was clear-cut," he re-

counts. "I roped 'em, rode 'em, and branded 'em."

In modern-day rodeos, a bronc rider only has to stay aboard for 10 seconds. "Heck," says Shorty, "we just rode 'em 'til they quit."

He liked to ride broncs—the wilder the better. When he drew a gentle horse, he'd trade it for a wild one. Few of the critters ever sent him off into outer space or left him sprawled on the earth. Once lured into the net, a cowboy usually loves every dangerous moment of bronc riding.

There were no corrals or grandstands at the early-day rodeos. Wagons, buggies, people on horseback and a few cars arranged in a circle formed the arena. Sometimes the spectators

experienced as much excitement as the participants. The bucking stock was roped, eared-down, blindfolded and saddled right out on the open flat. The rest was up to the cowboy.

Shorty early learned that being a cowboy meant doing a lot of things besides riding broncs and branding calves. He learned to cook, build fence, repair fence, feed stock and ride the range the long day through.

By 1916 the young cowboy had acquired several head of stock, and he decided to push west. In May of that year he bade the Texas Plains goodbye and shipped his stock to the Estancia Valley in New Mexico where he took up a homestead nine miles north of the town of Lucy.

The winter of 1918-19 is still vivid in the minds of the old-timers in this territory. Many horses and cattle froze to death; late snows did additional damage. Then came a couple of years of drouth which finished off most of the operators, big and small.

Turning his remaining stock over to the loan company, Shorty "saddled up Old Sib, took my hot roll (bed roll), and vamoosed the ranch and traveled." From ranching he drifted back into the rodeo business—eventually as a promoter. Soon he had a string of bucking horses — Lightning, Grave Yard Agnes, Bingo ("and they hit the dirt!"), Yellow Jacket, Tadpole, Six-Fifty, Black-Jack, Old Sour Dough and Quo Vadis: fine horses, especially the last mentioned which threw 90 percent of his riders. Quo Vadis was a deceptive critter — gentle to handle as long as the cowpoke stood on the ground, but when someone climbed upon his back, the horse went loco. Quo Vadis was well known up and down the small town New Mexico rodeo circuit.

Shorty often drove his stock 150 miles from one rodeo to another. Once, after finishing a 10-day rodeo at Tularosa, he headed toward Magdalena where the show's next appearance was scheduled. To save time he took a "short cut" through the mountains. Memory of this experience still causes him to shake his head.

The rugged country was new to Shorty and soon he was hopelessly lost. To add to his discomfort a heavy downpour struck his temporary camp.

"Not only was I without a bed, fire and something to eat; I couldn't even light a smoke," he recalls. "That night I went to bed on my stomach and covered up with my back." The following morning a few lizards were treated to a \$2.50 rodeo extravaganza. Shorty roped one of his wild cows and

milked her, using the brim of his hat for a pail. Breakfast over, he made another attempt to get through the mountains. Three days later he made it out to flat country and drove his herd into a branding corral.

Later that night he turned the stock loose to graze, roping a fresh horse to ride next morning when it would be time to round-up the wandering livestock.

At daybreak Shorty made a very unpleasant discovery. In the black of the preceding night, his lariat had made a very bum choice: Quo Vadis.

"I knew I had a slim chance," recounts Shorty. "Usually I liked to spur 'em, quirt 'em from the corner of their shoulder to the root of their tail—but not Quo Vadis.

"I pulled down my hat, pulled up my pants, and yelled out something like: 'Let's go get the horses.'

"What a ride! That sun-fishing son-of-a-gun really turned it on. This was one time I knew it was either ride or walk." Luckily, Shorty soon roped another horse to ride the rest of that day.

Nearing his destination, Shorty counted his bucking string and discovered the tally was one short. He back-tracked several miles before it occurred to him that he had not counted the horse he was riding. Such is the grist for a good laugh when cowboys get together.

When Shorty unwinds, the stories come thick and fast. Like the time he saw a coyote slinking across the prairie. Cattlemen shot coyotes on sight, but Shorty did not carry firearms. So he decided to give chase to the coyote and attempt to rope it. After two hours of skillfully dodging the rope, the coyote was still on the loose, and Shorty had just about lost all interest in the sport.

Just then the coyote bounded up a small rise and onto the highway. Shorty was right behind; and once more he cast his rope, snagging the coyote on top of the rise—in full view of a car jammed full of tourists. They were so excited at seeing a cowboy rope a coyote with his *first* throw that they stopped their car and got out.

"Whenever I miss one the first throw," Shorty told his new friends, "I just turn and go home."

Shorty usually stayed clear of politics, but long years of association with cowboys taught him plenty of diplomacy.

Like the time he was driving his bucking string to the next rodeo date. "I came across a man from Kansas

who was cooking a big lunch of ham and eggs," recalls Shorty. "I was hungry as a pet coon, but he did not ask me to eat with him.

"I began racking my brain for something to say that would cause him to invite me to have lunch with him. Finally I said: 'Well, mister how's politics up your way?'

"This fellow replied: 'Well, we're going to get rid of that Democrat and put a Republican in this fall for sure.'

"That's just the thing to do,' I told him, and that Kansas fellow jumped up and stepped around like a burro eating cactus. 'Get down, mister, and have some lunch with me,' he said. We had a good political talk and when I left he followed me down the road for a half-mile still talking politics."

Late that same day Shorty came to a ranch house and decided to see if he could find a corral for his horses and a night's lodging for himself.

"I rode over to the place and heard a couple of women arguing politics. One was a Republican, the other a Democrat. I listened a few minutes trying to decide which one owned the ranch. Finally one of the women went to her car, saying to the other: 'Come see me, you hard-headed old Democrat.'

"I rode up closer just as the ranch woman came out of her chicken house with a basket of eggs. She looked like she weighed 400 pounds after a 24-hour shrink, and she had a husky voice.

"'Good evening,' I managed to say. Those political words were in the bottom of my boots, but I was able to cough them up: 'I'm a hard-headed Democrat looking for a place to spend the night, and corrals for my horses.'

"'Get down, mister, and spend the night,' she said. And so I was a Republican at noon and that night a Democrat. I had such good luck with politics I quit it then and there."

It was at Mountainair in the summer of 1941 that Shorty staged his last rodeo. He sold his bucking string and returned to ranching, but events of the rodeo world still are close to his heart.

"The modern rodeo arenas are too small," he says. "Just turn a wild steer or calf loose in the wide open spaces and I'll rope 'em. The future of rodeoing is hard to look at."

Shorty still rides the range and ropes and brands calves on his spread. He is always busy; works every day. He doesn't quit a job until it is finished.

///

crossing a brush-covered mesa --with a compass

With the help of a compass—and knowledge of how to use it—the author and his wife “navigated” through a tangle of pinyon and scrub oak to the rim of Canyon de Chelly

By CHARLES RAYMOND EGE

IT WAS THE last afternoon of a delightful stay in the Canyon de Chelly area of northeastern Arizona, and we wanted to enjoy it alone. Our plan was to leave the car somewhere along the road on the high mesa and hike north toward the main canyon, intersecting its rim at Monument Canyon, the southernmost branch of de Chelly.

A few miles southeast of Chinle we noticed a pair of wheel tracks turn off into the scrub—heading our way. We followed this rut-trail for three miles—and then it faded into nothing. There was no change in terrain; no marks of vehicles having been turned around. It was just one of those inexplicables of rough country. And to complicate matters further, pinyon and oak scrub surrounded us. It was so thick visibility was limited to 20 or 30 paces.

Now we were faced with a decision: Should we hike on through the tangle—gambling on finding our parked car upon our return—or should we turn around and drive back to the main road and forget about Monument Canyon?

Having a good compass, we decided to forge on afoot.

From my map I figured that we were less than three miles from the canyon's rim. By laying out a straight compass course to the canyon, we would be able to retrace it to the car.

We took a canteen and sandwich each, the camera and tripod, and my

old dependable compass. We noted the exact time and started off.

