

THE

Desert

M A G A Z I N E



JUNE 1939

95 CENTS

Carson's Camp,
Bishop, California

Dear Sir:

We had a pleasant trip in your desert country this spring, and quite a successful one. We went up to the geode area north of Twenty-nine Palms and found some very good specimens. We also found "hammer hounds" had been there before us and destroyed hundreds of fine stones. In some places there were piles of pulverized rock where there had been geodes. How can we educate the public to desist from this sort of vandalism? Some people ought not be allowed to carry a hammer into the desert.

Although I nearly lost my life in the Mojave desert in 1915 I still love it. I spent several months there with the late Lou Westcott Beck, who was a very dear friend of mine, and who at one time was called "the Good Samaritan of the Desert." He spent a great deal of time and money marking poison water holes and springs in what at that time was a trackless waste. To my certain knowledge Beck saved the lives of no less than 20 men in that country. His knowledge of the desert was almost uncanny. No finer man ever lived, as many old-timers will tell you.

Thanking you for your kindness to us while we were in El Centro and wishing you every kind of success with the Desert Magazine, I am very sincerely

DAD CARSON.

• • •

Los Angeles, California

Dear Desert Folks:

I am so grateful that the cacti have thorns so that humans cannot wade through them with their dirty shoes and pull the delicate blooms—and then leave them to wither and die. Thank you for your wonderful magazine.

BERTHA CLAYPOOL COSSITT:

• • •

Tucson, New Mexico

Dear Editor:

The poems in the March Desert Magazine were exquisite. My son went into ecstasies over the SUNSET poem of Mr. Brininstool's. It is truly beautiful. But I enjoyed all the poetry. The little four line verse CLOSE OF DAY conveys a beautiful picture.

Some folks who do not aspire to write poetry themselves, nevertheless enjoy reading it very much. Poetry speaks to the soul in a way that prose cannot. It is the flower of literature.

MRS. S. F. ANDERSON.

• • •

Beatty, Nevada

Dear Sir:

I am a prospector and have had a lot of experience hunting up lost people—nine of them I think and some of them have been terrible.

I would like to go and see if I can find Everett Ruess. I certainly could find his last camp and might find his remains. I found Harry Mahoney, the Hollister, California, boy in '27, and Norman D. Carr in '36, lost in Forty Mile canyon 45 miles out of Beatty, Nevada.

I was through that Utah country in 1937 and would like to get some facts about the case before starting. I take my own equipment and travel alone and take my time. If you will tell me where I can get the desired information, and no one objects, I will go. I think the 10th of August will be about right. What month was Everett lost in?

I am over in the Panamints prospecting at present.

DEATH VALLEY CURLY.

Curly was given the information.—Editor.

LETTERS

Rankin, Illinois

Dear Mr. Henderson:

Since 1935 we have made two trips to the Pacific coast. While a tourist sees much, he misses more as "Stopovers" are generally of short duration. Your Desert Magazine supplies the missing link and makes the West a grand reality.

In the May issue on the "Just Between You and Me" page I read your suggestion to include the Vallecito and Carrizo desert areas in the new Anza Desert State Park. I am adding my plea also to save this wonderful work of nature for your eastern neighbors as well as future generations of this great country.

As the Wisconsinans are very proud of their Dells, I am making a correction in the interesting article "Margaret Lewis—Singer and Silversmith" by Mrs. White Mountain Smith. The Dells and the Winnebago tribe are situated in Wisconsin instead of Minnesota. Having spent a vacation in that region, we attended the Indian Ceremonial dances at the ancient Stand Rock amphitheater. Several tribes of Indians from the Southwest were in evidence. Margaret Lewis (Laughing Eyes) took a prominent part.

I have a complete file of your wonderful magazine and hope to add many more.

MRS. A. C. DROLL.

• • •

Los Angeles, California

Dear Sir:

"The flowers that bloom in the Spring, tra la" and all that sort of rot, eh what! Spring has already donned her Easter outfit—a glorious—royal garment of gold and purple. When Spring covers the desert's drab, stark nakedness with the luxurious Cinderella cloak, then it's time to ramble desertward. It is wise to hurry to get there ahead of others. In fact, it is necessary to go early if the car is to be filled with blossoms.

All desert visitors should tear the plants up by the roots, because if first-comers don't others will; so it's best to grab while the grabbing is good. Of course, if the flowers die before home is reached, it's all right.

It's easy enough to dump them out when the paved residential district is reached. The street cleaners can sweep them up. What do people pay taxes for anyway?

In the Spring, the sap runs in the plants, and Whoops! the saps run to rip up the plants that spring up in the Spring, tra la.

EDNA P. PATTEN.

• • •

Quito, Ecuador

Dear Sirs:

Being interested to read your useful and interesting publication, THE DESERT MAGAZINE, I am addressing you today in order to request that you please send me, by return mail a copy of your magazine, for my prompt perusal and consideration.

If after reading your publication I see that I can obtain some information there shall be no delay in sending my subscription order for some years.

G. A. MORENO.

Glendale, California

Dear Mr. Henderson:

As a regular reader of the Desert Magazine since its first issue may I say that it is the most interesting publication in its field that we have seen.

I was much interested to learn through the last issue of your questions and answers, and also the list of suggestions mentioned. So may I as a sincere friend to you and the Desert Magazine express my reaction to one of the suggestions.

I firmly believe that if you include a fiction department you will adulterate the character of "Desert," and waste its charm. As one looks at the so-called newsstands, displaying hundreds of magazines filled with fiction (trash of all kinds) there is no crying need for any more of it. For those who want it the supply seems already unlimited.

The value and appeal of "Desert" is that it comes like an intimate and personal letter from that lovely and truly indefinable thing of beauty, awe, grandeur, vastness, peace and quiet which we call the desert.

Your effort and success in collecting and printing so many fine things for us is deeply appreciated, so don't enlarge it at the expense of its character. Such books as "Desert" and "National Geographic" would soon lose their identity if they imitated ordinary publications.

Vandalism defaces the beautiful and pollutes the pure. So please keep the Desert Magazine pure.

L. V. MARTIN.

• • •

El Centro, California

Dear Mr. Henderson:

In connection with the evaporative cooling system article in the last "Desert," it might be of interest to know that the passenger trains in India have for years been cooled that way.

In the hot weather burlap blinds are let down outside the windows, with a stream of water trickling down on them from the roof of the car. The movement of the train makes an effective "fan."

Praise for the sustained high standard of "Desert" becomes almost an impertinence—one takes it so for granted now. With best wishes.

AUBREY M. DRAPER.

• • •

Rowood, Arizona

Gentlemen:

I am sending you under separate cover some data on the Papago country. I notice you had a picture of the Ventana. With reference to it being three miles east of the Papago village of San Miguel, I beg to differ with the statement in Mr. Jones' letter in your May issue.

The Ventana lies about 40 miles northwest of San Miguel. Also, in regard to Bavoquivari peak—I will give you the definition of the name. *Bavac* means cliff in the Papago language and *quivol* means belt—hence the Belted Cliff. You will notice the white streak around the bottom of the cliff, which explains the name.

THOMAS CHILDS.

• • •

Tucson, Arizona

Editor, Desert Magazine:

I thought I knew my desert pretty well until I tried to answer the questions in your Desert Quiz. I got 11 of them right. Give us some more of them—it is evident that even the old-timers can learn something about their own country from the Desert Magazine.

DAN McSTAY.

DESERT Calendar

M A Y

27-28—Utah State Press association meets at Moab with Moab Lions club as host.

27-28—Closing dates of the annual flower show exhibited each weekend during May at Julian, California.

27-28—Annual fiesta at Old Albuquerque, New Mexico.

31 —New Mexico state P.E.O. convention begins at Roswell.

J U N E

7-10—Junior Fat stock show under auspices Salt Lake chamber of commerce at North Salt Lake, Utah.

16-17—District convention of Utah Lions at Vernal, Utah.

21 —Palm Springs, California, to vote on question of disincorporation.

24 —San Juan's Day to be observed by festivities at San Juan Pueblo, New Mexico.

24-25—Los Angeles Cactus and Succulent show at Manchester playground in Los Angeles. Free to public.

Weather

APRIL REPORT FROM U. S. BUREAU AT PHOENIX

Temperatures—	Degrees
Mean for month	71.2
Normal for April	67.0
High on April 22	99.
Low on April 15	44.

Rain—	Inches
Total for month	0.17
Normal for April	0.40

Weather—	
Days clear	16
Days partly cloudy	10
Days cloudy	4
G. K. GREENING, Meteorologist.	
FROM YUMA BUREAU	

Temperatures—	Degrees
Mean for month	73.8
Normal for April	69.5
High on April 21	102.
Low on April 15	46.

Rain—	Inches
Total for month	Trace
69-year-average for April	0.10

Weather—	
Days clear	27
Days partly cloudy	3
Days cloudy	0
Sunshine 97 percent (379 hours out of possible 390 hours).	

Colorado river—April discharge at Grand Canyon 1,214,000 acre feet. Discharge at Parker 588,000 acre feet. Estimated storage May 1, behind Boulder dam 21,900,000 acre feet.

JAMES H. GORDON, Meteorologist.



Volume 2

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The Desert Magazine is published monthly by the Desert Publishing Company, 597 State Street, El Centro, California. Entered as second class matter October 11, 1937 at the post office at El Centro, California, under the Act of March 3, 1879.

Title registered No. 358865 in U. S. Patent Office, and contents copyrighted 1939 by the Desert Publishing Company. Permission to reproduce contents must be secured from the editor in writing. Subscription rate \$2.50 per year in U. S. A. or possessions. Single copy 25 cents.

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Manuscripts and photographs submitted must be accompanied by full return postage. The Desert Magazine assumes no responsibility for damage or loss of manuscripts or photographs although due care will be exercised for their safety. Subscribers should send notice of change of address to the circulation department by the fifth of the month preceding issue.



Special Merit

Many excellent photographs were submitted in the April contest and in addition to the prize awards announced on this page, the following photographers deserve special mention for their entries:

A. Frank Purcell, Prescott, Arizona, "Arizona Palms."

Alfred Schmitz, Los Angeles, Calif., "Miner's Candle."

Charles A. Brown, Twenty-nine Palms, Calif., "Yucca."

Rosamond Dry Lake

By HARRY W. DACQUET
710 W. 108th Street
Los Angeles, California

First prize winning photograph in the April contest of the Desert Magazine. Picture was taken near sundown at the Rosamond dry lake in Antelope valley, Southern California. Camera was a Graflex 3 1/4 x 4 1/4, Watten K2 filter, Agfa Triple S Pan film, 1/10 second at f32.

Panamint Daisies

(*Enceliopsis argophylla*
var. *grandiflora*)

By C. L. BOWMAN
1026 W. 23rd Street
Los Angeles, California

This picture was awarded second prize in the April photographic contest. It was taken in Surprise canyon about half way up to Panamint City in the Death Valley region of California. Exposure was March 21 at 10:30 a. m. Taken with a 4x5 Corona View camera, Panchromatic film, no filter, 1/10 second at f32.



June is the month when the Papago Indians of southern Arizona, following the tradition of their tribe, go forth to harvest the luscious red fruit which grows on the giant saguaro cactus. Ruby Bowen, the writer of this unusual story, lives on a homestead near Tucson and has a saguaro "orchard" of her own from which she gathers fruit, in much the same manner as her Papago neighbors.

Saguaro Harvest in Papagoland

By RUBY BOWEN

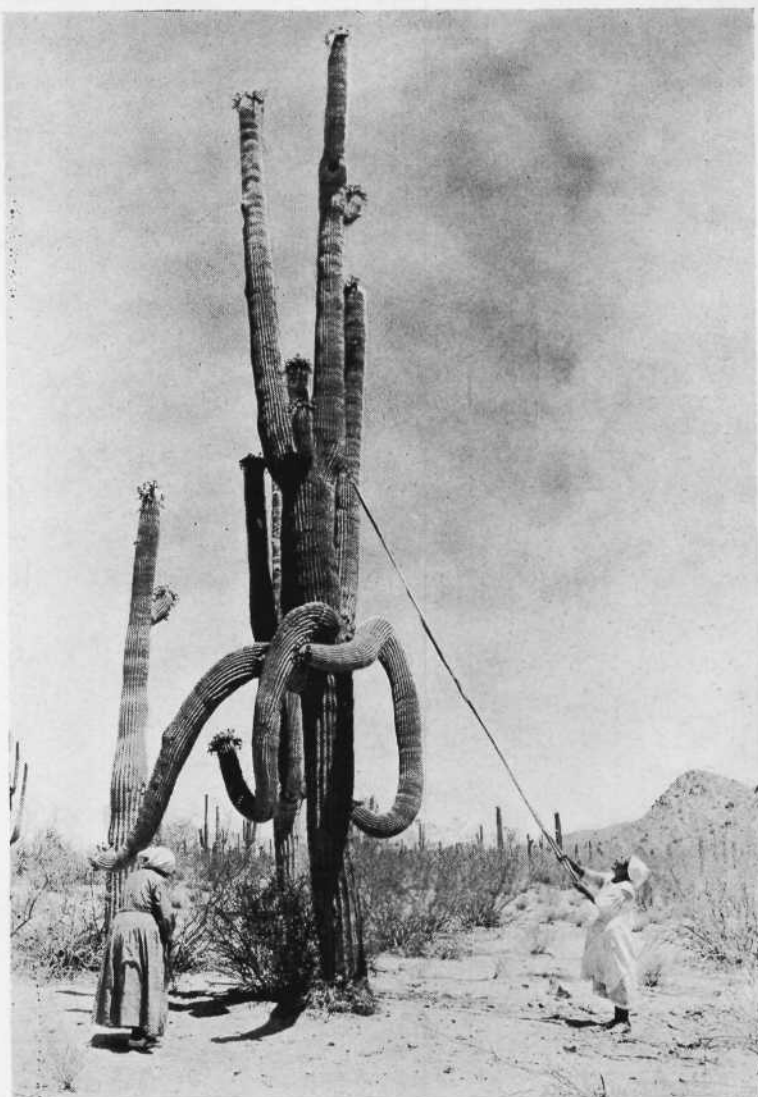
AN ancient Papago legend tells how Coyote saved Saguaro for his friends the Desert People: At the First Feast of the Saguaro Wine, great dissension and discord broke out among the desert birds and animals as Wine Spirit came among them and they took to fighting. As may be seen, many of the desert birds' heads are red to this day from that fighting. Saguaro was not a good thing to have among them, concluded the Chief of the Desert Indians and he banished it as evil from the desert. But the Papagos liked Saguaro and in order to save him for the Desert People, wily mischief-loving Coyote circled about and intercepted the Papago Chieftain's emissary sent to carry Saguaro's seeds forever out of the desert land. Feigning great curiosity as to what the emissary held so tightly in his hand, Coyote persuaded him to show the seeds. With an apparently accidental flip of his paw, Coyote scattered them far and wide. Friendly Wind Man coming to Coyote's aid carried the cactus seeds high over the mountains to remote corners of the desert. Thus was Saguaro saved for all time for the Desert People.

What the old legend does *not* tell was Coyote's possible personal motive for saving Saguaro. For Coyote has a decided liking for this cactus fruit. Five o'clock mornings on the Bowen homestead at the time of year when the Papagos are going into communal Saguaro camps for the harvesting of this fruit, I have often seen Coyote making the rounds of each giant cactus gathering for his breakfast the luscious, juicy-red "berries" fallen during the night. Expectantly he circles each cactus, getting the fruit before Deer, Squirrel, Desert Tortoise, Pack Rat, even Man himself comes to gather up this sweet desert bounty.

One morning in mid-June, Coyote on his way to a Saguaro breakfast comes upon a Cactus Forest transformed. Plump, brown-skinned Papagos are everywhere. Wagons are being unloaded. Camp-fires are crackling. Shelters are being hastily erected. The vivid pinks, cerises, lavenders and cherry reds of the squaws' amply-cut Mother Hubbards splash the somber forest gaily with color. Mystic desert

solitude is broken by the bright laughter and chatter of Indians greeting each other in the musical Papago tongue. Overall-clad figures in wide-brimmed sombreros belabor the "giants" with long poles. Others are bringing into camp buckets brimming with the juicy crimson fruit. A tantalizing aroma somewhat like that of ripening strawberries hangs in the air. Everywhere Indians and desert birds seem to be gorging themselves on the luscious fruit. Curiously, behind a clump of chaparral Coyote watches. He is a very old Coyote and knows what this is all about. His friends the Desert People are come to harvest Saguaro and celebrate their New Year as the first fruit of the Giant Cactus ripens upon the Arizona desert.

In one of the newly-arrived wagons just unloading is Juan. Juan is a Papago farmer. All year he tills his desert acres by dry-farming, growing his corn, melons and beans by wisely conserving and using the rain which Great Spirit sends him. Annually he comes to harvest Saguaro



Two ribs from a dead saguaro are spliced together and equipped with a hook with which the Papago woman knocks down the ripe fruit.
—Photo by Frasher's.

ro fruit which this Great Spirit of desert land, even in drought and famine, sends his desert children. Sabastiana, his plump cheerful wife, is helping him unload the wagon. She is concerned with the safety of her numerous, various-sized ollas (the equivalent of the white housewife's fruit jars, water pitchers and cooking pots) and her blankets, clothing, supplies, saddles and other camping necessities. The Papago housewife carries her empty ollas, scoured with desert sand, into the cactus forests. They will go into the wagon for the homeward journey filled with nutritious jams, syrup and preserves along with many sacksfull of dried cactus fruit. Numerous brown Indian children, including a baby, emerge from the wagon, for Juan takes no less pride in his fruitful wife than in his fruitful acres. The Papago dog has also come along.

No Ladders are Needed

A shelter is quickly erected out of poles and native branches and Juan and his family are soon ready to join other Papagos in the harvest. Overall-clad Juan in his wide-brimmed sombrero harvests the giant's berries quite simply. Two ribs of a dead saguaro are spliced together to make a pole at least 20 feet long to reach the fruit, and a hook is fastened on the end. A gentle push dislodges the "berry" felling it onto the desert sand.

This much-relished egg-shaped cactus fruit is about two inches across and three or four inches long. As it matures, the bitter outer husk splits and curls back, exposing the sweet inner pulp. In flavor and color it is somewhere between a ripe strawberry and a luscious red raspberry. It has numerous shiny black seeds with a nut-like flavor. In eating this fruit, the outer husk is discarded. Saguaro fruit grows on the ends of the arms and on top of the cactus. A saguaro sometimes bears as many as 350 fruits, all ripening in the course of a month, which extends the harvest until about the middle of July.

Sabastiana returns with the other brown Papago squaws to the camps with their gathered fruit to care for the morning's harvest. Saguaro fruit is very perishable and once gathered must be cooked at once. White housewives might envy Sabastiana during the preserving season — for there's no standing over a hot stove in a sweltering kitchen for this desert Indian housewife. Camping under desert stars, she simmers her fragrant freshly-gathered cactus fruit which for centuries Great Spirit invariably has sent her. She preserves it on the spot in her cooking olla over a spicy mesquite wood



Saguaro fruit usually grows near the tip end of the cactus trunk.

fire amid the gaiety and sociability of her friends and neighbors.

Long and slowly Sabastiana cooks her syrup, jam and preserves over a desert fire. The Papago housewife never uses sugar since Saguaro fruit is so very rich in natural fruit sugar as to keep perfectly without it. When her fruit has simmered to a rich mahogany, almost brownish goodness she stores it in native ollas over the tops of which she places a covering of leaves, corn husks, tin, broken pottery or other available material. Then she seals it air-tight with desert adobe mud, the Papago housewife's paraffin. The syrup with seeds removed and boiled to a dark molasses-like consistency is likewise stored in the ollas. Both preserves and syrup may be purchased at trading posts on the Papago reservation, but more syrup than preserves is usually made by the Indians since there is a considerable demand for it among themselves.

Sweet Meats for the Papooses

Sabastiana also dries many pounds of Saguaro "berries" for her family. Besides being a delicious sweetmeat for Papago children, the dried pulp is an important ingredient of her prized seed cakes. The dark seeds may be ground on the metate into a highly nutritious *pinole*. She saves the seeds in syrup-making to carry home to the Papago fowls, along with an additional quantity of the dried fruit for this purpose since it makes an excellent poultry food. Much Saguaro fruit is eaten fresh in the camps while Sabastiana, Rosita, Elnisto, Matildo and other busy Indian women "put down" their yearly supply of this desert harvest.

The duration of each saguaro camp depends upon the families' liking for the fruit, their thrift or their particular economic need. Near the Papago reservation at Sells, Arizona, camps often last until the end of the season, many families going into the Saguaro forests in wood wagons and living in native "shelters" as their forefathers have done for centuries.

Near Tucson, only the poorer families go out from the Papago reservation at San Xavier in wood wagons, such camps being rather rare. The taking up of white man's ways, including automobiles, has changed the picturesque Saguaro harvest for these modern Papagos. Since the automobile brings the cactus forest near enough, they prefer to harvest what they can in a few hours and return with it to their homes for the cooking.

Much Work in Preparation

"It is much work," were the first words spoken to me by a young, English-speaking Papago squaw as we sat in the patio of her home in the shadow of the venerable old Mission of San Xavier del Bac discussing the most approved Papago method of making Saguaro jam. Her observation interested me, for as chatelaine of a desert homestead for many years I have had much the same reaction to the use of native desert foods. The desert holds delicious foods for him who would seek them; food that sustained life for those who lived before us here in the long ago; but in the words of the modern Papago woman, their preparation is "much work."

I told her I often wished I might make Saguaro jam as deliciously on my desert homestead as the Papagos did. With something of the shyness of the wild deer in her large dark eyes, she graciously explained a quicker method she had devised which I shall pass on to other desert housewives. She thins the crushed fruit with water to the consistency of any pulp about to be made into jam. (Sugar is never added.) This pulp is then boiled in a saucepan over a kitchen flame for about 20 minutes, or until the red juice turns a brownish color and thickens. This modern Papago girl uses small native ollas for holding her fruit, over which she fits tin covers. Over the tops, she plasters desert adobe—even as her sisters do in the Saguaro forest. She cautioned me that the fruit should be made air tight.

Do Papago housewives at San Xavier make much jam and preserves? I wanted to know. "Only a little," she replied, and I gathered that at San Xavier they make delicacies much as we would put up

strawberry preserves or peach jam — because of a liking for it rather than as an economic need.

This very modern squaw expressed a dislike for cooking saguaro pulp in the traditional Indian cooking olla. If a quantity of preserves were to be made, she said she much preferred to simmer them in a new clean wash tub of the White Man's over an outdoor fire.

As the Papago, Juan, journeys homeward through the harvested cactus forests with Sabastiana and their family, he also carries with him the important syrup out of which he and other Papagos will make the very potent ceremonial Saguaro wine (*Tiswin*) which is drunk at the Saguaro wine festival (*Navaita*) during which prayers for rain and for a favorable harvest are offered to the gods. This ceremonial takes place at the Papago reservation at Sells at the end of the Saguaro harvest and is the object of an annual pilgrimage by Papagos from all over southern Arizona. In making the ceremonial wine, the syrup is diluted with water, the mixing being done with the hands in a certain traditional manner. Dancing takes place for two days and two nights, after which the wine is ready for consumption and the rain prayers are said.

Wine for Ceremonials

The making and drinking of Saguaro wine is an innate part of the Papagos' rain ceremonial. Tradition says that the Saguaro was created when Elder Brother planted beads of his own perspiration—symbolic of honest toil—in the desert sand. When the Saguaro bore fruit, Elder Brother mixed the juice of this fruit with water in an olla with the wish that he might make rain to refresh the thirsty desert. As the juice turned into wine, rain began to fall.

Harvesting Saguaro and making cactus wine runs through all Papago legends. One especially significant legend has to do with the Papago reservation itself. In olden times, the story goes, the land of the Papagos was very fertile and produced many squashes, melons, beans and much corn. But the Indians were dissatisfied because their valley was not larger. So they consulted four wise men who, after conferring with Great Spirit in his cave atop Baboquivari peak, put them to work making Saguaro wine from their freshly-gathered fruit. The Indians were instructed to drink this wine for four days and nights, dancing and singing the while. After they had drunk the wine the first day they agreed that the precipitous mountains which hemmed in their valley did not look quite as hard. After the



Typical Papago woman with olla.

—Photo by Al Buehman.

second day of wine-drinking, the mountains began to wobble and shake. The Papagos were advised by the four wise men to drink more of the potent Saguaro wine and dance harder. This they did and on the third day the mountains began to move. By the fourth day, they had moved over the desired distance. The Papagos were pleased, the legend says, because with such a nice wide valley they envisioned themselves raising truly bountiful crops. But Wind Man and Cloud Man who lived on Baboquivari peak were very definitely *not* pleased, since they would be expected to travel farther. Resentful, they refused to carry water any further than they had before the mountains moved. And so the Papagos

with their additional desert acres were no better off than before.

Does Great Spirit always answer Papago rain prayers and send refreshing moisture to his Desert People? Sometimes — and then, again, perhaps not. But come what may, two teachings of Great Spirit the Papago closely observes: First, that it is good to *work* for what you have. And second, *moderation* — that it may not be good to have too much of a good thing. The Papago makes Saguaro wine and celebrates his wine festival each year. But knowing that "Wine Spirit comes quickly," he lives and advocates a life of temperance which goes far toward making him the sober respected Indian he is today.



EARLY Spaniards called them *piedras pintas*—these painted stones of the desert with their sunset hues and intricate designs. Yankee settlers later referred to them as "pinto stones," "rainbow stones," or "those pretty colored rocks," according to degree of imagination.

Mineralogists and collectors today seem to find it more difficult than their unscientific predecessors to agree upon a name for this lovely oddity of the mineral world. It has been classified at various times as clay stone, chalcedized clay, jasper, chert, argillite, argillaceous chert and opalite, by various authorities.

The fact is that several of these names might well be correct, for in reality this material is not a distinct mineral, but a series of allied minerals which vary in chemical composition, hardness and texture. Some of the samples are nothing more than solidified clay and have a very low hardness. Others have a distinct opaline texture, or approach agate in hardness and grain.

Since there seems to be no scientific name that can be applied to this mineral without clashing with some of the authorities, I shall refer to it by what I consider its most descriptive common name, the "Rainbow Stone."

It is not the purpose of this article to discuss all the deeply involved chemistry of this series of minerals, but rather to call attention to the beauty and possibilities of the harder and more compact specimens for gem and decorative purposes.

The deposit I am describing for readers of the *Desert Magazine* this month is one of the largest and least common occurrences of this rock in the desert, yet it is very accessible to collectors.

Traveling south along U. S. Highway 99 in Southern California it is apparent to those who know anything of geology that the Santa Rosa mountains were uplifted through the sedimentaries of the Borrego badlands, and in so doing tilted up

There seems to be some difference of opinion among the scientific men as to the proper name for this desert rock—but anyway it makes a pretty gem stone when cut and polished, and it is in one of the most accessible areas in Southern California. Here is John Hilton's story of his most recent find while combing the hills in search of new gem stone material. Dr. S. O. Coolidge, who accompanied Hilton on the trip described in this article, is shown in the picture.

Rainbow Stones in the Santa Rosas

By JOHN W. HILTON

at a rather sharp angle at the point of contact. The contrast of granite and limestone at the southeastern tip of the Santa Rosas against the tawny colored clays of the badlands is a colorful feature of the landscape at this point.

