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JUNE, 1962

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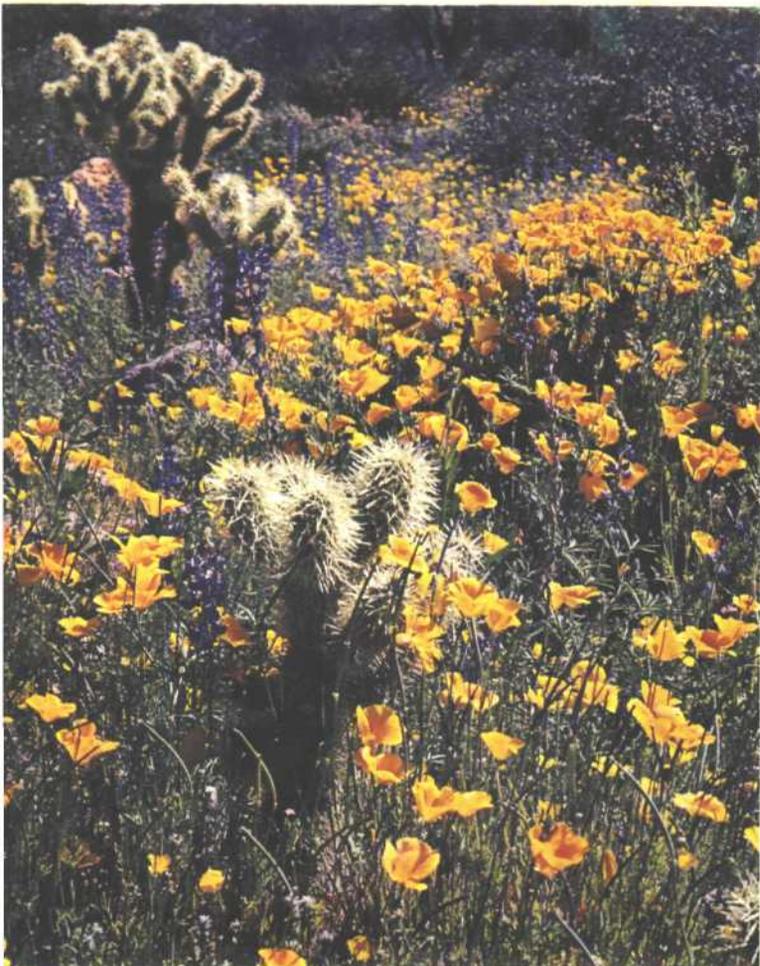
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## THE DESERT IN JUNE:

**The "Mayor" Passes.** A small group of friends assembled at the Picacho cemetery recently to pay last respects to Theodore "Ed" Rochester, trapper, prospector and guide, who spent nearly all his adult life on the Colorado River and adjacent desert country.

Ed's interment was without benefit of clergy or mortuary service. In accordance with his wishes, not a word was spoken—a funeral in keeping with "boot hill" tradition. Among the mourners were men and women from all walks of life: grizzled prospectors, trappers, and professional men.



Ed Rochester, "Mayor of Picacho"

"Ed professed paganism," said one of his friends, "yet everyone at the funeral knew he believed in the Creator. No man can be surrounded by God's splendor for so long without acknowledging Him."

For years Rochester was the "Mayor of Picacho." His passing removes some of the color from the old Colorado River town, and with him goes part of the desert's heart.

**Canyonlands Economy.** Secretary of the Interior Stewart Udall threw his heavy artillery into the battle for creation of a Canyonlands National Park near Moab, with release of a survey prepared by economists from the University of Utah. Gist of the report: the new park is financially as well as morally sound. The tourist dollar—which takes nothing from the land except its vistas—offers the best material with which to pave the road to prosperity for the region, Udall contends—and the economic survey backs him up.

"Even at a most conservative estimate, creation of Canyonlands National Park," said Udall, "would pour more than \$10 million into southeastern Utah in new tourist spending within 15 years." Moreover, the Utah University study estimates that "by the 25th year, total visitor expenditures should amount to over \$16.5 million annually."

Udall calls the Canyonlands country "the most inaccessible land in all the West." "But," he added, "the minimum road development which is planned would open the area to tourists. The report estimates the park would be attracting some 250,000 visitors annually within six years."

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# Desert

MAGAZINE OF THE SOUTHWEST • 25TH YEAR

Volume 25

Number 6

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In 1919 a Nevada rancher struck hot water while drilling a well in the northern part of the state near Gerlach. The water, highly mineralized, was unfit for livestock, so the rancher left it uncapped—little dreaming that the mineral deposits would build-up into a tourist attraction known as the "Gerlach Fountain." Photograph is by C. L. Haney of Dunsmuir, Calif.

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# desert detours

by Oren Arnold

"Come ye yourselves apart into a desert place, and rest a while." Mark 6:31

Felt all knotted up, so I drove out 40 miles last Sunday, sat on a big rock and listened to an old bewhiskered friend. He's a Harvard graduate—one of the few not in Washington—who for health reasons turned semi-hermit and wholly philosopher. "Two things fill my heart," said he. "One is gratitude; I have been singularly blest, and so has America. The other is confidence; I fear nothing, for myself or my country. With all our national troubles, we have unmatched mental, physical and moral strength."

Bob and Bunny Neece, high-level intellectuals from Laguna Beach, came onto the Arizona desert to do a little vacation rock-hounding. Bunny moved a slab of sandstone and found an Indian pot under it, so now they are fascinated by pre-history. That's the beauty of our "barren worthless" desert—it's really a laboratory of life, a storehouse of culture whose "spell" can engulf and delight any person with a receptive mind.

"Found one scorpion and one million thorns out here," Bob said, "but not one Communist or bureaucrat."

Bob Neece chewed me out, justifiably, for not finishing that true rattlesnake story I started on this page in January. It concerned Ken Palmer and a New York Dude—remember? They put a huge live rattler in the trunk of their Cadillac, and it promptly disappeared in the car upholstery. They had to drive 50 miles with it still lost in there!

Okay, now the denouement: They pulled up at the Pink Pony bar in Scottsdale, still shook. They went inside. They told The Boys. The Boys—naturally—hooted, scoffed, demanded proof. So—Ken led them outside, gingerly opened the Cad trunk, and there Mr. Snake was, coiled, rattling, and deadly! Ken dispatched him. Ken's still shook.

In some desert areas the heat's beginning to pop down. "Got so hot at my shack yesterday," alleges Alkali Ike, "my dog's nose burned a hole in our screen door."

Remember that desert jackrabbit that carried a canteen? My dog, chasing him, walked. And came onto a chuckawalla carrying an umbrella. Our Southwestern animals are smart.

"Statistics prove there are more TV sets in America than bathtubs," alleges Harry Oliver. "That's because the commercials aren't yet long enough to permit taking a bath."

Significant sign in a little desert roadside bar:  
**SIN NOW, PAY LATER**

Bill Ludlow, who lives in awesome isolation on the Nevada wastes, is a loyal American. "Dear President Jack," he wrote to the White House, "I read where you want all of us to build fallout shelters. Sir, I just can't afford one. The car's mortgaged, the house is mortgaged, and they's a new baby or two coming. We just can't afford to go any farther into the hole."

History may be dull reading, but at least it teaches us the mistakes we are going to make.

I'm ag'in all government subsidies, especially the negative ones that pay a man for *not* producing something. If we all demanded that kind, every desert dweller out here could petition for a handout because of the sugar cane, rice and sweet 'taters he won't raise this year.

It's probable that the desert solitude is the best environment in the world for writers. More and more of them—us—are discovering it. I have 26 books in print; the best-selling 20 of them were written far out from any city's congestion and noise. I spent a day with the late Harold Bell Wright, whose novels sold in the millions. Most were about the desert, most were written on the desert near Tucson. On the desert, you either become creative or you perish.

Keep in mind that it ain't really the heat, folks; it's the whewmidity.

"In another month," says Charlie Poling out Wickenburg way, "most of the June bridegrooms will have settled into married life and have stopped helping their brides with the dishes. They'll be doing them by themselves." Personally, I don't understand such weaklings. Believe me, men, I wear the pants in my house. (And I wear an apron over them to protect them from dishwasher, too!)

There's nothing wrong with June that a little more loafing, a little more courtin', or a little more sleep won't correct.

Had lunch not long ago with Dick Nixon—yes, the Dick Nixon. I'm not above Dropping A Name. I told him how to write his fine new book, *Six Crises*; told him how to run for office; how to conduct his personal life. He listened courteously, and refrained from telling me how to handle my affairs. Which may be a hint as to why he is one of the world's outstanding citizens, whereas I'm not.

It's my cactus-pointed opinion that we need to do more than get out and vote; we need to inform ourselves so we can get out and vote *intelligently*.

"I worry some about youth, having been one and having begotten three. I agree with President Kennedy when he said a great many of our American girls lack the strength to swing a tennis racket, or a skillet. And a lot of our teenage boys are too pasty-faced citified to avoid muscular atrophy.

Well, fellows and girls, you are intelligent enough to out-face that problem. You in the Southwest have a vacation-recreation area right at hand, that can cure those ills of puniness. Come on out, explore, study, and appreciate—the desert.

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# Desert Garden Guide

— THINGS TO DO IN JUNE

## Lawns

New lawns can be planted in June—but be sure to water several times a day until the grass is established.

**LOW DESERT:** fertilizing lightly and regularly will help carry lawns through the hot weather. Water deeply, keep up with insect and pest control schedule.

**HIGH DESERT:** fertilize and water lawns regularly.

**NEVADA, UTAH and NORTHERN ARIZONA:** fertilize lawns and water if necessary. Dandelions can be a nuisance in a lawn, but are controlled with 2, 4-D spraying. These weeds are difficult to pull out, but a flat-bladed tool slipped under the leaf cluster will make the work easier.



## Annuals

**LOW DESERT:** June is the month to water annuals deeply, and fertilize as necessary. Do not allow seed pods to form on flowering plants if you want continuous bloom. Dig and store spring bulbs in a dry, cool place when leaves have turned yellow.

**HIGH DESERT:** continue planting vegetable seeds for use in late summer and fall. Flower annuals may be purchased at local nurseries and set out—or you can still plant seeds for fall bloom.

**NEVADA, UTAH and NORTHERN ARIZONA:** plant fall-flowering bulbs. Plant seeds of cabbage, cauliflower, broccoli now for transplanting later for fall and winter use. Flower seeds planted now will bloom in late summer or early fall. Spray gladiolus for thrips. Do not allow seed pods to form on annuals unless you want the seed. Lift and store flowering bulbs when foliage has turned yellow.



## Perennials

Some perennials and biennials have a much nicer shape and better bloom if grown in containers rather than allowing them unlimited room for roots; for instance: geraniums, some chrysanthemums, tuberous begonias, petunias. In an area where soil problems are prevalent, a container may be the solution. The main thing to bear in mind is that the container and growth habit of the plant must be compatible.

Roses should be watered in mornings only—to avoid mildew don't sprinkle the leaves.

**LOW DESERT:** mulching will keep roots cool and conserve moisture. Water deeply. Fertilize lightly. Regular program of spraying or dusting for detrimental insects may be necessary in June.

**HIGH DESERT:** plant seeds of biennials and perennials for next year's bloom. Fertilize new growth (planted last year) and water as needed. Stake tall plants to avoid breaking.

**NEVADA, UTAH and NORTHERN ARIZONA:** set out tip cuttings of chrysanthemums. Remove dead blooms from any plants to prolong blooming period. Any plants that do not have good green color should be fertilized.



## Trees

**LOW DESERT:** Trees get thirsty in June. Water deeply and regularly. Mulch shrubs to conserve water. Also, dust or spray for insects at regular intervals. Fertilize shrubs lightly and regularly.