Ordinarily, such compass work merely means sighting some mark—a tree, rock or bush as far ahead as possible on the desired bearing, then walking to it and making another observation farther on. But on this mesa the small trees were so thick it was difficult to identify one on line—particularly while dodging low branches and brush. So Jean went ahead as “flagman” as far as visibility permitted. I signalled her onto the exact bearing, (N 30° E) then moved ahead to her position. After 46 minutes of such “leap-frog” tactics, we emerged on the Canyon's rim about as we had ex-

As a boy in a small Iowa town, Charles Ege's imagination was fired by Kirk Monroe's stories of the Southwest and Kit Carson's desert campaigns. He liked maps, surveying, construction work—and dreamed of exploring wild country. For a short while after graduating from college (Iowa State) Ege worked at highway, railway and bridge engineering jobs from the Black Hills to Puget Sound—then came a 31-year desk-stint in Chicago. At last—in 1950—theoretically retired, Ege removed to San Diego. He has lived in the West ever since, “escaping from retirement to take part in the construction engineering for large concrete buildings and dams.”

pected. We marked the intersection by tying a white streamer—torn from my shirt—to a bare limb.

Then we found a vantage point where we could sit and enjoy the magnificent chasm at our feet. Well above the cliff an eagle floated effortlessly on rising thermals—that side of the gorge had been in sun since early morning. Soft echoes of our conversation drifted back to us. We wondered if this part of the canyon had echoed to the shots of Kit Carson's volunteers when they herded the Navajos out of its depths and started them on the “long walk” to Ft. Sumner, New Mexico, in 1863-64.

Most of all we enjoyed the complete peacefulness of the Canyon. There were no traces of human occupancy from where we sat, save for faint horse trails through the brush on the sandy canyon bottom. There were no sounds other than our voices and the occasional rustle of the soft breeze. We walked both ways along the rim for a mile or less.

After an hour or more of thoroughly enjoyable loafing and camera-work, we drifted back to the point where our white streamer floated from the bare limb. Here we took another com-



Compass of type mentioned in accompanying article, superimposed on photo of Canyon de Chelly. Compass card points to magnetic north, but line of sight (from eye-piece at bottom through slot in raised cover at top) is true north. White line above the arrow is painted on underside of rotatable cover-glass; the latter may be set to allow for local deviation from true north. True bearing is thus read directly under the white line. Small button at left of compass box operates a lever to damp the swing of compass card.

pass bearing (S 30° W) for the return trip, noted the time, and plunged into the scrub. The sun was lower and the shade thicker, but twice we saw footprints we had made on the way in. After 46 minutes of hiking with frequent compass shots to hold our course we stopped to rest. The car was nowhere in sight. We realized that an error of something less than 100 feet either way could have caused us to miss seeing the car in this jungle. Thus we were laying plans to search a series of 200-foot circles with one person remaining at the center of these circles when we caught a flash of sunlight on the brightwork of the car. It was parked less than 50 feet ahead and a bit to the left of the course we had followed.

On the ride back I must admit that we were somewhat pleased with our successful navigation of the thicket. Actually, there is little chance of becoming lost in the wilds if a person learns how to "keep track" of himself—without getting "turned around." When in unfamiliar areas, one should avoid relying on unconfirmed "notions" of cardinal directions, particularly in cloudy weather or at night.

Few people are gifted with an innate sense of direction, so one should have a continuing and reliable frame of reference, even for the directions "up" and "down" — strange as this

THIS OLD PROSPECTOR KNEW HIS CACTUS

I once asked an old Colorado Desert prospector how many varieties of cactus he was familiar with. "By gosh," said he, "you city fellers have no idea how many kinds we got. I know every one of 'em. There's the 'full of stickers,' 'all stickers,' 'never-fail stickers,' 'stick everybody,' 'the stick and stay in,' 'the sharp stickers,' 'the extra sharp stickers,' 'big stickers,' 'little stickers,' 'big and little stickers,' 'stick while you sleep,' 'stick while you wait,' 'stick 'em alive,' 'stick 'em dead,' 'stick unexpectedly,' 'stick anyhow,' 'stick through leather,' 'stick through anything,' 'the stick in and never come out,' 'the stick and fester cactus,' 'the cat's claws cactus,' 'the barbed fish-hook cactus,' 'the rattlesnake's fang cactus,' 'the stick seven ways at once cactus,' 'the impartial sticker,' 'the democratic sticker,' 'the deep sticker,' and a few others."

I am not scientist enough to pass judgment upon the accuracy of the old prospector's classification, but to my layman-like mind he seems to have been pretty successful in his endeavors to tabulate them all.—George Wharton James' *The Wonders of the Colorado Desert* (1906)

may seem. I have had passengers in my car dispute me when I remarked that we were climbing fast; and this when a stream-bed along the road showed conspicuous marks of storm-water flowing in opposite direction to our travel.

A good compass is the best frame of reference for cardinal directions. I prefer a sighting compass, with a simple adjustment for setting off local declination—there are few places on earth where a magnetic needle points to true north. This deviation from true north is stated for specific areas on U.S.G.S. quadrangle maps; also, it may be learned from any land surveyor's office, or from the local county or city engineer. Roughly, in eastern New Mexico, the declination is about 11° east of north. In Southern California it is about 15° east of north. Many modern compasses are divided into 360 degrees clockwise from the north-point; formerly, they were di-

vided into quadrants to read from north to 90° east and west, and from south to 90° east and west. Most property lines are described in the latter method of compass division. There are many Japanese instruments now on the market of excellent sensitivity and make, but which display some (to us) weird markings—such as dividing the full circle into 64 degrees.

Lacking a compass, but having sunshine and a watch set for standard local time (not daylight saving time), approximate cardinal directions can be determined thusly: hold the watch face up to the sky and point the hour-hand to the sun. Halfway from the hour-hand to the numeral 12 will be south.

Having these aids in determining cardinal directions, believe them. Discard any unconfirmed notion as to which way is north; it may be wrong—and that's one of the easiest ways to get lost. The compass is right. ///

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SOUTHWEST NEWS BRIEFS

¶ A jet-age capital city for Arizona—to replace "badly laid-out Phoenix"—is proposed by New York financier and developer Robert W. Dowling. The city Dowling suggests would be built around an airport in the Gila River Valley. Elliptical areas radiating from a central airport would be zoned toward the center for light industry and office buildings, and at the outer edge for residential sections. Dowling and his associates hold a 90,000-acre tract earmarked for the city site.

¶ The rapid "but prudent" economic development of lands along the Colorado River from Hoover Dam south to the Mexican border was described as the primary goal of representatives from Arizona,

California and Nevada who met recently in Yuma to work toward solution of the varied and complex problems affecting the region (see "Trouble on the Colorado" in the December Desert Magazine). The conference members created an organization of active local chambers of commerce to recommend action on needed roads, zoning, building codes and pollution control. Meanwhile, the Department of Interior reiterated its policy of removing all "squatters" from the river lands. A spokesman said the Department believes "it is obligated to take any and all steps necessary to discourage and indeed block any further encroachments on federal land. In short, no further trespass in this area can be tolerated."

¶ The Federal Housing Administration is now prepared to insure homes built on Navajo and Hopi reservation lands in Arizona and New Mexico. The move was hailed by the Department of Interior as a major advance toward improved housing conditions for the Indians.

¶ Construction is expected to begin early this year on a 300-mile long 345,000 volt transmission line linking Phoenix to the proposed Four Corners Power Plant in

the shadow of Shiprock Mountain in northwest New Mexico. Arizona Public Service is building the line, as well as the coal-burning power plant.

¶ Dr. A. L. Inglesby, pioneer southern Utah mineral collector, passed away in November. He was 87 years old. "Doc" Inglesby's name appeared often in the early Desert Magazines in connection with reports on gem fields in the Fruita area. Plans are to place his extensive and unique collection in a museum as a memorial.

¶ A search for the right lawn grass for southern Nevada is underway at the University of Nevada's Agricultural Experiment Station near Logandale. So far the most promising desert lawn is a selection of Bermuda grasses. Bluegrass, a popular lawn variety, does not stand up in southern Nevada because of the extreme summer heat.

¶ Texas Gulf Sulphur Company announced plans for the immediate start on construction of a \$25,000,000 potash mining and processing plant near Moab in southeastern Utah. Exploration for potash in this area was begun in 1953 "as insurance against the possible end of the uranium industry." Texas Gulf's new plant is designed to produce annually "well over a million tons of muriate of potash." This will make the company the largest potash producer in the nation. Moab potash will be on the market in late 1962 if construction schedules are maintained.