Approaching along the highway from the south, as one reaches the vicinity of Truckhaven an irregular patch of off-colored foreign material is plainly visible near the base of the mountain, conspicuous because of its contrast with the shading of the slopes around it.

Motoring south on Highway 99, the most conspicuous landmark as one approaches this area is Travertine Point—or Indian Head rock. The latter name is derived from the similarity of the profile on one of the huge boulders on the north side of the point to the figure on one of Uncle Sam's nickels. This figure is best seen at sunset when the rock face is silhouetted against the sky.

Travertine point is formed of a confused jungle of boulders coated with porous limestone deposits from the waters of the ancient sea which once surrounded it and left only the peak protruding as a tiny island.

South from Travertine point along the base of the Santa Rosa mountains is plainly visible today the shoreline of the prehistoric body of water. Early visitors in this area assumed this waterline had been left by the salt waters of the Gulf of California which extended inland to this point at some time in the distant past. It seems more likely that the marking seen today was deposited during the period when the clear waters of Lake Cahuilla occupied this region—perhaps 700 years ago.

Travertine is not the true name for the deposits found on the rocks here. The material is calcareous tufa. This mineral is deposited in practically the same way as travertine, but the tufa remains porous while travertine becomes impregnated with crystallized limestone which gives it a more compact construction.

Algae and water moss along the shore, the same as other plants, breathe in carbon dioxide and give off oxygen. This action tends to make the carbonates of lime in the water about them less soluble, and produces a fine coating of limestone on the surface of the moss. As this layer thickens the moss is killed and another generation grows on the surface—and the cycle is repeated. Thus a very porous coating of

calcium carbonate is produced on the rocks. This type of coating is in process of formation today along the shores of Pyramid lake in Nevada and at a number of the lime-bearing springs in the desert.

Another factor which enters into the formation of these shoreline deposits is wave action. This is noticeable at Pyramid and Winnemucca lakes today where the heaviest coatings of calcareous tufa are found at points where wave action is greatest. Agitated water is less capable of holding lime in solution than still water, and additional layers of more compact limestone are thus deposited. It will be noted that the heaviest and most compact deposit along the shoreline of old Lake Cahuilla is at exposed points where the cliffs are steepest, and where wave action consequently was greatest.

Those interested in the collecting of marine specimens will find many relics of ancient shell life along the Cahuilla shoreline, sometimes trapped within the tufa itself. Those species range from fairly large bivalves of the clam family down to tiny specimens which can be seen to advantage only through a microscope.

To reach the Rainbow stone area, take the old state highway paving south of Travertine point to Coolidge springs. Several small caves are to be found near

the base of the Santa Rosas west of the highway at this point. Dr. and Mrs. S. O. Coolidge, who own the springs, told me that there is evidence that caves were occupied by the Indians at some time.

Just south of the springs the visitor to the Rainbow stone region leaves the paved road and follows the winding course of an arroyo. Dr. Coolidge went along with me as guide on my trip to this area. The trail is rough and sandy and unless the visitor is accustomed to desert driving and has no objection to a few scratches on the car, I would recommend that the automobile be left at the paved road and the trip completed on foot. The hiking distance is less than three miles, and after all, physical exercise is one of the most valuable by-products of the gem collecting hobby. There are many interesting things to be observed along the old sea shore for those who make the trip on foot.

In any event it is a good idea for visitors to inquire at Coolidge springs about the condition of the road before undertaking a motor trip up the arroyo. It takes only one desert cloudburst to completely change the character of an arroyo such as the one that leads to the Rainbow stones.

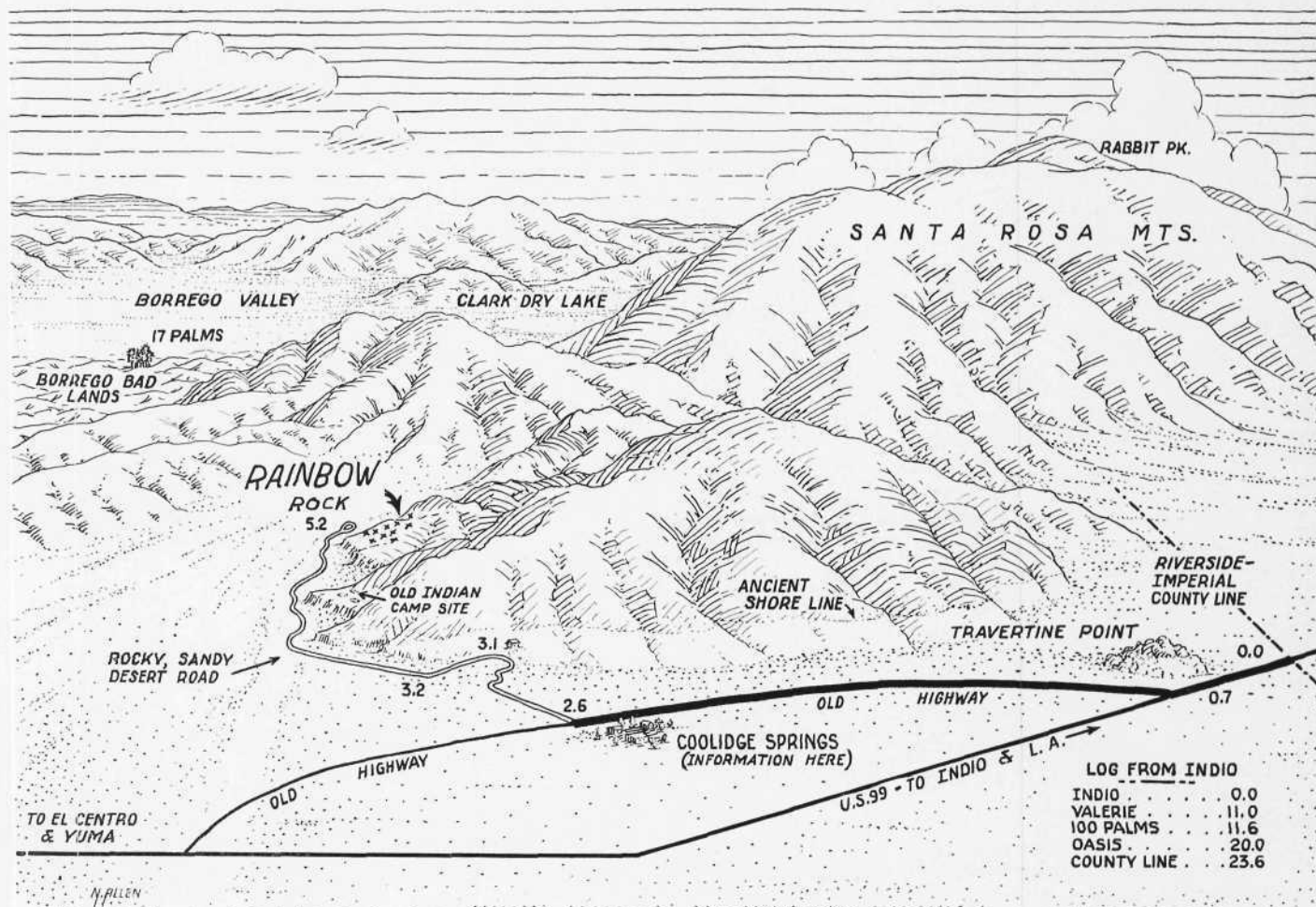
About a mile up the wash a low mesa with a steep bank borders the road. An hour or two spent on this mesa is worth

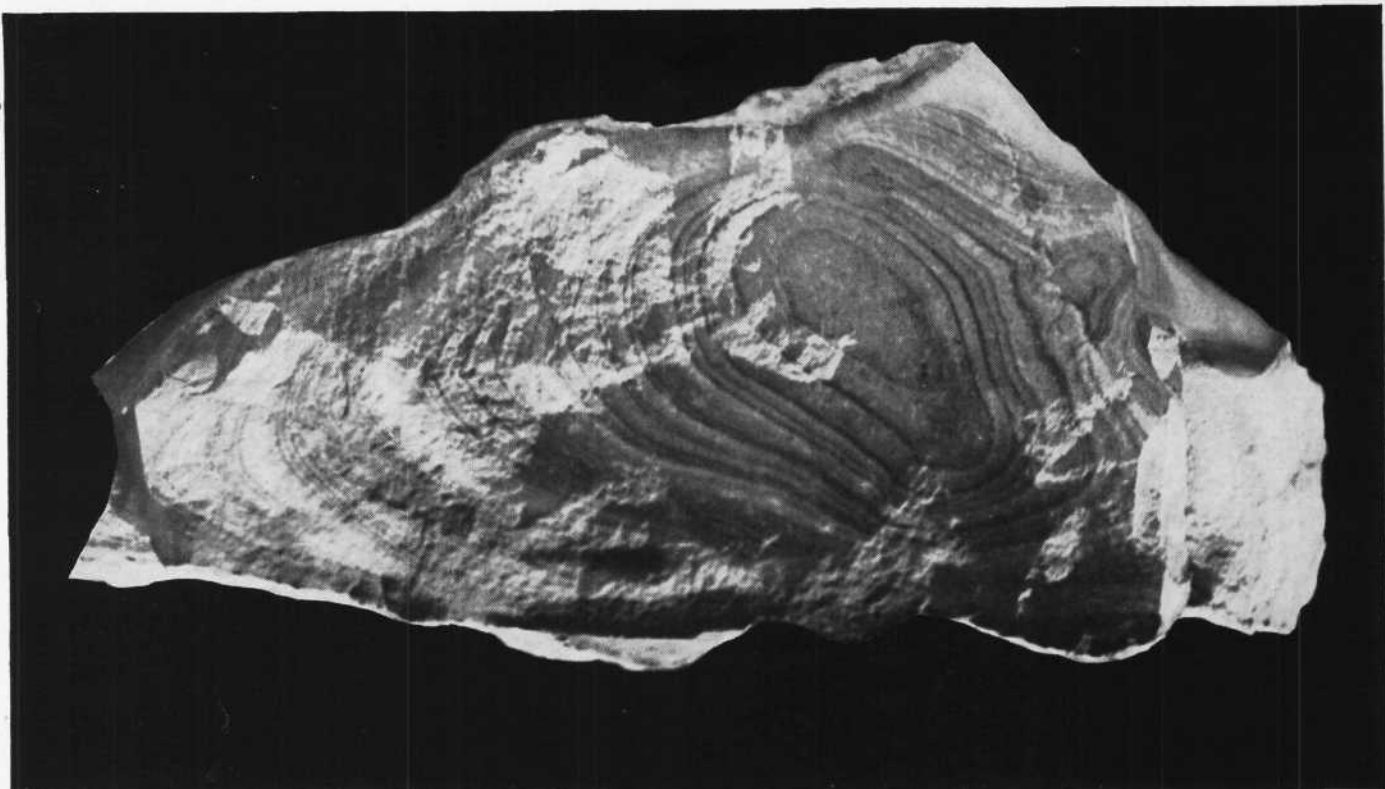
the trouble for those who are interested in ancient Indian life. Study of the mesa discloses many cleared circles surrounded by single rows of rocks — probably the dwelling sites of ancient tribesmen. Fragments of broken pottery and chips of agate and chert may be seen in the sand. One large boulder near the bank of the wash contains grinding holes — where prehistoric Indian women crushed mesquite beans and other seeds while the men were fishing and hunting.

Archaeologists already have screened this field for artifacts. Among the bones found in the charcoal of ancient fires were the vertebrae of large fish, evidently of the carp family. Other bones were identified as those of rabbits and rodents — and a few large ones of deer or mountain sheep. Arrowheads found here indicated that the men were not the "mighty hunter" type. The stone points were small and not capable of inflicting a mortal wound in any animal of large size.

Just below the village site along the old shore line is a series of pool-shaped cavities in the rocks — probably used as fish traps by the ancients. These traps are on several levels — made necessary by the changing surface level of the lake as it was fed at irregular intervals from the Colorado river.

The Indians today have a legend which explains the operation of these traps.





Specimen of "Rainbow Stone" in the rough.

Bundles of brush, weighted with rock, were suspended on sticks over the openings, and when a rope of mesal fiber was jerked the fish were trapped in the pool where they could easily be caught by hand.

At first appearance, one is inclined to assume that the silicified area in which the Rainbow stones occur is of volcanic origin. More careful examination, however, discloses that many of the agate and chert beds in the region are of sedimentary origin. Some of them actually contain fossils.

The probable theory is that this deposit was once a series of sedimentary limestones and clays and that hot silica-bearing water coming to the surface through the deep fault which must be very close to the south end of the Santa Rosa range altered these stones to their present form. Silica-bearing water has been known to nearly or entirely replace limestone with a form of chert or flint. In the case of the Rainbow stone, the original mineral probably was concretionary clay which was slowly impregnated with silica until in some instances it has actually reached a hardness of seven. These stones, however, are not pure silica but still contain the aluminum content that once was a part of the chemical composition of the clay.

There is an abundance of material here, but again I wish to stress the importance of picking for quality rather than quantity. As a matter of fact this deposit is on Indian land and is not open for mineral location or commercial exploitation of any kind. Any evidence that commercial operators are invading the field and

carrying away the stone undoubtedly would result in the closing of the field to all of us—and would place the commercial collector in bad repute with the amateur, who, after all, is his best customer. I cannot stress too strongly the necessity for adopting a sportsmanlike attitude in the collecting of mineral specimens in the deposits I am describing for the readers of *Desert Magazine*.

In choosing material to cut for gems or small decorative objects, a piece of orthoclase feldspar is a handy thing to have along. If the specimen in question will scratch feldspar it has sufficient hardness to take and hold a polish. Another important suggestion is to look for stone with compact texture. If a piece breaks with a rough grainy surface the chances are that it is too porous to polish. If it breaks with a smooth glassy surface it undoubtedly will make a good gem.

It is also well to remember in picking semi-precious stones of this type that color and pattern are what make for beauty in the finished stone. The best gem cutter in the world cannot change the color of a stone by cutting it, although good judgment on the cutter's part is necessary to obtain best results.

Visitors who have several days, or even weeks, to spend in this locality will never lack interesting things to do or see. For instance, on top of a high hill near the old village site I have mentioned, we found an outcropping of flinty agate that had been mined by the Indians. The ground about the outcrop is covered with

thousands of chips which were discarded as too irregular or too thick for the making of arrow points, scraping knives or other stone artifacts.

There are Indian caves to explore, fossils to be found in the nearby badlands, mountains to climb and hidden groups of native palm trees to discover. For those who roam the desert with interest and understanding this is a fascinating area.

NEW GEM SOCIETIES

Arthur L. Eaton of Holtville is the president of a newly organized gem and mineral society in Imperial Valley, California. The society was the outgrowth of a night class in mineral study conducted in El Centro Junior college during the past winter by Frank I. Shepherd, instructor in geology. Other officers named by the society are Dr. Warren L. Fox, vice president; Allen Mains, secretary-treasurer, and F. H. Wallace, Percy Palmer, Frank Shepherd and Viola Dressor directors.

In Boulder City, Nevada, a new mineral society, "The Prospectors," has been formed with R. P. Sedgwick president, Paul C. Brown vice president and Anita Scott secretary. With a charter membership of 38 members, the society is an outgrowth of a class in prospecting taught by L. B. Spencer of the Nevada State Vocational department.

Secretary Scott reports that within a radius of 15 miles of Boulder City are found bloodstone, various jaspers, agate, amethyst, zeolite, geodes, copper manganese and several forms of gypsum, gold and fossils.



With Archaeologists at Basketmaker Cave

In July, 1934, just four months before his mysterious disappearance in the Utah desert wilderness, Everett Ruess joined a group of archaeologists from the University of California who were making excavations near Kayenta, Arizona. He was cook and general utility man for the party, but found time to continue his art work. Following is a letter he wrote to his parents, Mr. and Mrs. Christopher G. Ruess of Los Angeles, on July 22:

By EVERETT RUESS

Dear Mother and Father:

At present I am in a cave below the rim of Skeleton Mesa, Arizona, looking out over the canyons of the Degosho Boko. This cave is in the Navajo sandstone a few feet under the rim. About three hundred feet below, and some 80 feet back under, is Twin Caves cliff dwelling, but this cave is far more interesting. The culture here goes back to the first quarter of the Christian era, and presents many involved problems.

I have been in this locality about two weeks, working with the archaeological expedition. With me in the cave are an

archaeologist, his assistant, and a photographer who also digs. Below in the canyon are ornithologists, entomologists, botanists, zoologists, geologists and the like, each with plenty of problems unsolved.

We have been in the cave for four days now. There is a very precarious way down the face of the cliff with footholds in stone, hundreds of years old. The only other way is the horse ladder, six miles up the canyon. We came that way with pack burros, passing the carcass of a horse that slipped. After two days wandering on the mesa top, in trackless forests, we

Everett Ruess (left) and Randolph Jenks were photographed by Tad Nichols as they tried to maneuver the burro Pegasus into a truck. This heretofore unpublished picture was sent to the Desert Magazine by the photographer after Everett's letter describing this episode was published in our April number. Nichols' letter accompanying the picture, which gives some new sidelights on the burro incident, is printed on the following page.

crossed the bare rock ledges in a heavy cloudburst and came here.

We have found twelve burials here, with two fairly well preserved mummies. One mystery lies in the fact that all of the skeletons are headless, though there are some lower jaws. Evidently the graves were robbed — perhaps by the Pueblo people, but it is a difficult problem to ascertain the facts. There are traces of Basket Maker III and Pueblo I and II on the surface.

The Basket Makers are the oldest people who have been definitely traced back in the Southwest. They used the atlatl or throwing stick, and had corn. Pottery was first invented by the Pueblo I, and the bow came into use. Later beans and squash were used, and the turkey domesticated. In Pueblo II, pottery of a finer grade with different design types and color was used.

Twin Caves below is Pueblo III, with a further advance. In the whole Tsagi

drainage there is no Pueblo IV. All the cliff dwellers were driven off by the eighteen-year drought that began in 1290.

I have been doing the packing and cooking here. Clayborn Lockett, the archaeologist in charge here, is a grizzled young chap of twenty-eight, widely experienced, and a magnificent humorist. He is an ethnologist and something of an artist as well. His two helpers are boys of 19 and 20 from the University at Berkeley. We have great fun up here by ourselves, discovering something new every day, and looking out over everything from our sheltered cave.

I am working on a black-and-white of my outfit, wheeling about on the floor of Canyon del Muerto, under looming shadowy cliffs, at dusk.

Love from Everett.

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LETTER FROM TAD NICHOLS

Rt. 2, Box 194
Tucson, Ariz.

To Desert Magazine Editor:

In the April issue of the Desert Magazine I was much interested to read the letter by Everett Ruess. Randolph Jenks and I were the "two boys" he mentions who loaded his burro on a truck and took him to Flagstaff. The enclosed photo was taken on that day in June, 1931.

Jenks and I were returning from a trip to Lees Ferry Bridge. About five miles north of Cameron, while bumping along the old road, we came upon a boy and a burro, slowly moving over the white, glaring sand. It was hot and dusty that day, and we stopped and asked the boy if he would like a drink. He must have thought at first that we were asking for water, for he started to unlash one of his two canteens from the side of the burro. He had very little water, but was immediately willing to share it with others.

After gratefully drinking from our canteen, the boy talked to us, and we soon learned his name was Everett. He had been on a walking trip all through the Del Muerto and De Chelly canyons, a region we had always wanted to see. By plying him with questions, we learned of the many cliff dwellings he had seen, and of his precarious climbs to some high isolated ones.

"I know that many of the cliff houses which I reached," said Everett, "must never have been visited before by white men. In one I found a cradleboard in perfect condition, together with many pieces of fine cloth."

We became much interested in Everett and his stories, and before long he produced some paintings which he had made during his De Chelly trip. One water color, that of the White House Ruin,

was exceptionally good, and Jenks offered to purchase it, asking Everett the price he received for his work. I remember his reply: "Well, a day laborer gets about fifty cents an hour, and it must have taken me about three hours to do the painting!"

Everett looked a little hot and tired, so we decided to take him up to our ranch, situated at 8000 feet on the side of the San Francisco peaks. At first we feared, after unsuccessful pulling and pushing, that we would not be able to get the burro into the back of the pick-up truck. Finally we backed the Ford up against the embankment of Highway 89, which at that time was just being graded. With the road on a level with the floor of the truck, we were able to lead the burro aboard. We tied him with ropes hooked to the sides of the truck, and roped our bedrolls and camping outfit to the roof of the cab. The three of us, together with Curly, then piled into the car, and started the last 60 miles into town. It must have

been a comical sight to see us arrive in Flagstaff that evening.

After one night at Mesa Ranch School Camp, we took Everett to Deerwater Ranch, where he remained for several days, working on paintings of the Aspen trees. As I remember, he then left for the Grand Canyon, and I heard no more of his whereabouts until I saw a notice in the paper that he was lost in Utah. Everett had a true love of the desert, an enthusiasm for remote, lonely, and inaccessible canyons, which to him were the most fascinating.

Sincerely yours,
TAD NICHOLS.

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Copies of the September 1938 issue of the Desert Magazine containing Hugh Lacy's story of the mysterious disappearance of Everett Ruess in 1934, may be obtained by sending 25 cents to the Desert Magazine office, El Centro, Calif.

SIDEWINDER SAM

—By M. E. Brady



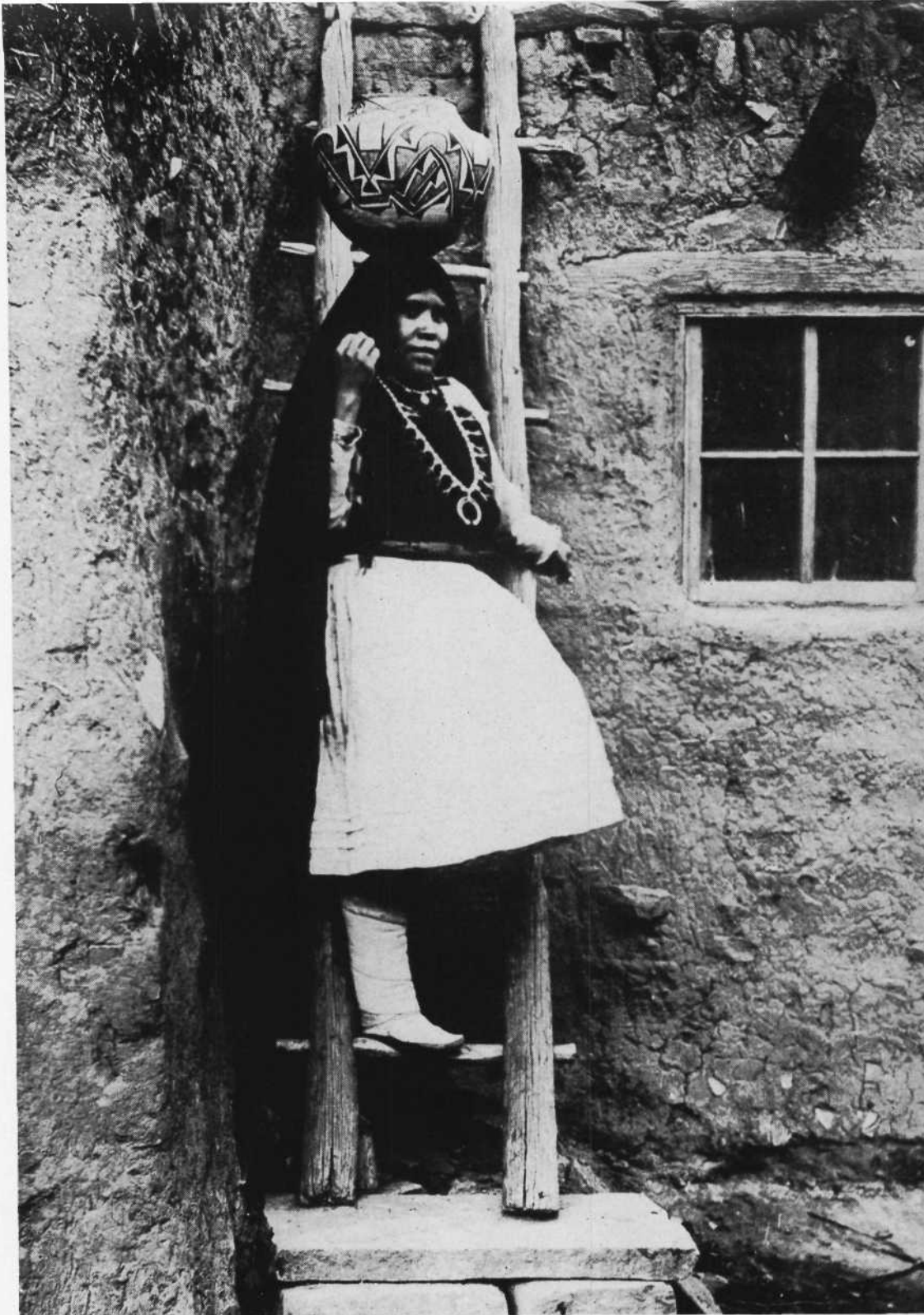
"No, that ain't me rattling—it's that dude's teeth chatterin'!"

"Feel of the Desert"

POISE

Photo by

W.M. M. PENNINGTON



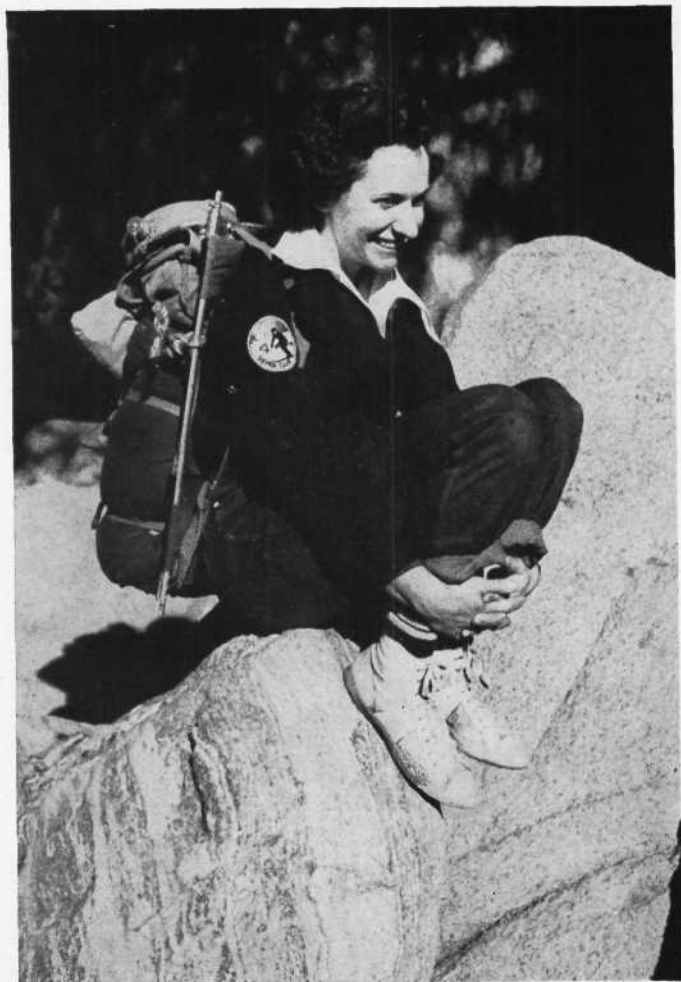
By JOHN STEWART MacCLARY

WOULD you care to compete with this Zuni woman for a grade on erectness of posture? Well, if in middle age you could not remember a day when you had not climbed a smooth-runged ladder with a big jar of water balanced on top of your head, you would be as nonchalant as she in taking for granted mankind's blessing as a creature designed to stand erect.