**HIGH DESERT:** Follow the same procedure as Low Desert. Spring flowering shrubs should be pruned after blooming.

**NEVADA, UTAH and NORTHERN ARIZONA:** prune coniferous trees and shrubs now. Cutting back older stems of flowering shrubs will force new flowering growth. Tops should be thinned to allow sunlight to reach new growth. Apply mulch.

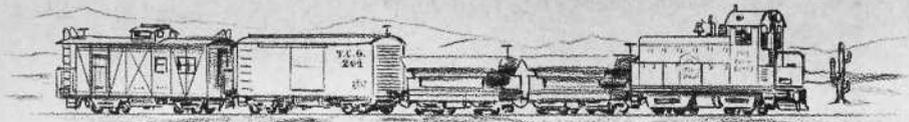


## Natives

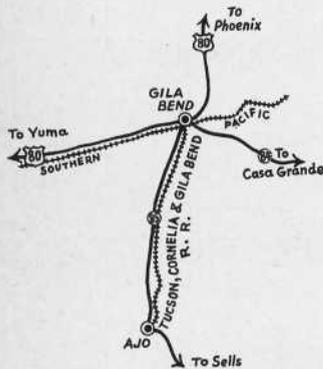
Growing cactus from seeds is a slow process. A better, quicker method is to take cuttings, preferably in late spring; expose the cutting to the sun until the cut is healed, then plant and water occasionally. Offshoots of century plants may be planted anytime.

Avoid over-watering cactus and succulents. While these plants do well in an adverse environment, it is surprising what they will do with a bit of extra attention. When succulents become crowded, lift and divide them, planting only the stronger sections. Don't over-fertilize cactus or they become "floppy." If these plants are grown in containers, water only when top of soil is completely dry.

Seeds of white sage can be gathered as it ripens in early summer. ///



# A Shortline Railroad You Can Ride

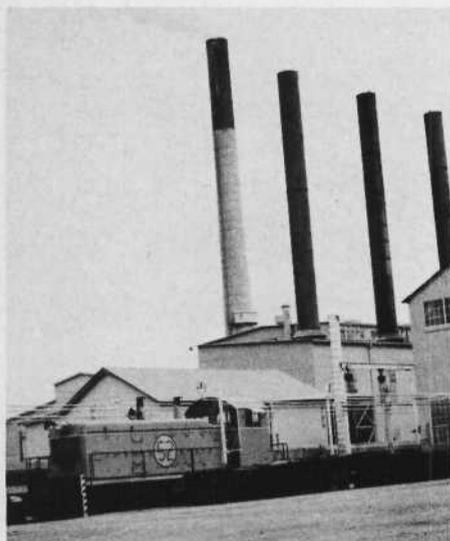


By JOHN L. PARKER

ONE OF THE busiest and most aggressive little shortline railroads in the West is the 46-year-old Tucson, Cornelia and Gila Bend, spanning the 43.3 miles between Ajo and Gila Bend, Arizona.

Operated as a common carrier from the beginning, the T.C. & G. B. has always maintained a daily passenger schedule. This is something of a record in shortline railroad history—and a happy circumstance for you if you are in the mood to take a short train ride.

The final spike on the mainline was driven in 1916, and like most Western roads of this type, it was built to supply the needs of a huge mining operation. The New Cornelia Mine at Ajo had been developed into a great open pit copper producer. It was the first big open pit operation in the state, requiring a railroad line down into the pit to haul out ore to the mill and waste to the dumps. John C. Greenway, developer of the mine, decided the best way to bring all this heavy equipment to the mine was by building a railroad from the bustling rail center of Gila Bend. The railroad would also haul out concentrates from the big mill, then being constructed below the mine pit.



THE RAILROAD'S SOLE MOTIVE POWER, ENGINE 52, PAUSES UNDER THE MINE SMELTER STACKS

The track was laid with 70-pound rails from the dismantled El Paso & Southwestern Railroad. Much of the original track is still in place, and J. D. Jordan, auditor for the line, thinks it will last another 40 years.

Train schedules were posted from the first day, and business boomed. There were carloads of ore and concentrates to be moved every day to the Southern Pacific main line at Gila Bend, and supplies of all types to be hauled back to Ajo. The passenger schedule was even heavier than the freight. At Gila Bend, passengers transferred to Arizona Eastern's Maricopa line for direct connection to Phoenix and to the Southern Pacific for points east and west.

The passenger run was made by two "Gallop'n' Geese," big five seater open tonneau White motor busses equipped with six flanged wheels instead of the usual hard rubber tires. When the weather was bad the side curtains were rolled down, and the old Whites roared along the track at 36 miles per hour.

There was passenger service between the two points twice daily, and the freight ran as a mixed train also carrying passengers.

For freight haulage the road had a little 2-6-0 teapot called the 51, and a leaky 2-4-0 Baldwin switcher, the 52. Along the line the gandy dancers sang a little song that ended: ". . . and we never use the 52 'cause she's got a leaking flue."

The 52 was quickly scrapped, but the 51 lasted through two wars, and was finally retired in favor of the big diesel road switcher now in use.

Soon after the road began operating, the mining company became involved in a rate controversy with the Southern Pacific over shipping costs, and authorized the Cornelia and Gila Bend to extend its lines into Tucson for better smelter rates to the Silverbell smelter. The C. & G. B. promptly tacked "Tucson" on the front of its name and began surveying the 129-mile extension. About then the Southern Pacific dropped its rates and the shortline abandoned its survey—but the proud little road retained Tucson in its name, probably to remind the giant S.P. that shortlines sometimes get the last word.

The Gallop'n' Geese rolled on until 1927,

but things had long since changed at Gila Bend and there was no longer a direct connection to Phoenix. It was during this period that the little railroad acquired its nickname, "Tough Coming and Going Back"—T.C.&G.B.

After retiring the old White busses, the T.C. & G.B. carried on its passenger service with a combination passenger-baggage and express motor car of conventional design, used for 20 years until the line gave up the exclusive passenger run in favor of the mixed freight with one daily schedule. The car was presented to Griffith Park in Los Angeles in 1958 and now reposes grandly in the railroad museum along with many relics of a bygone era.

Although the regular passenger run is no more, the mixed daily carries passengers between Gila and Ajo.

To ride the T.C. & G.B. you catch the train at Gila Bend every weekday morning. There the Southern Pacific agent will direct you to the train which makes up on its own tracks.

The train leaves at 9:30 a.m. and usually consists of empty anode cars to be loaded at the smelter, tank cars with diesel fuel for the mine, and a stray box car or two, with the "coach" bringing up the rear.

And what a coach it is!

At first glance it resembles an elongated caboose. But it has a side-door for baggage and express, and believe it or not, with it the T.C. & G.B. pioneered the dome observation car! You sit above the train top level and look out over the desert for miles. The combination car was made in the modern locomotive repair shop maintained by the New Cornelia mine to keep-up equipment used in the pit. Despite its rugged looks, the caboose-coach is comfortable and you will find yourself off to an enjoyable ride when you pay your 97 cent fare to the conductor, and he hands you aboard.

The train eases slowly out of Gila Bend, picking up speed as it rolls out across the desert. For the first 10 miles or so the rolling desert mesa is spiced by occasional jack rabbits, roadrunners and a few lazy lizards.

At the first station, Black Gap (which consists of a name on a board), the road bed veers east passing between two high hills of solid black lava. Between Black Gap and Rocky Point the line runs through scattered barren rocky hills tinged dark red. To the left of your airy observation car are the Saucedo Mountains with Table Top Mountain dominating the view. From this rocky point, the tracks curve to the west around the end of Crater Range, a natural wonderland of rocks left by the volcanic



THE DEPOT AT AJO

upheaval which created the lava hills at Black Gap in cons past.

Past Crater Range the tracks follow a broad S, winding through five desolate miles of wasteland between Rocky Point and Childs. Childs is the only community on the railroad between Gila Bend and Ajo. Here there is a small station, and as the conductor calls, "Childs—Chiii-l-d-s," you pass a grove of date palms along the track where the gandy dancers employed by the railroad live with their families. Sitting on the siding are rows of old concentrate cars used by the railroad when the mine shipped copper concentrates before construction of the smelter.

At Childs a housewife or two with a group of eager children is sure to climb aboard as the conductor highballs the engineer.

From here there is a slight grade into Ajo. Fifteen minutes out of Childs, the

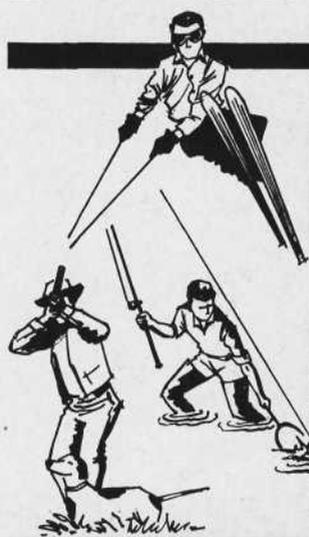
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## NEW IDEAS for DESERT LIVING

By DAN LEE



### Power Winch for Back Roads —

Owners of four-wheel-drive vehicles can get a wide variety of power winches for emergency situations, but what of the car owner? Nothing but electric winches operating off the car battery have been available for anything like a reasonable price, up to now. Irvington Machine Works, Portland, Oregon, sent down their new Mini-Winch for testing, and I consider it a real break-through in portable tool design. Fitted with a 3/4 horsepower engine, and geared 155 to 1 to a 4 inch capstan, the Mini-Winch develops up to 4000 pounds of direct-line sliding pull, and up to 1000 pounds dead-weight lifting power. Mini-Winch isn't a true "winch"—it operates on the capstan method, whereby several coils of rope are curled around the capstan, the user holds one end while the engine does the pulling. The operator merely reels in the rope and provides tension. Recovery rate is about 20 feet per minute, and either 1/8 or 3/16 inch airplane cable can be used. Or use 3/4-inch manila rope. I tried half-inch rope, but found that the winch is too powerful for that small size. I snapped several pieces trying to slide a car uphill with the brakes set. If there is anything solid to attach to, the Mini-Winch will get your car out of a sand trap, so long as the car's wheels can render some assistance. A steel base-plate anchors the winch to car bumper, tree, rock, or any solid object by means of a special bracket and chain. Looks good for rescue work, too, where climbers are stranded on rocky ledges. The more I think about it, the more I like the idea of a portable winch that can be packed in car or truck. Total weight is only 16 pounds. Priced at \$169, from Mini-Winch, P.O. Box 6438-D, Portland 23, Oregon.

### Ultra-Compact Chain Saw—

Perhaps the smallest chain saw ever marketed, the new *CHIP A SAW* is a real tool—not a toy. Weighing only 10 pounds complete, with engine, chain and bar, *CHIP A SAW* will sell for \$117.95. It'll rip through a 2x6 in three seconds, through a 7-inch log in 13 seconds. Has a throttle-button atop the rear work handle. Powered by two-cycle engine, will run in any attitude. Chain cutting-

depth is about 9 inches, which means that it will cut through an 18-inch log by slicing around it. Handy for clearing brush, cutting camp firewood, general remote area construction. Small enough to pack in car, truck or trailer. Dept D, *CHIP A SAW*, Cenatron Industries, 5464 Route 99 South, Fresno, Calif.



### Plastic Water Jugs —

Over the years, I've become a little prejudiced against metal water cans, and so greeted the new plastic containers with relief. Metal cans are tough, sure, but they also leave rust marks on floors and scratch up seat upholstery, leave flakes in the water, and add weight to the expedition. The new plastic containers by Owens weigh only two pounds for a 5.3 gallon jug, which is shaped round, with a built-in handle. Constructed of blow-molded polyethylene containing an ultra-violet inhibitor, the new jugs are inexpensive, at \$4.89 for the 5-gallon size, and are far easier to handle than metal cans. Especially useful in a boat, where every pound of weight is important. Whether or not they will last as long as metal is unknown at this time, but they appear to be quite rugged. Available from Dept. D, Owens Plastic Co., 1514 Crystal Ave., Kansas City 26, Mo.