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January Travel

CALIFORNIA HAS SAGUAROS, TOO

By LUCILE WEIGHT

Desert Magazine's California Travel Correspondent

FEW TRAVELERS who go to Arizona to see that state's most symbolic plant, the saguaro, know that these cactus giants grow in numbers on the west or California side of the Colorado River, too.

Best and most easily accessible saguaro area in California is along a 10-mile stretch in the Whipple Mountains near Parker Dam, on the Colorado. Here at least 100 can be counted along the river road and a short distance up one or two side-canyons. Many more are reported farther back in the range. (See map on page 8.)

This frontier stand of saguaros is little known not only by the public but by authors on Southwest flora. Of 22 writers mentioning saguaros in the state, two said they occurred at but a single locality; five

that they were found in two areas; two said "two or three" sites; six gave three occurrences; others were indefinite.

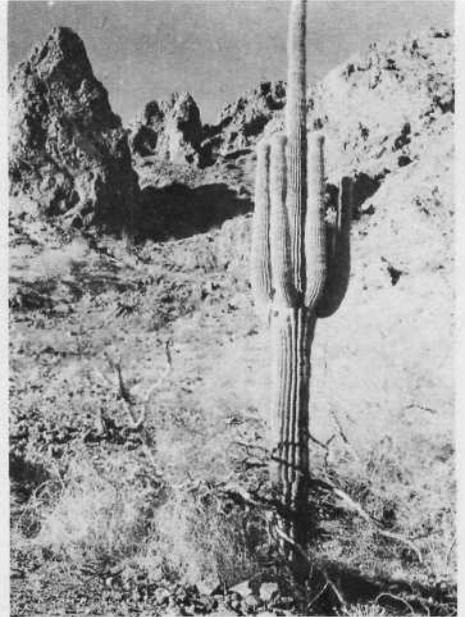
At least 14 other saguaro locations are reported for California, but the Whipple Mountain group not only is the largest but has the most beautiful setting. Singly and in small colonies they occur from a point about 13 miles north of Earp (where the Colorado is bridged to Parker, Arizona) to about eight miles north of Parker Dam.

Even if you are unmoved by saguaros, boating or fishing, you cannot fail to be enthralled and awed by the spectacular river drive. Through this section the Colorado cuts into the east cliffs of the Whipples and flows through sheer red and purple and green walls. Volcanic headlands, crags and peaks dwarf the motorist at the base of the cliffs. At a few places the river bed widens slightly, where side-washes cut to the river or the canyon bends, and at such spots are added colors of cottonwood and willows—gold and light bronze in spring and fall, and brilliant green in summer.

On such patches of land too are river camps and trailer parks, headquarters for mountain climbers, rock hunters, boatmen, fishermen, and photographers.

It was because of such a setting, with both scenic and recreation value, that this area long ago was suggested as a California state park. The State Division of Beaches and Parks in 1952 gave top priority to 9200 acres in this section. Since it was federally owned, it was thought that there would be little difficulty in arranging a lease to the state. But people had moved in and already had invested a reported \$40,000 on the river front there. In succeeding years, park commissioners and county supervisors have made "survey trips" and "studies," continuing to list the Whipple Mountain site as a future state park. The trespass problem has mounted. (See "Trouble on the Colorado" in the December '60 *Desert Magazine*.)

The geologic beauty and the river will remain while officials work on plans—but will those unique California saguaros remain indefinitely without protection, with greater numbers seeking the river for recreation? That far more saguaros once lived on this side of the river is indicated by various reports in which travelers and writers referred to "many saguaros" and "a large grove," one in the mid-1930s stating that a "grove" was being slowly removed in the Parker area. How many were taken by early plant collectors and dealers, or succumbed to vandals who used them as targets or torches will never be known. Un-



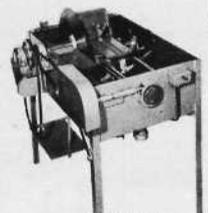
A SAGUARO AGAINST THE RUGGED VOLCANIC BACKGROUND OF CALIFORNIA'S WHIPPLE MTS.

THE LAPIDARY'S STANDARD OF VALUE

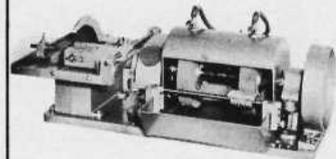


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Palm Desert California

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doubtedly at least some of them were destroyed in the 1930s during the building of Parker Dam and the takeoff Metropolitan Water District aqueduct.

The road from Earp postoffice (16.2 mi.

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Bill Hoy photo

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- 1962 will see the closing of the gates of the diversion tunnels, and the flooding forever by the rising waters of the new LAKE POWELL, behind GLEN CANYON DAM near PAGE, Arizona.
- Come join us in our 23rd year.
- Identify above river canyon scene and receive \$5 credit on boat fare.
- During 1960, our 1001st boating guest was SUSAN DOLESE of Ganado, Arizona—who won the fare refund.
- Come join us Into A Land of Great Beauty.

LARABEE AND ALESON
WESTERN RIVER TOURS
Richfield, Utah

from Vidal Junction on Hiway 95) to two miles beyond Parker Dam, a distance of 17 miles, is paved. Beyond that the Metropolitan Water District's graveled road may be traveled—carefully—by standard cars hauling small trailers. At 29.6 mi. from Earp, the route terminates at Roads End Camp where there are limited accommodations and a wonderful view of the south end of Lake Havasu, backed up by Parker Dam. A side-trip may be taken at Black Meadow Landing (3 1/2 mi. right) at a turn-off 6 1/2 miles north of Parker Dam.

First of the saguaros are seen less than 13 miles north of Earp. Some grow in barren volcanic rock, on rocky ledges, at cave entrances; others in volcanic soil of side washes. Just below and above Parker Dam no saguaros are seen. Whether they were destroyed there during the construction period has not been determined. They reappear about 2 1/2 miles north of the dam, and about a mile farther is the saguaro center, the best specimens growing on a west slope of a little volcanic range bordering the river, right of the road. Landmark for this area is a beautiful round arch near the crest of a ridge. Besides the saguaros seen from the road, more are found in side canyons both right and left of the road.

With the saguaros along the river road are other cacti—Bigelow cholla, beavertail, deerhorn and barrel—their flowers in spring adding colors to the deeper hued background. Other plant companions are mesquite, incense bush, bright green "desert fir" hanging from red banks, desert lavender, paloverde climbing the barren volcanics, verdant catsclaw, ocotillo, and the great ironwood trees. The alien pink flowered tamarisk adds spring color to washes and little tongues at river's edge. The white flowers of the saguaros open about May, and within six weeks their red ripening fruits are targets for whitewinged doves and other birds that haunt this walled world.

How long the saguaros, migrants from Mexico via Arizona, continue to add their

majesty to this colorful gorge, or whether changing conditions will allow them to gain a further foothold may depend on what protection is given those remaining. Now the area is referred to as "no man's land." This is not strictly true. Development has increased along the river; throngs of visitors are multiplying; and because the land is still nominally federal, little or no control can be imposed by the county.

To protect the saguaros, as well as insure the best development for river recreation, the government will need to take faster action than it has in the past 10 years. Further delay will increase the hydra-headed problem. . . for the rush to the river is accelerating, as beaches and mountains overflow with recreation seekers.

JANUARY EVENTS ON THE DESERT SOUTHWEST:

- 1—Gila Bend, Ariz., Sportsmen's Club Annual Jeep Ride.
- 3-7—13th Annual Arizona National Livestock Show, Phoenix.
- 6-Feb. 2—Exhibition of paintings by Bill Bender, and carvings by Mogens Abel at the admission-free Desert Magazine Art Gallery in Palm Desert, Calif.
- 6-7—Annual Convention, Nevada Wool Growers Association, Ely.
- 15—Dons Club Travelcade to Ray-Hayden Copper Mines, from Phoenix.
- 15 and 29—Desert Sun Ranchers' Rodeo, Wickenburg, Ariz.
- 16—Yuma, Ariz., vs. Ft. Lauderdale, Florida, Ice Melting Contest. (A huge block of ice is set out in each city to determine which is the warmest winter tourist haven.)
- 21-22—Pacific Coast Championship Sports Car Road Race, Palm Springs.
- 22—Dons Club Travelcade to Prescott-Jerome area, from Phoenix.
- 28-29—21st Annual Rodeo, Palm Springs.
- 28-29—Dons Club Bus Tour of Nogales and Arizona-Sonora Desert Museum near Tucson, from Phoenix.