The costume of this woman greatly resembles in style the garments described by observant conquistadores in the sixteenth century, but there is a great difference in the materials. Instead of garments of inex-

pensive machine made cotton cloth, similar apparel of tanned deerskin and hand woven Hopi cotton was worn by Zuni women in Coronado's time. There were no silver bracelets and necklaces in the fabulous "cities of gold," but there were eardrops and pendants of highly treasured turquoise. The spiral wrap leggings and the ladders were the same—but the windows were slabs of mica.

How does she balance the big jar of water? A doughnut shaped pad of plaited yucca fiber compensates for the difference between cranial curves and flat jar bottom.



Ruth Dyar packed her own sleeping bag and food on the climb to the summit of San Jacinto

Few mountaineers have ever reached the 10,805-foot summit of San Jacinto peak by the precipitous route which leads up Snow creek from the floor of the desert on the north side. So far as the records show, Ruth Dyar of the Sierra Club of California is one of the few women who have ever made this climb. Here is her own story of the ascent, a beautifully written version of a thrilling adventure. You'll have a better understanding of the urge that prompts men and women to climb difficult peaks for the mere sport of it after you have read this narrative.

Up Snow Creek to the Cairn on San Jacinto

By RUTH DYAR

THE Rock Climbing Section of the Sierra Club is filled with vague legends of treks up Snow creek — how the climb takes from 12 to 27 hours; how one youth went to sleep at the top with a piece of cheese he was eating hanging out of his mouth; how another, bivouacking before a fire sunk four feet in the snow, after the climb one January, ran 20 feet in his sleep before he woke up; how tired people become, how cold it is, what beatings they take. But eventually, being rock climbers, they gaily make the climb again.

"Old Timers" staunchly assert that the sheer, rugged, trail-less north face of San Jacinto is unclimbable. Notoriously, it is one of the longest climbs in the United States, second only to Telescope peak on the Death Valley side for gain in elevation.

San Jac's 10,805-foot peak floats mistily lavender, scored perpendicularly with deep canyons, from Riverside county desert about 120 miles southeast of Los Angeles. Up its forested southern slopes, which rise gradually from dry foothills, a pleasant nine-mile trail leads to the peak, starting at Idyllwild, at about 5,000 feet elevation. The northern side

of the mountain drops abruptly to the desert near Palm Springs, almost 9,000 feet of precipitous, barren slopes, rocky and fierce. Above the 7,000-foot elevation grows scattered timber, below are brush and rocks. Across the brown, dry valley to the north, more mountains rise, in bare, eroded undulations, to the 11,485-foot peak of San Geronio.

Snow creek drains the northeast face of San Jacinto, dashing down a sharply-cut, wild, granite-walled canyon, over sheer falls and tumultuously heaped boulders, out into the wide white wash that meanders down the desert valley. From the desert, the eye can trace the course of Snow creek. Its gray canyon rises up and up, through wild, rugged, brushy mountains. Far away and high up, it spreads out into two flat, gray, almost perpendicular channels that score the upper ridges of the peak.

I wanted to make the climb, not because it sounded particularly pleasant, but from the mountaineer's unqualified but self-sufficient desire to climb something. I wanted to find out just what this almost legendary Snow creek was like.

Originally our party was to be composed of four RCS climbers, two of whom had ascended the creek before. At

the last moment, however, the two more experienced members of the party could not make the trip. So Friday afternoon, November 11, George Templeton Jr., from Fontana, and I found ourselves alone at the mouth of Snow creek. We were fairly new at this business of mountaineering, but with the sound apprenticeship of one season of group climbing behind us, we were filled with the single desire to reach the peak.

A dirt road leads from the desert, a short distance up the canyon, to the fence that cuts off the watershed. We were absolutely alone with the desert except for our cardboard boxes of commissary, our rolls and rucksacks of gear, and a coil of climbing rope. We looked at the ragged clouds tearing across the far bleak skyline above us, and thinking how cold we would be next day we shivered. Snow creek rose boldly in an ominous gray streak.

At five in the evening it was completely dark. I had forgotten how abruptly the California winter night falls out-of-doors. Huddling over a cheering little blaze in the great darkness, we ate stew and milk. At six p.m. I dived into my sleeping-bag, which was unrolled behind a boulder, under a live-oak tree, on a

grass-browned knoll. The wind roared, and for 12 hours I slept.

We had considered starting the climb at four a.m., two hours before daylight, but didn't stir until six. Under the sunless early-morning sky, we again ate stew and milk, and rolled up our packs. We were clad in the customary rock climber's uniform of leather-patched overalls, plaid shirts and high-topped crepe-soled tennis shoes. A debated point among Southern California climbers is whether it is best to carry a sleeping bag up Snow creek or to go light — and cold. Roped to a light pack-frame were my five-pound compactly rolled goose-down sleeping-bag with its balloon-silk cover; my quart canteen; a meager array of edibles stuffed into a little canvas sack; and several little tied-on rolls of parkas, mittens, and like arctic garb. The pack weighed 8 or 10 pounds. George was equipped with a little knapsack and a blanket.

We climbed over the barbed-wire fence at seven o'clock and started up through brush and rocks. It was fun to be pioneering our own way, without anyone along who had been there before. We moved quietly, usually a little distance apart, talking but little, in low tones, each minding his own business and enjoying himself in his own way. Each might have been alone. Thus one can enjoy the mountains best.

Throughout the day, the refrain of a yodelling song kept running through my head, something about "And I climbed so high . . . till I reached the sky . . ."

Through the cold still early-morning air we picked our way. The lower part of the canyon was choked with yellowing trees, and we climbed up a brushy, rocky ridge to the left, a flattish mesa on top, along which ran a little path that goes we knew not where. We trudged along it, across the plateau covered with ripe grass, mesquite and red rocks. After an hour or two, the path turned sharply to the left. We deserted it to clamber down the rocky canyon side to the bed of Snow creek.

Then the real climb began. With the path, we left every man-made mark and were alone with the mountain. We found ourselves in one of those rare blessed places, in these days of roads, good trails and C. C. C. improvements, where not a single scrap of gum paper or cigarette stub or sardine can reduces mountains to the petty messiness of man.

Our muscles were now limber and light, freed of the fatigue which leadens them the first few hours of a climb. None of the way was difficult so far as technical rock climbing goes. We went unroped. It was, in the main, what is popularly known as a "grind."

The gorge of the creek was heaped and jammed with boulders. The canyon walls towered over us as they bounded upward

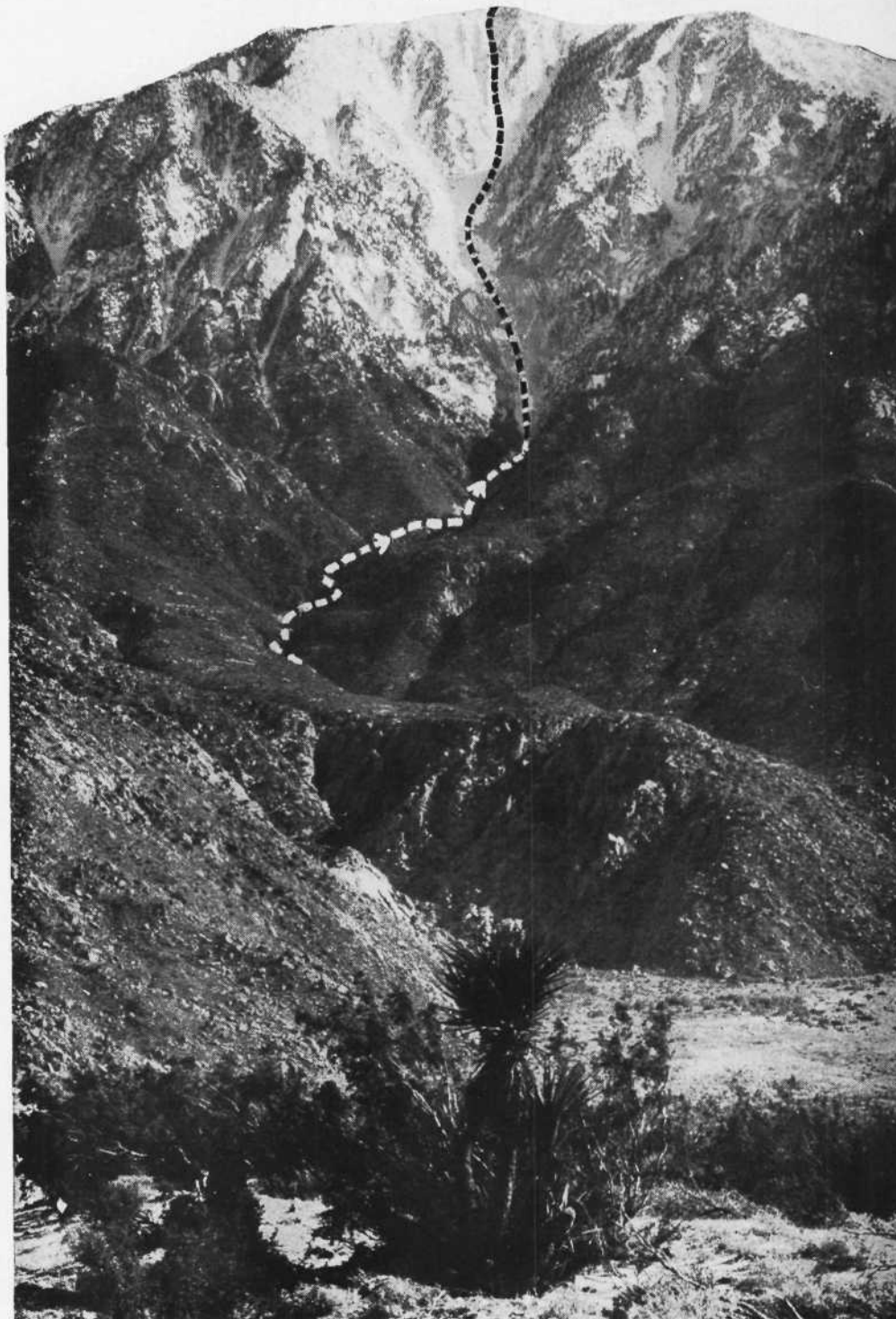
in slabby granite to brush-grown, tangled, rock-strewn, rugged mountain country along the ridges. The mountain about us was vast. We were unimportant specks moving among huge boulders in the bottom of the chasm.

As we climbed we paused occasionally to catch our breath, and to pore professionally over the quadrangle map whose contour lines were alarmingly close together in our locality, but which told nothing that wasn't laid out before our

eyes in immense detail. In what looked on the map like five miles horizontally, the creek rose nearly two miles in elevation. Steadily, with a distance-eating rhythm, we climbed over huge boulders and coarse talus. The crepe soles of our tennis shoes clung remarkably, by friction, to the water-polished gradients of good gray granite.

The creek bed went up, and up, and up. Interminably we took step after step, great steps and small steps, like climb-

Dotted line shows the route followed by Ruth Dyar and George Templeton, Jr., in their ascent of San Jacinto. When they made the climb, last Armistice Day, there was less snow on the mountain than at the time this picture was taken.



ing an insanely irregular staircase, over block after block of rock. The stream dropped over sheer falls, bounded along debris-choked channels, rolled under snarls of rock. In most cases we could climb around the unassailable falls at their broken edges. Once we had to leave the canyon entirely, and laboriously bush-whack along the ridge above a series of abrupt falls. We lost time and patience as we jerked our packs through the malevolent brush.

The sun didn't appear till after eight in the morning, and its meek November rays scarcely penetrated the deeply-gashed north-facing canyon. It was rather discouraging to see the sun set at 10 a. m., rise again feebly and briefly, and disappear behind the craggy far-off summit for the final time at noon. Yet all day we could see it shining warmly in the desert valley, casting beautiful topographic shadows on all the erosion patterns of the opposite range, which dropped and widened and spread in brownish-purple and red hues beneath us.

The air was cold. I knew it was cold by the stiffness of my face, and my lower jaw, and by how chilled we became the instant we paused to rest. But climbing hour after hour, up a 45-degree slope, stepping perpetually up and up unevenly heaped and ill-assorted boulders or inching up steep broken faces, carrying a pack which however light chafes the shoulders and pulls one off balance and makes the neck ache—such climbing warms one up. We weren't cold.

An Adventure in Solitude

As a matter of fact, the whole thing didn't seem at the time like much of an undertaking. In the mountains it is natural to accept things as they come, light-heartedly and with a trace of amusement at alleged hardships. One forgets almost as if they had never existed the trivia of ordinary existence. Lightly I climbed, breathing deeply, often pausing to look all about me, enjoying the exhilarating air, the physical exertion, the adventure of it, the quiet that was so deep I could listen to it, the mountains and rocks and ice.

The creek was frozen tight all the way up. There were the most wonderful ice formations. Many of them were Death Valley-like, grotesque. At first there were ragged glass-like crusts of clear ice along living water. Later, the whole canyon was silent and dead and gray, with no motion or sound in the stream. The creek poured over rock faces in ice-falls 30 and 40 feet high. It bubbled up in knobby sheets of clear ice, or odious white bulbs of frost. There were icicles like leaves, with stems, icicles like electric light globes, icicles stalagmitic and stalactitic, and plain icicles suspended from eaves of rock. George thought ice handholds were

warmer than the rocks, but I cast my vote in favor of rock.

Among the dead rock and ice, there were a few fuzzy purple flowers and scarlet-buglers, their leaves and blossoms black and limp with cold. An occasional golden willow foamed up against the dull mountainside. A rich bed of ferns spread brightly green under a gigantic, black-stained chock stone. We were utterly remote, in time and being, in thought and desire, from everything but Snow creek.

Sardines for Lunch

We rested once and ate sardines and rye-crisp for lunch. We were hungrier than we had expected. On long strenuous climbs, especially in high altitudes, one rarely wants much to eat, and in fact cannot climb on a full stomach. I gnawed tough dried apricots most of the way up, enjoying their tang.

In mid-afternoon, we came to a place where the creek gushed out of a mountainous pile of rocks and dirt like a spring, apparently our last water. We filled our canteens and climbed on, up the more and more abrupt, boulder-choked canyon, now quite dry. No longer could we see our course before us to the sky. We hadn't any idea how far it was to the top. We knew, as we had known all day, that we couldn't possibly reach the summit by night-fall. As it grew late, we worked our way up on the ridge, a wilderness of rocks, and wind-warped golden-trunked tamarack pines. We cherished and planned and discussed the numbered minutes left before dark. We decided to bivouac until the moon rose.

Half an hour before dark I grew terribly weary. The ridge was as rocky as the creek bed. My legs were so tired with lifting me up and up rock steps. My shoulders ached. By this time, we were fighting the breathlessness of high altitudes, as well as weariness and cold and endless stepping up rocks, and not knowing how far we had to go. Most places one goes, one climbs, and climbs, and night comes on, and one reaches his destination. Not so Snow creek! I was suddenly quite appalled at where I had come entirely under my own power — and nothing on earth would get me out but my own power, either.

But even as a person is so constituted that when he is physically comfortable, he can't remember with any vividness what it is like to be cold or hungry or in pain, so, as soon as I sat down on a rock to catch my breath, and the tiredness flowed out of my muscles, my good spirits rushed back. If people weren't made like that, I suppose mountains would remain unclimbed.

A broad band of deep pink crossed the northern sky. At 5:15, just as darkness dropped swiftly and completely over us,

we walked into the only camp spot on the whole north face of San Jacinto, so far as I could see. There were actually flat places — the first we had seen all day — commodious flat places covered deeply with dry, elastic pine-needles; huge angular blocks of granite piled about and above us to cut off any wind; tall trees silhouetted against the deep-blue, starry night sky; funds of firewood.

George built one of his admirable one-match fires, and we drooped over it in a stupor, limbering up our hands swollen with the cold. We were in that extreme of exhaustion where one is quite content to sit in an uncomfortable position rather than make the supreme effort necessary to move a hand or straighten out a cramped leg or neck, where one would almost rather see the fire go out than exert himself to lay on a convenient stick of wood.

I don't know how cold it was. It was cold in such a quiet, insidious way that we hardly noticed it. There wasn't a hint of wind, it was frostlessly dry. Yet the violent tumultuous creek had been frozen solid, thousands of feet below, at mid-day. The previous night, air-pilots in the pass had estimated two above zero on the peak. The canteen beside the fire was ice-filled. The tea-bag not two feet from the flames was frozen to the rock that supposedly was reflecting what heat we had.

Finally we worked up enough energy to heat some of our meager supply of water, and frugally, appreciatively, we sipped boiling hot bullion, and hot cups of delicious, heavily-sweetened tea, and savored my can of corned-beef hash, salty and moist and good.

George Huddles by Fire

Then I crawled into the sleeping-bag I had carried so far, and under a great sloping wedge of granite went to sleep. It was so warm and comfortable there, so beautiful and silent and remote! The fire-light flickered rosily on the rocks about me, and I could look up between huge angles of granite to the sky. Turned on my other side, I could see the deep glow of the campfire, and the trees against the stars beyond. I felt only mildly guilty about George, who huddled by the fire wrapped in his auto-robe, and occasionally remarked morosely, "Ruth! Ruth! We've got to be moving!" Next morning he confessed he wasn't really cold, but merely worried about being cold. I slept soundly, and when I wasn't asleep, pretended to be, so George wouldn't try to make me get up.

At 2:20 a. m. I emerged reluctantly from my bag. What an hour to rise! I put on my shoes and hurriedly ate the scorched remains of the hash. We struggled into all the sweaters, scarfs, jackets, headgear and mittens we had left off be-

fore, and started to climb. The ragged half-moon shone in the black sky with a fierce white brilliance that did not dim the stars.

We looked tremendously funny in the moonlight as we prowled out of camp. George had a huge red bandanna over his head sheik-fashion, with a gaudily striped stocking-cap over that, and a long untucked-in shirt billowing about his hips. I was wearing my ski jacket, parka hood gathered about my face from eyebrows to chin, and mittens. Our packs humped on our backs. In soundless tennis shoes, without saying a word or making a sound as we moved, each nursing a faint stomachache, we climbed softly through the woods.

The woods were marvelous in the moonlight, bright and shadowy, the distances between the dim tree-trunks inviting us on. The rocks gleamed white as we stepped easily over their sloping sides. Below, with a nearness that slightly jarred the senses after we had climbed for 20 hours, were scattered the orange lights of the desert valley. Beyond lay the mountain ranges in the moonlight, and around us the trees, black and stiff, and the rocks, white and shining.

We were subtly pleased that we could chart our course by the Great Dipper. It was so cold we couldn't breathe deeply — it hurt our lungs and made us breathless — so we moved very slowly so as not to get winded. Neither of us had any idea how far off the summit was. We estimated, with profound conservatism, that we had about four hours more of climbing.

In the moonlight before us rose a slight hump composed of great slabs of granite, heaped up one on the other. Unable to detour it easily either to the north or the south, we clambered over it. And suddenly, astoundingly, at 4:20 a.m. we were on San Jacinto peak! What one first thinks is the Top never, never is, as every climber knows. Yet here, hours before we even hoped for it, and we so weary, we were on the peak, shouting exultantly over the wrought-iron Sierra Club register in the starlight.

We didn't bother to sign the register. Suddenly energized, we flitted down to the little plateau below the summit, peering among the moon shadows for the small hut that awaits wayfarers like us. It was a small stone building, with two double-deck wooden bunks that architecturally resembled a college sleeping-porch. We built a fire in the deep stone fireplace. George rolled up in his blanket on the bunk nearest the fire. I slipped into my sleeping-bag, and ate three pieces of rye-crisp. Despite the irritating con-

tours of the wooden slats, I slept soundly.

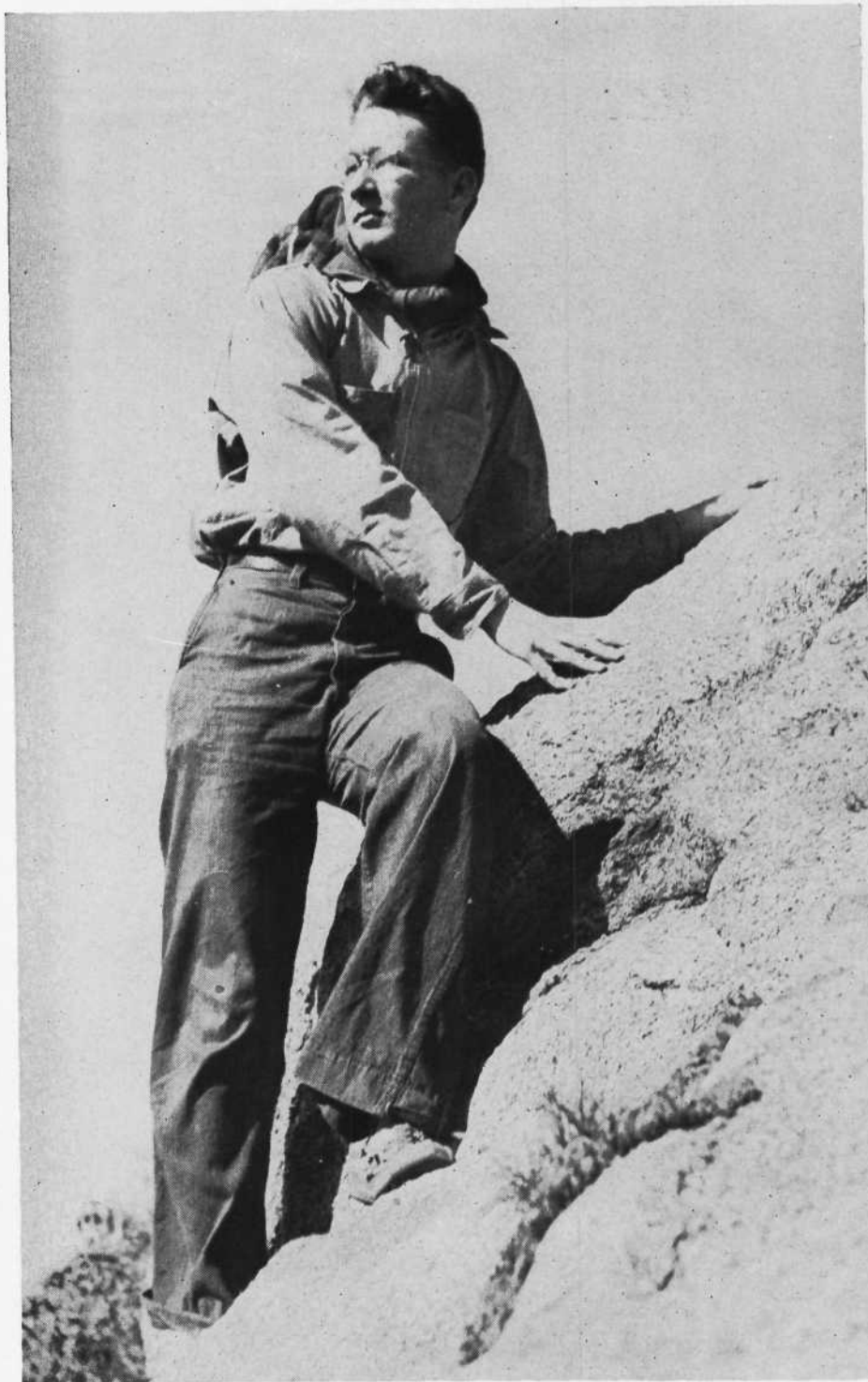
The sun poured in the eastern window when I awoke a few minutes before seven, feeling rested and good. Having only a meager swallow or two of water left, we couldn't make the tea that would have tasted so good. Despite the trials of the last 24 hours, we suddenly found ourselves sitting on the edge of the bunk before the dying fire, discussing in an animated way the Santa Susanna Flake climb at Stony Point!

Rolling and roping up our packs for the final time, we started the nine-mile hike down the south side. There was a

holiday spirit in our blood — we had climbed Snow creek. It was a glorious morning. The air was cold, and still, and dry and clear, and immensely vitalizing. We were quite ringed with mountains and desert that flowed and throbbed with early-morning blue. Way off to the southeast, in Imperial Valley lay the Salton sea, a great mass of pale gold, so intensely, moltenly, blazingly gold that it seemed to float above the blue plain, detached from the landscape and unreal.

At 8:30, ravenous, we sat cross-legged

(Continued on page 41)



George Templeton Jr., of Fontana, California, who accompanied Miss Dyar on the San Jacinto climb.



This unusual cloud and lighting effect was photographed by George Barrett during one of his desert trips.

Gypsy with a Camera

By RANDALL HENDERSON

GEORGE E. BARRETT wanted a picture of the famous Cliff Palace in the Mesa Verde national monument in southwestern Colorado.

Thousands, perhaps hundreds of thousands, of snapshots have been taken of the old Indian cliff dwelling. But Barrett wanted something more than an ordinary snapshot. And so he camped at the monument for two weeks and hiked down the trail to the canyon every day to study the highlights and shadows as they played around the prehistoric walls under different positions of the sun.

In the end he got one of the finest panoramas of this ruin that has ever been displayed. And this is just one of many hundreds of fine pictures he has secured over a period of several years spent in gypsying over the western part of the United States.

Barrett has two points of advantage over a majority of photographers. In the first place he is a former aviation chief machinist's mate in the navy—now on retired pay. And that gives him unlimited time to play around with his hobby. His second important asset is that he loves photography and is endowed with the patience necessary to secure good pictures. Any expert photographer knows that 99 out of every 100 camera shots

are mediocre, or worse, because the average person never takes the trouble and time to study the lighting, contrast, composition and the other factors which go into the making of good pictures.

The home of the Barretts, George and Frances, is at La Mesa, California, but they are home so seldom it is almost impossible to reach them by letter. Most of the time they are somewhere on desert



Sometimes George Barrett goes picture hunting with a burro.

or mountain, living in a trailer-car, seeking unusual pictures of well known landmarks, or searching out remote landscapes never before photographed.

George Barrett does not depend entirely on highways to obtain his pictures. Sometimes he will travel 10 or 12 miles in a day on foot, lugging a heavy camera, just to secure two or three good negatives. When a pack burro is available he may go off for two or three days at a time to reach his objective.

The result is a collection of many hundreds of fine photographic prints covering practically the entire west. Mrs. Barrett has her own hobby which fits perfectly with her husband's pastime. She has developed her own special process for tinting the pictures. Together the Barretts have produced some large photographic panoramas which carry all the delicate coloring of the most exquisite landscape.

Barrett has two simple rules which will interest all photographers. One is that when he goes to the desert to take pictures he allows just half the time exposure required elsewhere. The other is never to try to take in too much field in a single picture. Focus the lens on specific objects—preferably one at a time.

"There's no greater sport in the world than picture-hunting" says George, "and the constant effort to make every shot a little more perfect than the last one makes each photograph a new adventure."

Thousands of Americans have seen the Hopi Snake Dance. Yet no white man fully understands the import of this weird ceremonial — nor likely ever will. Nor does the ancient Hopi legend explaining the origin of this mysterious ritual cast any light on the subject. But it is an interesting fairy tale nevertheless. Here is the story as it was told by one of the old chiefs of Oraibi.