### Easy Towing Compact Trailer —

Weighing only 1115 pounds, the new Shasta Compact trailer sleeps four persons, yet is only 12 1/2 feet in length. Hitch weight is 130 pounds, low enough for most cars to handle with ease. Has double upper bunk, twin luxury lounges, range and oven, closet, 16 gallon water tank, 50 pound refrigerator, fully insulated, and features 6:50x13 tires. Has screen door, 110 volt and butane lighting systems, and many other features. Priced at \$895, from Shasta Trailers, 9401-D Tampa Ave., Northridge, Calif. ///

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## LETTERS FROM OUR READERS

### Where's Kayenta? . . .

*To the Editor:* In the map accompanying the story about the first car through Monument Valley (April *DESERT*), there is no listing of Kayenta. Our community, with a population of a little more than 1200 people, is the second largest settlement on the Navajo Reservation. It would be greatly appreciated to have Kayenta placed on your future maps.

WILLIAM CORNFORD  
Kayenta, Arizona

### Human Torture, Utah Style . . .

*To the Editor:* It is "human torture" to publish such attractive descriptions of the Utah area (April *DESERT*), and give us folks with no time to travel, the desire to do so.

Anyway, I did enjoy your Utah armchair trips, and hope some day to make these explorations in person.

HELEN HEATON  
Sonora, Calif.

### Petrified Wood in Utah . . .

*To the Editor:* Can you tell me if it is still lawful to collect petrified wood in Utah?

FLOYD HASKELL  
Kingsburg, Calif.

*(Under Utah law, the State Park and Recreation Commission, 19 West South Temple, Salt Lake City 1, is charged with the duty of preserving all deposits of archeological or paleontological value—which petrified wood is considered—on all public lands either state or federally owned. In the past the state has granted limited rights to rockhounds to collect such material provided they first notify the commission of the area where they propose to make their field trips, and promise that they will not undertake to demolish or remove any large pieces of petrified wood.—Ed.)*

### 1913 Trail Companions . . .

*To the Editor:* In your March issue there was a story by Ulysses Grant IV detailing his near-disastrous motor trip down the west side of Salton Sea in 1913. This was such a coincidence, that I decided to write to you about the trip I made in September, 1913, over much the same route traveled by Grant.

Near Whitewater we got stuck in a sand dune, and a cow-poke helped us out by tying his rope to the horn of his saddle and the front axle of our Model T. After he left, we became stuck again. Four hefty Indians came along in a Model T, passing us by in high gear. One came back and told us to deflate our rear tires so we could get more traction in the sand. We had no trouble after that.

We stopped at the Caravansary Hotel in Mecca as did Grant, but instead of following his tracks down the west side of Salton Sea, we headed eastward, arriving at our camp in Quartzsite in four days.

W. G. KEISER  
Quartzsite, Arizona



A SILVER ANNIVERSARY BONUS FEATURE

Reprinted from *DESERT's Thirteenth Issue: November 1938*

# Beach Combing on the Desert

By  
**John W. Hilton**

The author, today one of the best known of Southwest artists, was a regular contributor to the early *Desert Magazines*. His pioneer stories on gem-mineral locales lured thousands of people into the field, and there can be no doubt that Hilton played a significant role in the development of what is now one of the most popular hobbies in the nation. In the four years prior to U.S. entry into World War II, 35 Hilton field trip stories appeared in this publication. The one reprinted on these pages is as current today as it was when originally published in 1938. But, this is not the case with most of the old gem-mineral locales — and the reason why is the subject of the article following this one.

ONE OF THE finest specimens of fossil agate I have ever seen was picked up on the seashore — but not along the Pacific shoreline, or any other ocean we know about today.

It came from the desert—from one of the ancient beaches formed countless centuries in the past when the face of the earth presented a different picture from that of today.

The old shorelines are in many places, and for the collector of gems, fossils and other curios they offer a rich field for search. The modern beach comber on the desert will find a greater variety of agate, jasper and other precious stones than can be obtained along the shoreline of any existing ocean. Without even the risk of wetting his feet, the visitor may find shells, coral and plant forms imprinted in stone millions of years old.

Fossils found among these pebbles represent several geological ages, some of them dating back to the time when there were no vertebrates in an ocean bed which later was raised and perhaps became the top of a mountain.

Rivers and streams carried bits of rock from these mountains back to the shoreline of still another ocean where they were worn into smooth round pebbles and cast up on another shore. In our Southwestern desert, after

many such cycles, eventually these water-worn rocks found their way to the bed of a tremendous river or gulf which drained much the same territory as the Colorado does today.

High on the tablelands and hillsides above the course of the Colorado are the ancient beaches of this great prehistoric waterway. Sometimes they parallel the present river and at other points they are miles away from it. They extend along a plainly marked basin from the Mexican border to Nevada and perhaps farther north. Some of the pebbles found on this old beach can be traced to fossil beds as far north as Montana and it is believed that others were brought from northern Canada by the movement of the glaciers in the ice age.

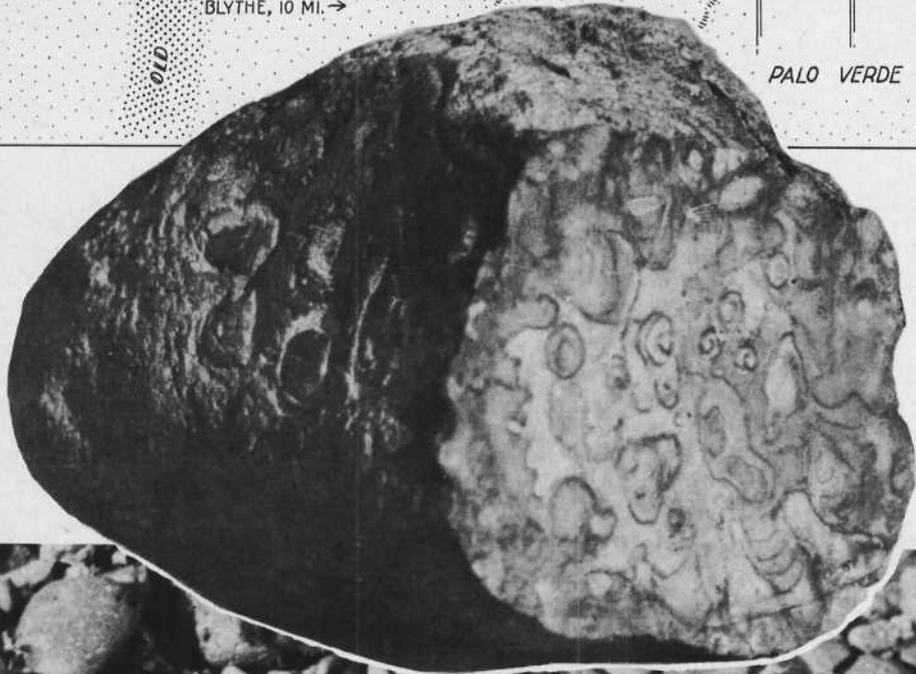
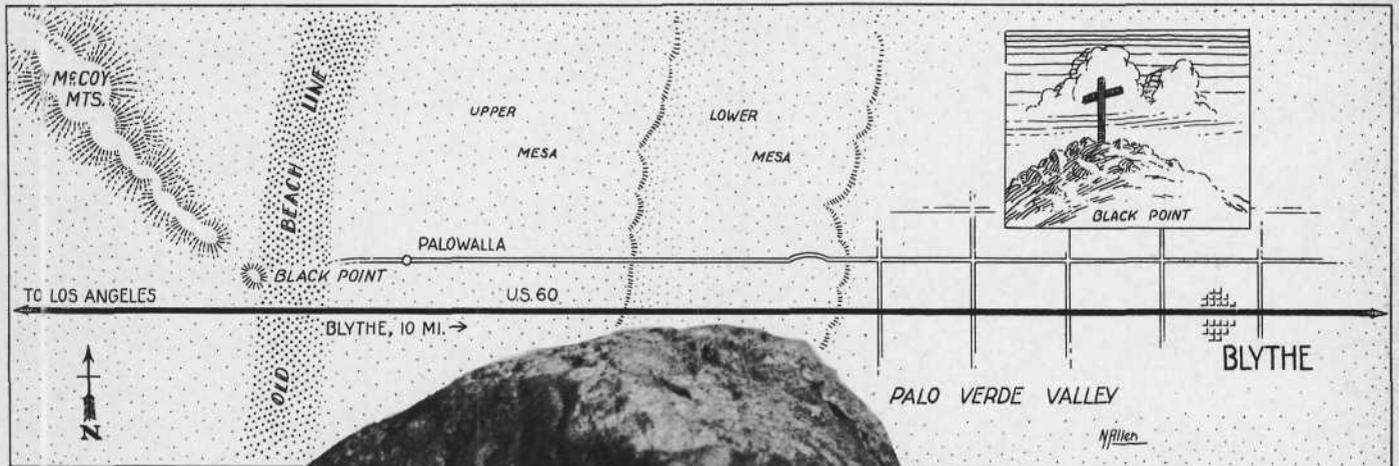
The visitor will not be greatly impressed at first sight of one of these ancient beaches, for the reason that their color and variation are concealed beneath a uniform coating of "desert varnish." The pebbles along the old beachline are quite uniformly coated with the brown substance.

While to the superficial observer the pebbles appear to be all alike in substance, close study will reveal the fact that under the surface there is a great variety of color and pattern. Brilliant red and yellow jaspers vie in beauty with carnelians and banded agates. The diligent collector may



even find water-worn pebbles of amethyst, topaz and quartz crystal. Even gold bearing ore has been found among these beach pebbles—but the veteran collector knows that gold will never be found in paying quantities in such deposits.

One stone generally overlooked on  
*(Text continues on next page)*



**Photo above:** John W. Hilton during the early days of his career as desert artist.  
**Photo left:** Fossils exposed by cutting through one of the beach pebbles. Stone is shown actual size.  
**Photo below:** Close-up of the ancient beach pebbles.



these beaches is black onyx. This gem was very popular in former years as a setting for diamonds. Fashions being fickle, it may return to vogue.

Black onyx merely is a trade name for a nearly jet black chalcedony. Much of that used during the period of its popularity was artificially colored. Pieces of agate or chalcedony with a somewhat porous surface were selected by German gem dealers and steeped for months in hot sugar water. This treatment was followed by soaking the stone in sulphuric acid. The acid decomposed the sugar imprisoned in the pores of the stone and left a black residue of carbon. The blackest of these stones were then

sold to the trade under the name of black onyx.

Here on the desert beaches can be found enough pebbles of natural black coloring to supply the world with its "black onyx" if that gem should again become a popular favorite.

The carnelians in these beach deposits usually are small but some of them are of very fine color. Occasionally moss agates are found, but the stone of outstanding interest is the fossil agate.

Until the collector becomes familiar with fossil agate pebbles he is likely to pass them by as their beauty is concealed beneath an uninviting

exterior. Most of them have a white lime-like coating under the brown varnish surface. They appear to be opaque until they are cut. Then comes a surprise, for the stone that appeared to be merely a dirty piece of limestone often turns out to be translucent, with light tan or pink body and white or black markings. These marks may be the outline of a seashell, a bit of coral, or the flower-like design of the cross-section of a crinoid stem. Some of them contain fossil prints of prehistoric plants. A microscope will bring out hidden beauties of fossil design in all of them.