**Hard Rock Shorty
of Death Valley**



"Fightin'?" asked Hard Rock Shorty. "Naw — don't do that no more. Not that I didn't usta. But, I give myself this here black eye this mornin' while I was lookin' in a new fangled mirror."

Having thus insured further listeners, Hard Rock felt his bruise tenderly before he relaxed in his chair and went on with his yarn.

"Yup—feller from Los Angeles was in Death Valley last night sellin' mirrors, an' I bought one. Looked good, too, but I ought to o' known better. Mirrors made any place else ain't no good here. It's colder in them other places, an' when one o' them cold climate mirrors gets into Death Valley, it don't somehow act right.

"I asked a college pefesser about it

oncet, an' he explained that the hot weather here speeds things up so that yuh can't rightly trust what you see in the mirror.

"Like wot happened to me this mornin'. I got up an' started gettin' dressed in front o' this cold climate mirror. Well sir, thet mirror was acclimated by then, an' it had me all confused. It was three-four moves ahead o' me. Like when I grabbed my shirt, looked in the mirror, an' there was my arm just comin' out o' the sleeves. I gets the first arm in just as the mirror finished buttonin' up.

"Between reachin' for thet other sleeve an' tuckin' my shirt tail in, first thing I knowed I'd belted myself one in the eye."

BY JAMES TALLON

ARIZONA IS RICH with the dwellings of ancient Indian cultures. Some of these prehistoric ruins are well-known—Betatakin, Keet Seel, Wupatki . . . hundreds of others are nameless and obscure, rarely if ever visited by man . . . and undoubtedly a few ruins remain undiscovered to this day.

Foy Blackburn, a writer of Western fiction, and I had just finished a two-day picture-taking session amid the weathered buttes of Monument Valley, and were heading home on the dusty reservation road. A few miles from Marsh Pass we entered Long House Valley, named for a prehistoric dwelling of many rooms joined end on end. Foy called my attention to what appeared to be a tiny hollow high in the red sandstone cliffs to the north. I pulled to a stop and Foy produced his binoculars. Our suspicions were confirmed—the shallow cave contained a ruin. Sunlight filtering into the cave painted an outline of crumbling walls and a small watchtower.

We turned off the road and drove to where the sandstone rose out of the powder-dry floor of the valley. A sloping ridge contained a narrow gorge evidently cut by thousands of years of intermittent cascades of water. After following this defile a short distance we came to a 15-foot rock wall which had a pool of fresh clear water at its base. Nearby—leading skyward—were the hand- and foot-holds cut into the wall by the Ancient Ones. They took us to the precipice that contained the ruins. In the shade of an overhanging ledge opposite our goal we paused to catch our breaths—and evidently those who had climbed this trail before us did the same thing. Here on the face of the cliff the Ancient Ones had chiseled strange signs and figures into the rock. Potshards by the thousands lay at our feet. How many water bearers, pausing here to rest, had let their heavy earthen jars slip to the ground and shatter?

The course became rougher now. The one and only entrance to the ancient apartment house was over a one-man-wide pathway across a narrow ledge. Hand- and foot-holds had been worn into the rock. Despite the height, this "main boulevard" struck me as being considerably safer than a modern city street—no vehicles, no half-asleep pedestrians.

An aura of silent mystery surrounded the ruins as we picked our way among the decaying walls. Once in the shadow of the great cave, each footstep was placed with care. Several times I have had the short hair on my neck raised by the buzzing of a rattlesnake that had sought out the coolness of such a place.

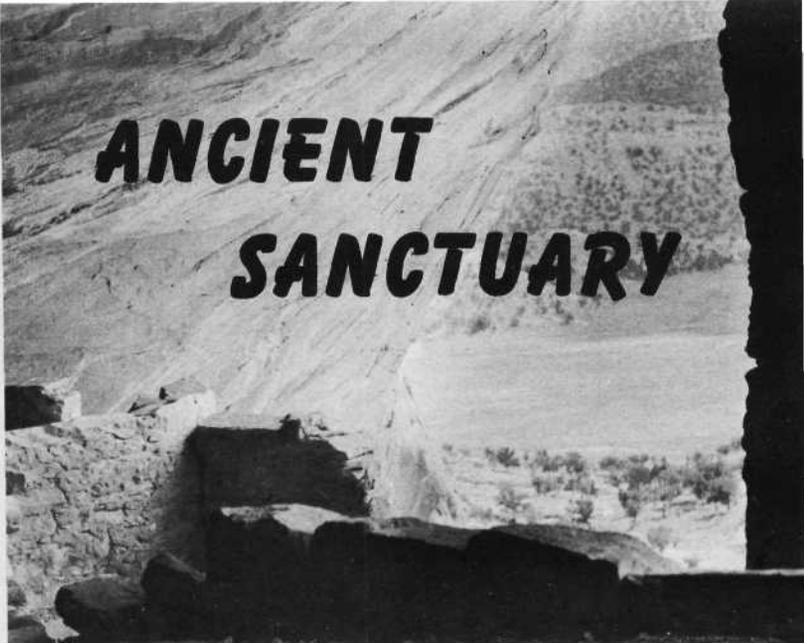
This had been a house of many rooms, but all suffered from the devastating effects of time. Judging from the vast amount of potshards, the population must have been fairly large.

The small square watchtower's remaining walls stood defiantly at the front of the cave. In the recesses the red sandstone was blackened by the smoke of long-dead fires. A thick layer of bat guano told us there was some form of life here yet.

As Foy walked engrossed among the fallen masonry, I sat on a cold flat stone and gazed at a large potshard with stylized black patterns. In this setting one need not be a romanticist to recreate the jar from which this piece of pottery came, to hear a startling cry from the watchtower, to see the jar slip from the woman's fingers and become a mass of shards . . .

. . . Her eyes are flecked with apprehension as she turns from two naked children and gazes at the horizon.

ANCIENT SANCTUARY

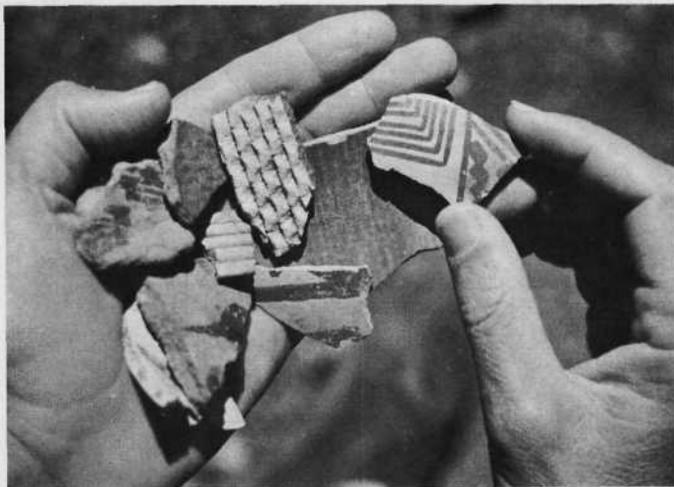


Minute figures race down the slopes on the opposite side of the valley. Realizing they are discovered, the attackers shout fearfully. The workers in the fields below raise their heads and calmly observe the charging of their enemies. They gather their tools and retreat in an orderly fashion to the safety of their cliff house . . .

. . . Preparations are made for the coming attack. Everyone is shouting now, and frightened children add their wails to the rising din. The raiders scale the steep slopes and one charges madly across the narrow ledge to the cliff dwelling. He spins quickly about, a feathered shaft protruding from his chest, and tumbles over the cliff. There is a moment's hesitation and then a second raider charges—and meets the same fate. A council is called by the enemy. An hour passes. Then, with much grumbling, they make their way back down the cliff, stopping only to shout obscenities . . .