Canyon Journey

Legend of the Snake Dance

As told to HARRY C. JAMES

Illustration by G. A. RANDALL

H ALIKSAI! In the olden days the grandfathers of the people of the Snake clan lived across the Grand Canyon along the great high rim. The son of the Chief was a young man, but old in wisdom. He often sat on the rim of the canyon and wondered whither the great river we now call the Colorado, flowed. None of the wise old men of the tribe knew. Many strange beliefs concerning it were held by the people. Some said that it flowed down through dark caverns to the very center of the earth and that its waters were peopled with strange monsters.

One day the young man went to his father, the Chief, saying: "Father, I believe it is my mission to journey down the great river of the canyon. I must go and explore it. I can never rest until I have done so."

Seeing the look of earnest determination on the face of his son, the Chief gave consent.

Realizing that his journey would be a perilous one, the young man took many days to prepare for it. With the help of others he constructed a strong boat. The only openings into it were so fixed that he could close them completely if it became necessary to do so. He cut and fashioned a long pole to push the boat along, and on the end of the pole one of the old chiefs tied a Hopi prayer stick, called by us a *bahos*.

When the time came for him to depart, many of the people of the tribe gathered at the shore of the river to see him leave. He took a goodly supply of food and just before he cast off, three old priests presented him with many *bahos* to insure the success of his trip.

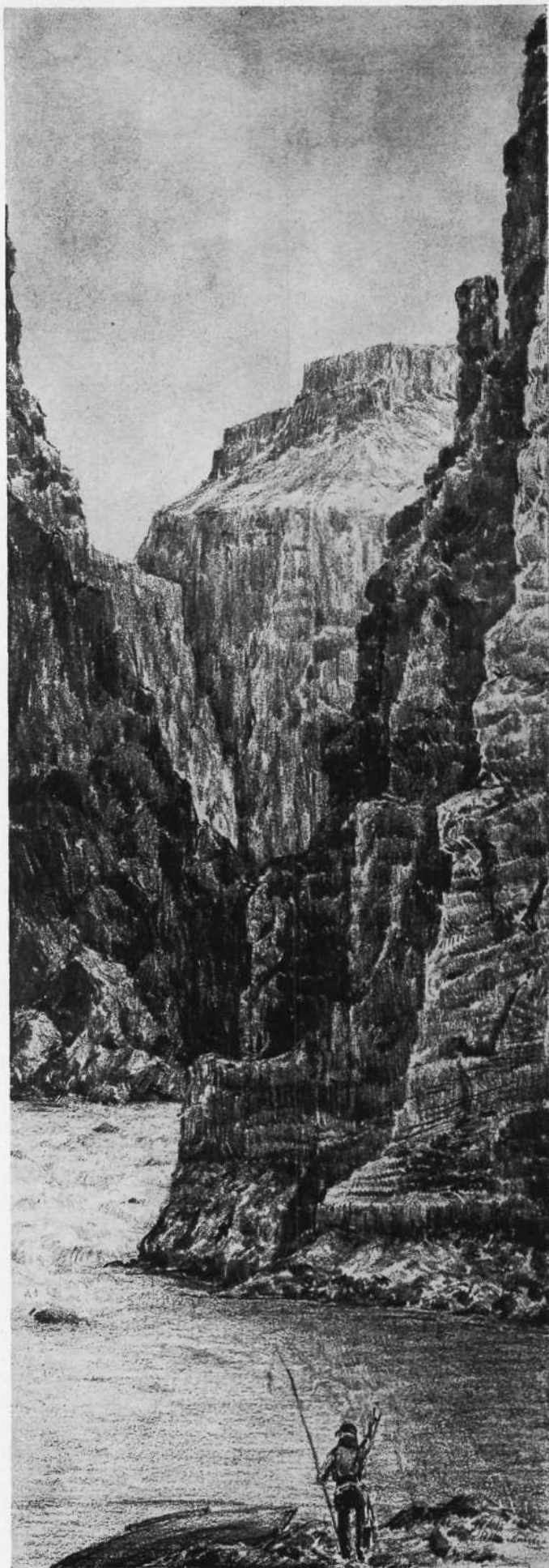
Day after day, he floated down the stream. Many times he was tossed by rapids. Many times he plunged into dark and gloomy caverns. On several occasions huge rocks fell into the river, close by him. But through all these dangers he passed safely. At last he passed out of the dim canyons into a wide sunlit valley. He continued through this a great distance until the waters became salty to his taste. Finally, ahead of him stretched nothing but water. He had reached the great ocean of the west.

His boat drifted against an island. Here he found the house of Spider Woman. The opening into the house was so small that at first he could not enter. He called to her: "I want to come in, but the opening is too small!"

"Make it bigger," she called back.

He enlarged the opening and entered the house. After presenting her with a *bahos*, he told of his long and perilous journey. "Now," he said, "I must take back something that will be of help to my people."

Spider Woman pointed to another house across the water and told the young man that in it were some magic beads — pieces of coral — which he should take. But she warned him



that there were dangerous animals guarding the trail to this treasure.

Seeing the young man's courage, Spider Woman decided to help him, so she gave him some magic liquid which he threw out over the waters. Immediately it made a rainbow trail across to the other house. Spider Woman jumped upon the young man's ear and together they started across the rainbow path.

Hardly had they started when they met a huge mountain lion that growled fiercely as they approached. The young man threw a green *babos* to the lion and sprinkled some of the Spider Woman's magic liquid on the creature. Immediately it became quiet and they were allowed to pass. Farther on they came upon a bear, then a wild cat, then a wolf and finally a rattlesnake, all of which they pacified in the same manner.

When they arrived at the house they found it to be a large rectangular building with a ladder down through the roof, the sort of building Hopis call a kiva—a ceremonial chamber. The young man, with Spider Woman still riding on his ear, descended the ladder into the kiva and there they found a large number of men wearing blue kilts and sitting around the sides of the room. Around their necks they wore many beads and their faces were painted.

Visitors Given Pipe of Friendship

The young man sat down by the fireplace. No one spoke for a long time. The men all looked at him. Finally the Chief arose and filled a pipe with tobacco and lit it. He smoked four times, then handed the pipe to the young man, telling him to smoke a certain way. The latter did so, and the chiefs and the other men were surprised to find that he knew the magic way to smoke. They welcomed him to their kiva, saying: "Your heart is strong and good. You are one of us. Welcome!"

The young man presented them with green *babos* with red points and some sacred eagle feathers prepared by the old chiefs of his own tribe.

On the walls of the kiva were hanging many costumes all made of the skins of great snakes. The Chief said to the others: "Let us dress up now."

They turned the young man around so that he could not watch them as they put on their magic costumes. When they turned him back again, he found that all the men had turned into snakes. They were huge rattlesnakes and little snakes of various colors and they were moving about on the floor — hissing, rattling and making a mighty noise!

Spider Woman whispered to him: "Be brave! They are going to test you. Be not afraid of the snakes. They will not harm you. Do as I tell you."

The snakes had by their magic turned a very beautiful young maid into a yellow rattlesnake. They told the young man that he must select her out of all the snakes in the kiva. And if he were wise enough to do this they would teach him their magic and give him many beads and coral.

The young man gazed on all the snakes, but he could not in any way determine which might be the maiden. He was about to give up when Spider Woman whispered: "There she is. That yellow rattlesnake!"

The instant he named the yellow rattlesnake it changed into the most beautiful girl he had ever seen. At once he knew she was to be his wife.

That night the chiefs taught the young man all about their snake religion, their dances, their songs and told him how they made their altar and their costumes.

The next day they made a rainbow path back to the house of the old woman of the western sea who is the guardian of all hard things. The young man gave her a *babos* and in return she presented him a turquoise bead from a room in the north side of her house, a white shell bead from an eastern

room, a reddish bead from a southern room and another turquoise bead from a western room. Then she put into a small sack all kinds of beads for him to take home, but she made him promise not to open the sack until he got there.

After leaving the room of the old woman of the western sea, the young man returned to the Snake people. When he climbed down the ladder into the kiva, the Chief said: "You have won our friendship and the love of my daughter. Take her with you as your wife and return to your people."

Then he gave the young man fine clothes and much food for his journey back.

The two were very happy on their long trip overland back to the home of the young man, but every morning they were astounded to find that their bag of beads increased in weight. Finally, it was so heavy that they could hardly carry it. The young man wanted to look inside for he was very curious. His wife cautioned him against doing so, but he felt strong and defied her and opened the sack.

There were hundreds of beads. The young man was delighted. He put strings of them around his neck. He played with them through his fingers. But in the morning they found that all the beads had disappeared except the original ones given him by the old woman of the western sea. That is why the Hopis now have so few beads.

At last the young man and his wife reached home safely. They were happy and had many children to whom they taught the ceremony of the Snake people, thus starting the Snake clan which exists among the Hopi Indians to this day and whose people every summer offer the Snake Dance as a prayer for rain.

Prizes Offered to Amateur Photographers

Each month the Desert Magazine offers two cash prizes for the best camera pictures submitted by amateur photographers. The first award is \$5.00 and the second \$3.00.

Pictures are limited to desert subjects, but there is no restriction as to the residence of the photographer. Entries may include Indian pictures, rock formations, flowers and wild animals, canyons, trees, water holes—in fact anything that belongs to the desert country.

Following are the rules governing the photographic contest:

1—Pictures submitted in the June contest must be received at the Desert Magazine office by June 20.

2—Not more than four prints may be submitted by one person in one month.

3—Winners will be required to furnish either good glossy enlargements or the original negatives if requested.

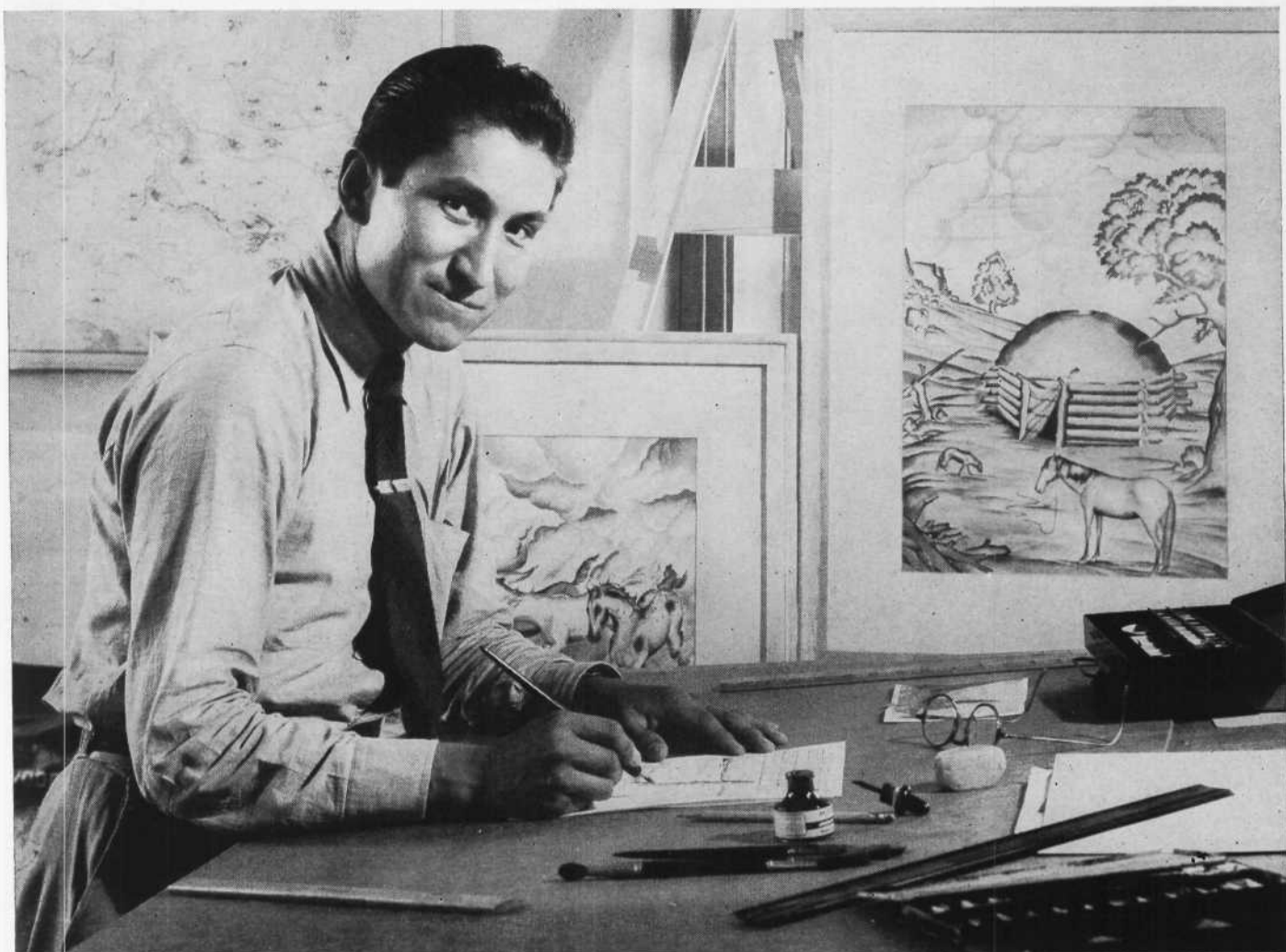
4—Prints must be in black and white, 2¼x3¼ or larger, and must be on glossy paper.

5—Pictures will be returned only when postage is enclosed.

For non-prize-winning pictures accepted for publication \$1.00 will be paid for each print.

Winners of the June contest will be announced and the pictures published in the August number of the magazine. Address all entries to:

CONTEST EDITOR,
DESERT MAGAZINE,
EL CENTRO, CALIFORNIA.



Charles Keetsie Shirley in his studio at Fort Defiance, Arizona.—Photo by Milton Snow

Keetsie

--NAVAJO ARTIST

Too frail to take part in the rugged Indian games played by his boyhood companions in Canyon de Chelly, Keetsie amused himself by drawing pictures of animals on the rocks with soft colored shale which he found in the cliffs. Today the work of this young Navajo artist is hanging in some of the best known galleries in the United States. Here is the story of an Indian lad you'll like—both for what he has done and what he is.

By ADRIAN HOWARD

7 EA was being served to a very select group in the gloomy Art Gallery of Tavern Club in New York City. With withering words a speaker was tearing all glamour from the most recent Pulitzer Prize winner. Left far in the backwash while Art with a capital letter suffered, I wandered along the walls inspecting the works of famous artists. Heavy Flemish beauties looked down from their tarnished gilt frames. A Reynolds and a Corot hung side by side, all rivalry long forgotten. Under the soft rays of a concealed light was a simple water color. Like the cool clean

breath of the desert it pictured, this sketch of a sage covered Navajo plain carried me far away from the artificial setting in which the picture and I found ourselves. In the picture a Navajo rider drove other horses before him. I thought to myself, "Whoever painted those horses knows and loves Indian ponies." Tucked away modestly in a corner was the name of the artist: "Keetsie."

Again and again I ran across the work of this mysterious artist. In a famous art gallery in Washington hung a picture of sheep being driven to their home corral, and one of a comely Navajo woman

weaving a rug. In the Indian Room of Marshall Field in Chicago his pen and ink sketches of Navajo life were featured. Back in Arizona I entered the lounge of the club house at Window Rock and, like old friends welcoming me, I found pictures of the Fire Dance and Canyon de Chelly and half a dozen other scenes of the beautifully wild Land of the Navajo.

"Who is this Keetsie, and where is he?" I asked and was led into an adjoining room.

Bending with painstaking care over his drawing table the serious young Navajo drew a hair line wriggling creek,

and swiftly sketched a mountain range on the cartograph of the Navajo reservation.

"This is Keetsie who made the pictures you've been seeing." The map-maker smiled a swift boyish greeting. Only his shining black hair and the great dark Indian eyes gave a clue to his race as he stood there, clothed in a polo shirt and flannels.

Thirty-three years ago, high in the Canyon de Chelly country where Washington pass breaks its way through the mountains this Navajo was born, the last of a frail mother's six children. Not long after his birth the mother died and according to Navajo custom the hogan was deserted and left to evil spirits. There is always a home for motherless children among the Navajos, and the baby, strapped tightly to his cradle board, was carried across the hills to the home of his aunt. Here he grew up with her own brood. Deprived of his mother's care and fed too soon on mutton ribs and green corn he failed to make much growth and among her own husky offspring he was called "Keetsie," the small one. White people probably would have dubbed him "Runt"! He trailed the bigger, stronger children as they herded the sheep, and while the others played tag and the active games of childhood he was always busily engaged in making pictures of sheep and horses on the dark stones, using soft colored shale he dug from ledges in the cliffs. Sometimes he varied the program and with a firm wet sand modeled these familiar animals. Once he watched a horned toad basking in the sun and with eager fingers he piled and patted the red sand into a perfect image of the reptile. An old Medicine Man happened by and was frightened and indignant at such sacrilege. He destroyed the picture and in a few days Singers gathered together under a big juniper shelter to hold a ceremony of appeasement to the spirit of the horned toad the lad had pictured.

Spartan Sports for Boys

Each morning the uncle, or Keetsie's father who had married again and built a new hogan just over the hill, lined the big boys up for their race toward the east. Keetsie was required to run just half as far as the older ones, but he was never left out of this hardening practice. And in winter time he was rolled lustily in the snow to make him tough and strong. Childhood passed swiftly and happily, but when the three older sisters and the big boys went to Fort Defiance to school Keetsie longed to go with them. He fully agreed with the overlord of that district, Chee Dodge, who remarked one day: "This boy is old enough to be in school. He should go!" When the children were taken back to the



Typical Navajo Indian

Sketch by Keetsie.

fort, 30 miles from his home, Keetsie proudly went along. School at last!

He was seven years old then, and had never seen white people nor been in a white man's house. What a change for the Indian boy!

Ran Away From School

"I knew not a word of what they said, and I was not allowed to speak Navajo, not even to the other children in the room with me. Everything was so strange, the food, the clothing, the beds, the schoolroom seats — everything. I still remember how I suffered when they took my own soft buckskin moccasins away and poked my feet into big stiff shoes. And I was nearly always hungry. In those days they did not feed the Indian children like they do now. We had corn bread and strong molasses and beans, but never quite enough to fill us completely up. I was lonely and I was scared at night. I wanted more than anything in the world to bury my nose in the warm sheepskins on the floor of my aunt's hogan." He was seeing again the frightened little Navajo, and I turned away from the look in his eyes. "Well, I didn't like school and I ran away from there. I left in the night time and I hurried along toward my home 30 miles away. It took me three days to get there and I was pretty tired and hungry, and when I got home nobody would speak to me. They just acted like I wasn't there!"

The boy's father was wise and each time Keetsie ran away he took him on a horse behind him and rode back across the mountains to the school. And then, while his companions played the runaway was kept in bed as punishment. The penalty lost its sting if he could manage to smuggle some paper and a

pencil into his solitary confinement. He spent the hours drawing.

The last time he ran away from Fort Defiance, he no more than reached home before his father started back with him. Dumping him safely in the school yard, the father went to the trading post to gossip and do a little trading, and then rode leisurely homeward. About ten miles from Washington pass he came over a hill and saw a small plodding figure. Keetsie was on his way to the home hogan once more. The father took him home and not a word was exchanged by any member of the family. Next morning the father rode back to the school and Keetsie walked! That time he stayed. But, because he was prone to run away and take others with him, the school authorities decided to put quite a distance between him and home. They sent him to Haskell Indian School in Kansas.

For several years Keetsie really stuck to school and tried to learn the things they taught there. He never gave up his drawing and painting and usually his pockets were jingling with small coin derived from the sale of his Navajo pictures. But one summer day the call of his own mountains was too strong: "I seemed to smell the cedar smoke, and I wanted to be galloping through the sage on my own horse, so I went down to the freight yard and found myself a place in an empty freight car along with two or three dozen hobos on their way to the wheat fields in Kansas. Two Pima boys went with me. Now and then we'd drop off the train and work in the harvest a few days, until we were no longer hungry and had a few dollars ahead. Then we'd catch another freight and get a little closer to Arizona. When we got to Albuquerque I wrote my father that I was there and he sent me some money to come on home, but I decided to go up to Denver with the other boys and see what was up there.

Return to Reservation

"We got work with a sugar company in the beet fields, and I drove a truck because I had learned how in Haskell. When fall was in the air I went back to my father, and then I was really happy. I rode after the cattle and sheep all day long, and my father treated me like I was a man. It was a great life while it was warm enough to bathe in the scattered pools of water and sleep under the pines. But winter came, and we worked all day in snow and cold winds, and then went home to a hogan full of Navajos.

"The food didn't taste like it did when I was a little boy and I couldn't sleep with a dozen others on a dirt floor with sheepskins. When I wanted a bath I had to go into a sweat hogan and I nearly

smothered myself. I knew my father was always watching me and I tried to seem to like everything. One day he said to me:

"Son, you see what is the life of a Navajo. You see how we eat and live and all there is to being here where you were born. If this is the sort of life you want I will get you a wife and you must build a hogan of your own and have sheep and cattle and horses of your own."

"I was startled. I didn't know any girls around there and if I had it wouldn't have mattered. My father and the people of a girl thought suitable would have settled the matter. And I knew all at once that I didn't want to live there always and be just a Navajo. It didn't take me long to be on my way to school again. This time I went to Albuquerque and I enrolled in a class learning to be auto mechanics."

I looked at his slender artistic hands,

and tried to visualize them covered with grease and calluses.

He grinned. "I liked the work and I was a good mechanic. I didn't tell them there that I hadn't had any eighth grade work and I was started right in high school. I surely had to study, but by that time I knew the only salvation for any Indian boy or girl is to learn what white people know. So I kept on working and studying.

"The art teacher there was very good and he kept telling me that any boy, white or Indian could mend automobiles but not one in a thousand would draw a horse running in the wind like I could. He sold the sketches I made and helped me every way he could. If the stage needed a new curtain or there was any fancy painting to do I always got the job. I think I made about \$125 selling little pictures of the things in Navajo land while I was there.

"When I graduated and got my diplo-

ma as an auto mechanic I headed right for the sugar company in Colorado again and they gave me a job driving a truck. I kept that job for two years and I kept the money I earned, too, because all that time the superintendent of the company kept telling me I should go to art school and do something with the talent I had for drawing and painting.

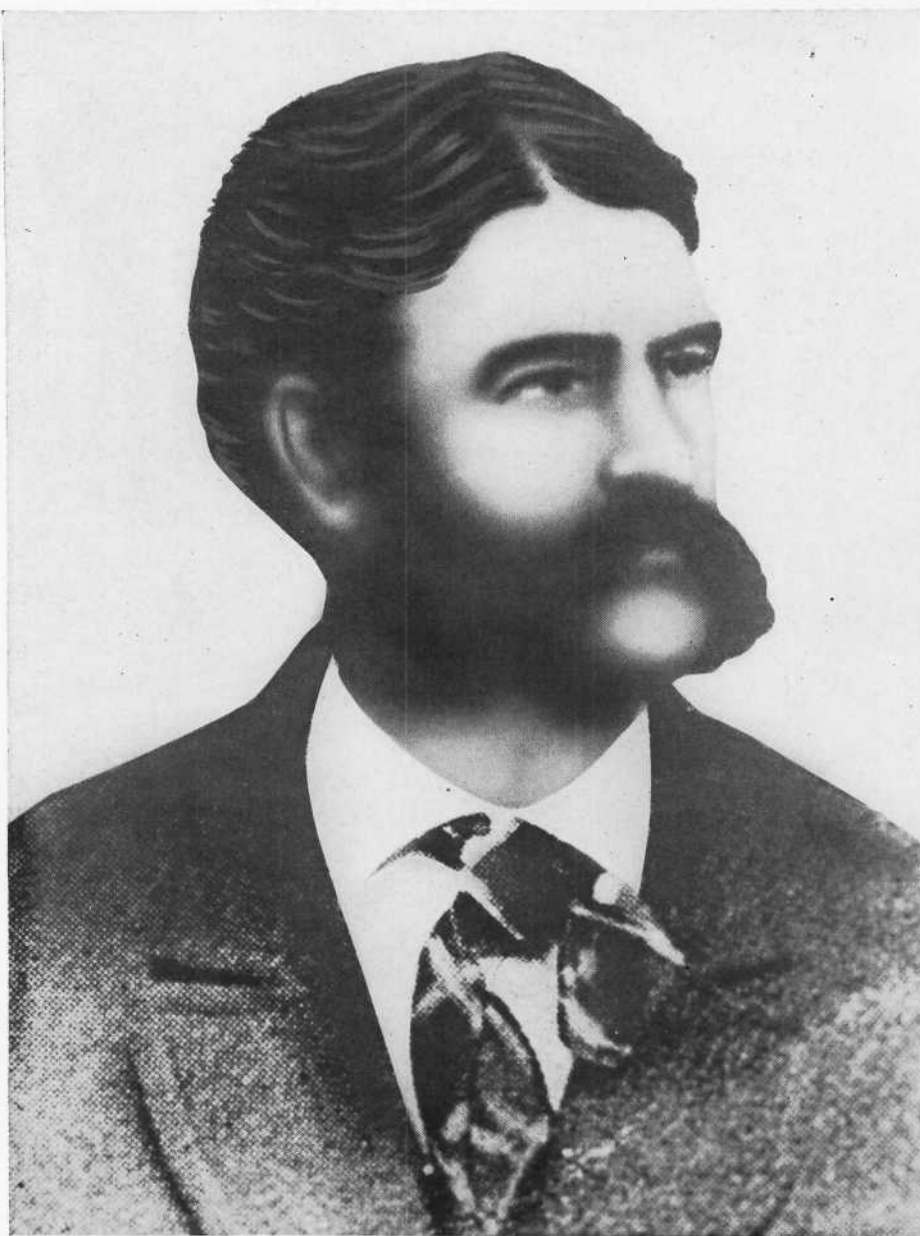
"At last he called in the woman who has charge of the Denver Post art work and she told me to enroll in the art department of the Denver university. When times were hard and all single men were laid off I took my money and entered the university. With 40 or 50 white students I learned Art with a capital letter! I learned how many bones are in a horse and what muscles make him move around; I learned about line and color and perspective and background and foreground. So many of the things

(Continued on page 31)



"The Return after a Day's Herd"

—By Keetsie



Dr. Oliver Meredith Wozencraft. Photo courtesy Auto Club of Southern California.

Dream of a Desert Paradise

By TAZE and JESSIE LAMB

"WHILE the Canon of Westminster, Beecher, Ingersoll and other small fry are actively engaged in annihilation of an imaginary hell, and that, too, without creating a better place for the deserving transgressor, you perceive that I am quite as intent on the practical work of removing an actual infernal region and at the same

time creating a field which may become a paradise by man's agency."