The ancient beach lines I have

# THE FIELD TRIP DILEMMA

By  
John Sinkankas



With publication in 1955 of his first book, "Gem Cutting—A Lapidary's Manual," John Sinkankas' international reputation as a leading gemologist was established. Two other books followed, "Gemstones of North America" (1959; winner of Desert's Southwest Literature Premium Award) and "Gemstones and Minerals — How and Where to Find Them" (1961). A fourth book (subject: mineralogy, with new approaches designed to fill the needs of amateurs) is in the planning stage. Sinkankas recently retired from the Navy, in which he served for 25 years as an aviator. He and his wife and their four children live in San Diego.



been discussing are accessible to the public at many points, without going far from the paved highways. With mile after mile of the old seashore exposed under the desert sun, the supply of gem rock from this source is practically inexhaustible. Readers should not get the impression, however, that they may walk out on the desert at random and pick up nicely colored gem stones. The desert does not flaunt its jewels. They are there—but only for the painstaking student and collector who knows what he is seeking and who is willing to devote time and work to the search.

The sector of the old beachline shown on the accompanying map is one of the most accessible of the many

places where ancient beach pebbles may be found. Another point where the old shoreline may be readily followed is above Topoc on the Arizona side of the river. Farther south, Highway 80 crosses the beach only a short distance west of Algodones Junction in eastern Imperial County, California.

An exceptionally fine deposit of pebbles is on the Arizona mesa bordering the Chemehuevi Valley between Parker and Needles.

As a result of the building of Parker Dam, the Chemehuevi Valley is now being filled with water and will become Lake Havasu. By odd coincidence, the eastern shore of

the new lake will follow very closely the coastline of the ancient sea which once occupied this area. When transportation is available on Lake Havasu it will be possible for the collector to go by boat directly to the places where gem pebbles may be picked up.

For readers who are not expert collectors of gems or fossils, but who are interested in the natural phenomena of the desert, the places mentioned in this text offer worthwhile objectives for a pleasant desert excursion. Desert beaches have no splashing surf to offer as an inducement—nor are they crowded with ungainly human shapes or littered with hot-dog wrappers. ///

**W**E ARE becoming a nation of lazy people, say countless articles in newspapers and magazines. Top military leaders point to the deplorable physical condition of draftees rejected in droves, while doctors point to the alarming rise in heart failures—all because our modern way of life makes it so easy to let machines take the place of muscle power.

Thus one would think that when a sizable segment of our population—the growing tribe of earth science enthusiasts—finds a splendid way to exercise in healthful fashion by taking field trips, that every leader in the country would stand up and cheer, and do everything in his power to encourage it.

Yet, the facts indicate otherwise, and the mineral and fossil collector faces problems which threaten to make collecting in the field a privilege reserved to a few.

Like all outdoorsmen, the rockhound is beset with the same basic problems—a steadily shrinking federal and state domain in which John Q. Public is free to wander; and the shutting off of formerly accessible private lands and facilities whenever it suits the owners or tenants. Much private land is closed because of vandalism, or because of injuries on such land suffered by persons who later take legal action to recover damages—whether or not they had permission

to enter the property in the first place.

Even when public lands are available, officials charged with their administration are placed in a quandary because while free access brings with it the dangers of forest fires, wholesale destruction or depletion of natural resources, and the turning of primitive areas into balsam-scented Coney Islands, the lands are public and every citizen has the basic right to enter them.

The extreme conservationist views unlimited public entry with horror, and is among those who say "Preserve our primitive areas as God made them!" The moderate conservationist viewpoint is more in sympathy with the desires of the public for he would allow fishing, hiking, camping, and sometimes even hunting. Under special conditions and for good scientific cause, he also allows collection of specimens of plant and animal life, and of rocks and minerals.

Whatever the merits of the arguments for preservation are, and which now apply to the rockhound as never before, the fact remains that as our population increases we must find reasonable ways to encourage the people to go outdoors and get the exercise which we need if we are not to become a nation of softies.

Of course we could insist that everyone exercise in front of his TV

in the morning, or do calisthenics at the office. This has been tried before, and it works—for a time. But it is boring, and gradually interest is lost. On the other hand, getting out into the great outdoors is a challenge which is cheerfully met by millions of fishermen, hunters, and more recently, by the rockhounds. The problems of the latter are not as well known because the rockhound hobby, though lusty and fast-growing, is an infant. So far as conservation is concerned, the rockhound problem is complex because rocks and minerals cannot be grown in hatcheries or nurseries and "planted" for collectors. There is only one generation of rocks and minerals, and it can be harvested only once. After that it is gone—forever!

This brings us to the oft-repeated criticism that rockhounds will deplete the land unless they are rigidly controlled. That serious alarm is being felt by top-level officials in the Department of the Interior, particularly in respect to stripping public lands of petrified woods, is shown by their announced intent to study the problem with the view of closing certain areas noted for their abundance of petrified wood. Although no specific details were given as to how policies of preservation would be carried out, there is growing fear among

# Secrets of desert survival learned by the Southwest's Pocket Mouse may help man reach the stars . . .

**P**OCKET MICE, natives of the U.S. desert, have been around a very long time, their ancestors being in business some 30 million years ago. Yet today, these tiny rodents are being called upon to provide the answers to problems that must be solved before America's astronauts can be protected against the dangers of prolonged orbital or interplanetary flight.

*Why this animal?* The fact that pocket mice are not really mice is what makes them the space scientists' dream. They belong to a different and highly specialized family (along with kangaroo rats and kangaroo mice) closely related to the pocket gopher clan. Their zoological name, *Perognathus* (perog - NAY - thus), means "pouch jaw," since a good share of the animal is head, and most of the head is fur-lined cheek pouches on either side of the mouth, which mousey stuffs full of seeds to carry home.

But it is not these built-in market baskets that make the Pocket Mouse so interesting to scientists, as the animals will not be expected to pack their lunch for their rides in space. Rather, it is the astonishing physiological adaptations these creatures have developed through the long

years of evolution to withstand rigid desert conditions. They live entirely without water except for the moisture in the seeds they eat, their bodies being able to manufacture needed water metabolically. And when there is no food, or the temperature falls below a certain point, these mice can go quickly into a state of dormancy.

These remarkable adaptations are what Drs. R. G. Lindberg and D. F. Mitchell of Northrop Space Laboratories, Hawthorne, Calif., plan to exploit in their search for knowledge to protect man in space.

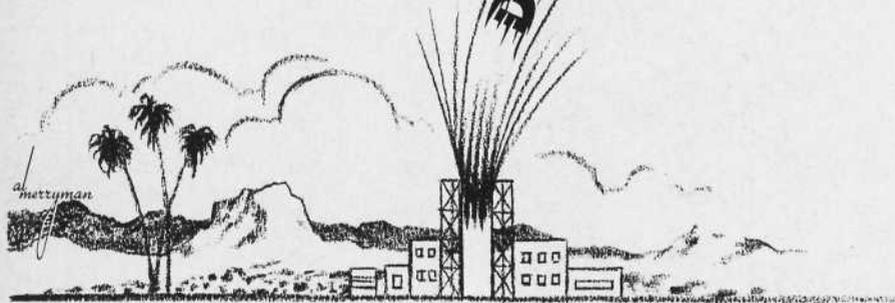
*Chief candidate:* Two of the lightweight kinds of Pocket Mice are being

worked with, the favorite being nearly six inches long, counting tail, and weighing not more than 10 grams, and known as *Perognathus longimembris* ("pouch-jaw-long-membered" — and if you look at its hind legs and long hind feet you know where it got the second part of its name, too.) These animals are common in parts of eastern and southern California,

**DESERT MOUSE TRONAUTS**

Nevada, Arizona and throughout much of the Great Basin. They live from below sea level to at least 6500 feet altitude. This Pocket Mouse's skull is large, especially in the bony parts behind the ears. Making the head look even larger are pouches in the cheek external to the mouth.

These mice spend much of the day in their burrows, with the front door plugged up. They forage for food mainly at night. Two investigators, Bartholomew and Cary, found that when hunting for seeds, *Perognathus* balances along on its hind legs, with the hind feet roughly beneath the center of gravity and the axis almost horizontal. This puts the animal's head close to the ground. The long clawed hands sift the sand for seeds, and stuff them into the cheek pockets so fast you can't see them work. The hind feet kick the dirt back out of the way as the animal goes along. In a hurry, Pocket Mice use all four feet, with their tails probably acting as balancers. Their long back legs are equipped with powerful muscles for galloping leaps, and they land on their front ones. They can leap



**By K. L. BOYNTON**

The author, formerly on the staff of the Chicago Natural History Museum, is a member of the National Association of Science Writers, American Association for the Advancement of Science, and the American Society of Mammalogists, with scientific field work experience in the United States, Canada and Europe. His 14 years of scientific writing for the lay reader has been in the field of the Life Sciences, with emphasis on zoology, ecology and animal behavior.



plans for the National Aeronautics and Space Administration for the use of these animals in balloon and orbital flights.

A lightweight box, about 6 by 6 by 10 inches, is big enough to house 100 mice, each in a separate "room" with plenty of space for circulating oxygen, removing carbon dioxide and controlling the humidity. In a hibernating state, the animals would require no food, and even their oxygen requirement drops from 4.8 milliliters per hour per gram of weight of the animal when active to a mere .13 milliliters per hour per gram of weight when hibernating. Thus, life maintenance equipment to be provided is practically nothing—a big factor in space vehicle payload consideration.

*Big Job, Little Mouse.* What are the space problems bioscientists are trying to solve, and how do they expect to use the Pocket Mice to do it?

Space radiation is the main hazard to man in space. It is different from x-ray and gamma ray because of its mixed radiation sources and energies. Experiment in actual space is necessary to know what really goes on there. Consider the two big dangers to man from this space radiation:

*Brain damage:* Extremely high ionization doses are delivered along the paths each radiation particle travels, and a very heavy particle kills the human cells in its path when it crosses their nuclei, and damages the cells to either side. This is permanent, as these nerve cells cannot regenerate. What the extent of the damage would be in an unshielded human brain

during a period of a few weeks in space, nobody knows, now. *Mouse work:* Hibernating mice, their heads monitored by emulsion, will be sent for a maximum period on balloon flights up to 200,000 feet, and then sent aloft for two weeks in an orbiting vehicle. Returned to the laboratory, a study of the animals' behavior and sections of their brains is expected to show the relationship between the amount of damage along the heavy particle path, and the size and kick of the particle, how far off each side of the path the damage extends, and what effects an accumulated particle dose has.

*Eye damage:* Another danger to man is damage to the eye lens from exposure to primary cosmic radiation. What danger would occur to the human eye lens from the mixed particle field of outer space, and how can it be prevented? *Mouse work:* Hibernating mice with film emulsion over their eyes are to be sent on balloon and satellite flights and returned to the laboratory. Interval tests would plot cataract formation and it might be possible to even identify the damage and the particle doing it; this would give a great deal of information on the effects of the mixed particle field in space. Relation between the total dose and cataract formation could also be learned.

The fact that the activity of these Pocket Mice riding in a rocket could be controlled by changing the temperature of their compartments means that they could be sent great distances into space simply by waking them up for feeding, and putting them back into hibernation again. They might be maintained alive for some time on another planet in this way, too.

Who knows? Perhaps the remarkable adaptations Pocket Mice developed to keep alive in the desert may some day take them to the moon. ///

straight up 24 inches or sidewise a yard, dodging so much it is impossible to keep them in sight.

The body machinery of these tiny animals works so fast that almost a continual supply of food is needed. If food is withdrawn, the animals go into a torpor within 24 hours. This torpor can be of two kinds: a light one, called estivation, which takes place when the body temperature is high because the air temperature about the animal is high; and a deeper state, called hibernation, when the air is chilled beyond the point where the animal's body can manage to adjust to it.

These two factors are of great use to space scientists. Kept at 8 degrees Centigrade (46.5 deg. Fahr.) hibernating Pocket Mice can survive a very long time without any food. These mice enter hibernation with one rapid decline in body temperature, and they can be brought out of it just as quickly. This means that these animals could be kept alive for weeks in a space vehicle while in a state of hibernation. Or, they could be roused by heating the air about them, fed, and put back into hibernation by dropping the temperature.