. . . The woman steps from the shadows and watches the ant-like figures disappear into the distance. She quietly thanks her gods that this had been a short raid. She smiles at the two children who have re-appeared behind her.

A shout from Foy roused me from my reverie, and together we examined the two goatlike petroglyphs he had discovered. Several large raindrops spotted the sandstone as the warm sun disappeared behind dark clouds moving swiftly through the sky. Soon great veils of lashing rain were tearing at the handiwork of the Ancient Ones. Someday nothing will be left here to remind man that his forebears once lived in caves. ///



BROKEN REMAINS OF POTTERY LIE SCATTERED ABOUT THE RUINS



CAHUILLA YUCCA-FIBER SANDAL. SOMETIMES SIMILAR FOOTWEAR WAS MADE FROM AGAVE FIBERS.

Indian Uses of Native Plants

By EDMUND C. JAEGER, D.Sc.

author of "DESERT WILDFLOWERS," "THE CALIFORNIA DESERTS,"
"OUR DESERT NEIGHBORS," "THE NORTH AMERICAN DESERTS"

FOR AGES man has availed himself of the fibers of various parts of plants to make clothing, domestic utensils, parts of instruments of the chase, and shelter for himself and his possessions. The important plant fibers employed for textile purposes or the making of cordage was obtained from hairs which are the outgrowth of seeds (as in the case of cotton), or from the fibrovascular bundles of stems. The latter consist of long needlelike bast cells with tapering ends that overlap and interlock. Such fibers may be short or very long, even up to several feet in some of the rushes.

Our desert Indians' strong interest in fiber-bearing plants early led them to experiment with fibers of the several species of yucca, especially those of the lowly gray-leaved big-fruited yucca (*Yucca baccata*) of New Mexico, Arizona and eastern California, the taller Mojave yucca (*Yucca schidigera*) of the western Mojave and Colorado deserts, and *Yucca elata* of Arizona, New Mexico and west Texas. All of these yuccas also fulfilled many other needs of the Indians.

They obtained strong coarse fibers by soaking yucca leaves in water then beating and rinsing them. From these fibers they made moccasins, strong rope, a coarse but strong cloth, sacks, brushes and even saddle blankets. The moccasins had woven soles almost an inch thick, and tie-strings of twisted



CARRYING-NET MADE OF MILKWEED FIBERS BY CAHUILLA INDIANS. MANY TYPES OF BURDENS WERE CARRIED IN THESE NETS, WHICH OFTEN WERE SUSPENDED FROM THE HEAD.

yucca fibers that were wrapped about the ankle.

It was rope made from fibers of the Mojave yucca that the Cahuilla Indians used in the markedly barbarous "cactus treatment" meted out as punishment to members of the tribe guilty of the most heinous crimes such as murder. A long yucca rope was tied about the victim's ankles, and he then was jerked to the ground and dragged by shouting men through patches of the viciously spiny Bigelow cholla.

Suffering utter pain, and later, if he survived the initial torture, festering sores, the prisoner almost always died.

For carrying burdens Indian women (Cahuilla, Mohave, Panamint) wove carrying nets from yucca cords of small diameter or from fibers obtained from milkweeds. In these nets, suspended from the head or shoulders, a woman would carry ollas filled with water or baskets filled with bulbs, edible roots, acorns or pinyon nuts. Such a net might be as much as two-feet long and capable of being widened a foot or a foot-and-a-half at the middle. The yucca fiber saddle blankets were not only durable, but very easy on the horses or burros because they were coarse enough to provide ample ventilation, and to readily absorb perspiration.

The desert's agave or century plants, with their long leathery spine-edged and spine-tipped leaves, were not overlooked as a source of long strong fibers. By pounding the green leaves of *Agave deserti*, the common Colorado Desert century plant, the Cahuilla Indians readily separated the long vascular bundles from the juicy pulp. They made sandals from this material even as they did from yucca fibers; also they made rope and a kind of coarse cloth. The quality of the fiber differs with the stages of maturity of the

—continued on page 36

MAN, WHAT A BARGAIN!

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Brief, But Beautiful

Most of the world's beautiful flowers are born to bloom unseen by man. Luckily, photographer Hiram Parent of Tucson caught this cactus in its short hours of nighttime splendor. Echinopsis turbinata, once native of Argentina and now growing well in our own Southwest, brings multipetaled white flowers into bloom in a night—and when morning comes they are gone. Each plant bears from one to eight flowers of the purest white, up to five-inches in diameter.

8:00 P. M. The buds are nine inches long, show white at the petal tips

CONTINUED
on next page

"SPECIALISTS IN SOUTHWESTERN PRESSWORK"

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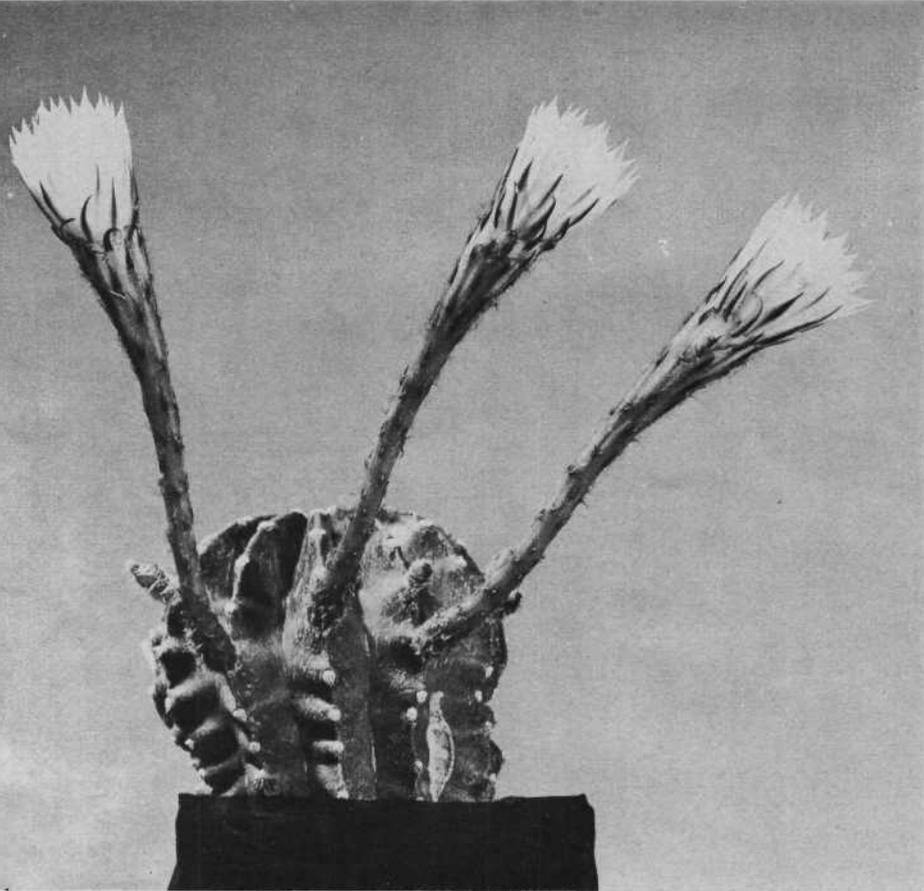
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PALM DESERT, CALIFORNIA

agave plants, the older plants having the stronger fibers.

From the short-leaved *Agave lechuguilla*, the Mexican Indians have for many years taken quantities of an important fiber they call *ixtle*. This wild plant is a predominant feature of the dry limestone mesas and hillsides from the vicinity of San Luis Potosi, Mexico, to western Texas, southern New Mexico and southeastern Arizona. Even today much of the fiber is obtained by hand work. It is separated from the pulp by pulling the leaves between a blunt knife and a block of wood. At best a workman can clean only 66 to 88 pounds of fiber in a week, compared to 360 pounds per worker per week when machinery is used.

A very good string was made by twisting the relatively long fiber the Indians secured from the widely distributed carrizo or reed grass (*Phragmites communis*). Locally this plant occurs today in abundance along canals, desert canyon streamlets and river borders. It has much the appearance of a small sparsely-leaved bamboo, but actually it is a very large grass with beautiful silky plumed flower heads. Indians of Mexico, Arizona and California made prayer sticks, pipe stems, arrowshafts, mats and thatching for their crude dwellings from its pith-filled stems. The Panamint Indians even obtained a sugar from it. According to Dr. Frederick Coville, the canes were dried and ground, then a sort of flour sifted out. The moistened meal was set before a fire, allowed to swell and brown. The final sweet sticky product was eaten like taffy.