This was Dr. Oliver Meredith Wozencraft's concept of the project he launched almost a hundred years ago to reclaim the Colorado desert of Southern California. He called it "the Sahara of America." In 1849 when he first crossed this below sealevel, sun-parched wasteland be-

When Dr. Oliver Wozencraft first crossed the Southern California desert in 1849 he nearly perished in the sand dunes west of the Colorado river. The waterless trail across what is now the Imperial Valley exacted so high a toll in human lives the Mexicans called it *La Jornada de la Muerte*—the Journey of Death. But the dynamic doctor, undaunted by his own fearful experience, envisioned in the Salton basin a great desert agricultural empire, reclaimed by the waters of the Colorado river. Men scoffed at the idea and congress refused to sanction the project. But today a hundred thousand Americans are living in health and happiness on the desert Dr. Wozencraft sought to reclaim. Here is published for the first time an authentic record of the life and tragedy of Imperial Valley's No. 1 pioneer.

tween the Colorado river and the coast range of mountains it was uninhabited. Today it is peopled by 100,000 residents. Its thriving cities and its rich farming communities are supplied with life-giving water by an irrigation system developed half a century later in uncanny detail just as this dreamer and fighter first envisioned it.

He wanted the federal government to grant to him title to 16,000 square miles of land on which he hoped to realize his dream of an earthly paradise — and he very nearly got it.

The ink is faded now on the pages written by the doctor's hand nearly a century ago. But the words have captured and hold the spirit of the man, gone these 52 years to another paradise in which he firmly believed.

He was 35 years old when he ferried over the Colorado in a "bull-boat" made of oxhide, and his restless feet, destined to wander to far parts of the world before their wanderings were forever stopped, first touched California soil.

Behind him in sleepy New Orleans he had left a gentle wife, Lemiza Ann, daughter of Col. William R. Ramsey of Nashville, Tennessee, and three small children, William, 11; Oliver, jr., 5, and Henry Clay, a baby two years old.

Wanderlust was in his blood. His father apparently not only was a roamer, but failed to tell his family where his travels led. Oliver was a lad 11 years old when his mother received the following

letter, unique among death announcements:

"Mrs. Hannah Wozencraft,
Cincinnati, Ohio.

"Dear Madam: The enclosed has just come to hand, published in an Augusta paper and from the name and description of the person I have every reason to believe the gentleman deceased was your husband. Deeming it my duty to give you the earliest information of his death I have hastily enclosed the obituary notice. I shall inform his brother of his death the first time I see him.

"Yours with respect,

H. W. SCOVELL."

If the widow swooned in the fashion of the period, events prove that she rallied from the shock, to devote herself with determination and success to preparing her children for life's responsibilities. She sent young Oliver to St. Joseph's college at Bardtown, Kentucky. She saw that he completed his medical course. And she helped him to start in the practice of his profession at Nashville.

There, it may be that the young physician found in the career of ageing An-

drew Jackson, his neighbor, added inspiration for his inherited desire to seek adventure and glory in change and on new frontiers. Perhaps "Old Hickory's" New Orleans exploits and the lure of the deep South led Dr. Wozencraft down the Mississippi to the fascinating city at its mouth. In any event, after the charming daughter of Colonel Ramsey had presented him with two bouncing boys, the second born in 1844, the doctor took passage with his wife and babies on a luxuriously appointed river packet, set up his home in New Orleans and hung out a gold-lettered sign: "O. M. WOZENCRAFT, M. D."

By 1848, when cholera ravaged the city, the doctor had won an established practice. His courage and his skill, as well as his willingness to serve suffering humanity were all put to the test in this epidemic. City officials asked him to take charge of the care of the indigent in his part of New Orleans and he accepted this thankless duty.

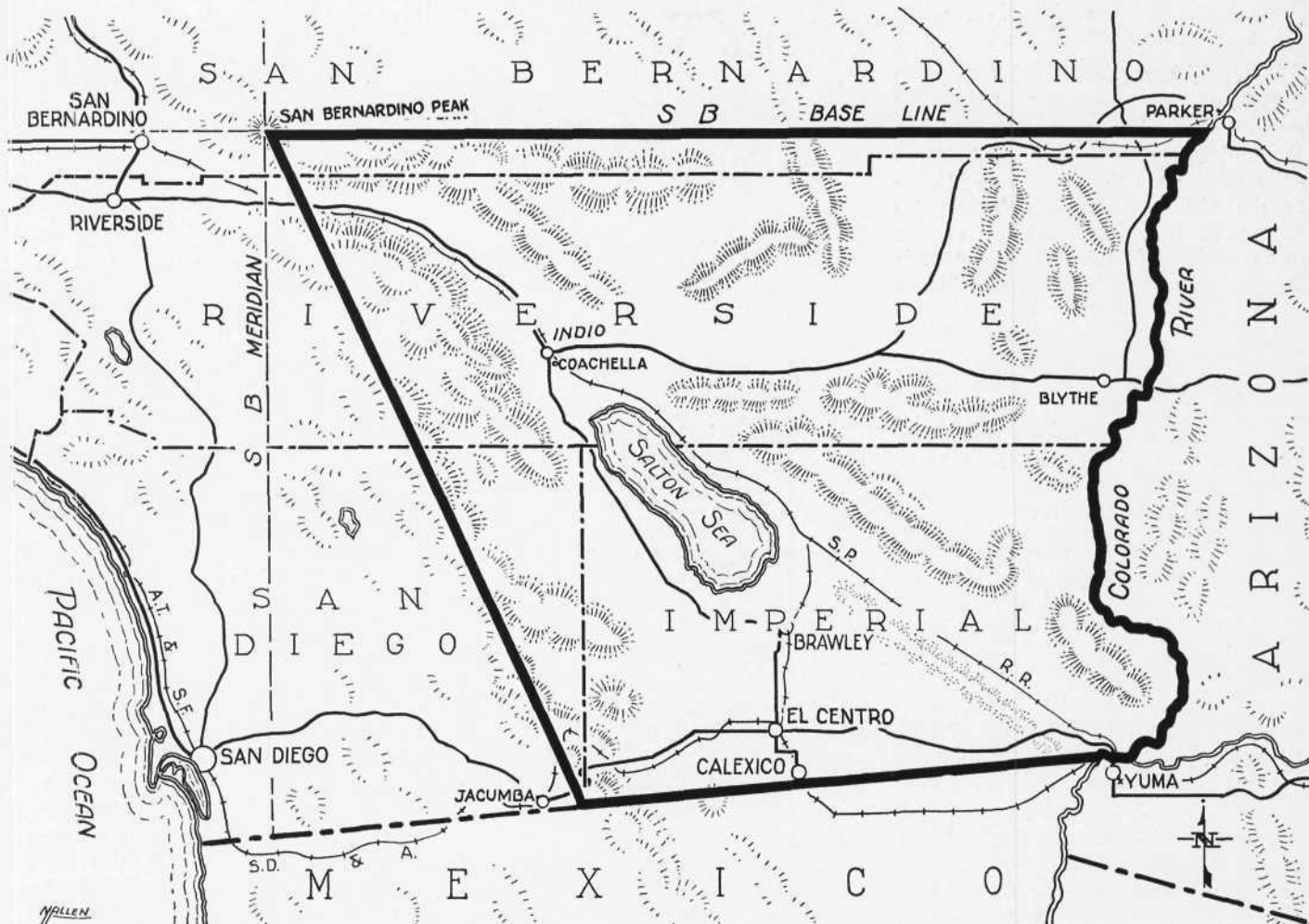
Working night and day among the panic-stricken, sick and dying residents of pestilential slums, his own health broke. To recuperate, he went away. At

Brownsville, Texas, on the Rio Grande, instead of finding rest, he ran into the most malignant epidemic of cholera known in its history. Because he was too feeble then to justify the risk of this new contact with the disease, the doctor crossed the river to Matamoras, Mexico.

The people of Brownsville learned that he was there. A delegation of citizens begged him "in the name of humanity to aid us in our great affliction." They told him that all who had been attacked had died and that the resident physician had fled.

This was a challenge he could not ignore. Recrossing the Rio Grande to the American side, he found, as he later told the story, "two physicians, one quite young, the other venerable in age and honorable in the service of the United States Army, Surgeon Jarvis. The young man only remained to turn over to me another dying patient and then fled. I saw him no more. But the kind old doctor, after witnessing the result of a simple prescription I had found effective in New Orleans, and after observing my enfeebled condition, offered to assist me. He confirmed the statement that all pa-

Boundaries of the 10,000,000-acre grant of land which Dr. Wozencraft sought from congress are indicated by the heavy black lines on the accompanying map sketch. It will be noted that the visionary doctor included some of the mountain areas as well as all the desert region of Southern California.



tients had died up to that time. There were no more deaths, among all I treated, the joyful news spread that a doctor had arrived who could cure cholera, the panic was over, the fight was won."

The Mexican war was ended; the treaty of Guadalupe Hidalgo gave California to the United States; gold had been found on the American river and from all over the globe a rising tide of adventurers was surging to the new Golconda. A man of Wozencraft's abilities would not find his best opportunity for advancement in digging for gold, but there would be many other chances for fame and fortune. A new state must be organized, a vast region of incalculable riches must be developed as a part of the Union.

Why not go west? Wozencraft's friends in Louisiana and in Tennessee would help, through their connections at Washington.

It didn't take Dr. Wozencraft long to make his decision. It took longer to make his arrangements. Not until months later was he able to reach his goal, after crossing the continent on mule back.

It was late in May of 1849 when his plodding mule brought him to the east bank of the Colorado at Fort Yuma. Early spring floods had swollen the river until it was running bankfull, a tawny torrent pouring on to the gulf of California. West of the river heat waves shimmered over a sandy desert.

"Journey of Death"

He was one of a hundred thousand men who braved the 100 miles of blistering sands along the "Jornada de la Muerte" that year, on their gold-fevered rush to the California mines. Among his papers, he left his impressions of that first experience in "the most formidable desert on the American continent."

"Crossing the river in an improvised boat made of ox-hide, we encountered the desert. Starting in the evening, taking a trail which soon led us into sand drifts, we were three days, or nights, crossing the desert. The heat was so intense on the last day two of the men failed. I got off my mule to assist them, but found myself unable to assist them or myself."

Then he described his symptoms:

"I felt no distress whatever. I was perspiring freely and was as limber and helpless as a wet rag. It was an exhilarating and happy feeling. I couldn't climb on my mule again. And there I might have stayed, but one of my companions reached the border of the desert and water, filled a bag with water and footed it back eight miles.

"Soon after I finished this crossing I learned that a large stream of water was flowing into the desert. The river had overflowed its banks. Professor Blake found by barometric survey that the des-

ORIGINAL SOURCES

For the historical data presented in the accompanying story of Dr. Wozencraft the *Desert Magazine* is indebted to the following sources: Allen Clark of Washington, D. C., Phil D. Swing of Imperial Valley and San Diego, Supervisor John Andreson, Jr., and Mrs. Grace Eleanor Harworth of San Bernardino, Supervisor Hugh Osborne of Imperial county, San Bernardino county library where several original manuscripts in Dr. Wozencraft's handwriting are preserved, and to John Steven McGroarty's *History of Southern California* and John Brown's *History of San Bernardino county*.

ert was lower than the ocean and Southern Pacific surveyors seeking a route to the Pacific reported that the area in one place was 272 feet below sea level.

"My experience with the desert was sufficiently impressive to cause me to wish that others might not experience the same, and after learning that water flowed into it from the river at unusual seasons it very naturally occurred to me that it could be made to do so at all times. As it proved a great temporary blessing, it might be made a permanent one. The work I proposed was to irrigate those lands from the river and thus bring them into cultivation."

So runs the genesis of Imperial and Coachella Valleys. An unpeopled land that produced nothing then, now ships a carload of farm products annually for each of its 100,000 people. Today, if not an earthly paradise, at least it deserves its title, "America's Winter Garden." From an unending cycle of harvests, some crop goes to the world's markets every day in the year.

The world's biggest irrigation canal follows a course Dr. Wozencraft plotted 90 years before it was dug.

At the time of the doctor's arrival in San Francisco, California was a No-Man's land. Mexico had relinquished control. There was no civil government. In fact, except for Gen. Bennett Riley, the United States military commander, there was no government at all.

Helps Draft Constitution

This condition, however, did not long continue. Within four months after the doctor's California debut, he was selected as one of 28 delegates entrusted with framing a constitution for the embryonic state. The constitutional convention met at Monterey on September 1, 1849, and in December a governor, other state officers and members of the first legislature were elected. History knows it as "the legislature of a thousand drinks."

Delegate Wozencraft and his fellows of the constitutional convention voted themselves \$25. per diem as compensation for their labors and \$25. per mile for

travel expenses. When their work was done they were hosts to the citizens of Monterey at a grand ball, gay with the colorful costumes of old Spain and the resplendent dress uniforms of the United States Army and Navy.

States are notoriously poor paymasters for those who sweat in public service. Dr. Wozencraft couldn't collect his wages for helping to write California's constitution, and the bill has never been paid to this day. But if a measure pending in the 1939 legislature as these lines are written becomes law, the descendants of those 28 delegates to the constitutional convention of 1849 will be authorized to sue the commonwealth for the amount to which their ancestors laid claim.

The Monterey convention offered opportunities the doctor did not overlook. He had a rare combination of attractive qualities. His professional manner gave him amiable dignity. He was graced with the courtly courtesy of the South. His wit was quick and spontaneous. He was a strong character. He found congenial souls among these builders of the new empire whose shores ran 1,000 miles along the edge of the broad Pacific.

Indians were an immediate concern when California was admitted into the Union in September 1850, after a year's wait on the doorsteps of the federal capitol. One of the first acts of Congress was to create a commission — "to conciliate the good feelings of the Indians and to get them to ratify these feelings by entering into written treaties."

Indians Defend Lands

Dr. Wozencraft was appointed Indian Commissioner, authorized to spend fifty thousand dollars.

Before the commission took the field the Indians were at war with the fast encroaching whites. The governor called out battalions for the campaign. The commander of the Pacific division of the army sent "all of his disposable forces," to accompany the commissioners.

Near Mt. Shasta, Commissioner Wozencraft found in the bushes on a hillside a tiny Indian baby girl, abandoned by its mother as she fled with her tribe.

In the meantime, Mrs. Wozencraft and her babies—another was born before she left New Orleans—had made the long hard trip by stage coach and mule back to San Francisco.

The doctor must have his little joke. From his camp at the front in the Indian wars he wrote to his wife, "I am sending you a little present." The present was the Indian baby, which was received into the family, and named Shasta. She was faithful to her white foster-parents until her death many years later in San Bernardino.

The Indian hostilities were brought to a close, the doctor reported, "by sim-



This photograph of the Wozencraft home in San Bernardino in 1882, shows left to right: Miss Laura Riley, Mrs. Oliver M. Wozencraft, the doctor's wife; "Shasta," the Indian woman found when a baby in the mountains and sent to Mrs. Wozencraft as "a little present"; Miss Minnie Riley, now Mrs. John Andreson, jr. of San Bernardino.

ply pursuing a humane, pacific policy." He spent more than Congress gave him. Instead of \$50,000, he made contracts aggregating "some \$376,000." In war or peace, his style was magnificent.

When the treaties he proposed were killed and critics at home and in Washington assailed the commission, he hit back hard.

"Under my plan," he declared, "the Indians were to receive a limited and specified amount of food, clothing, stock, seeds, agricultural implements, etc., for the limited space of two years, after which time they would be required to support themselves."

This sounds like a Baja California agrarian plan of the modern school.

Then he lashed out at the politicians he blamed for his troubles.

"The plan now practiced," he said, "is to make annual appropriations, sufficient not only for the Indians but for numerous employees. Appropriations have been made ad libitum and I presume they will be continued ad infinitum. They will be continued so long as there is an Indian to be fed or a politician who wants a place."

And this sounds like a crystal-gazer's

criticism of the New Deal relief program, A. D. 1939.

There were dictators in the seats of authority in the doctor's day, too. He fired this shot at them: "Centralization of political power has well nigh reached that point which caused our fathers to declare their independence."

Three Indian wars: the Mariposa, the Eldorado and a campaign in the lower part of the state, he added in his defense, were brought to successful end by his efforts.

In 1857 he was still rankling at the injustice of his enemies, writing pieces to the papers, citing records to show he had been exonerated from all blame in connection with charges against the commission.

All this time he had been driving ahead with his scheme for turning the Colorado river into the desert. In 1852 he sent his family to San Bernardino, where they occupied a two-story adobe house. Here the family lived until the last of them was taken through its doors to the sunny slope of the nearby cemetery.

The Wozencraft home was a pleasant

place. There, under sheltering palms and wide spreading cottonwoods and in a big flower garden, the children and the Indian baby played and grew to manhood and womanhood.

The doctor himself was seen infrequently in San Bernardino. In addition to his own plan for development of the desert, he was busy with matters of national importance. He toured the country, urging state legislatures to work for the proposed railroad to link east and west coasts. In his native Ohio he told the solons that he had cherished since childhood the memory of Ohio's great rivers and majestic mountains, only to find on his return that passage of years and his travels had made the rivers shrink to mere trickles and the mountains to insignificant hills!

His friend former governor Weller had gone on to Washington to the Senate. From there Weller wrote to ask the doctor's advice on the question of mountain passes suited for the railroad's entrance to California. Wozencraft replied promptly. He recommended a Feather River route, and then added quaintly, "The caloric engine, methinks, will have

to be brought into requisition on any of the routes indicated."

As to the telegraph, he told Weller the Indians must be conciliated or they would destroy the line.

At the state capital his persistence overcame all obstacles. On April 16, 1859, nearly ten years after the mirage of a desert paradise first floated before his eyes, the legislature passed his bill (No. 284), entitled, "An Act to encourage the supply of fresh water on the Desert, west of Fort Yuma."

Virtually it was a deed from the state. California "ceded, granted and conveyed to Dr. Oliver Meredith Wozencraft" all its interests in lands "beginning at the initial point of the San Bernardino base line, and running east on said line to the Colorado River; thence down said river along the boundary of the state line to its junction with the southern boundary of the state; thence west along said southern boundary to the eastern base of the main range of mountains; thence northerly, along the base of said range of mountains to the place of beginning."

This includes about ten million acres.

By resolution the legislature called on its congressional delegation to work for enactment granting to the state all federal rights in this area. In order for the doctor to get his title clear, the state said the national government must act within three years. In return, Dr. Wozencraft agreed to build irrigation canals and to deliver water to the desert area from the Colorado river.

With the California act in his pocket, high hopes in his heart, Dr. Wozencraft went to Washington. There for three years he labored with fixed tenacity of purpose. He paid the expenses of various supporting groups of advocates. He collected letters from army officers, engineers, government officials--from anybody who could add a voice in endorsement of his great project.

Civil War Interferes

In the midst of his struggle with a Congress preoccupied with preparations for war, guns thudded at Fort Sumter on April 12, 1861 and the nation plunged into bloody strife.

It would have stopped a less resolute individual. But not Dr. Wozencraft. He redoubled his efforts. He won a hearing. The House Committee on Public Lands made a favorable report.

In March 1862, while McClellan was dilly-dallying with his peninsular campaign against the Confederates at Richmond and ambulances were rolling through the streets of Washington loaded with wounded and dying Union soldiers, Dr. Wozencraft wrote from the nation's capital to his mother at San Bernardino:

"Dear Mother: I avail myself of an opportunity of sending you by private

conveyance these few lines. The mails are so uncertain that I deemed it almost useless to write and I am in hopes that this fact may be sufficient apology for my seeming neglect.

"I arrived here in the enjoyment of perfect health and continue to enjoy that blessing. I found on my arrival that my business was unattended to, and in all probability would not have received the least attention had I not come on. As it is, there is some prospect of my getting it attended to, but doubtless I shall have to remain here the entire session . . . I am anxious to get the balance of my family out of that place and if I am crowned with success in my present mission it will be my first care to do so and make you more comfortable . . . The weather has been more favorable for the past few days and doubtless the army here will soon make a forward move and it is to be hoped may soon bring this unnatural war to a close.

"Your affectionate son."

Success Appears Certain

On May 27, 1862, the doctor's desert land bill was brought up in the House. At last it appeared that he was to be "crowned with success." He was on hand early. His bulky figure leaned forward, in a front seat of the gallery. He stared down at the Speaker and the members in the well. He had lost his youthful figure now. Nearing 50, his bulldog jaw jutted from between muttonchop whiskers of a style known as burnside's. His black hair was bushy. His piercing eyes challenged a world in travail. He weighed 210 pounds.

The House convened at noon. The chaplain, Rev. Thomas H. Stockton prayed for success of the army. The Speaker laid before the House a message from the President on Mexican Affairs. Dr. Wozencraft, slightly impatient, twisted in his seat. After all these years, was his bill sidetracked again, when so near a vote?

His anxiety was allayed when the Speaker called for a report from the Committee on Public Lands.

Mr. Crisfield, the gentleman from Maryland, arose. He wished to report back, with a recommendation that it do pass, the bill of the House (No. 417) granting to the State of California the tract of land known as the Colorado desert, for the purpose of introducing a sufficient supply of fresh water upon and over the same.

The bill was read.

Mr. Crisfield: "Unless there is a desire to debate this bill, I will ask the previous question upon its passage. I will withdraw it, however, if any gentleman desires information in relation to the bill, or wishes to debate it."

Several gentlemen desired information. Mr. F. A. Conkling wanted to know,

"How much land does the bill grant to California?" Mr. Phelps hoped the gentleman from Maryland would not press for passage of the bill until the gentleman had an opportunity to study the committee's report. Mr. Lovejoy wanted to know if the land was worthless. Mr. Trimble of Ohio believed that at least a portion of the land about to be ceded to a single individual actually embraced valuable agricultural land and included a rich mineral region. He moved that the bill be referred to the Committee of the Whole on the State of the Union.

This was a favorite stratagem to get rid of objectionable legislation.

Mr. Crisfield was valiant in defense of the bill.

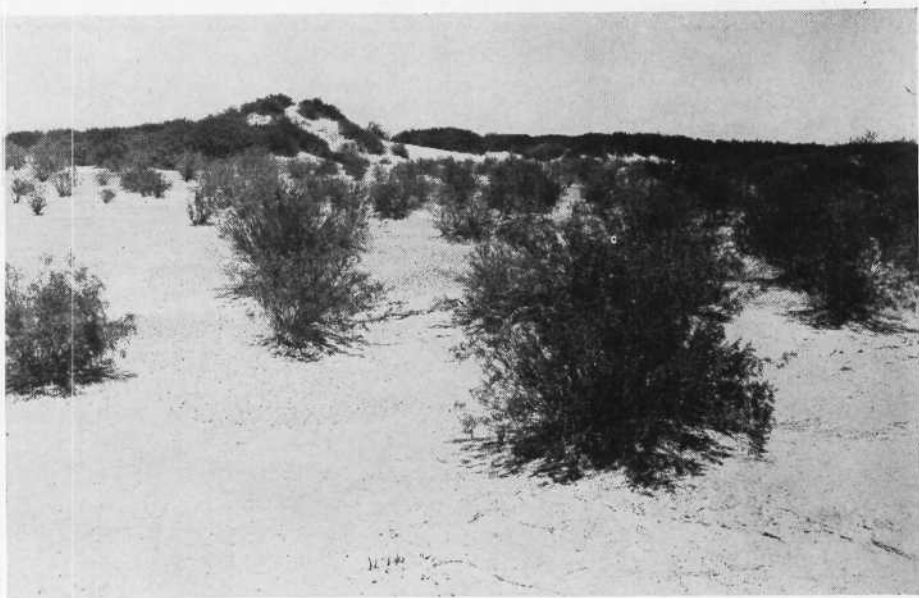
First, he said, the Committee cannot advise the grant of all the land asked for, because perhaps one-half of it was mountain land, not necessary for the purpose which the State of California set forth as the reason for the grant. The purpose was to introduce water upon this means of communication between the East and the West, and also for the purpose of bringing a large portion of this territory into settlement. The part proposed to be ceded was in truth and in fact a desert utterly worthless to the Government or to anyone else unless it could be watered by artificial means.

Indians Fear Desert

"It is," he continued, "a vast, naked plain. With the exception of a narrow strip of bottom land on the west bank of the Colorado River, and small patches of grass around the few water holes and springs in the vicinity of San Geronio pass, it is a waste, uninhabitable country, without vegetation, except occasional bunches of the creosote plant, and near the California mountains, of the artemisia, and incapable of vegetation. From April to October it is subject to intense heat, the atmosphere is dry and scorching like the hot air from a furnace, and from November to March to severe cold. At the latter season the winds from the coast range of mountains sweep across this vast plain to the Gulf of California with great violence, raising the fine sand of the desert in immense clouds, filling the atmosphere, concealing landmarks, almost obscuring the light of the sun, and forcing the traveler to stop immediately, and await, as best he can, until the gale ceases. The Indians dwelling at the outlet of San Geronio pass regard this desert with horror. They call it 'the Journey of Death,' and believe that the souls of bad Indians are condemned to wander over this desert forever--in summer without water, in winter without clothing."

Mr. Crisfield warmed up to his subject:

"I have looked carefully into all the



This is the Imperial Valley that Dr. Wozencraft saw when he crossed the sand hills from Yuma in 1849 — a sandy wasteland growing only greasewood and mesquite.

circumstances attending the case; I have looked at them in the light of a judge; I have tried to look at them in the light of a statesman. I think this grant ought to be made. I think justice to the State of California requires and that the interests of the United States require it to be made."

It was a good appeal. But it failed to move the insistent Mr. Trimble. On a test vote the bill was laid on the table.

Dr. Wozencraft's crown of success had slipped from his grasp.

The gentleman from Maryland was loyal. He tried again on June 23, 1862. Mr. Crisfield asked unanimous consent to bring the bill to vote. Mr. Stevens said, "I object." On July 7, following, Mr. Crisfield tried a third time. Then Mr. Trimble, the Ohio objector, blocked him.

Before the indomitable Dr. Wozencraft got another hearing in Congress, 14 years passed. In 1876 he failed to win passage of his revived bill, and in 1878, he had no better luck.

Meantime money problems deviled him. He had spent all his resources in his fight. His wife thought it might help if she could get a sewing machine.

The doctor went to sea as a ship's surgeon, to keep his financial craft afloat. With all his troubles, he found time to write letters to the papers. At Hong Kong in 1873 he advised the editor of the Hong Kong Times how to handle a cholera outbreak in China. From Yokohama he sent to Alta California, published in San Francisco, 2,000 words on the Japanese and their customs.

On a trip to South America cholera broke out on his ship. He saved 200 patients with only 18 deaths.

During long voyages he worked on in-

ventions. He sent to the commissioner of patents a model of an internal combustion engine. "I claim direct action on the plunger of the motive power (an explosive), with a trip in the piston rod acting on the valves for the admission of the explosive," he wrote. One of the predecessors of valve-in-head motors, perhaps.

In 1887 he went back to Washington for the last time, still pursuing the mirage of green fields and flowing water he

had seen on the desert, a lifetime and 3,000 miles away.

He was 73 years old. The fire that had driven him across parched deserts and over wide oceans was dying out. Young upstarts in congress had no time to listen to the fantastic dream of an old man.