After some 2000 - man - hours of Pocket Mice research, Dr. Lindberg and his staff have formulated definite



FOR THE past six summers I have taken a busman's holiday from my practice in Cincinnati to administer to the illnesses of the *Dine*—the People—the Navajos. I am a dermatologist, but on the Reservation I aided in whatever came up. I worked at the St. Isabel Mission of the Franciscan Fathers at Lukachukai, Arizona, deep within Navajoland. St. Isabel has a dispensary staffed by Hospital Sisters of St. Francis Registered Nurses, but there is no permanent doctor stationed there. The nearest one is 50 miles away; the nearest hospital, 70 miles. Until recently, both were reached over miserable dirt roads.

The U.S. Public Health Service, which had taken over the administration of medical services to the Navajos just a year before my first visit, is doing an excellent job—but the obstacles are great. The Reservation is huge—25,000 square miles—and thinly populated—90,000 people.

When I went out for the first time, I expected that I would be bringing aid to people who had nothing in the way of medicine. But, as others before me, I quickly learned that I had not stepped into a vacuum. The Navajos have a well-developed medical system of their own—and it has not vanished before the impact of

the white man's medicine. At the same time, the Navajos accept white medicine!

Conditions differ from place to place on the Reservation and are changing constantly — sometimes quickly, sometimes imperceptibly. Lukachukai is not a "town," but a center with a mission, school, trading post and now a chapter house, which together give an area of three to four thousand inhabitants a geographic entity. Hemmed in by mountains and the upper reaches of Canyon de Chelly, Lukachukai was not until recently easy to reach from the white men's highways, and, consequently, faithful to tradition. Yet the influence of the mission and the year-long presence of the dispensary gave the Navajos a favorable relation with the white people, and especially with their medicine.

The simultaneous existence of white and Navajo medicine appeared in a varied picture, depending on the situation. At the dispensary the patients were amazingly strange by clothes, manners, and language, and there was hardly a day that something unexpected did not happen. But the people who came were basically like patients everywhere, and I did not at first recognize that this was only one side of the medal.

At the regular clinics that we held at some distances from the mission, in small chapels or under the sky, the Navajos seemed more on their own, and their idiosyncrasies were more in evidence. It sometimes happened that a patient who had been present all the time did not budge until we had our things put back on the truck. Then he, or more often she, came forward to consult me, and we had to open bags and boxes again. Obviously, I had to be watched before I could be trusted.

But, this strange world was really impressed on me when I saw my first patient in a hogan. Sheepskins on the ground and a chest-of-drawers represented the furniture, and there were no toilet facilities. Such a place would be a slum in the city, but it is not a slum here. Hogan means home, and although cabins and houses are appearing on the Reservation, they are not called by the same name, and a hogan alone can be used for religious ceremonies. Only when you see the family in the hogan can you understand how the family ties bind the Navajo to his tradition.

And, like the hogan, the Reservation is his home. Most other tribes were *forced* into reservations — the Navajos were *permitted* at their request to return to their land. In this beautifully forbidding country they lived far removed from the benevolent as well as greedy intentions of the white man. When the Reservation became more exposed to the outside world, a different attitude towards the Indians, which included respect for their past, had emerged among the whites.

The Navajos have a dynamic culture. They are good learners—and good "sifters"—who accept what they think is good for them, but cannot



By **ROBERT BRANDT, M.D.**



A WHITE DOCTOR EXAMINES HIS NAVAJO PATIENT. THIS PHOTO WAS TAKEN AT THE SEVENTH DAY ADVENTIST CLINIC IN MONUMENT VALLEY.

be forced into anything they tend to reject.

This is the framework within which the Navajos were able to maintain much of their medical tradition. The question arises: Why did they maintain it while at the same time welcome the white doctor? Navajo med-

icine, as medicine does among all people (primitive and otherwise) consists of both empirical and "magical" elements. The former was never as important among the Navajos as the latter, and is now widely supplanted by our so obviously superior practice.

If the sanitary part of white man's medicine is less easily introduced, it is not because of any resistance on the part of the Navajo, but because of habit, partly derived from the scarcity of water. Yet progress is being made. When I saw my first outhouse, it seemed odd that there should

still be outhouses in the mid-20th Century. Then, after I had lived on the Reservation a short time, I began marveling that these people had any outhouses at all. One of the most impressive advances I have witnessed in my six summers is the increasing number of these "temples of progress."

Health education is not without interesting sidelights, where again old and new co-exist. A woman accused a Navajo medicine man of conjuring flies on her, and then added: "Mrs. Wauneka has told us that flies bring germs." (Mrs. Wauneka is a leader among the People and intensely concerned with health problems.)

The acceptance of rational treatment does not do away with the need for the ceremonies, for to the Navajo, healing is religion. Because healing is attempted through religious ceremonies, there are few important ceremonies that are not fun-

damentally healing rites. The Night Chant (*Yeibichai*) lasts eight days and nine nights, and as it progresses, more and more visitors arrive, expecting some general blessing to flow to themselves—but the rite is held primarily for one or two patients.

The Enemy Way, originally meant for the purification of the returning warriors, including their greeting by the women, has developed (or deteriorated) into a social festivity that can be considered an equivalent of a coming-out party. The white visitor who knows it as "Squaw Dance" is rarely aware that each such affair starts with a patient, who remains the real center of the ceremony although practically hidden in a brush shelter.

This situation stems from the fact that for the Navajo there is no strict separateness between disease, misfortune, personal failure, conflicts and

unhappiness. They are all disturbances of the harmony within, with their surroundings, and with the universe. If disturbances occur, is it not the most natural thing to have the harmony restored by the man who can do it through appropriate ceremonies, the medicine man?

The term medicine man is a misnomer, because this religious healer rarely uses medicine in our sense. "Singer" or "Chanter" is a better title. The ceremony is known as a "sing" because chanting is its most important component. (The celebrated sand painting is not part of every ceremony.)

The necessity for an individual to have a sing is episodic; the necessity for sings to be held is continual. As an example: soon as the first frost occurs, the Night Chants begin. One can say, taking some liberty, that it is not so much the patient who needs the sing, as the sing that needs a



TWO NAVAJO  
ELDERS.  
NOTE HEARING  
AID BEING  
WORN BY  
MAN AT RIGHT.

**THIS WOMAN BROUGHT HER AILING GRANDCHILD TO THE DISPENSARY**

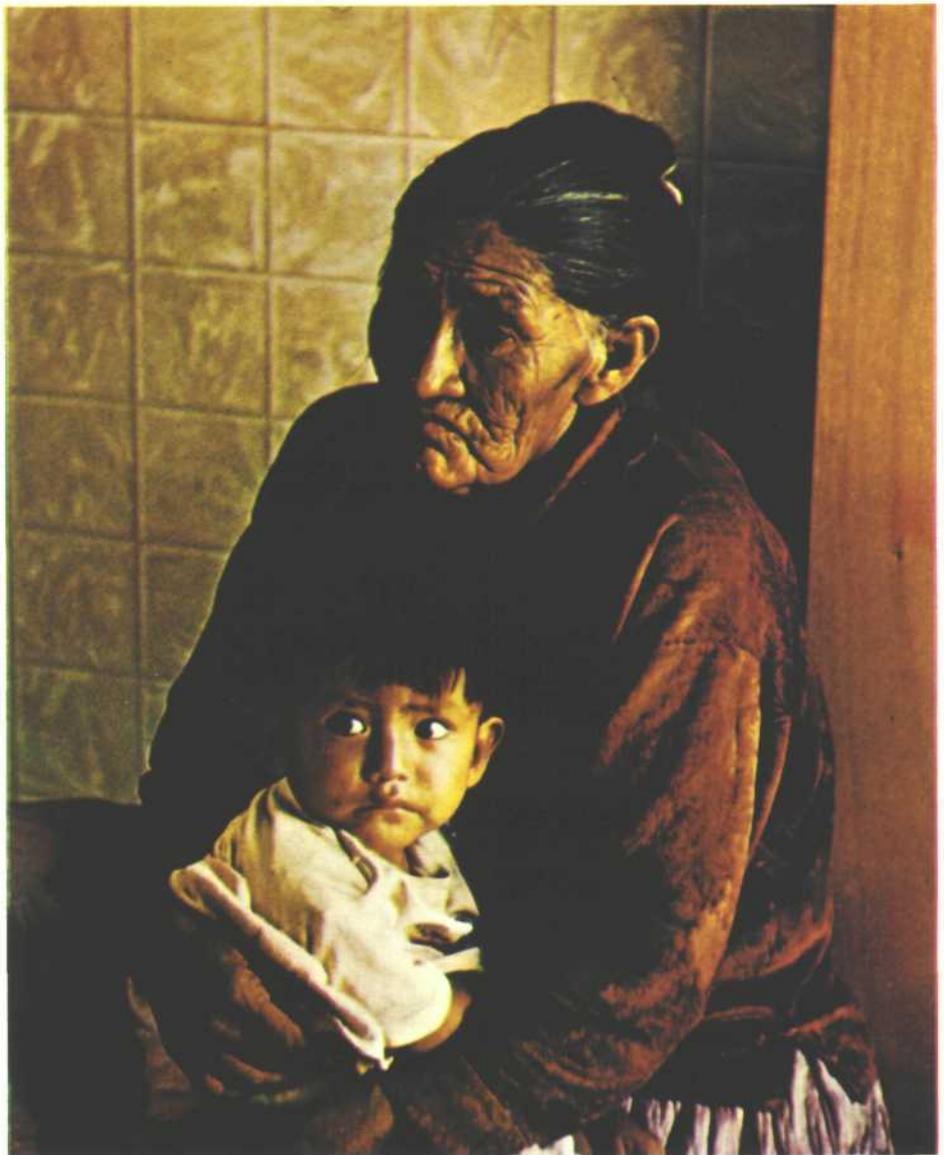
patient—as least in those ceremonies that attract also healthy participants. As long as the Navajo religion exists, there will be ritual healing.

Having followed so far, you may wonder how this old religion can persist in the atmosphere of the mission. I was amazed myself when I attended my first squaw dance with Father Blase, the superior at Lukachukai. The dancing seemed tame, but the singing, the beat of the drum, and the flickering light from the big fire overawed me. And out of the darkness came the reverent voices of Navajos greeting the Catholic priest. I was confused, but he understood it, and so do the People.

One of the most important factors here is the attitude of the Franciscan priests. While, of course, aiming at fundamental changes from the beginning (1898) they have treated the old beliefs with patience and understanding. One of them, the late Father Berard Haile, was one of the outstanding scholars not only of the Navajo language but also of their religion. He was said to know the ceremonies better than some of the medicine men, and his spirit still prevails.

On their side, the Navajos, even those that have not come over yet, recognize that the white man's religion is in close alliance with his technical proficiency. The Navajo genius for compromise allows him to have what he considers the best of both cultures.

Yet, the ceremonial medicine could hardly have survived if a demonstrable effect did not appear, at least sometimes. We must accept the undeniable power of psychosomatic influences of which I have seen several examples. The ceremonies cannot be described in this article even in their main features, but it is easily understandable that the patient for whom an elaborate, meaningful, and expensive ceremony is performed ("the fuss that is made over him") grows in self-esteem. The ritual, impressive even to the casual guest, sustains a mood of spiritual elevation and makes



the patient susceptible to the forces within that strive toward healing.

The two types of medicine may live side by side in a very real sense. For instance, a patient that comes to the dispensary may also have a sing performed over him. No harm in double treatment!

One night a messenger came to the mission to get help for a relative who could not breathe. The cause was, the messenger reported, that some time ago the victim had stepped on a snake. This patient was known at the government clinic where he had been given Aminophylline for asthmatic attacks. Taking this medicine with her, the Sister arrived at the hogan and found the patient in a serious attack. The family was crowded in the hogan and a medicine man had already started his sing, presumably an abbreviated form of the Snake Rite. The medication was administered and in due time the attack ceased. Which "healer" received credit remains unknown.