A noticeably tall and slender leguminous plant (*Sesbania macrocarpa*) grows abundantly on overflow lands of the lower Colorado River and along the borders of irrigated fields and canals of the Imperial Valley. It may reach a height of six to 10 feet, has small bonnet-shaped pale-yellow brown-spotted flowers, long dainty pinnate leaves each with up to 60 small leaflets, and numerous many-seeded down-hanging very slender pods, up to nine inches long. The Yuma Indians got from the dried *Sesbania* stems, which they somewhat rotted in water, very strong smooth shining-white filaments which they wove into fine-netted seines for catching fish and birds. For this reason it is sometimes called seine weed. It is also known as Colorado River hemp. Incidentally, this plant is considered to be a great soil builder like many other legumes, and its num-



8:45 P.M. The flowers have started to flatten out, and are about three inches across

Please join us in Palm Desert for a
Special Exhibit
of
Desert Paintings
by the noted Southwest artist
BILL BENDER

(you read about this promising young painter—pictured at right—in the November Desert Magazine)

January 6 to February 2

From 9 to 5:30 daily, including Sundays — Sharing the spotlight with Bender's desert scenes will be the wood carvings and decorative panels of

MOGENS ABEL

Desert Magazine Art Gallery
Palm Desert, Calif.
(on Highway 111 mid-way between Palm Springs and Indio)

These special shows are also scheduled at this admission-free gallery:

Feb. 3-March 2—Marjorie Reed
March 3-April 5—Brownell McGrew
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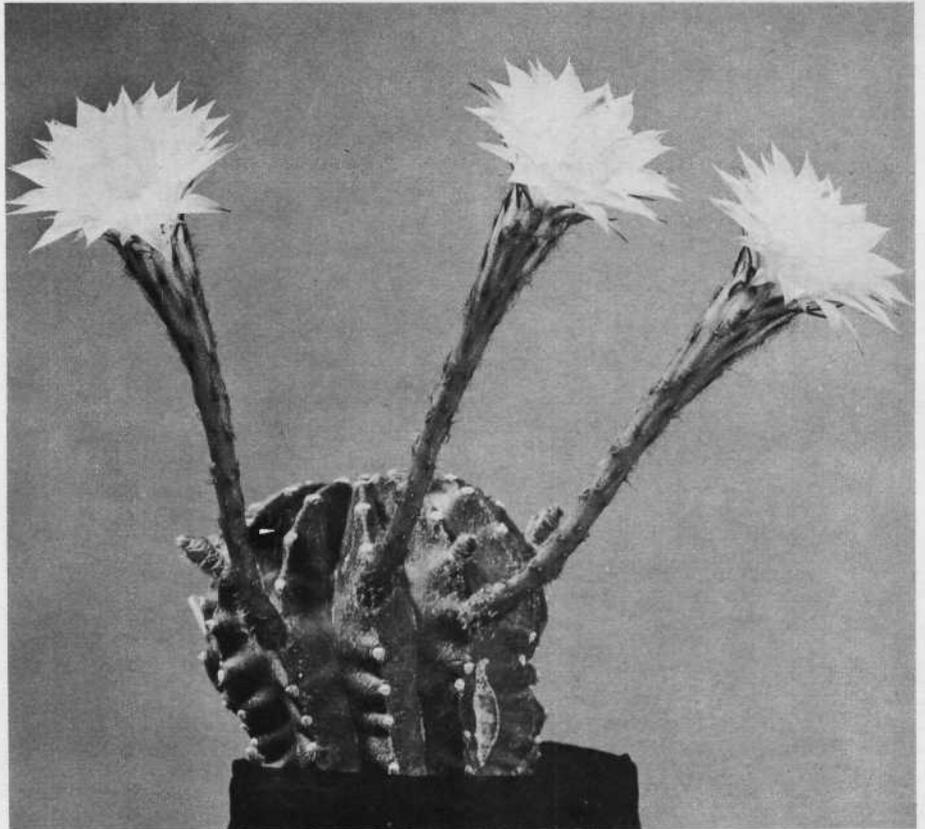
erous seeds are readily eaten by domestic fowl and quail.

Milkweeds, of which there are many kinds on our deserts, furnished some of the finest and strongest warp and weft materials for cloth-making. Sometimes the cloth, especially that to be made into durable shirts, was ornamented with patterns made from human or other hair. Milkweeds of several kinds provided strong fibers for making fish-lines and for string to bind arrowheads to the shafts of arrows. I have in mind a beautifully made arrow found recently in a cave near Twenty-nine Palms in which fine milkweed fibers bound onto the shaft not only the stone arrowpoint but the feathers as well. The milkweed furnishing the longest fibers was the white-stemmed milkweed (*Asclepias albicans*) of southwestern Arizona, southeastern California and adjacent Mexico. Its finger-width stems sometimes reach a length of 10 feet. The stalks were soaked in water then repeatedly beaten with a flat stone until the fibers separated.

Our aboriginal people early made use of the durable fibers of rushes (*Juncus*) which are sometimes called wire grass. The somewhat grass-like dark - green leaves occur in large bunches sometimes several feet across, and three to four feet high. Split juncus leaves were used over coiled bundles of grass (*Epicampes*) by the Cahuilla and other Indians to make baskets. The varying shades of the leaves produced the mottled effect in the basket designs so very pleasing to the eye. The Indians appreciated the lustrous texture, usually brown in color, of the dried rush. Different types of juncus grass baskets served as flat plates, shallow and deep bowls, flasks with constricted necks, or woman's caps. The larger baskets were used as storage vessels. Water jugs were waterproofed with pinyon resin.

Baskets were also woven from strips of mesquite bark, or from small, split or whole willow withes. Black designs were made from the hooked seeds of devil's claw (*Martynia*). Bark of the mesquite (*Prosopis*) was sometimes pounded and worked over until very soft, and then used to line the cribs of babies, or used for diapers. The inner bark of the cottonwood and elderberry similarly treated also came into good use as a soft absorbent lining material. Doughnut-like rings five or six inches in diameter, made of twisted cottonwood or mesquite bark and yucca fibers, were placed on the head to make more comfortable the work of carrying loaded baskets or water jars.

It must be remembered that prior



9:45 P.M. The flowers are a white torch about an inch and three quarters across

CONTINUED
on next page

to the coming of the Spaniards our Southwest Indians had no sheep's wool to use in weaving. Their only domesticated animal was the dog. The Navajo rug of wool, so beautiful with its symmetrical decorative and colorful patterns, is a rather modern creation. Whether the looms used by these Indians were patterned after the Spanish hand-loom is conjectural. The Navajos may have learned the art of rug weaving from captive Pueblo women.

But many of the pueblo and other Southwestern Indians did have what we may call a cotton-wool. It was obtained from the various wild species of *Malvaceae*, a plant group to which cotton of commerce (*Gossipium*) belongs. Wild cotton fibers are very short in comparison to those of cultivated cotton, yet string could be made from them and a cloth of sorts woven to use in making garments.