What happened then is told in a letter written by a Washington attorney, Alexander Porter Morse, on December 2, 1887:

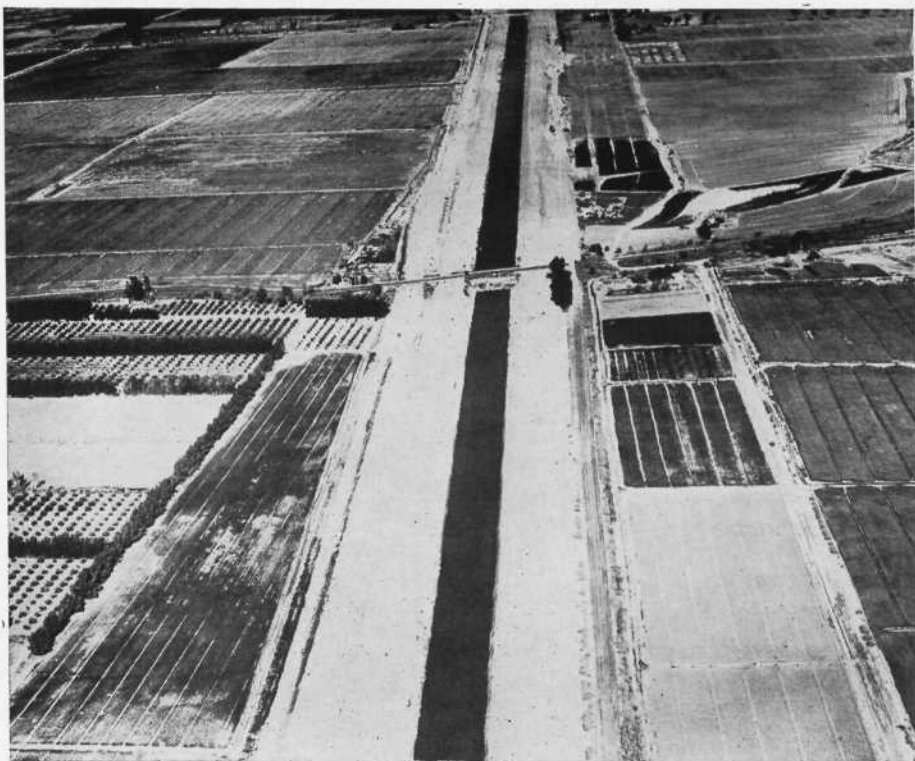
"Mrs. O. M. Wozencraft.

"Dear Madam: I had not seen your husband for some time, when one morning early a lady who gave her name as Mrs. Pagett, the wife of Dr. Pagett, called at my office and informed me that Dr. O. M. Wozencraft was very sick at her home, No. 1235 11th street, and that he was very anxious to see me. I called upon him at once, but finding him sleeping quietly I did not disturb him.

"Next morning I called again. Dr. Wozencraft seemed to be weak, as also sick from a self-enforced fasting. I was informed that he had not eaten solid food for ten days and that he positively refused to take solid nourishment. I was also informed that he was without money when he was taken in by Dr. and Mrs. Pagett. Notwithstanding this, he was given one of the most comfortable and bright rooms in the house and so far as I could see received the most careful and generous attention during his last illness.

"As soon as I learned of his condition I informed Judge Ord and Mr. J. W. Denver of this city. Judge Ord responded

This aerial view of Imperial valley as it appears today was taken by B. D. Glaba for the U. S. Bureau of Reclamation. Photograph shows the new All-American canal just east of Calexico.



at once and did what he could in the premises."

Pacificus Ord did not forget the ties of '49. One of the doctor's old friends of constitutional convention days was standing by.

Long years before, Dr. Wozencraft had written on "Euthenasy" in the Pacific Medical and Surgical Journal:

"As long as we can fulfill one useful mission to ourselves and to others, just so long are we entitled to our tabernacle of flesh and no longer. It is but an earth-born selfishness that would cause us to wish or strive beyond this."

He would tell his hopeless patients, he wrote, "There is nothing dark and forbidding in the realm destined for their future abode; that there they will find peace and joy; that it would be a desirable change in all respects; that they would appear in a new and beautiful investiture from which their Maker's image would shine forth. I would draw the picture as beautiful, as strong and inviting as consistent with my faith in the future."

Perhaps these words came back to him at the end.

From Washington Dr. Wozencraft's body was sent to California. This time he made the journey on a train drawn by one of those "caloric engines" he had presumed would be used on the trans-continental railroad he had urged in other days. Thus he made his farewell crossing of the Colorado desert, on the way to his long rest in the mausoleum at San Bernardino with all his family at his side.

There, in a vault built above ground as in New Orleans cemeteries, in a cubicle sealed with polished granite, he sleeps. The inscription at his head reads:

DR. O. M. WOZENCRAFT

A pioneer member of the first convention held at Monterey in 1849 to form a constitution for the state. Born in Ohio, July 28, 1814. Crossed the plains in 1849. Died in Washington, D. C. November, 22, 1887."

• • •

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DESERT QUIZ

Here's another quiz for members of the desert fraternity. The best score reported last month was 15 correct answers out of a possible 20.

It is a rather severe test, we'll admit. If you get 10 correct answers you know more than the average resident of the desert country. If you answer 15 of the questions you are entitled to a super-rating—and if you exceed 15 you will be eligible to a charter membership in the Royal Order of Sand Dune Sages. The answers are on page 31.

- 1—Geronimo was—
Pima Indian..... Apache Indian.....
Navajo Indian..... Yaqui Indian.....
- 2—The White Sands of New Mexico have been reserved as a—
National Park..... National Monument.....
State Park..... National Forest.....
- 3—Tinajas Altas watering place is on—
Roosevelt Highway..... Butterfield Stage Road.....
Camino del Diablo..... Old Santa Fe Trail.....
- 4—The color of Beavertail cactus blossom is—
Blue..... Orange..... Magenta..... Yellow.....
- 5—The first overland stage coach to carry passengers across the southwestern desert was operated by—
Banning..... Birch..... Butterfield..... Bradshaw.....
- 6—Stalactites and stalagmites most commonly found in natural caves are made of—
Limestone..... Quartz..... Calcite..... Feldspar.....
- 7—Indian *kivas* found in the southwestern Indian ruins were used primarily for—
Storing Food..... Workshops.....
Hiding from enemies..... Ceremonial purposes.....
- 8—When Juan Bautista de Anza crossed the Colorado desert of Southern California he camped one night at a water hole now known as Harper's well. In his diary De Anza called it—
San Felipe Springs..... Indian Well.....
San Sebastian Springs..... Borrego water hole.....
- 9—According to the Mohs scale, the hardest of the four minerals listed below is—
Sapphire..... Diamond..... Corundum..... Topaz.....
- 10—Arches national monument is located in—
Colorado..... New Mexico..... Arizona..... Utah.....
- 11—The first explorer to navigate the Grand Canyon of the Colorado river was—
Bill Williams..... Powell..... Whipple..... Ives.....
- 12—Desert mistletoe is found most often on—
Mesquite trees..... Smoke trees.....
Palo Verde trees..... Desert willows.....
- 13—Adolf F. Bandelier wrote—
The Land of Little Rain..... Mesa, Canon and Pueblo.....
The Delight Makers..... California Desert Trails.....
- 14—Before the white man brought soap to the Southwest, the Indians, for cleansing purposes used—
Minerals..... Yucca roots..... Agave leaves..... Nothing.....
- 15—A Hopi woman, according to native custom, obtains a divorce by—
Leaving her husband..... Edict of the medicine man.....
Placating the gods..... Putting her husband's belongings on the doorstep.....
- 16—The Chuckawalla lizard lives mainly on—
Mice and rats..... Vegetation.....
Bugs and insects..... Other lizards.....
- 17—Morro Rock in New Mexico is famous for the following reason—
Its historical inscriptions..... Its odd shape.....
As a landmark for travelers..... Its Indian taboo.....
- 18—Mission San Xavier del Bac was established originally by—
Father Garces..... Father Font..... Father Kino..... Father Escalante.....
- 19—The present Salton sea was filled when the Colorado river broke out of control in—
1891..... 1907..... 1905..... 1853.....
- 20—Pyramid Lake is located on the reservation of the—
Shoshones..... Piutes..... Cahuillas..... Pimas.....

Certain species of woodpeckers live in the cactus forests of Arizona and drill their holes in the trunks of the giant saguaro. Nature, seeking to heal the wound in the pulpy structure of the tree builds a tough layer of scar tissue around the cavity. This tissue remains intact long after the cactus has fallen and decayed. And therein lies the source of one of the most novel hobbies found in the desert country. Ernest Hall of Salome, Arizona has a collection of more than 800 of these odd-shaped bird's nests. Here is the story of this strange hobby, and the remarkable man who originated it.

Hobbyist of Salome

By LOIS ELDER STEINER

THERE are hobbies and hobbies—but it has remained for Ernest Hall of Salome, Arizona to fill the niches in his little desert cabin with one of the strangest assortments of oddities ever assembled by a hobbyist.

Ernest collects old bird nests—but not the kind of bird nests you are thinking about. In fact, if you were to walk into his home and inspect his trophies for the first time you would fail to note any connection between these queer-shaped chunks of wood-like substance, and the bird family.

His nests were all made by woodpeckers—and every one of them was taken from the decaying trunk of an old saguaro cactus.

Here is a hobby that is necessarily limited to the desert of southwestern United States, and more particularly to that limited portion of the desert on which grows the gigantic saguaro member of the cactus family.

It is a curious exhibit—brought together by the interest and ingenuity of an unusual personality. For Ernest Hall's life has been occupied with a wide range of remarkable achievements.

Back in the early spring of 1918, a senator from Maricopa county, Arizona stood up in the session of the legislature



Ernest Hall with some of the odd-shaped woodpecker nests in his collection of more than 800.

and declared, "I'm getting dam sick and tired of all this jangling. We haven't passed a bill for months. We're not doing anything for anybody. I'm going out where I can be some use." The speaker was Ernest R. Hall.

Having finished his speech, Senator Hall scribbled his resignation and walked out. A few hours later Private E. R. Hall, 27th Engineer Corps, entered a telephone booth and told his wife as gently as he could that he was on his way to training camp for the war.

In France a few months later, as he lay in his cot suffering from a severe cold brought on by exposure, his major said to him:

"Private Hall, how old are you?"

"Forty, sir!" he answered promptly.

The major smiled skeptically. "Is that your real age or your army age?" The limit at that time was 40 years.

"Sir," said Private Hall, "if I said I was 40 when I joined the army and was telling the truth, then I am telling the truth now. If I said I was 40 when I joined the army and was lying—then I am lying now."

The major looked at him for a full minute before replying.

"You win," he said, and walked away.

There is a quaint spring of humor in the personality of Ernest Hall that bubbles forth with refreshing unexpectedness. Behind a pair of grave brown eyes lurks an ever ready twinkle. He is an unassuming westerner — just as much at home today in his beloved hills of "Harcuvar" as he was on that morning long ago when he tramped down the street before the state capitol building at Phoenix to the tune of a martial air.

Ernest's home town of Salome is on



This is the Gila woodpecker, one of the two species which drill most of the holes in the saguaro.

U. S. Highway 60, half way between Wickenburg, Arizona and Blythe, California. It was here that Dick Wick Hall—Ernest's brother—lived and gained nationwide fame as the author of stories about the "frog that is seven years old and never learned to swim, and the "23-mile golf lynx."

Ernest still roams the same desert which he and Dick Wick tramped together and prospected before the latter's death in 1926.

Sooner or later nearly every desert traveler passes through Salome. In a little cabin near the grave of his illustrious brother, Ernest keeps his queer assortment of woodpecker nests. There is a gleam of pride in his eyes as he explains just how and why these fantastic desert products were born. Yes, born! For to him they are alive. They are his hobby children. And what a family—800 or more.

Strange as it may seem, there are no quintuplets—no twins—no two alike. The baby of them all is a perfectly watertight olla, one and one-half inches high. Reclining gracefully against the wall is the big sister, her upturned face resembling an immense flower, its petals opening to the sun. But—in the back end of his truck is the most interesting nest of

Here are just a few of the strange looking specimens in the Ernest Hall collection of bird nests.

all—the last one to be brought in from the hills. Only, it isn't a woodpecker nest at all. It is a real, live, swarming beehive, shaped like a long crook-necked gourd, and very heavy. A few bees are still angrily hovering around, and through a crack near the bottom can be seen part of a delicious looking honey-comb. Hall's face is suspiciously red and swollen.

To understand Ernest Hall's hobby it is necessary to know something about the habits of desert woodpeckers, and also about the construction of the saguaro cactus.

In the center of the saguaro trunk is a vertical core of ribs—tough slender canes encased in the fibrous pulp which forms the outer covering of the trunk.

Desert woodpeckers long ago discovered that these huge cylindrical saguaro trunks provided perfect homesites. The pulpy substance is easy to drill—and the thorns on the cactus discouraged unwanted guests. And so nearly every veteran trunk in the saguaro forest of Arizona is punctured with bird holes.

When the outer skin of the cactus plant is cut the flesh begins to decay. Immediately Mother Nature sends an SOS down into the plant to all the little cambian cells.

If weather and plant conditions are favorable they start weaving what is called scar tissue. As soon as Mother Nature is supplied with enough of this germ-proof material she covers the wound, first, with one layer, and then, as time goes on, others. If weather and plant conditions are not favorable, deterioration goes on until they are; thus, cavities of all sizes and shapes are formed.

There are three types of cavities. The first is formed near the outer skin and is never used by the woodpecker himself. Other birds come along and build nests in these cavities. The second type is formed by the woodpecker burrowing all

CACTUS WOODPECKERS

Two species of woodpeckers most commonly found in the saguaro forests are the Gila woodpecker (*Centurus uropygialis*) and Mearn's gilded flicker (*Colaptes chrysoides mearnsi*).

The Gila woodpecker is the brighter. Its red crown-patch and golden yellow breast contrast vividly with the black-and-white bars of back and wings. When in flight two whitish patches show as it opens its wings. It is an active noisy bird, uttering a high-pitched nasal squeal when in flight and characteristically jerking its head when perched.

Except for the yellow lining of tail and wings, the gilded flicker might be mistaken for the red-shafted flicker out of its normal habitat. But to see it in the saguaro region is proof of its identification, for it is even more restricted to this area than the Gila woodpecker. The breast is thickly covered with large, round black spots and its crown is cinnamon. It is larger than the Gila woodpecker.

After these birds abandon their nesting holes the cavities in the cactus are occupied by elf owls, screech owls, sparrow hawks, flycatchers and other birds.

the way through until he strikes the hard, woody ribs, then, following the path of least resistance, drills on down. This type always remains attached to the ribs, and is also used by other birds, as well as insects for nests and shelter.

The third type—and this one is the most important of all—is made by the woodpecker burrowing through the fleshy pulp, breaking through the ribs, and burrowing his way into the heart of the saguaro. This is where the larger specimens are found. Here, unmolested from the killers of the air, the wise little rascal lives in peace.

Eventually, the saguaro dies, either from age or injury—often from lightning—falls over and crumbles away. But the



queer shaped formations of scar-tissue remain intact throughout the century, withstanding desert heat, sandstorm and rain.

It is indestructible in water. Ernest reaches over and cuts into a water-soaked piece of this scar tissue. It is hard and tough. Although it has been submerged in water for ten days or more the center is entirely dry. The layers are so tightly packed together that water will not penetrate.

When asked why he is interested in these peculiar formations, he explains, "It's just like prospecting. You go tramping along over the hills and you notice an unusual outcropping. Well — you slow up a little and then decide to go on. But after awhile you get to thinking and you go back and start digging. The more you dig the better it looks. You've got to dig pretty deep sometimes to find a real mine.

"Same with human beings. You've got to dig down under the skin to find the real man. He may be odd and have queer ways, but nine times out of ten if you go back and start digging you'll find he has qualities of which you never dreamed. Take these things now . . . I passed an old dried-up saguaro a dozen times or more. I drove by, quite close, on several occasions and then went on. But something about that old cactus kept calling me back. One day I stopped and began digging away—and that's how I found my best specimen."

When asked why he chose woodpecker nests for a hobby, Ernest laughed guiltily. Well—it's just a little personal," he confessed. "You see, I was making a lamp stand for my wife, out of some cholla limbs, and decided to use a woodpecker nest for a shade—providing I could find just the right shape. Well—I am still looking for just the right shape—and my wife is still waiting for her lamp shade."

A few months ago he was invited to go to New York to appear on Dave Elman's Hobby Lobby program. When he received the invitation he answered, "Well what would a desert rat do on Broadway? However, I'll take a chance."

New York was all right as an experience, but he prefers the Arizona desert hills. He works on his mining claims, and keeps an eye out for a fallen saguaro that may have a new novelty for his collection. Through the passing years he has found some pay streaks and a lot of worthless lowgrade—but there is one rich stringer that never pinches. That is the high esteem in which Ernest Hall is held by all who know him.

KEETSIE --Navajo Artist

(Continued from page 21)

they taught there seemed to me only to cloud the issue of picture making.

"If I could remember how a horse looks as it drinks at a desert station, and if with a few easy strokes I could put that picture on paper, why should I stop to count the ribs in a horse's skeleton? But those things were part of the course and I tried hard to learn. One thing I was sure of — I would learn everything the white teacher had to offer and I'd use only what of it really helped me. The newspaper lady helped me with that: 'Learn all you can from them, but never, never try to imitate their pictures. Nothing they can give you is fair exchange for your own native instinct when it comes to drawing animals!'

"By and by my money was all gone so I came back to Fort Defiance. I looked and looked for work, but all I could get was a day here or half a day there, until the ECW went into effect. Then I was put on as a jack of all trades. Then again, I took a truck apart and put new bearings in for those burned out, or I acted as interpreter and when the soil erosion control work began there were lots of pictures needed to show my people what could be done if they would just help the government. I made posters for the community houses and schools and in between times I painted the pictures that are on the walls of the buildings at Window Rock and other agency offices.

"It takes me about three full days to make one of the water colors like those in the club house here at Window Rock. I always have plenty to do now. There are covers to draw for the different publications put out by the Service, and always there are posters to be made for the Chapter Houses (official meeting places of the Navajo Council); and whenever there is a fair close by we put lots of posters up to show the world what the government is trying to do for the Navajo sheep owners. I made the posters used in the first Navajo fair this year. I'm very busy and very contented."

Keetsie is officially known as Charles Shirley, a name given to him at Albuquerque, and his signature is a familiar one to lovers of Indian art. He is totally unspoiled and has none of the poses or affectations too often connected with artists, but he is genuinely pleased when some one he likes praises his work. In the years to come those persons fortunate enough to possess one of his drawings or paintings, with its swift free lines and delicate coloring can proudly say: "This was done by the Navajo artist, Keetsie!"

WATER SUPPLY BELOW NORMAL IN SOUTHWESTERN AREA

Based on snow reports from the mountain watersheds, the seasonal runoff in the rivers of the Southwest will be lower this year than normal. Expressed in percentage of normal, the flow in the streams will be as follows:

Rio Grande 83, San Juan and Dolores 48, Gunnison 81, Colorado 100, Yampa and White 97. Compared with 1938 the flow will be: Rio Grande 56, San Juan and Dolores 36, Gunnison 63, Colorado 87, Yampa and White 83. These figures were issued by the U. S. Weather Bureau.

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DESERT QUIZ ANSWERS

(Questions on page 28)

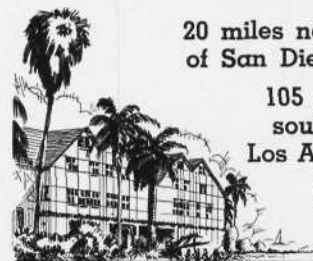
- | | |
|-------------------------|---|
| 1—Apache Indian | 11—Powell |
| 2—National monument. | 12—Mesquite trees |
| 3—Camino del Diablo | 13—The Delight Makers |
| 4—Magenta | 14—Yucca roots |
| 5—Birch | 15—Putting his belongings on the doorstep |
| 6—Limestone | 16—Vegetation |
| 7—Ceremonial purposes | 17—Historical inscriptions |
| 8—San Sebastian springs | 18—Father Kino |
| 9—Diamond | 19—1905 |
| 10—Utah | 20—Piutes |

VACATION

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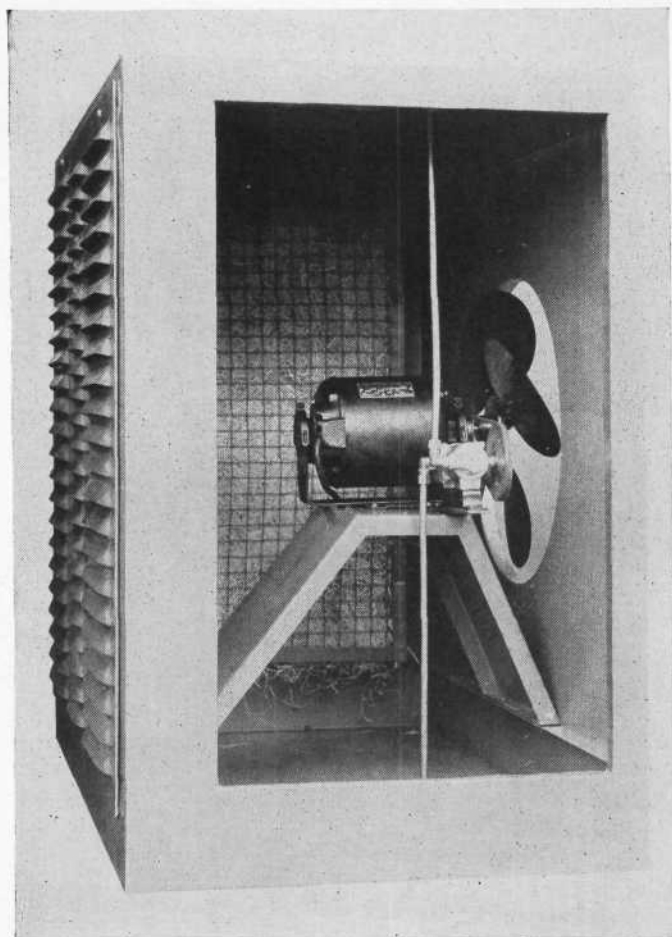
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A typical evaporative cooler equipped with 3-speed fan assembly, water re-circulating pump and louvers. The cooler has side removed to show interior construction.

THE evaporative type cooler is now accepted quite universally as a satisfactory means of increasing summer comfort in regions where high temperatures are accompanied by moderately low relative humidity, such as are encountered in most of the western and southwestern parts of the United States.

satisfactory evaporative cooler; the first being that the cooler has passed from the experimental and home-made stage to the more sightly, efficient and durable equipment made by local contractors or air-conditioning manufacturing companies.

I shall attempt to bring out in this article the apparent trend in evaporative cooler construction, installation and operating practices.

In general, there are two outstanding requirements for a satisfactory evaporative cooler; the first being that the coolers must have an output capacity sufficient to effect a complete air change in the space to be cooled rapidly enough to prevent excess humidity, and, second, inasmuch as the evaporative pad surface acts as a cooling tower, this surface must be large enough to cool the volume of air being drawn through the cooler. Failure to comply with either one of these requirements is the cause of most failures to obtain satisfactory results.

In order to obtain maximum results from your evaporative cooler, it should have all of the following desirable characteristics:

1. **COOLING EFFICIENCY.** The actual capacity needed varies with the outside temperature and relative humidity. In

One of the questions in the minds of those desert dwellers who are equipping their homes with new cooling systems this season is whether to use the cooling fan or blower type of installation. Each method has its advantages. In the accompanying article, L. G. Tandberg, a qualified engineer, sets forth briefly the relative merits of the two types and the special purposes for which they are designed. This information is given without prejudice, to assist home owners in making their own decisions.

More Efficient Coolers for Desert Homes

By L. G. TANDBERG

moderately mild weather and low relative humidity a capacity sufficient to provide an air change once every three to five minutes will be found satisfactory. When higher temperatures are encountered, and also when higher relative humidities prevail, a more rapid air change is necessary for satisfactory results. It is a safe rule to purchase a cooler on the basis of having sufficient capacity so that when necessary it will provide complete air change in the space to be cooled at least every two minutes. This can easily be determined by figuring the cubic foot content of the space to be cooled, which is width times length times height in feet, and dividing this figure by two, which should be the capacity of the cooler in cubic feet per minute.

2. **QUIET OPERATION.** Early coolers, using makeshift motors and blades, were very noisy when handling the amount of air necessary for satisfactory operation. Evaporative cooling fans are now available with large blade area which, when operated at low speed, will provide the necessary volume of air quietly. In order to overcome the noise caused by early makeshift fans, blowers became quite popular for moving the air noiselessly. Either an evaporative cooling fan designed for this purpose, or a blower, will move the necessary volume of air quietly.

3. **APPEARANCE.** There are many factors contributing to the sightly appearance of an evaporative cooler. The early models were often unsightly and crude. In general, the closer the cooler can be made to conform to the side of the building, the less objectionable its appearance.

At best the evaporative cooling pad is unsightly, especially after some use, when it becomes discolored. Either a separate grill or a louver assembly will materially improve the ap-

pearance of the cooler from this standpoint. Whether cooler is made of sheet metal, wood celotex or masonite it should be painted to conform to the color of the building if possible. Use of copper tubing for the water supply and also for the discharge line, where a re-circulating pump is not used, will make a much neater installation.

4. **ECONOMY.** All evaporative coolers are relatively economical when compared with other means of cooling, such as refrigeration. However, there is still considerable variation in operating costs of various types of evaporative coolers. In order to provide maximum efficiency, it is necessary to keep the evaporative pad wet so that air is not drawn through dry surfaces in the pad. In order to do this it is necessary to pass over the pad two or three times as much water as actually evaporates. Where a re-circulating pump is used only the water that evaporates is used and the remainder which passes over the pad is re-circulated. This results in a saving of one-half or more of the water expense.

There is considerable variation in electric current cost for various types of evaporative coolers having the same output in cubic feet per minute in air delivery. This is due to the difference in efficiency resulting from the method of moving the air. As indicated under paragraph 2, entitled "Quiet Operation," either an evaporative cooling fan or a blower used in evaporative coolers will move the necessary amount of air quietly. However, for most applications the use of an evaporative cooling fan will result in operating costs somewhat lower than required for a blower type cooler.

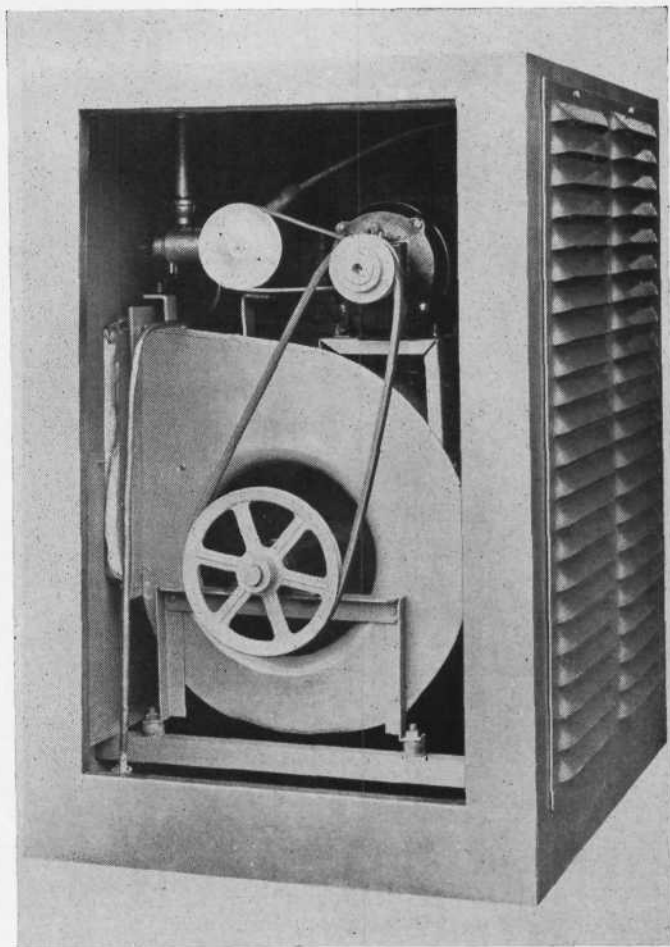
5. **FLEXIBILITY.** It seems just as reasonable to provide varying capacities of cooling to suit varying summer temperatures as it is to provide varying capacities of heating for winter temperatures. A large majority of evaporative coolers now installed have only a fixed capacity so when temperatures are 80° the same amount of cooling is provided as when temperatures are as high as 120°. Obviously this does not provide satisfactory results. It should be possible to operate evaporative coolers at maximum capacity for extreme conditions when temperatures run from 110° to 120°, and be able to reduce the capacity of coolers for night operation and for milder weather when the temperature will run from 80° to 100°.