If a ceremony is performed not to heal a present disease but to ward off a possible future one, there is no knowing what would have happened if the sing had not been held.

In other cases, the two principles of healing are taken as alternatives. The patient may first go to the clinic or hospital and later have a sing performed if the medical treatment does not turn out effective or if, in his conception, the impersonal and cursory hospital routine does not satisfy him. Conversely, the medicine man may be tried first, but if he fails (several attempts being permitted) the patient "changes doctors."

The medicine man, it is obvious, often tries to steer the patient or his family towards the performance of a chant. We must oppose his interference where a delay of rational treatment would be harmful, but we should not start with the assumption that the medicine man is not sin-

*continued on page 36*

## Old Glass From The Ghost Camps



MABEL HARMON

No relic, save perhaps the wagon wheel, has come to symbolize the Old West's frontier days more than has glassware that has turned purple through action of the sun.

It's quite a hobby, this gathering and displaying of purple glass pieces.

In fact, the demand for good specimens has risen so sharply in the past few years, that any unbroken piece of glassware that "shows color" will bring from \$2 to several hundred dollars. A dozen years ago, whole bottles and even fancy pieces of table and kitchen glass could be picked up in the streets of ghost towns.

Mabel Harmon, who has converted part of her home near Palm Desert, Calif., into "The Lavender Glass Shop," has about 1500 pieces of Old Glass. Some are reposing on the roof, catching the sunlight which in three to four years will turn them from clear glass to various shades of purple.

Mrs. Harmon has had long experience in "purpling" glass. She has learned these facts: Glass need not be turned in order to get uniform coloring; glass need not be placed in sand during its sunbath, as believed by some hobbyists; once the glass reaches its deepest shade of purple, further exposure to the sun will not deepen the color.

She has learned one other important fact: Today, the hobby-

ist's best old glass source is the second hand store. Old glass—still clear in coloration because it has not been exposed to the sun—is often found in these establishments. "But," adds Mrs. Harmon, "even this source is fast drying up because the junk dealers are getting wise to the value of glass that will purple."

How can one tell if clear glass will take on color? Every collector has his or her special method. Mrs. Harmon examines the bottoms of the glass pieces. If the worn portions are shiny, chances are it is "new" glass and therefore uncolorable. But, if the worn portions are dull looking, of a soft-appearing texture, and bear hairline scratch marks, then it is a good bet that the glass will color.

The following comments, taken from an article by Harriett Farnsworth in the October '59 *DESERT*, explain why not all glass will purple:

"Purpling is simply a matter of chemistry. Glass is made from molten sand which, more often than not, contains iron and other impurities. To offset this, a decolorizing agent is used by glass manufacturers — and the glass thus produced has a transparent colorless appearance.

"Prior to 1915, manganese dioxide was the primary decolorizing agent. When such glass is exposed to the sun's ultraviolet radiation, there is a chemical breakdown and the hobbyist's coveted violets and amethysts result—the intensity of color dependent upon the total amount of manganese present . . .

"The first war with Germany, at the time chief exporter of manganese, changed the glass picture.

"Selenium replaced manganese as the chief decolorizing agent for glass manufactured in the U.S. The selenium-treated glass pieces develop a brownish straw color when subjected to the light of the sun. All modern glasses, with few exceptions, are made with selenium and therefore will not develop the more highly prized bluish casts when exposed to sunlight." ///





TABLE SETTING OF PURPLE GLASSWARE AT THE LAVENDER GLASS SHOP. PHOTO BY DENNIS HOLMES.



# "The Tree With Green Bark"

By EDMUND C. JAEGER

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

ONE OF OUR desert's most widespread and handsome trees is the Paloverde — "the tree with green bark." When in full bloom it covers many a rocky hillside, sandy flat and canyon border with myriads of domes of brilliant yellow; it scents the air with rich perfume. When covered only with its countless small leaves or only its green bark, this tree does much to give perennial verdure to an otherwise drab landscape. It appeals to us as a tree friendly to all of nature's small children, as well as to man himself. Even when dead, the decaying trunk offers cozy retreats for numerous soft-furred mice, beetle larvae, the remarkable social termites, and ladder-backed woodpeckers, flickers and other hole-nesting birds. Bees seeking sources of nectar find that the bright yellow leguminous flowers provide ample supplies.

Because of well-defined differences in the character of the leaves, these beautiful dendroid plants fall into two major groups. The first and largest comprises the Paloverdes of the genus *Cercidium* (10 species, one south African) with short compound pinnate leaves of several leaflets.

The other group is the *Parkinsonias* (one species) whose leaves are very long, each consisting of an elongate flattened mid-rib or rachis and numerous small leaflets arranged oppositely to alternately along its sides. To this group belongs the common Horse-bean or Mexican Paloverde (*Parkinsonia aculeata*), easy to grow in gardens and hence finding favor as an ornamental and street tree in many parts of the semi-tropical and tropical world. On our local and nearby deserts it is found naturally along the lower Colorado River and in much of the peninsula of Baja California except the mountainous regions. To my pleasant surprise it has been much used for center-strip and border-planting for many miles along the new freeway between Victorville and Barstow on the Mojave Desert. It is doing very well there, in spite of the cool winters.

Two pairs of eight-to-12-inch long delicate leaves spring from the branchlets just above a swelling where

lie one long stout stiff central spine and two smaller lateral ones. The long leaves are called secondary leaves because they are preceded by smaller primary ones.

The tiny leaflets of both kinds of leaves are deciduous, but the long central naked flattened rachis to which those of the secondary leaves are attached persists for long periods, giving the tree a very airy ghostlike appearance. If you will examine these long leaves you will notice that at the base of each is an elongate cushionlike enlargement or pulvinus. When evening comes it reacts to cause the leaf to droop; at the same time the 20 to 30 pairs of small leaflets "go to sleep" too, and fold flat against the long mid-rib. All this causes the tree at dusk or just before sun-up to have a strange wilted appearance.

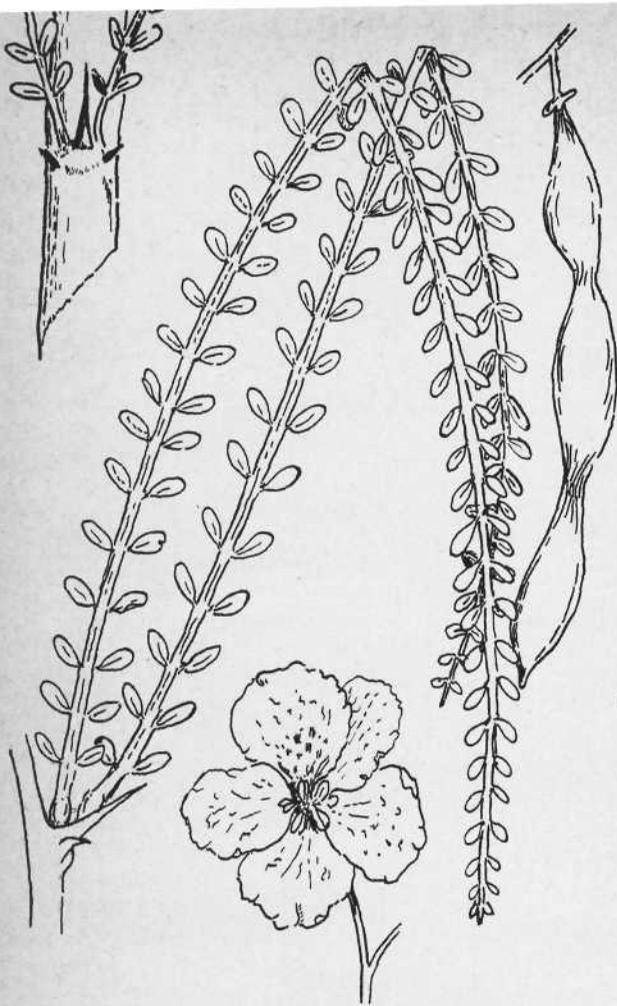
The bright- to pale-yellow crepe-petalled flowers, with numerous conspicuous red spots on the banner, are arranged in elongate groups on the growing branchlets in spring and summer, or, in the tropics, throughout the year. This ever-blooming character makes this tree a popular garden ornament in many parts of the equatorial world.

The long pointed and brown fruits or pods, constricted between the beans, persist for long periods in graceful racemes. The seeds are very hard-coated and covered with a waxy film, but sprout readily when warmth and moisture of the next succeeding period of rains ensues.

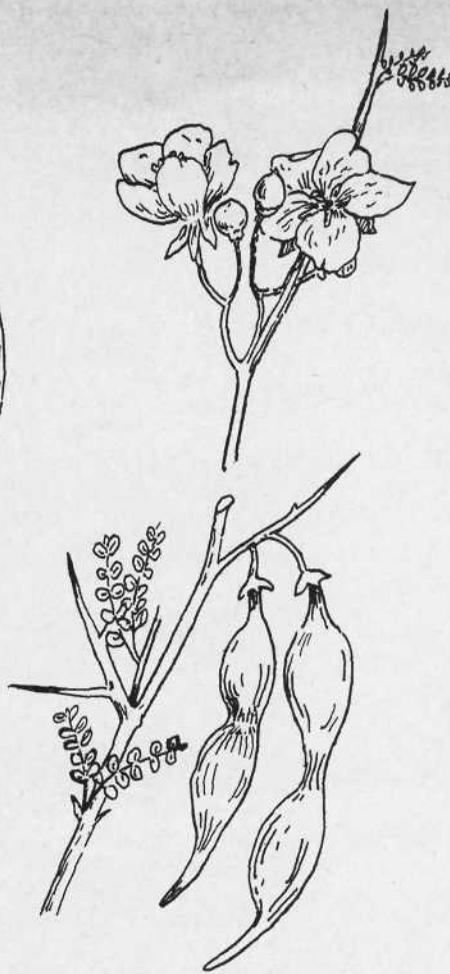
This tree of scanty foliage has smooth lively green bark on all of its trunk and up to the very ends of the zig-zag branchlets. It is a fast and luxuriant grower with wide-spreading crown, but is probably, in most situations, a fairly short-lived plant.

The graceful Mexican Paloverde is prone to seek wetness more so than other members of this tree family. We usually find it growing on the edges of streams, seeps and moist meadowlike flats. It is very plentiful on delta lands of the Colorado River.

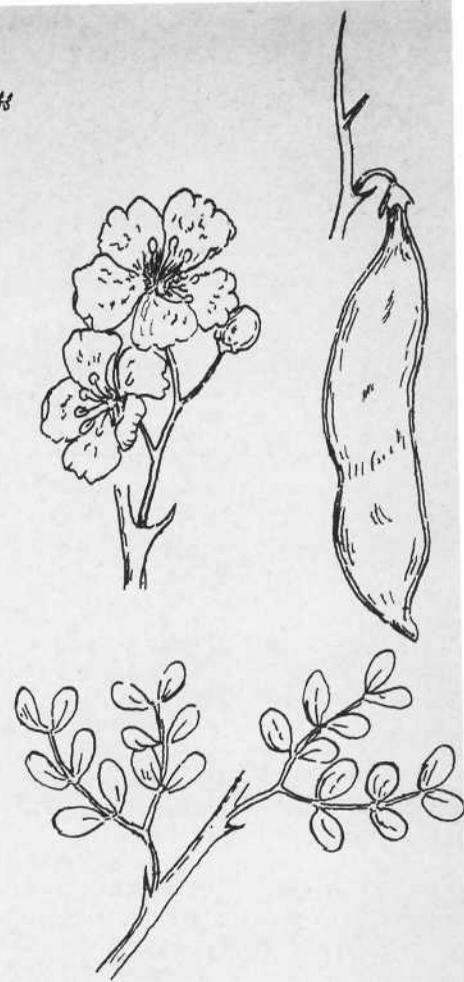
John Parkinson (1567-1629), after whom the genus *Parkinsonia* was named, was an apothecary of London and author of several botanical works. The famous



MEXICAN PALOVERDE



LITTLE-LEAFED PALOVERDE



BLUE PALOVERDE

Swedish botanist, Linnaeus, first described the plant in 1753.