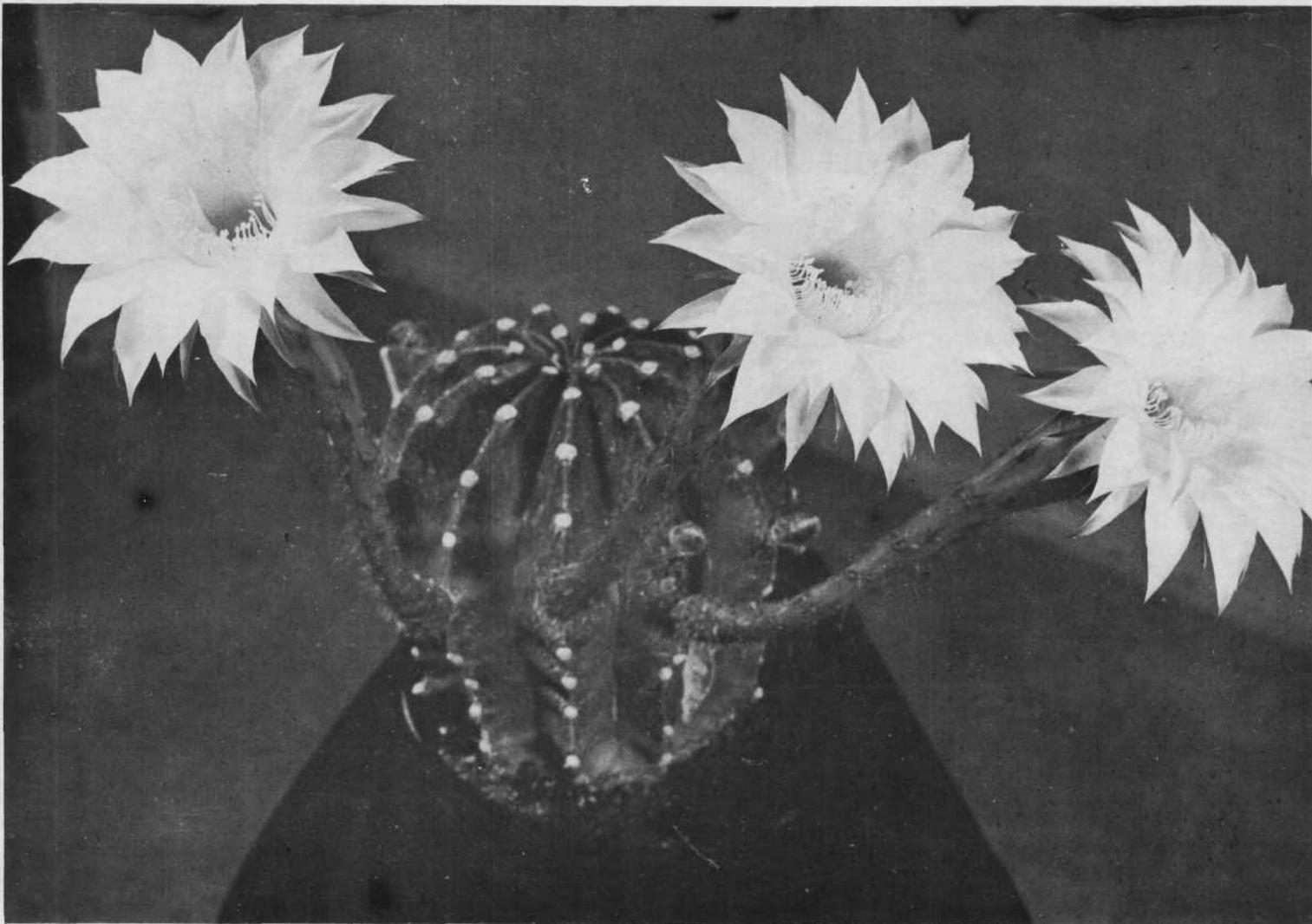
Each cotton fiber is the outer part of a single elongated cell of the testa or seed coat. The fiber loses its original cylindrical form when drying, and becomes a flat ribbon with convolutions. This gives the "cling" which enables cotton to be spun.

There are a number of kinds of nettles which when macerated in water yield a very strong fiber for the making of small cords. Our desert Indians

were well aware of its good qualities and used it extensively. Even the lowly wild iris was put to use. Its exceedingly thin but strong filaments were used when extra soft thin threads were required. Indians climbed the steep canyons and into the mountains to secure it.

The strong flexible vines of the wild grape were cut and used as rope to carry heavy things or to tie together bundles of objects of considerable weight. Of course the vines only served well their purpose while they were still green.

Each autumn came the Indians' "annual" wild rabbit drives when thousands of the luckless frightened hares and cottontails were driven against nets set up on poles or strung upon bushes. There men were standing ready to club them to death. Some of the meat was eaten at the time either raw or cooked, the remainder dried for winter consumption. The skins were cut into strips which were twisted into cords or braided and then sewn together or woven into blankets. These soft rabbit-fur blankets are really handsome articles and very warm. A few of them may be seen in museums. A particularly good looking one is usually on display at the Palm Springs Desert Museum. ///



10:45 P.M. Pure white petals spread open to their full glory. By six the next morning all had folded up, their beauty done until next year.

PERSONALIZED BRANDING IRONS . . . BY MAIL

WILLIAM L. KUHN of Clayton, New Mexico, uses his knotty pine office walls for a permanent business file. Kuhns has developed an international mail order trade for custom-made branding irons, and after he completes a job he scores the wall with the hot brand.

"It's the only way I know to keep up my records," says this 73-year-old blacksmith. "When a customer wants a repeat order, I look up the brand on the wall—and then go to work!"

There are about 1000 brands on Kuhns' walls to date—initials, stars, crosses, hearts, fancy doodads. Most of his customers are in the livestock business, of course — including 13 ranchers in Hawaii. Some people use

Kuhns' "irons"—usually with their initials—for fireplace poker. One man from Iowa had Kuhns forge the entire alphabet—26 branding irons—so his guests could burn their names on the sides of his log cabin. Other popular uses for branding irons: curtain rods, wall embellishments, door stoppers, candle holders, book ends.

One customer, a brand collector, has given Kuhns a standing order for all the old irons that he lays his hands on—and in so doing Kuhns has run across many he made 50 years ago when he first moved to Clayton.

Today's irons are vastly different from the old heavy pig iron models. Made of lightweight high carbon steel, they have perforated handles which remain cool when the brand face is heated to red-hotness. And too, they are made with more attention today to prevent blotching on the animal's hide. But, no one has come up with a suitable substitute for hand-forging and hand-filing the brands. It takes

Kuhns four to 10 hours to make a standard brand (cost: \$4 to \$15).

Brand laws vary considerably throughout the nation regarding the registration of brand designs. In some states the counties do the licensing, in others a state agency is charged with making sure no two outfits have the same brand. Some states have no recording of brands. Usual cost of registering a brand is \$5. If your design is too close to an existing registered brand, the agency usually redraws it, incorporating the main features of your brand, then returns it for your approval. Of course, if you don't intend to actually scar the hide of a dogie with your iron, no registration is necessary.

It takes all kinds of customers to make a mail order business, Kuhns believes. An Easterner who had inherited a Montana ranch, wrote to Kuhns for branding iron information—the dude didn't know what they were. ///

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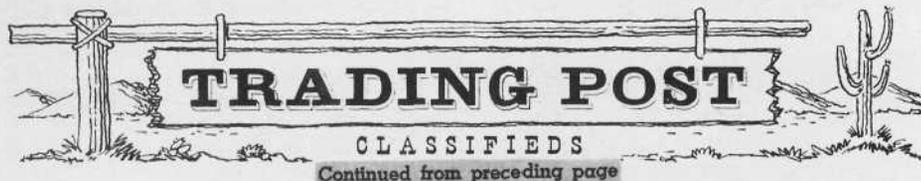
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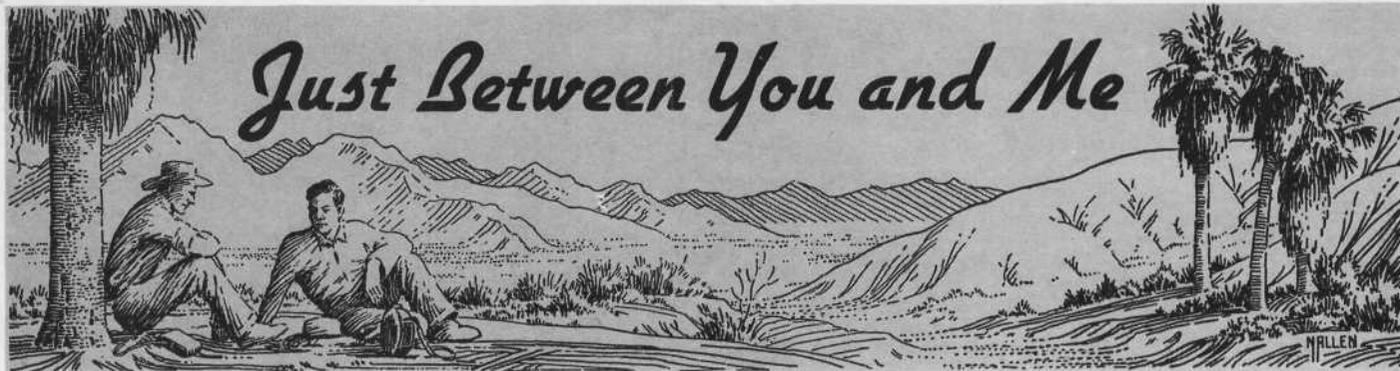
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By RANDALL HENDERSON

IN NOVEMBER I was among the 18,000 persons who trekked to Death Valley for the Annual Encampment of the Death Valley '49ers. The program this season was of special interest because it included the dedication of a new million-dollar museum financed jointly by the State of California and the National Park Service.