If a cooler is selected having capacity as suggested under paragraph 1, entitled "Cooling Efficiency," this will provide the necessary capacity for extremely hot weather. Such a unit equipped with a 3-speed evaporative cooling fan would then provide two lower capacities, 25% and 50% below the total capacity so that comfortable conditions may be maintained regardless of whether the outside temperature is 80°, 110° or 120°.

In selecting a cooler having the above characteristics you will obtain maximum satisfaction at minimum of cost.

6. **BLOWERS OR FANS.** At present there is considerable confusion resulting from lack of understanding as to which type is best suited for particular requirements. Both blowers and fans of the evaporative cooler type will produce the amount of air movement through an evaporative cooler quietly for satisfactory cooling results. For an installation to be connected to hot air furnace heating plant or where air is to be distributed to the space to be cooled through ducts, a blower is best suited, as it will deliver air more satisfactorily against static pressures so encountered. Where air is to be blown directly into the space to be cooled, as through a window or similar opening, as is the case in about 95% of evaporative cooler installations, either an evaporative cooling fan or a blower may be used successfully.

A cooler equipped with a blower will discharge the air into



An evaporative cooler equipped with blower, water re-circulating pump and louvers.

the space being cooled in a concentrated air stream at a high velocity. A cooler equipped with an evaporative cooling fan spreads the air at a much lower velocity than is obtained with a blower. Either type of capacity needed for satisfactory cooling will provide sufficient pressure to move the air from room to room, expelling it through openings provided for this purpose.

Summarizing the above, an evaporative cooler, equipped with makeshift fan, blower or evaporative fan assembly, of the proper capacity, will satisfactorily lower the temperature when used in an evaporative cooler properly constructed.

The blower type unit is much more satisfactory for forcing air through ducts, such as in a furnace installation.

While fans used in early evaporative coolers were noisy and unsatisfactory, there are now available evaporative cooling fans designed especially for this purpose that are quiet and very economical.

Flexibility of cooling capacities, such as is provided with 3-speed evaporative cooling fan assemblies, is necessary to vary the cooling capacity to suit the cooling needs.

Considering that most persons who are prospects for evaporative coolers now own automobiles, radios, electric refrigerators, and many have electric ranges, it seems reasonable that such persons would be willing to pay a reasonable price of say \$200, or thereabouts for something that will give the measure of comfort and health that a well-designed, well-constructed evaporative type cooler will provide. When this time comes evaporative coolers will be offered that are designed to provide all of the characteristics essential for maximum cooler satisfaction as outlined in this article.

Sez Hard Rock Shorty of ... Death Valley

By LON GARRISON



"Yup. I always was a good hunter too," announced Hard Rock Shorty as he mooched a pipe load of tobacco and settled down for a quiet hour in the shade on the Inferno store porch.

"I'm a dead shot, I can hike the legs off a road runner, I know more about where to find deer than their mothers do, an' I'm husky enough to lug two bucks back to camp at onct. Yes sir—I do pretty good. Why I never missed a buck I shot at except once, an' that really hadn't ought to count.

"It was one time down in the Panamints, around Telescope Peak. We was about out o' meat in camp, an' I'd been trackin' this big buck along for six or seven hours. All of a sudden I looked ahead, an' there he was right in front o' me lookin' the other way. It wasn't over fifty yard, an' I pulled Old Betsy down, took a good careful aim, an' Ker-Blam! I looked for the buck to drop, but he just kep' on standin' there. I sure thought he must be stone deaf, an' that I'd missed 'im clean. So I took aim again — Ker-Blam! Still no use. That buck just stood there an' wiggled his ears. He didn't even look around at me.

"Well, I figgered there must be somethin' wrong, so I started anglin' around to try a shot from the side. After I'd crawled about 400 yards without seemin' to get any closer, all of a sudden I run into a glass window like thing. That was funny, but it didn't take me long to figger it out. It was one o' them glass mountains, an' that buck was on the other side of it. Not only that—the glass was the kind they uses in telescopes, an' that buck really was twenty miles away by actual measurement."

Mines and Mining . .

Hurley, New Mexico . . .

Completion of Nevada Consolidated Copper corporation's new \$5,000,000 smelter here is announced by the company. Plant capacity is 10 million pounds of blister copper monthly. Building was begun two years ago by Chino mines division of Kennecott Copper. It utilizes natural gas as fuel. Hundreds of houses have been built for company employes. Chino's milling and crushing plants at Hurley and the mining camp at Santa Rita have also been expanded. Nevada Consolidated's new construction is largest by private industry in New Mexico in more than 10 years.

Tucson, Arizona . . .

Arizona's bureau of mines has bought equipment to make quantitative spectroscopic analyses of ore. This new service will be available to producers next fall. Savings in time and money will result, according to G. M. Butler, bureau director. Analyses which formerly cost \$100 and took several days will be made in a few hours at one-tenth the cost, Butler says.

Winnemucca, Nevada . . .

Nevada's largest mill, 600-ton plant of Gatchell Mine Inc., on the slopes of the Osgood mountains in Humboldt county, is being enlarged to 800-ton capacity, it is announced here. The mill is operating at full capacity.

Austin, Nevada . . .

Guy Grannis and associates of Gallup, N. M., have taken over the George Burnham turquoise mines near here. New equipment will be installed by the operators, whose market is found in part among Navajo Indian jewelry makers.

Virde, New Mexico . . .

To supply recently increased demand for bentonite, New Mexico and Texas owners of a large deposit near this town have announced a mill will be erected. The mill will grind the clay to a powder. Long used for foundry moulding and in many cosmetics, bentonite is now said to have possibilities in manufacture of a fireproof, non-warping, tough and pliant membrane as amenable to printing as certain grades of paper.

Phoenix, Arizona . . .

Four field engineers have been appointed by the recently established state department of mineral resources: Carl G. Barth, Jr., Prescott, Yavapai and Maricopa counties; Miles M. Carpenter, Tucson, Pima, Santa Cruz and Cochise counties; Elgin B. Holt, Kingman, Mohave and Yuma counties; Newton Wolcott, Globe, Gila, Graham, Greenlee and Pinal counties. These appointees started two weeks' training course on May 15, then will take up field duty.

Lovelock, Nevada . . .

Another mining bubble burst, with official denial that emeralds had been found at the Nevada-Massachusetts tungsten mine. Otto Heizer, general manager of the Rare Metals corporation, said a specimen of beryl analyzed at the Smithsonian Institution, Washington D. C., contained no gem emeralds. The specimen showed clear aquamarine color of gem emerald, but would not stand cutting. Never has gem emerald been found in North America, Heizer says.

Morenci, Arizona . . .

Phelps Dodge corporation will build a 25,000-ton metallurgical plant here early in 1940. Louis S. Cates, P-D president, made the announcement. The plant is expected to be in operation in 1942, under direction of W. W. Jourdin, New York, consulting engineer for Anaconda Copper company.

Phoenix, Arizona . . .

During 1938 Arizona mining and smelting companies reporting under unemployment compensation law paid \$17,088,308 to an average of 10,849 workers. Figures from the unemployment compensation commission show this is 23 per cent of wages paid in the state to 20 per cent of wage earners. Total wages of all reporting industries were \$73,143,787, to an average of 54,806 employes.

Reno, Nevada . . .

Senator Pittman has written identical letters to 16 senators inviting them to join a movement to force the President and the Treasury department to agree to peg the price for domestic silver at not less than 77.57 cents an ounce until June 30, 1941. Present price is 64.64 cents.

San Bernardino, California . . .

At the annual meeting of the California Federation of Mineralogical societies held here in April Ernest W. Chapman of South Pasadena was re-elected president for the ensuing year. C. D. Woodhouse of Santa Barbara was named vice president and Kenneth B. Garner of San Bernardino re-elected secretary-treasurer.

. . .

Superstition Mountains to be Preserved as Wilderness

Arizona's land of mystery in the Superstition mountains near Phoenix has been set aside as wilderness area. Forest service announcement calls it "one of the most alluring regions of the Southwest." Several roads end near the wilderness boundary, but within the area there are only a few trails for foot and horseback travelers. Under forest service policies governing wilderness areas no roads will be constructed. Before white men visited the region, it was held in awe by the desert Indians. Legends of fabulously rich, lost gold mines abound. Prospectors died in vain search of the Lost Dutchman, Adams Diggings, the old Spanish mine, La Mina de los Sombreros.

No permits will be granted for residences, resort or similar development which would affect primitive aspects of the area. The new wilderness thus dedicated to the public use includes the Superstition mountains and 132,000 acres in the Tonto and Crook national forests. Prominent peaks are Pinto, Black Cross butte, Fish creek, White, Iron and Tortilla mountains, Superstition peaks, Weaver's and Miner's needles, rising to an elevation of 4500 to 6000 feet. North of the divide between Salt and Gila rivers, the rugged topography consists of a series of irregular ridges and mesas separated by deep, narrow canyons. South of the divide the Superstition range rises precipitously from the valley floor.

Writers of the Desert

Just to prove that she can write interesting prose as well as exquisite poetry, LOIS ELDER STEINER has given the readers of the Desert Magazine this month a unique "hobby story." Mrs. Steiner formerly lived at Salome, Arizona where she knew Ernest Hall, the subject of her word sketch, as neighbor and friend. During the past year the Steiners moved to Phoenix to provide better school opportunities for their children.

• • •

HARRY DACQUET, prize-winner in the Desert Magazine's amateur photographic contest last month, wrote as follows about his experience in Antelope Valley, California, on the trip the picture was taken:

"We stayed overnight on the shores of Rosamond dry lake. No one was around to bother us so we had the place pretty well to ourselves. However, late Sunday afternoon I had to unhitch the car and go out to the waterline near the center of the 'dry lake' and snake a 'city fellar' out of the mud. He had driven his car too close to the damp surface and his wheels broke through the crust. There he sat, clear up to the running boards. And, boy, was he happy to find a helping hand!"

• • •

There are many girls who can climb mountains, and many more who can write good magazine copy — but the Desert Magazine readers this month will make the acquaintance of a young lady who does both feats—superlatively well.

Even if you never climbed a mountain in your life, and never expect to do so, you'll enjoy RUTH DYAR'S sparkling story of her San Jacinto ascent.

Ruth was born and grew up on a ten-acre farm in the apple orchards and farming country near Spokane, Washington. She attended country grammar school, high school in Spokane, and the University of Washington in Seattle, graduating cum laude from the school of journalism in 1934. Since graduation, she has done secretarial work in California, and keeps house in Los Angeles with her sister Joan.

Her father is Ralph E. Dyar, Spokane playwright, author and newspaper man, and she has three sisters and a brother. The whole family likes skiing, fishing, and the outdoors, but so far Ruth is the only rock climber.

She joined the Sierra Club and the Ski Mountaineers section in January 1938 and a year ago started climbing with the Rock Climbing section. She had never heard of rock climbing up to that time, and never liked anything so well in her life.

During the summer of 1938, she at-

tended numerous practice climbs around Los Angeles and at Tahquitz (Lily) Rock near Idyllwild. Her first long climb was made on the Fourth of July, when she was with a party of five who made a 14-hour climb of Mt. Sill, 14,200-foot Sierra peak in the Palisades Glacier region, by a new route. Over Labor Day she was a member of the party of eleven RCS climbers who back-packed in to East Face Lake at 12,800-foot and climbed the East Face of Mt. Whitney, 14,485-feet, by the new (Sunshine-Peewee) route.

Ruth spends almost every weekend in the mountains, from December to May

skiing with the Ski Mountaineers at their huts at San Antonio and Keller Peak; on San Gorgonio; and once this winter at Charleston Peak, Nevada.

She has always enjoyed writing, though this is her first published article. She wrote her (first and last) book in the Fourth Grade, worked on school papers in high school and the University, and wrote "It Is Done," pamphlet on college etiquette still sold to University of Washington students. She also edits The Mugelnoos, bi-weekly publication of the Ski Mountaineers and Rock Climbing Sections of the Sierra Club.



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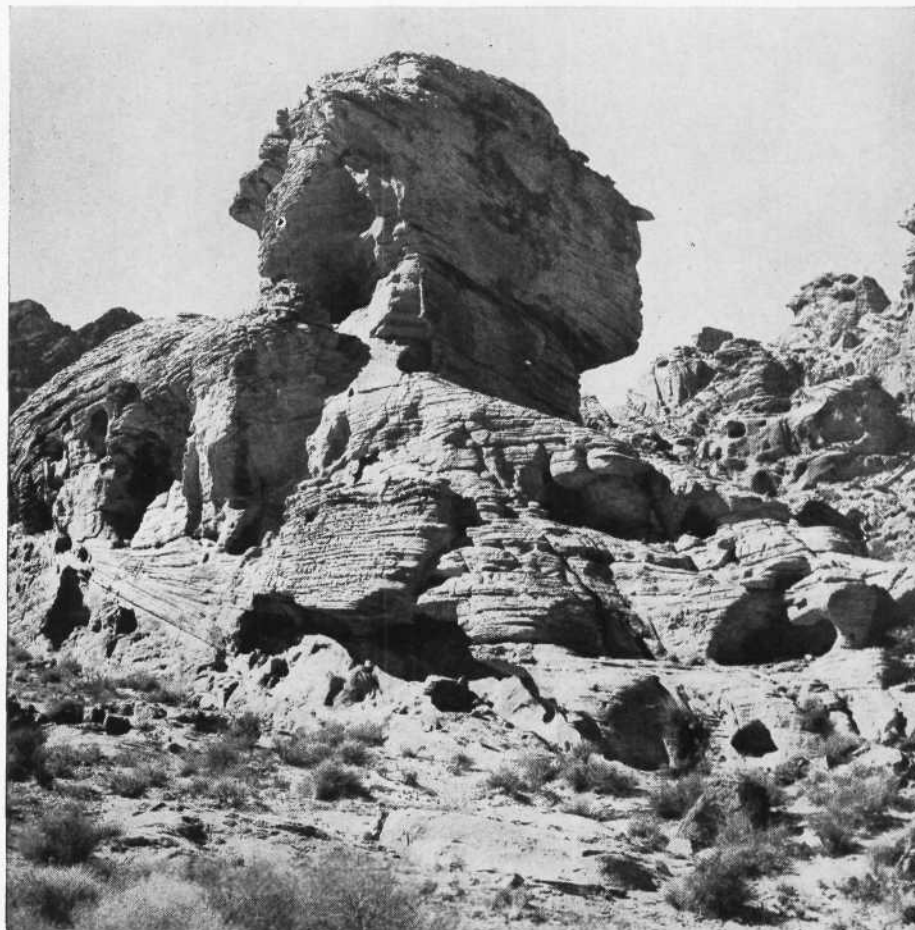


*YOU DON'T NEED
TO SLEEP IN A BALLOON—*



SPHINX

Don Erskine of Boulder City, Nevada won the prize offered by the Desert Magazine in April for the identification and best description of the rock formation shown in the picture below. This rock is in the Valley of Fire in Nevada and is known as the "Sphinx." Erskine's prize-winning descriptive story is printed below.



By DON ERSKINE

THE picture in the Landmarks contest for April shows the "Sphinx," an interesting formation in the Valley of Fire in southern Nevada. This odd shape has been sculptured by wind erosion out of a flaming red sandstone from which the Valley of Fire gets its name. The sunset glow at the end of a hot summer day gives the red walls of the valley the appearance of being actually on fire. A large part of the valley is included in the Boulder Dam-Valley of Fire state park.

The road through the Valley of Fire was once a part of the Arrowhead trail, and still remains in much the same condition as when the stage coaches rumbled over it. Though it is rough in many places, the use of a reasonable amount of caution will enable any car to traverse it at any season. It connects at Crystal, Nevada, 36 miles north of Las Vegas, with U. S. Highway 91 on the western end, and at the eastern end now joins the newly paved highway from Overton to the

northern arm of Lake Mead. The unpaved portion of the road is approximately 27 miles in length.

Within the Valley of Fire may also be seen Atlatl rock. This rock is covered with prehistoric Indian petroglyphs and receives its name from the fact that one of the drawings on its face shows a man using an atlatl or spear thrower. There are many other grotesquely carved formations in addition to the "Sphinx." The "Beehive" will be seen not far from the "Sphinx." There are no habitations or developments in the Valley of Fire other than a campground with tables, fireplaces, rock shelters and comfort stations constructed several years ago by CCC forces under the direction of the national park service. There is no water available within the valley, so campers should carry enough for their needs.

At the town of Overton, Nevada, 18 miles from the heart of the valley, is located a museum of archaeology maintained by the national park service. Here is told the fascinating story of the Pueblo

Indians who constructed the "Lost City" more than 1000 years ago, and of the Basketmakers who lived before them. The original site of the "Lost City" is now submerged under the rising waters of Lake Mead, and visitors must be content with seeing the replica of it which has been constructed near the museum at Overton.

Visitors to the Boulder dam region may see the Valley of Fire, the Overton Museum and the northern or Virgin arm of Lake Mead all in a one day's round trip from Boulder City covering approximately 185 miles. In addition to the many scenic attractions of the region one may enjoy boating, fishing, swimming and the other activities being made possible by the national park service in the Boulder dam recreational area, which adjoins the Valley of Fire.

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LANDMARK IN UTAH

Who can identify this rock?



Prize Contest Announcement . . .

Somewhere in west central Utah this unusual rock face is to be seen. It bears a striking resemblance to one of the Mormon prophets, and is therefore a well known landmark in Utah.

The photographer who took this picture assures us that neither the rock nor the negative has been retouched.

Desert Magazine readers will want to know more about this unusual rock formation, and in order to bring out all the available information a prize of \$5.00 is offered to the person who sends in the best identification and description of the landmark.

Entries in this contest should give all available information as to location, roads and other means of access, approximate size and any historical or legendary material which may be available. Answers should be sent to Landmarks Department, Desert Magazine, El Centro, California, and must reach the magazine office by May 20 to be eligible for the prize. The winning answer will be published in the July number of the Desert Magazine.

. . .

Arizona Pioneers Elect Officers

Meeting in 18th statewide reunion, Arizona Pioneers association elected Linn B. Orme president. Miss Sharlot M. Hall of Prescott was elected vice president; W. W. Brookner of Globe, veteran secretary was reappointed. Directors are J. P. Ivy, Tolleson; Dudley Lewis, Phoenix; and Frank M. Poole, Superior. A merry old-time dance closed the pioneers' convention, as trail blazers showed their skill in jigs and reels.

Higher Fees in National Parks

At many of the national parks and monuments visitors will pay higher entrance fees in the future as a result of new regulations announced by Secretary Ickes of the Department of Interior.

Ickes stated that while it is not intended that the park service should be fully self-supporting, the new schedule of charges will enable "the national parks to do their share to reduce the cost of government."

Western parks and monuments affected by the new order are the following:

Rocky Mountain and Grand Teton parks—A permit fee of \$1.00 a year to be collected from each automobile.

Yellowstone park—Fee will remain at \$3.00 a car. No additional fee will be collected from those passing from Yellowstone into Grand Teton park. Motorists entering Yellowstone by way of the Grand Teton will be given credit for the \$1.00 fee already paid when they reach the Yellowstone entrance.

House trailers—For the first time, an additional fee of \$1.00 will be charged for house trailers in parks where motor vehicle licenses are now collected. In monuments the additional fee for house trailers will be 50 cents.

Zion and Bryce canyon parks—One fee of \$1.00 will admit a car to both parks.

Carlsbad caverns—Elevator fees are reduced from 50 cents for adults and 25 cents for children, to 25 cents and 15 cents respectively.

Mount Ranier park—Registration fee of \$1.00 will be charged mountain climbers who ascend the peak.

Colorado National monument, Craters of the Moon monument in Idaho, Devils Tower monument in Wyoming, Petrified Forest monument in Arizona, and Lava Bed and Pinnacles monuments in California—A motor license fee of 50 cents will be charged in the future.

Montezuma Castle in Arizona, White Sands in New Mexico and certain other monuments—An admission fee of 10 to 25 cents each for adults will be charged.

Casa Grande and Tumacacori in Arizona and Aztec Ruins, Bandelier, Chaco canyon and El Morro monuments in New Mexico—A guide service fee of 25 cents will be charged for adults.

In parks and monuments where motor fee is charged the accommodations provided by the park department include camping facilities, wood, water and comfort stations and guide and lecture service.

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Here and There

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ARIZONA

Tucson ...

Papago Indian history is recorded on a "living" calendar stick received in April at the Arizona state museum. In carved squares on the five-foot piece of wood notches and symbols tell of Mexican and Apache wars, feast days, the Sonoran earthquake of 1887, election of tribal chiefs, coming of the railroad to Arizona, the New Deal Indian program, births and deaths, including fatal automobile accidents of 1938. Jose Maria, historian of his people, carefully copied the history on another stick, before presenting the calendar to the museum.

Grand Canyon ...

Congress has decided and President Roosevelt has agreed that Pima, an Arizona mule, is worth \$125. The nation's chief executive signed a bill passed by the House and Senate, to pay to Fred Harvey Transportation company this amount for Pima, a jughead killed while packing supplies to a CCC camp in Grand Canyon. The FHT company had leased Pima to the national park service.

Tuba City ...

New and better dinosaur tracks have been uncovered 2-1/2 miles from here on the Oraibi road. Ray Honakuku, Hopi Indian, prying up layers of pearl grey sandstone for building, discovered in a small area about 21 prehistoric footprints, perfectly preserved, undetermined numbers of impressions on all sides. Tony Richardson says they are Arizona's biggest and best.

Flagstaff ...

The story of an Eleventh century land rush was told by Prof. J. C. McGregor of Arizona State Teachers college, when the museum of northern Arizona was opened here April 1 for the summer season. Winona village was the subject. Materials from the Winona excavations, started several years ago, were on exhibition. Fine specimens of pottery and other interesting objects were found by the diggers. The museum, open daily to visitors, draws thousands of travelers every season.

Grand Canyon ...

Additions to hotels and new camp cabins at Grand Canyon will be built this summer. Enlargement of Bright Angel Lodge dining room and of the dining room at El Tovar hotel; construction of nine 4-room cabins in the camp grounds; new quarters for Indians at Desert View, and walks and paths around Bright Angel Lodge are planned.

Holbrook ...

Federal aid for wild turkeys is provided in a project approved by U. S. biological survey. Once abundant, valuable source of food for early explorers and settlers in Arizona, this game bird is now very scarce. It is proposed to trap live turkeys in sections where they are found, transfer them to favorable environment in Coronado and Crook national forests. One-fourth of the cost will be paid by the state, three-fourths by congressional appropriation. To Arizona \$18,611.66 has been allocated.

Flagstaff ...

During the past 30 years G. A. Pearson has cared for trees growing in 4,000-acre Fort Valley experiment forest near Flagstaff. He has encouraged young growth, fought tree parasites. He is senior silviculturist of the Southwest Forest and Range Experiment station. Now, for the first time in Arizona history a large area of forest will be re-logged, giving an estimated harvest of 1,200,000 board feet of lumber. Growth of trees has averaged about one and one-half inches in diameter every 10 years since he has been nursing them, Pearson says, or 86 board feet per acre per year. This method of re-cutting improves quality and quantity of trees, may increase acre yield.

Phoenix ...

Just because he is 89 years old, pioneer George N. Putnam wants to know "why in hell" should he be barred from getting a job. George called on Governor Jones to find out. "Feel my muscles," he demanded. The governor said they felt like rawhide. In 1867 Putnam says he made a trip to Arizona with a wagon-train. Since 1875 he has been an Arizonan. "I'd like to get back to work," he insisted. "Every time I get a chance, they tell me I must register with WPA and I was kicked off WPA because they said I was too old." He walks back and forth to Prescott, 4 1/2 miles from his home, "all the time."

...

CALIFORNIA

Indio ...

Colorado River and Salton sea area, comprising California fish and game district No. 22, will be closed to bass fishing until May 29. This warning from fish and game wardens follows on reports of catches in the river. It is also unlawful to fish within 150 feet of a dam. Violators are subject to minimum fine of \$25.

Palm Springs ...

Two groups of native Washingtonia palm trees, now standing in Coachella valley, will be dug up and transplanted at the north entrance to the city of Palm Springs. The palms are more than 35 feet high, weigh about 40 tons. They will be set on both sides of the highway, in landscaped parks 30 by 100 feet. Around them will be planted native desert flowering shrubs and plants. They were bought by Thomas O'Donnell, presented by him to the city.

Independence ...

A summer ski school on the rooftop of North America overlooking the desert! Hans Georg will be instructor for students in skiing on the high slopes of Mt. Whitney. Snow remains there all summer long.

Palm Springs ...

Voters will decide on June 21 whether to disincorporate or to retain Palm Springs' status as a municipality. City council has adopted resolution calling an election. Because most of its winter residents will be somewhere else by mid-June absentee ballots will be a factor in the result.

Barstow ...

The desert tortoise managed to exist for several millions of years without protection of the law, but ever-spreading tentacles of legislation have finally caught up with him. California's legislature has passed, Governor Culbert Olson has signed an act forbidding sale of this unchanging inhabitant of a changing world. In Barstow one effect: Contestants will have to hunt up their own entries for the annual tortoise race.

El Centro ...

Imperial valley's first crate of cantaloupes in an annual \$10,000,000 melon deal has gone by air express to President Roosevelt. Shipper was Charles Freedman, El Centro grower, who has sent to the White House during the past nine years first melons of the season each year to the occupant of the White House. Imperial cantaloupes are shipped to practically every state in the Union and to Canada and Mexico. Peak shipment on record: 600 carloads in 24 hours.

Blythe ...

Palo Verde will harvest seed from 10,000 acres in alfalfa during 1939 season, according to recently completed survey. At an average yield of 250 pounds of seed to the acre, production may total 2,500,000 pounds. Mint is a new crop in the valley. J. B. Japua's 20-acre ranch, farmed by F. C. Scheppelee, is planted in mint. Leaves will be processed for mint oil.

Coachella ...

Riverside county's monument to Captain Juan Bautista de Anza, first Spanish explorer of the Colorado desert, is taking shape. A bas-relief base depicts events during the second De Anza expedition from Tubac to California with animals and colonists. Sherry Peticolas is carving a 19-foot figure of the explorer. It will be raised in Newman Park at Riverside.

...

NEVADA

Elko ...

Wild horses in Nevada are property of the state. Mustang hunters must post \$2,000 bond and get permits from county supervisors. This opinion from the attorney general follows an episode in which Sheriff C. A. Harper got an order to restrain horse hunters after they had caught 50 mustangs. On Harper's instructions the horses were released.

Las Vegas ...