The Mexican and other Paloverdes, are a favorite haunt of the small energetic verdin. From the thorny dead branchlets it may construct its rotund nest with entrance hole on the side. Especially during the courting and nesting season do we hear the high-pitched screeching notes as the birds busy themselves hunting insects or issuing notes of sarcastic warning to intruders. You may be very certain that only one pair of these peppery-tempered birds occupy a single tree. If there are two nests both belong to the same pair: one is the brooding nest, the other the roosting nest. Small birds called lead-colored or plumbeous gnatcatchers are equally partial to Paloverde trees at nesting time. In these trees I have also found the nests of shrikes, white-winged and mourning doves, quail and thrashers.

The short-leafed Paloverde found widespread and mostly restricted to the edge of arroyos of the Colorado Desert is the Blue Paloverde (*Cercidium floridum*), so called because the bark of its branches is blue-green rather than bright green as in the Mexican species. The specific name *floridum* means "abounding in flowers." Often this is a fairly large tree with gray trunk that may measure three feet in diameter, a crown up to 30 feet high, and spread of 20 feet.

The brittleness of its stems is characteristic. Every big windstorm breaks many of them, large and small, so that one of the things we always notice as the result of this natural pruning are the unsymmetrical crowns and thick spreads of dead twigs and branches beneath them. The tree's scant shade together with this litter

of dead twigs encourages certain of the spring flowers, such as the cheery blue phacelias, to grow luxuriantly in a carpet of rich blue under almost every tree.

A tender-leafed vine, *Brandegea*, often runs riot through the fallen gray twigs and ascends the living tree to form graceful festoons of verdure. This perennial vine, related to our garden cucumber, has a water-filled root, and renews its growth after each penetrating rain. One of its peculiarities is the extraordinary number of its different leaf forms. Scarcely two seem to be alike. I have several times amused myself by laying the flat leaves of different shapes on the sand and seeing how seldom I could find ones of duplicate form.

Because this spiny-branched Paloverde almost always grows in open sunny situations, the squat to rounded crown seems an inherent character. There is a strong tap root and several tortuous deeply penetrating side-roots which, along with the smaller roots, are covered with a heavy corky bark. It is amazing how some of the roots twist and turn (sometimes forming near Gordian knots) as they seek penetration and moisture in rock crevices. These interesting examples of persistence and "root-cleverness" are clearly revealed when cloudburst waters of summer storms erode stream banks and expose them.

The generic name *Cercidium* (Greek: "a weaver's shuttle") was suggested by the form of the brownish-yellow fruit or pod which contains the hard-coated seeds. Seed germination is slow in natural surroundings but may be artificially hastened by immersing the seeds for three or four hours in concentrated sulphuric acid, and then washing them overnight in running water.

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The flowers, often visited by bees, are deep yellow in distinct contrast to the paler flowers of the Horsebean Paloverde.

Widespread, especially on rocky slopes and plains of southern Arizona, Sonora and the upper-third of low-lying deserts of Baja California, is the Little-leaved Paloverde (*Cercidium microphyllum*). This hardy tree, which often turn the rocky hillsides into an arboreal cover of brilliant yellow, is at once distinguished from the Blue Paloverde by its leaves—numerous very small leaflets arranged on a short central stem. Also, there is an apparent difference in the shape and branchiness of the crown. The Little-leaved Paloverde has a short trunk which soon develops several main branches and many branchlets to give the appearance of a very twiggy tree. Dr. Ira Wiggins notes that while the upper trunk and branches has a very green bark, there is a well-defined basal area of smooth gray bark ending at a very definite horizontal line.

The wood is light-yellow and hard from center almost to the bark. Because of the wood's hardness the Indians used it in the making of tools such as awls and dippers. Natives utilized the beans either green or, later when hard and ground in a mortar, as a flour. The tree is a heavy seed-bearer and when ripe the beans are much sought by rodents; by them the crop is soon gathered. Such seeds as escape harvesting and get buried in the soil readily germinate after rains, but the mortality of the seedling plants is very high, especially during late summer and dry autumn.

Dr. Wiggins estimates that the largest of the trees may have an age of 300 or 400 years. The bark of the

main trunk of such old trees may take on a dark burnt orange color.

With the Little-leaved Paloverde I always associate the whitewinged dove, with its haunting call notes so flute-like and appealing. Often have my days been brightened by finding in Paloverdes the nest of this splendid song-bird of the wastelands, a bird so beautiful, so appealing that its widest protection should be sought by all thinking men.

Two other Paloverdes need our consideration. There is the magnificent luxuriantly flowering Sonoran Paloverde (*Cercidium sonorae*) of the Sonoran plains, distinguished by its straight main trunk, slightly larger leaflets, horizontal branching and flat wide spreading crown. It is very abundant in the vicinity of Guaymas. The Cape or Peninsular Paloverde, abundant throughout the cape district of Baja California and found northward to the mid-section of the peninsula forms part of the rich floral composition of yuccas, colorful, flowered vines and cacti characteristic of that region.

The natives call the latter tree *Palo de pua* ("tree of spines"). It is generally distributed over rocky hills as well as sandy desert, showing great adaptability in relation to soils and water requirements. In contrast to the Blue Paloverde, its branches are densely covered with short white hairs. The Mexican cattlemen sometimes cut off the green branches and feed them to their horses and mules when other food is scarce.

May I suggest that next time you wish to take an extensive desert trip that you plan your itinerary so as to see and become acquainted with all five kinds of these fine trees. It will add enormously to the interest of your journey. //



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## Field Trip Dilemma . . . continued from page 13

rockhounds that it may mean total prohibition.

For a rockhound this would take the zest out of a trip because he is always hopeful that the effort he goes through on field trips will result in some tangible evidence which he can cut and polish and proudly display as a specimen that "I collected myself!" Fears are also expressed that if the target for conservation efforts at the moment is petrified woods, it may well shift to fossils tomorrow and to all classes of mineral specimens and cutting material next week.

It is difficult to argue *against* conservation when one reads of houses being walled with logs of petrified wood, or fireplaces and even floors paved with slabs and slices of semi-precious stones. What will happen to all these irreplaceable materials when the owner dies or moves away?

In still other cases, individuals fall into that peculiar state of greediness which sometimes overtakes the best of us when something of seeming value is for free! These are the "rock hogs" who boast of "tons" of rock in their backyards, taken not because they could ever live long enough to cut and polish it all, or to trade it off, or even sell it, but because they could not stop themselves from taking while the taking was good.

Commercial collectors are possibly even more at fault because they often step into newly - discovered deposits and haul off truckloads of material, selected indiscriminately, which since it cost practically nothing, must, obviously, be stocked in enormous quantities. Unfortunately, most of this material, cheap as it is, seldom turns out to be worth the cost, and is allowed to languish for years waiting a naive buyer.

It is for these reasons that arguments for enforced or at least regulated conservation in respect to petrified woods are valid and accepted by many rockhounds even though it means limiting their collecting freedom on field trips. Petrified woods are the object of conservation steps for good reasons. They are singularly easy to collect because the pieces look like logs and branches, and it takes no rockhound skill to recognize specimens in the field. Further, petrified wood is particularly fascinating to the layman who sees in this material much more of interest say, than in a weatherbeaten chunk of agate which

the expert rockhound may look for in preference.

Another factor which makes it easy — too easy — to collect woods is that they tend to occur in profusion in limited areas. Famed Petrified Forest in northern Arizona is a case in point. The strenuous efforts of conservationists brought this national monument into existence, and there is little doubt that if they had not raised their voices at the time, there would be little left of this stone forest.

So far the arguments for conservation seem very good indeed, but what does the other side of the coin show? Should we enforce preservation at the expense of field trips? Or should we recognize that conservation should be applied only to specific areas such as the Arizona forests which were saved to become one of our most treasured heritages?

Many rockhounds know that surface materials, particularly petrified woods, agates, jaspers and chalcedonies, show up only because weathering has exposed them. No intelligent collector would pick a random spot in the middle of a desert and begin digging. The chances of making a find are too slim. Yet there must be material left which future storms and erosion will uncover.

Another type of deposit is the in-place kind, in which float, which has weathered out from the outcrop, leads the expert collector to the mother lode. After all the float is picked up, it takes hard digging to tap the in-place deposits. Few persons will do this, and a form of automatic conservation takes place.

The experienced rockhound argues, thusly: "Sure, the surface stuff is gone, but there's lots more if you dig. If you want it bad enough, you'll dig." This philosophy also applies to fossil deposits; it is the "conservation of inaccessibility."

Finally, the rockhound points out, many deposits extend for unknown distances underground, and many more are so well hidden by topsoil and brush that we will never run out of material to collect. All that will happen is that it won't be so easy, and success will come only to those who learn how to be good prospectors and are willing to spend some time and effort following promising leads.

Although there is much truth in the argument that there is a lot more material than has ever been collected, the rockhound fraternity is also well aware of the need for conservation. Club officials, writers, and editors of rockhound magazines are placing more and more emphasis on the field trip as a recreational endeavor and soft-pedaling the idea that "tons" of material are waiting to be picked up. Encouragement is being given to field trips to deposits which are regulated by their owners so that available materials will last a long time. Deposits located on public lands are being described as interesting trips where the marvels of nature can be seen and enjoyed, and not as grabbing expeditions. Club bulletins frequently carry articles on the need for conservation, and the need for better field trip conduct.

All of these steps are laudable and will certainly help to make the field trip a thing of the future instead of the past. Perhaps these steps will not bear fruit fast enough to stay the hand of government officials interested in enforcing conservation on public lands; but they are encouraging signs of maturity in a relatively new outdoor hobby.

Frankly, rockhounds are at a crossroads, the same that other hobbyists and sportsmen faced many years ago. If they are to avoid the many rules and regulations which every hunter and fisherman is now burdened with, they must discipline themselves. It isn't too hard to visualize states applying rules to rock collecting—which may not specify how big or how small a rock has to be to keep, or whether it has horns, but certainly could specify how much can be collected and even where and when. *This could happen!*

What are the answers to the Rockhound Field Trip Dilemma? I predict that unless self-discipline at the rockhound club level becomes far more effective than it is today, official discipline will be substituted. This means that the Federal government will step in to more closely regulate what takes place on the public lands under its control. The state governments, particularly those of the West, will take similar steps, and even county and city authorities may decide to do something about mineral conservation.

The first rules will be enforced against carelessness, vandalism, and outdoor sloppiness. The "litterbug" of the highways who was effectively stopped only by imposition of stiff

fines, will be stopped in our wildernesses by the same method.

The next steps will be rules of enforced conservation. Admittedly these will not be easy to enforce, but even if few "rock hogs" are caught, the moral burden not to violate the law will be there.

Finally, we may well reach the point where enforcement of rules and regulations governing field trips calls for establishment of enforcing agencies. This means only one thing: licenses, such as are now required for hunting and fishing.

On the more cheerful side, and by way of showing how excessive regulation can be avoided, let me point out what every rockhound should strive for. First is conservation education. Every club and even schools with earth science programs should stress the conservation of mineral resources in much the same admirable fashion that they have stressed conservation of wildlife and plantlife.

Second: close regulation of field trips. This is best accomplished at the society level and calls for indoctrination of club members, and, if necessary, disciplinary rules for member violators.