Actually, the 1,907,000 acres in the Death Valley National Monument themselves comprise a colossal museum. Their geology reveals much of the story of evolution of this planet over a period of millions of years, and the artifacts recovered from ancient beach lines tell us something of the aboriginal life of its first human inhabitants. But Death Valley is too big, much of it too inaccessible, and the greater part of its story too technical for any but the scientists to interpret. And so there has been brought together in one spacious building a series of graphs, exhibits, dioramas and art work to tell the story in terms all can understand.

It is primarily a museum of ideas, not of things. There are ample exhibits—but only those necessary to illustrate the many interesting facets of geology, zoology, botany, prehistoric life and the known history of this interesting land.

The tragic story of the original '49ers of the Jayhawker party, and later of Jimmy Dayton, Henry LeMoigne and the other single-blanket prospectors who succumbed to the scorching summer heat of the Death Valley sink, have now become legend. Today several paved highways lead into the Valley, excellent accommodations are provided by the Fred Harvey Company at Furnace Creek Inn and Ranch, by Peggy Putnam at Stovepipe Wells hotel, and at Scotty's Castle, and a trip to the Valley during the winter season now may be a delightful experience. The new museum also makes it an educational experience.

* * *

While in Death Valley I recalled a quotation from George Palmer Putnam's book, *Death Valley and Its Country*. Palmer was writing about Charlie Walker, one of the old desert rats at Beatty, Nevada. Charlie was a surveyor and draftsman who spent his spare time—which was most of the time—following the desert trails in an old mongrel car looking for mineral riches. Also, he was a humorist. He once suggested that Death Valley should be publicized as a fishing resort. Said he: "What you're after when you go fishing is to have a rest and be away from worries. The Valley's perfect for that. Your fly won't get caught in the willows. Your feet won't get wet, nor tuckered out chasing along a danged stream to find a better pool. And there'll be no fish to clean."

And that recalls one of Hard Rock Shorty's yarns. He

was telling about an old prospector whose eyesight was failing, and who decided to take a day off and go fishing. After sitting out in the sun for several hours casting his line, he came back to camp with two lizards and a sidewinder. He had been fishing in a mirage.

* * *

This is being written in November, a few days after the ballots were counted in the presidential election. The long, and sometimes confusing, debate is over and I am sure we are all grateful for that regardless of how we feel about the outcome.

I am glad both the political parties this year turned to younger men for leadership in the years ahead. Considering the state of affairs today, both at home and around the world, it is hard to escape the conclusion that the old-timers of my generation have created more problems than they have solved. And so I am looking forward hopefully to January 20 when there will be new and younger men at the executive throttle—in the United States at least.

Not since the days of Woodrow Wilson have we had high level statesmanship in the White House. Franklin D. Roosevelt dealt with domestic problems very effectively, but he failed to sense the challenge of Marxism as a worldwide issue. Wilson's ideals were never realized because there were too many humans at home and abroad whose vision had not advanced beyond the immediate horizon of profit-making.

In the final analysis, in a democracy, the people get just about the kind of government they deserve. I would like to believe Americans are ready now for more enlightened leadership than they have been getting in recent years—and that the youth and energy of John Kennedy will bring vision and understanding of a new order to the White House.

* * *

Recently I have been reading Peter Fark's book, *Living Earth*. It is the story of the abundance and complexity of life within the soil which we humans more or less take for granted. In a teaspoon of good topsoil there may be literally billions of bacteria, protozoa, fungi and algae. Were it not true this land would be too sterile for human habitation. The author also cited another scientific truth which was rather devastating to my vanity. The basic elements of this earth may combine with new forms, but they are never lost. That which decays today becomes part of some new form of life tomorrow. An atom of nitrogen in my body may at some time in the past have been part of the structure of a dinosaur, a viper, a fishworm or a head of cabbage.

Perhaps that is a thought for racial segregationists to consider.

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That Won The West

(see story on page 10)

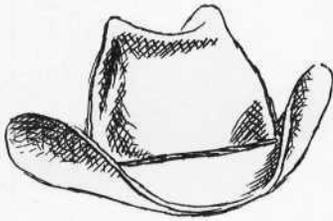
To a resurrected Billy the Kid or Wild Hickok, the mechanical wonders of the modern world would hardly seem more incredible than the headdress we assign to Old West characters in our motion pictures and television melodramas.

...

The ghosts of these boys from Yesterday would surely marvel at all the bare heads about them, and the lack of individuality of those few hats that are in evidence. In old days you could tell a great deal about a man and his mood by studying his hat the way he wore it. Bill and Billy probably would have difficulty telling the sexes apart if by some miracle they could participate in a 1951 group outdoor outing.

...

We present these drawings to set the record straight in a few instances; and to highlight the rich variety of headdress that once spiced the Western scene.

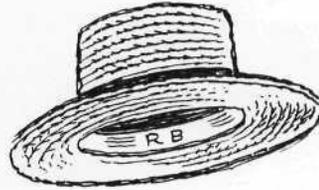


MODERN WESTERN
... the turned-up brim belongs to the Jet Age

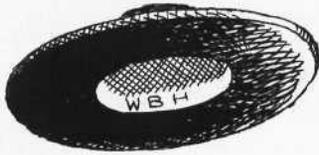
FIG TREE JOHN



... the Cahuilla Indian was dignified in his top hat



ROY BEAN
... the "Law West of Pecos" wore a straw topper



WILD BILL HICKOK
... a flat-brim framed wavy shoulder-length hair



SAM HOUSTON
... the Texas hero was commanding in his "beaver"



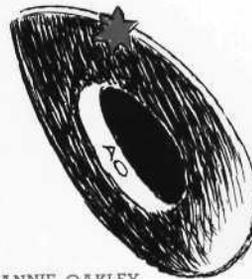
BOB DALTON
... a conservative hat for this famed outlaw



WESTERN SOLDIER
... the artist Remington helped popularize this model



DEATH VALLEY SCOTTY
... a standard slouch type Stetson pulled down in front



ANNIE OAKLEY
... a star was added as a feminine touch



CONQUISTADOR
... the Spanish plumes that conquered the Southwest



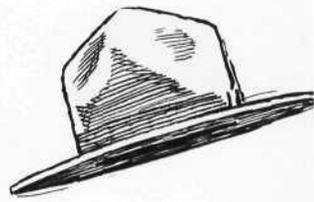
WILLIAM BONNEY
... no dashing sombrero for Billy the Kid



"TAME" INDIAN
... the red man retained his feather



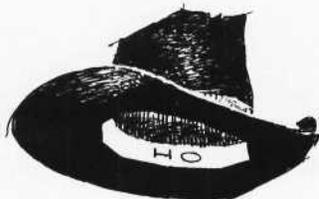
EASTERN DUDE
... those inclined to be "tony" wore derbies



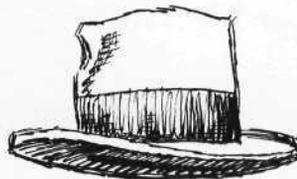
PARK RANGER
... also favored by engineers, geologists and surveyors



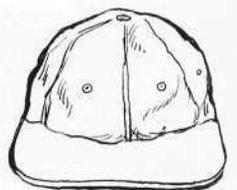
SELDOM SEEN SLIM
... the famous Death Valley prospector's hat choice



HARRY OLIVER
... the Old Mirage Salesman's trademark topper



SHORTY HARRIS
... another Death Valley character's Sunday hat



ROCKHOUND
... big hats are a nuisance in small cars