Snowfall on Charleston mountain is below normal. This indicates a drier season for the Las Vegas area, says Forest Ranger R. C. Anderson.

Genoa ...

University of Nevada press club in April dedicated this plaque here: "Nevada's first newspaper, The Territorial Enterprise, founded at Genoa, December 18, 1858. Mark Twain began his career as a writer on its staff. Placed December 18, 1938, University of Nevada Press Club."

Tonopah ...

Emery Johnson, Gilbert mining man trades Nevada turquoise to New Mexico Indians for blankets, rugs and other items. Returning from a recent tour of his trading territory, he complains bitterly of taxes. "I was forced to pay a tax in New Mexico on turquoise traded to the Indians and the Indians were forced to pay a tax on rugs and blankets they turned over to me. The American people are tax crazy from Washington down to the city council of the smallest cross roads town," he opines.

NEW MEXICO

Raton . . .

Prairie schooners still navigate the plains from Kansas. Over Raton Pass, where pioneer emigrants once passed through the famous tollgate operated by Uncle Dick Wooten, a horse-drawn covered wagon rolled recently. Two Stafford, Kansas, residents said they had traveled three weeks to reach the pass. They are enroute to Los Angeles, average 20 miles a day.

Santa Fe . . .

Finest example of early American church art. Experts so rate a great stone reredos, carved in the 18th century by unknown New Mexico craftsmen. First authentic record indicates the reredos was placed in the military chapel on the south side of the Santa Fe plaza, when it was built some time before 1760, as the gift of the governor, Francisco Antonio Marin del Valle and his wife. Preserved in the local cathedral since the military chapel was sold, the reredos now will be placed behind the altar of the new Catholic church here. Plans were announced by Archbishop Rudolph A. Gerken.

Gallup . . .

Movie invasion of Navajo Indian reservation social events is planned by the Indian service. A mobile motion picture unit, equipped with sound apparatus and screen, will be sent to Indian gatherings this summer. It remains to be seen whether the Navajo will forsake his tribal dances for Hollywood studio offerings.

Albuquerque . . .

A church built on a metal trailer, for use on the Navajo Indian reservation, was dedicated here by Archbishop Rudolph A. Gerken. It can be drawn by an automobile. Clamshell doors at the rear open so that the upper door serves as a roof over the priest saying mass. Lower door acts as a platform. Just behind the doors is the altar. Behind it are living quarters for two men, including kitchen, dining space and two berths.

. . .

UTAH

Cedar City . . .

Forty markers will be placed during 1939 along Utah highways commemorating outstanding events in Utah history. At each site two pillars of native rock, 9 feet high and 9 feet apart, will support a wooden slab carrying a carved inscription. Locations announced in vicinity of Cedar City: first iron mills in the west; south rim of great basin, north of Kanarra; Fort Harmony Indian mission, south of Kanarra; historic Pine valley mountain, south of Harrisburg; pioneer cotton mills, south of Washington; St. George temple, east of St. George.

Vernal . . .

Daggett county's history is a project of WPA writers. This is youngest of all Utah counties. Census reports population 411, all white. It is one of eight Utah counties without a railroad. There is no telegraph and only one telephone, no newspaper, no bank.

Zion Park . . .

Timpanogos cave was opened for the season April 30. A mile-long trail leads to the entrance, with splendid views of American Fork Canyon along the way. Visitors pass first through Hansen cave, then through Middle cave into Timpanogos. New indirect lighting reveals beauty of a half-mile of underground formations. Stalactites and stalagmites in great variety are described with such names as the Great Heart of Timpanogos, the Jewel Box, Chocolate Falls.

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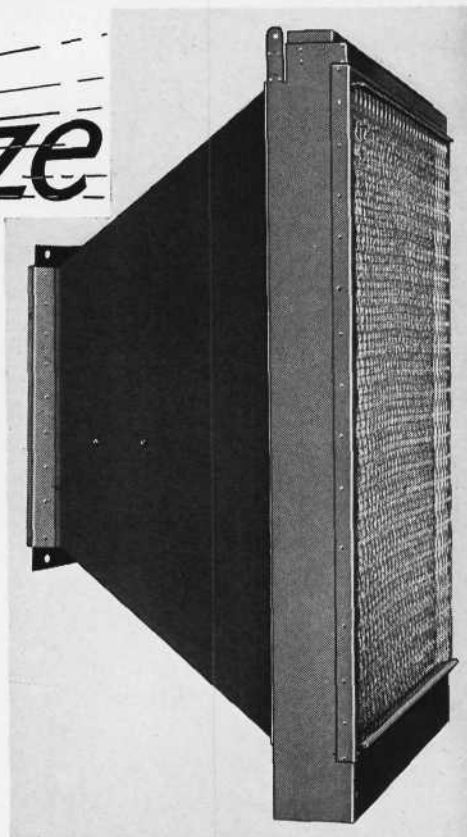
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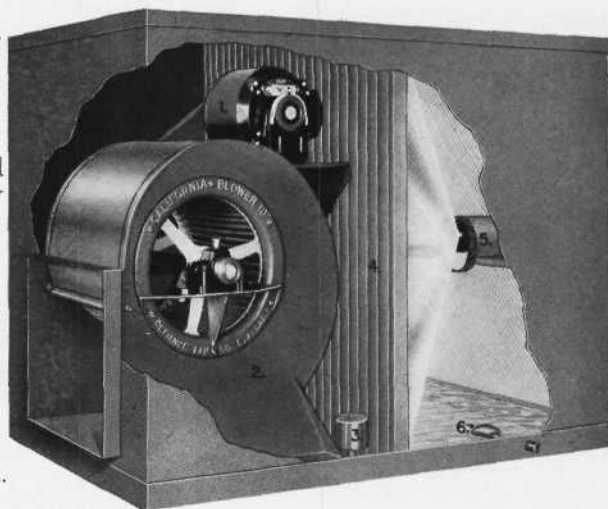
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Desert Place Names

Magazine is indebted to the research work done by the late Will C. Barnes, author of "Arizona Place Names;" to Frances Rosser Brown of New Mexico, to Margaret Hussmann of Nevada, Hugh F. O'Neil of Utah, and to James A. Jasper of Los Angeles.

ARIZONA

BRADSHAW MOUNTAINS

Yavapai county

South of Prescott. After William D. Bradshaw, an early miner here. "He ran for delegate to Congress in July 1864 as a Democrat against Charles D. Poston, Republican, who defeated him," according to McClintock. C. G. Benung says, "Bradshaw committed suicide at La Paz in 1864 and is buried there. He operated a ferry at La Paz for some time." Hinton writes that there were three Bradshaw brothers, William, Ben and Ike and that they went to Arizona in 1863.

ACUA CALIENTE

Maricopa county

Sp. "hot water." Village and hot springs about 3 miles north of Gila river. Springs noted for curative value in certain diseases. In 1699 Father Kino visited the place. Poston writes in Apache Land:

"Agua Caliente, in Spanish called,

A spring that healed e'en them that crawled."

MISSION CAMP

Yuma county

Station on old Butterfield stage route 32 miles east of Yuma. From here a road led south to the Papago country and into Mexico. Charles D. Poston writes in APACHE LAND (he was traveling east from Yuma): "Our first night was in Mission camp Where the river bed was somewhat damp."

CALIFORNIA

MEYERS CANYON

Imperial and San Diego counties

This canyon derived its name from Doc. Meyers, who owned the ranch on which Hulburd Grove stands near Descanso. Meyers ran a few cattle, but his range was limited and in scouting around for feed in the late 90s, he located a cow camp in the canyon. In 1903 Doc located a hyacinth mine, producing gem stones of good quality, on the ridge between this canyon and Devil's canyon. In 1902, S. L. Ward, county surveyor, and James Jasper explored Meyers canyon on foot, hunting a better route than Devil's canyon for the road from Imperial valley to San Diego. They found it, Jasper reports, but the county road funds were low and the cost was then prohibitive. "In the first decade of the present century," says Jasper, "a committee of San Diego citizens headed by Col. Ed. Fletcher and Fred Jaction raised \$65,000 by public subscription and opened the first canyon road. Later it was taken over by the state and since then it has been improved greatly, from time to time." The state is spending nearly \$500,000 on grade improvements now, on the road from the valley to the top of the mountains, leading to San Diego.

YUHA VALLEY

Imperial county

"It is too bad," says Jasper, "that the origin of Yuha seems buried in oblivion. It would be better to go back to its more euphonious, original name, Posas de Santa Rosa de los Lajas, given by Captain Anza in 1774, meaning 'the puddles of Santa Rosa flat rocks.'"

For the historical data contained in this department the Desert

NEVADA

DAYTON

Storey county

Originally known as Hall's Station because the little settlement was started by Spafford Hall when the Mormons began a ditch to divert water from the river to the placer mines in Gold canyon. In 1854, he sold his interests to James McMarlin, his clerk, and it was known as McMarlin's Station. Then Chinese came to aid in building the ditch and it was known as Chinatown. After the rush to the Comstock began the white inhabitants named it Mineral Rapids; for a brief time it was known as Nevada City and in 1861 it received its final christening, in honor of the surveyor who laid out the townsite. Today it is just another ghost town with a small population which gains its livelihood principally from ranching and sheepraising.

NEW MEXICO

CUBERO

Valencia county

This community was named for Gov. Pedro Rodriguez Cubero, who succeeded Don Diego de Vargas in 1696, as governor of New Mexico, after de Vargas had reconquered the province following the Indian revolt of 1680. Pueblo ruins abound in the vicinity and pottery fragments found there have a glaze not unlike that of Pu-ye. While Cubero was governor the Hopi village of Awatobi was destroyed because its inhabitants had received Spanish missionaries favorably. Their Hopi neighbors, determined to protect the native religion from foreigners, attacked Awatobi while the men were in the kivas and threw burning brands down on them. Every male was killed women and children were taken captive. De Vargas had expected re-appointment to the governorship, and his commission from the King of Spain was on the sea when the viceroy sent Cubero to take the job. Cubero fined de Vargas 4,000 pesos and sent him to prison for three years before the King's command was received, offering de Vargas a patent of nobility for his work in suppressing the revolt.

UTAH

GREEN RIVER Daggett and Uintah counties

Originally called the Prairie Hen or Seed-skeedee river by the Indians. In the 1820s, William Ashley, fur trapper and trader, came down this river and named it after one of the men in his party. The Suck, in the Flaming Gorge Canyon of the Green river was named by James P. Beckwourth, a negro in Ashley's party. Frightened by the tossing, swirling waters as the boats sped into the gorge, Beckwourth left the party and watched them disappear around the bend. He was sure they were drawn into a whirlpool of some kind, possibly into an underground river.

GRAND-DADDY LAKE Duchesne county

Derived its name from the fact that it is the largest of many lakes found in the vicinity. George Beard of Coalville, on a trip to the then unnamed lake, met a party of United States government surveyors and mentioned that the lake they were visiting seemed to be a grand-daddy of them all. The name stuck.

Up Snow Creek to San Jac . . .

(Continued from page 15)

in the dusty trail, and breakfasted on a tin of sardines. The sardines, cuddled in mustard, were tangy, ambrosial, and ice cold. The trail down the south side is excellent. It was a luxury to climb-weary muscles simply to walk through woods and meadows. But the nine miles were long. From 8,000-foot elevation down to Idyllwild was an inch of dry snow. It was odd—climbing up to timberline and down to snow.

Near Idyllwild we began to meet a few clean, neat, washed, combed individuals coming up the trail. They were the first people we had seen in two days, and we felt alien. We doubtless looked it, too, frowsy and dirty as we were, judging from their stares.

When we reached the little rutted road, we gleefully collapsed in the sunshine to wait for the car that was to pick us up. All at once, we were terribly hungry. Visions of malted milks floated in the air, and candy bars, and big triangles of chocolate cake. Some people near-by began to lay out a great hamper of picnic lunch. We couldn't bear it. Tired as we were, far as we'd come, we staggered up, shrugged into our packs, and limped down the road.

Shortly our friend arrived, and in high spirits we drove out of the mountains. In the nearest town we gorged on hamburgers and chocolate milkshakes; and all the way home we consumed slabs of frosted cake left in our commissary.

We had one more tale to tell of Snow creek.

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BOOKS OF YESTERDAY AND TODAY

—a monthly review of the best literature of the desert Southwest, past and present.

NEW TALES OF HIDDEN TREASURE IN THE SOUTHWEST

J. Frank Dobie writes books one cannot tell others about—the reader must experience these adventures for himself. Those who have read *CORONADO'S CHILDREN* already know how impossible it is to describe the spirit he convokes in his tales of the treasured Southwest.

He not only knows how to tell a story; he has put into tangible form the rich legendary heritage of a golden land. In his latest book, *APACHE GOLD AND YAQUI SILVER*, published this spring by Little, Brown and Company, are preserved, with all the color and romance which such a setting has endowed them, the two most famous lost mine legends of North America—the Lost Adams Diggings of Apacheland, and the lost Tayopa mine of the Sierra Madres in Sonora—stronghold of the Yaqui.

To these two and the five additional legendary tales of Mexico may be applied the same explanation the author has given of *CORONADO'S CHILDREN* — he has at-

tempted to interpret the historical and cultural significance of the traditions of America's lost mines and buried treasure. He adds, "I care much more, however, about the drama, the flavorsome characters, the vast lands in which the riches lie hidden . . . than I care about interpretations. Any authentic record of the lore of a land and a people is, after all, an interpretation. The lore that composes the stuff of this book is, irrespective of the way in which it is presented, a part of one of the deepest and widest epics of North American soil."

The Lost Adams Diggings — one bright golden flash of its rich treasure dazzled men's eyes and has drawn them relentlessly and forever to their disillusionment or destruction. And the lost Tayopa, fabulous storehouse of the kings of Spain — "It is bound up with Jesuitical teachings and savage superstitions. It is the depth and mystery of the Sierra Madre of the north and the secret of tribes that seem coeval with the ageless mountains themselves. Barriers of tangled mountains and barrancas . . . that cut as deep as the mountains are high have so isolated the setting

that it, like the lost mine itself, seems a story out of another world long vanished. Tayopa is of the buried past; yet it remains the perennial hope of men searching today and laying plans to search tomorrow."

The publishers have added much to the delight of the book, not only in format but by the use of the outstanding color plates and black-and-white illustrations executed by Tom Lea.

L. H.

BEHIND THE MASK OF THE INDIAN TRIBESMAN

As matron in the service of the U. S. Indian Bureau, Janette Woodruff spent 29 years of her life in close association with the Crows in Montana, the Piutes in Nevada, and the Papagos in Arizona.

Out of that experience has come *INDIAN OASIS*—an intimate picture of the daily lives of these tribesmen, and the titanic struggle involved in the readjustment of their way of living to the white man's civilization.

Cecil Dryden collaborated with Mrs. Woodruff in the writing of the book, which was released April 25 this year by the Caxton Printers of Caldwell, Idaho.

To the Indians in her charge Mrs. Woodruff gave sympathy and understanding, and her reward was their complete confidence. Officially, her role was that of disciplinarian. Actually she was a kind-hearted missionary who made the problems of her simple hearted proteges her problems.

Her book is a series of personal sketches of the Indians with whom she was in daily contact—Chief Plenty-Coups, venerable leader of the Crows; "Hairpins," the Piute recluse; Antonio Valdez, the Papago policeman, and a thousand other characters of high and low repute on the reservation. We become aware that the human traits of love and fear, of tolerance and intolerance, of thrift and indolence manifest themselves in the red race much the same as in the white.

Mrs. Woodruff takes her readers into the tepees and houses, to the games and medicine chants and dance rituals, and tells in intimate detail and without apparent prejudice just what she saw. It is a masterly job of reporting, written with a sparkling clarity which makes the book thoroughly informative and enjoyable.

R. H.

MINERALOGY BOOKS FOR AMATEUR AND PROFESSIONAL

New minerals and new classifications of those already known are being added constantly to the sum total of human knowledge in the broad field of mineralogy.

It is to meet the need for a complete mineral dictionary, supplementing Dana's *SYSTEM OF MINERALOGY* which was last published in 1892, that George Letchworth English has this year compiled *DESCRIPTIVE LIST OF THE NEW MINERALS 1892-1938*.

It is purely a technical book written for advance students in the classification and chemistry of minerals.

For amateur gem collectors and primary students in the field of mineralogy, English's previous book, *GETTING ACQUAINTED WITH MINERALS*, published in 1934, remains one of the most popular textbooks of all times written on the subject. The value of this work to persons taking up the hobby of gem collecting and cutting is that it starts at the very beginning of the subject. It is a book for those who do not know one rock from another. From that point it carries through to a very complete basic knowledge of the whole wide field of mineralogy. Both books are published by the McGraw-Hill book company of New York.

Take a BOOK on your Vacation

MINERALS AND GEMS . . .

GETTING ACQUAINTED WITH MINERALS, G. L. English. Fine introduction to mineralogy. 258 illustrated, 324 pp. . . . \$2.50

LEGENDS OF GEMS, H. L. Thomson. Elementary principles of gems and gem-cutting. 136 pp. . . . \$1.25

HANDBOOK FOR THE AMATEUR LAPIDARY, J. H. Howard. One of the best guides for the beginner gem-cutter. 140 pages. Good illustration. at . . . \$1.75

QUARTZ FAMILY MINERALS, Dake, etc. New and authoritative handbook for the mineral collector. Illustrated. 304 pages . . . \$2.50

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CACTI FOR THE AMATEUR, S. E. Haselton. By a ranking cacti authority. Color illustrations. Paper cover \$1.00, board cover \$1.50.

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DESERT MAGAZINE, Complete Volume 1 in handsome binder. Completely indexed . . . \$4.50

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DEATH VALLEY, W. A. Chalfant. Authentic history of the famous sink. 160 pages, ill. . . . \$2.75

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DESERT ROUGH CUTS, Harry Oliver. Novelty booklet on Borrego Valley. 64 pp. . . . \$1.50

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CALIFORNIA DESERTS, Edmund Jaeger. Complete information on Colorado and Mojave deserts. 209 pages, illustrated . . . \$2.00

DEATH VALLEY, A GUIDE, New publication of Federal Writers Project. Very complete and beautifully illustrated . . . \$1.00

BORN OF THE DESERT, C. R. Rockwood. Story of Imperial Valley's conquest . . . 50c

INDIANS . . .

FIRST PENTHOUSE DWELLERS OF AMERICA, Ruth Underhill. Life and customs of the Pueblos. 154 pages, profusely illustrated . . . \$2.75

INDIAN TRIBES OF THE SOUTHWEST, Mrs. W. M. Smith. A vivid useful handbook on the desert tribes. 160 pages . . . \$1.00

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Me an' My Burro

BY R. S. BERRY
Los Angeles, California

Me an' my burro, my burro an' me,
A-traipsin' wild regions from mountains to
sea,
Through sagebrush an' cactus the desert we
roam,
Wherever we be we are always at home.
We travel down hill an' we climb up the
grade,
We lie in the sun an' we rest in the shade,
A-whoopin' with joy, an' a-shoutin' with glee
There's nothin' that worries my burro an' me.

Me an' my burro, my burro an' me,
We wander a-breathin' the air that is free,
Bells may be ringin' an' whistles may blow,
But we have it quiet wherever we go.

We don't mind the rain an' we don't mind
the dust,
We eat when we can an' we sleep when we
must,
A-whoopin' with joy an' a-shoutin' with glee
There's nothin' that worries my burro an' me.

Me an' my burro, my burro an' me,
We don't care a rap what the taxes may be,
With no soil to till an' no factory to run
We amble along 'til the set o' the sun.
The days may be hot an' the nights may be
cold,
There's no one to bother an' no one to scold,
A-whoopin' with joy an' a-shoutin' with glee
There's nothin' that worries my burro an' me.

PROSPECTOR'S PRAYER

BY MATIA MCCLELLAND BURK
Eagar, Arizona

In a cabin on the hillside
Texas lived alone,
Workin' on his hopeless prospect,
Hopin' till his life was gone.
All his life was spent in toilin'
For the unseen gold,
Leavin' all in life held dearest,
Sufferin' things best left untold.
Pore old Texas wanted fortune —
All he got was dreams;
Though he wanted yard-wide velvet
All he got was ragged jeans.
Now he's gone, I've kinda wondered
In my blunderin' way,
If the Maker of the spaces
Will think it wrong for me to pray —
"Please don't keep Tex up in Heaven
'Midst discovered gold.
It would make him most unhappy
So much bullion to behold.
Let him slide clear down the rainbow,
Seekin' for his pelf.
It would make him awful happy
Jest to find some for himself."

NIGHT ON THE DESERT

BY RUTH WATSON
Taos, New Mexico

Stars glowing bright as a rope of jewels,
Twinkle and sparkle against the sky,
Breezes have lifted—the hot air cools,
Night on the desert will soon pass by.

VOICE OF THE SILENCE

BY WALTER HASSALL
Los Angeles, California

There's a trail leading over the mountain
To some plains on the other side,
And it winds through vales of beauty
Till it stops at a desert wide.
The sounds of nature cease
At the end of that path so fair,
And we enter a kingdom of silence
And drink of its glorious air.
Not a sound, not a breath, not a murmur
As we gaze on those shimmering sands,
Yet we hear the voice of the silence
In those vast and lonely lands.

QUEST

BY MARY MASTERS
Farmington, New Mexico

I tried to rest beside the sea,
But waves that rolled incessantly,
Pounding the shore
With muffled roar,
Seemed ever calling, calling me.

No rest I found in mountains high;
Too close I seemed to bending sky.
From snowdrifts old
The winds blew cold,
Stirring the pines with restless cry.

Then healing silence came to me
In desert's calm serenity—
A silence blent
Of warm content
And sun-distilled tranquillity.

CREED OF THE DESERT

BY JUNE LE MERT PAXTON
Lightly shouldering his every care,
Gaily dancing first here—then
there;
Knowing each hour fulfills his
need.
This is the life of the Tumble-weed.

ROSES IN THE DESERT

BY HARLAND E. FITCH
Oceanside, California

Life has its deserts stern and grim
For those who blindly reason why;
They make the eyes of faith grow dim
And drain the wells of courage dry;
But I know one who firmly stands
Without a fear of desert sands.
Who looks beyond her empty chairs,
Nor yields to loneliness of soul,
But seeing others' joys and cares,
Lets human interest control,
Need have no fear of desert sands
While such ideals guide her hands.
Who visions in the sunset's glow
Fine things that draw unwilling tears,
And yet finds God in insects low,
And peace of mind through mounting years,
Need have no dread of desert sands,
For life is hers and she commands.
Who builds within her humble cot
The wealth of home, though but for one.
And finds contentment in her lot,
Each day the race of life well run,
If placed where only cactus grows
Would make the desert yield a rose.

YOU LIKED IT

BY BERT BOND

You cried and moaned when it was hot;
You thought about a cooler spot.
You thought you couldn't stand the heat;
You thought you'd make a quick retreat.
But when you thought again —
You liked it.

You swore you'd never care to stay,
Or even spend another day.
Though days like this you knew were few,
You'd keep a-thinking you were through.
But when you thought again—
You liked it.

These days of heat—they soon pass by;
You see anew these fields, this sky.
You find no dominating cares;
There's joy of living everywhere.
You didn't have to think again—
You liked it.

And so you see, dear friends of mine,
You can't be happy all the time.
These few hot days that we all know
Are not as bad as ice and snow.
You now are glad you thought again—
You liked it.

LAMENT

BY LAWRENCE BARFELL
Laguna Beach, California

The cry within the Desert's breast
Is still the age-old cry for rain.
She ever sighs and will not rest.
The cry within the Desert's breast
Is anguished till her sands are blessed
And answered to this aged refrain:
The cry within the Desert's breast
Is still the age-old cry for rain.



By RANDALL HENDERSON

MY friend Dr. E. M. Harvey of the U. S. Department of Agriculture wanted to see the native blue palms (*Erythea armata*) which grow just south of the international boundary in Lower California. They are one of the common species of wild palms in Sonora and on the Mexican peninsula but I have never found one in its native habitat on the American side of the line.

We located the palms far up toward the head of a boulder-strewn canyon—within 20 miles of the California border. They are growing in the same canyon with the Washington palm so common on the Southern California desert.

We discovered an old Indian trail going up the canyon. No moccasined feet had trod that trail perhaps for a hundred years—but the Indians have left their signposts. At intervals along the route were mounds of rocks—deposited one at a time by tribesmen who passed that way. Arthur Woodward of the Los Angeles museum staff, who was a member of our party, told us these mounds probably have a ritualistic significance—but their exact meaning will likely remain one of the desert's unsolved mysteries.

Similar mounds are found in many places in the Southwest. To me they are shrines which are none the less sacred because the dark-skinned humans who put them there long years ago called their deities by other names than those used by our people in this generation.

* * *

And while we are on the subject of Lower California, I have a reassuring thought for those good friends who are worrying about the time when our southwestern desert country will be criss-crossed with paved roads and so littered up with picnic parties there will be no more secluded canyons to explore. I want to assure these folks that in Lower California and Sonora there are great virgin deserts that remain almost as wild and inaccessible as when Fathers Kino and Salvatierra came this way 250 years ago.

Sooner or later the field of the Desert Magazine will be extended to include features from the Mexican desert areas. In my desert travels I have found no place more fascinating than the arid wilderness of Lower California—but oh, the roads!

* * *

A letter from Paul Wilhelm of California's 1000 Palm canyon states that the postoffice at Edom, the nearest trading post, is to be changed to Thousand Palms after June 1.

And that brings up again the question of duplication in

desert place names. Over in the Anza Desert state park, less than 50 miles from Wilhelm's scenic retreat is another canyon the mapmakers have labeled "1000 Palms."

I believe Wilhelm has first claim on the name—at least his canyon is much more widely known—and a new place name should be given to the canyon in the park.

District Superintendent of Parks Guy Fleming has suggested "Cienega canyon" to replace the present name of Anza park's 1000 Palms. Cienega is Spanish for those swampy seepage springs which occur at various places on the desert. I am not very keen for the name—it recalls the salty flavor of the drinking water almost invariably found in those little swamps. Also, Thousand Palms canyon in Anza park has more beauty than the name Cienega implies.

Some of the folks in Borrego valley have suggested that the canyon be renamed "Salvador" or "Linares" in honor of Salvador Ygnacio Linares, first white child born in California. The birth occurred near this canyon in December 1775 when the parents of the child came this way as members of the De Anza expedition.

* * *

In the old days men went to Tombstone, Arizona, with a six-gun on the hip—and the barrooms were the most popular places in town. But times have changed at the old hell-roarin' silver camp. This year many hundreds of pilgrims journeyed to Tombstone to see the world's largest rose bush in full blossom at Rose Tree Inn. The peak of the bloom was on April 16. I haven't seen that rose in blossom yet—but I am going there at the first opportunity. One of my friends told me the three outstanding wonders of the Southwest are Grand Canyon, Carlsbad caverns, and the Tombstone rose bush in bloom.

* * *

It appears that Senator Henry Ashurst has lost his fight to have the Petrified Forest national monument advanced to the status of a national park—at least, during the present session of congress. But in the long run the Senator from Arizona usually gets what he wants for his state and no doubt we'll hear more about this subject in the future. In the meantime—whether it is called a park or a monument—Superintendent White Mountain Smith is doing a fine job of protecting the beautifully colored wood from the souvenir hunters, and providing a courteous guide service for many hundreds of visitors every day.