Third, all societies and government agencies should dedicate lands to collecting, clearly delineating where such lands are, where the places of interest are, and establishing rules and regulations as may be necessary. The acquisition of private lands on which fruitful mineral deposits are located and throwing them open to collectors, is no more unreasonable than what many states are doing now for hunters and fishermen. This trend is being followed in some communities of the Pacific Northwest where a considerable tourist trade is encouraged by arranging for free prospecting of lands known to contain deposits of gem material. Even when small fees are charged for collecting (or charged for material removed), it is far better than having to worry about trespassing on private property or wandering about not knowing where to look for what.

When compared to other outdoorsmen, there is no question at all that the present-day rockhound enjoys an unparalleled freedom from restrictions. If he is to keep this freedom, he must discipline himself. Yet human nature being what it is, I am afraid some regulation is sure to come about. Only by taking deep interest in the problem now, can the best compromise between regulation and freedom be achieved. ///

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**Desert  
TEST-DRIVE  
REPORT  
• BY •  
V. LEE OERTLE**

## **INTERNATIONAL SCOUT**

**S**PARTAN GOOD looks, clean lines without a clutter of chrome, and functional layout make the new International Scout four-wheel-drive vehicle very easy to want.

Driving 206 miles—much of it off the highway—proved to me that the Scout is both comfortable and sufficient. It turns and parks easily, requiring less effort than many standard pick-ups, which is unusual in a four-wheel-drive vehicle. This machine is so trim it's almost stubby in appearance, but this very stinginess with useless body metal allows the Scout to get in and out of some tight situations.

The body length of 154 inches rests on a wheelbase of 100 inches, with an overall width of 68.6 inches. Standing 68 inches high, the Scout is actually almost perfectly square, faced from the rear. Equipped with four-wheel-drive, Scout weighs 3000 pounds.

Inside, Scout shows the same simple efficiency. If it isn't a model of plush comfort, it is a vehicle made to withstand the abuse of rocky desert trails and the severe demands of following a dry wash in a hot summer sun. Front seat width is 52 inches. In the rear, two narrow benches run along the sides of the

body. Plenty of cargo room between these rear seats makes the Scout an able carrier for rocks, treasure, or extra passengers, though the benches are only half-wide enough for an adult.

While several models are available, I selected the full-covered body for testing purposes, since it seems to be the one most 4wd buyers will prefer. The steel top is removable, of course, so that open-air riding is possible when desired. Two immovable windows run parallel to the body in the rear cargo area. The tail gate drops down in conventional pick-up manner, with an upward lifting gate above it. The spare tire is placed just behind the front seat.

Seated behind the wheel of the Scout, the windshield seems rather narrow, yet you can see the road clearly. Twin wiper motors are placed just above the windshield on the inside, and can be turned on and off manually from either side. Why the Scout is not equipped with sun visors, I can't guess, anyone who has driven into a lowering summer sun at sunset knows the eye-strain this can create, and no matter how low a windshield, all cars for desert driving need sun visors.

International has placed the Scout transmission on the floor, next to the transfer case and front-drive shift lever. Unfortunately, this robs the cockpit of necessary leg room for a third passenger in the front seat. In lieu of the 52-inch seat, this seemed an awkward placement, though entirely conventional for vehicles of this type.

Shifting the Scout is a smooth pleasure, and until you have the chance to drive this new trail vehicle you don't know what "functional design" can mean. I spent a happy afternoon crunching over the Cajon Pass back-wash areas — over sand, mud, rocks, gravel, brush, and even patches of fresh March snow. Frankly, I didn't encounter many situations that the Scout could not have handled with just the rear wheels supplying the drive, but since this was a test-drive, I deliberately stuck myself in a sandy ravine. Then I climbed out to set the front hubs in lock position. The hubs are stamped IH for International Harvester, and appear to be very similar in operation to the Warn Hub.

I climbed back in the cab and moved the front drive lever into low gear. I must say that I was "disappointed": the Scout literally hurled itself out of the twin ruts, without

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INTERIOR IS SPARTAN BUT COMFORTABLE

giving me a chance to play with the gears a bit longer. It just isn't any fun to get stuck, throw it in front drive and in a second or two be unstuck. It's too simple, and not at all reminiscent of the "good old days" when driving a 4wd vehicle was a pleasure of outwitting not only the country but the clumsy, underpowered, awkward mechanisms of the military models.

Time after time I headed Scout down into what appeared to be bottomless quagmire: mud and sand mixed in a rock-strewn pocket at the base of steep hills where rain run-off and thawing snow converged to make a mess of things. To no avail. I don't think I've ever driven a vehicle of this type that has such a "light on its wheels" feeling. In a car, you get stuck, stab the gas pedal, and the rear-end falls away as the wheels plow in good and terrible in the loose stuff.

By contrast, the International Scout crawls over the rocks, literally shakes itself out of sand traps in a manner that amazes the driver. There is more to it than just plenty of power. Other four-wheelers have bigger engines, but some are not nearly so deft at grinding out of a bad spot.

The single difficulty I had was with the front-drive locking hubs on the front wheels. Several times I was forced to pry the hubs around, even after rocking the wheels. This could be attributed to the newness of the vehicle, since my test-drive was its maiden voyage.

Beyond this slight annoyance, I found the machine an admirable performer. Tracking in loose sand was good (on a par with Jeep and Toyota). Turning-circle in Scout is just over 21 feet, enabling the vehicle to maneuver in and out of tricky bends in the canyon without wearing out the driver.

For those who like the technical details, the International Scout has an optional Powr-Lok differential with a ratio of 4.27:1. This device prevents one rear wheel from wasting all the power when it gets hung up. The transfer case on the 4wd model has a dual ratio, power divider joined to the synchromesh transmission, with three position shifting, as follows: low gear, 2.46:1; high gear, direct drive; and neutral. The transmission itself has a ratio of 3.333 in low; 1.851 in second; and direct in high.

Steel 16-inch disc wheels with 4.50E rims were fitted on the test model. Tires are 6:00x16, tube-type on the 4wd model.

Some of the optional equipment I liked included the dual 11-gallon fuel tanks, a Ramsy winch with 150 feet of cable, the Powr-Lok differential, radio and heater, and front and rear power-take-off.

The electrical system of Scout is 12 volt, with a 40-amp. battery standard. I recommend the optional heavy-duty battery. The windshield folds flat, of course, and the windows and doors are removable.

Power to propel the Scout comes from a four-cylinder, water cooled engine of 152 cubic inches displacement, rated at 90 horsepower at 4400 rpm. Torque is 135 pound-feet at 2400 rpm. Compression ratio is 8.19:1. Many of the parts for this engine are interchangeable with the International 304-V-8 engine.

*Driving Impressions:* Out on the road, the Scout purrs along smoothly with a level ride and firm, straight tracking ability. Drive-train noises are about normal for a 4wd vehicle. I don't suppose they'll ever get all the gear-whine out of 4wd cars, but it's something to strive for.

Ground clearance is 9.3 inches, which is exceptionally good when compared to other 4wd vehicles. In short, the Scout is a car that you won't be ashamed to park in a downtown shopping district — or in the wilds of the Mexican desert.

Prices vary according to body style, optional equipment, and accessories the buyer orders, but are in line with other 4wd trail vehicles. ///

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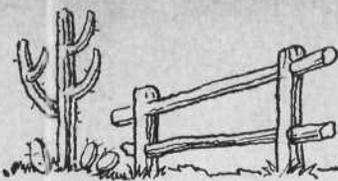
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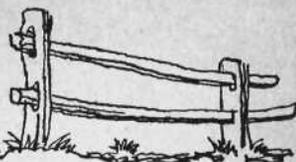
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**TWELVE STRANGE**, rare cactus and succulents from Mexico and South America, plus the free Old Man of Mexico, only \$3. Meyers, Box 307, Homeland, California.

**IT LOOKS** as if I am going to have a lot of Chia this year. The rains made the desert bloom. Box 147, French Camp, Calif.

## ● REAL ESTATE

**FOR INFORMATION** on desert acreage and parcels for sale in or near Twentynine Palms, please write or visit: Silas S. Stanley, Realtor, 73644 Twentynine Palms Highway, Twentynine Palms, California.

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FOR SALE: bare desert land, 60 acres located in Hinkley Valley, California. Write: Derditch, 828 Hyde Park, Chicago 15, Illinois.

FOR SALE: 3975' highway frontage, 716' deep, U.S. Hwy. 380, 33 miles east of Roswell, New Mexico. Suitable for any type roadside business. First 2000', 50c per front foot. Abstract available but not furnished. Metes and bounds description. H. B. Cozzens, Box 2064, Milan Station, Grants, New Mexico.

FOR SALE: week end desert cabin, beautiful and cozy, near Victorville, California. 450 square foot redwood cabin, 48 square foot shed, firehood fireplace, plus one acre. Close to stores, ideal retirement. Near many abandoned and operational mines, \$4950. Terms. John Capper, 18400 Domino St., Reseda, California. DI 5-1983.

MUST SELL, all cash immediately, valuable potential property, so can buy high desert ranch Needles to Bishop. Trade? P.O. Box 628, Paradise, California.

MOUNTAIN TOP with canyon view homesite on Pioneertown Road, near Yucca Valley, three acres with water, \$5400, low down. Also magnificent view, six acres in ranch country south of Hemet, good water, \$6500, 1/3 down. Contact: Hillmer, 26880 Ironwood, or 6560 Magnolia, Riverside, Calif.

### ● WESTERN MERCHANDISE

FREE "DO-It-Yourself" Leathercraft catalog. Tandy Leather Company, Box 791—Z42, Fort Worth, Texas.

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## SHORTLINE RAILROAD (continued from page 7)

engineer is sounding the air horn for the 2nd Street grade crossing, and 60 seconds later the Ajo yard limit board flashes by. The run from Gila to Ajo has taken 1 hour and 34 minutes.

At Ajo the skyline is dominated by the huge smelter stacks lazily wafting a puff of white smoke skyward.

As the train pulls in, diesel switchers similar to the engine pulling the train move up to break up the train and shift the incoming cars to the different team tracks in the extensive yards surrounding the smelter and plant.

The Ajo station provides a pleasant surprise. Framed in tall palms, it is a beautiful little building done in Spanish architectural style, forming one end of a delightful plaza lined with modern shops and a bandstand at the far end of a well-kept green lawn.

A few steps distant is a comfortable air-conditioned hotel where you check in before a day of sightseeing at the mine.

After lunch, a brisk climb takes you to the visitors' lookout at the rim overlooking one of the world's largest open pit copper mines.

The great pit is over 400 acres in extent, and nearly 700 feet below the level of the lookout point.

Here is tremendous around-the-clock activity as 31,000 tons of copper ore and 47,000 tons of waste rock are torn from the ground by the rapacious maws of huge

electric shovels, and dumped into endless strings of ore cars.

To haul this huge tonnage of ore and waste, the New Cornelia Mine operates a railroad with over 43 miles of single track in the pit area—exactly the same distance traveled by the T.C. & G.B. from Ajo to Gila Bend.

All of the electric power used in the mine, the town of Ajo, the mill and smelter is generated at the smelter through the use of waste heat from smelting the enormous volume of copper ore. The smelter, five million dollar project, was constructed in 1951.

In a 24-hour working day an average of 180 trains make the round trip into the pit. To control this maze of traffic, a dispatcher in a control tower on the rim of the pit is constantly in direct radio control with the cab of each locomotive, and controls the electrically operated switches on the main lines through a master control board.

At dusk, lights wink on throughout the pit. To the observer, the winking lights on the big shovels, the wavering beams of the locomotive headlights as they rock over the rough tracks, the soft pounds of the diesel stacks bucking the grades, coupled with the changing red and green signal lights, make an unforgettable sight.

\* \* \*

The 90-minute ride back to Gila Bend via railroad's first observation car begins at 7 the next morning. **///**



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**The Woolley Story.** "Who Was Riverrunner Elias B. Woolley?" asked Pat Reilly in the January DESERT. When Reilly wrote his story, about the only thing known of Woolley was that he was the fifth man to traverse the Colorado River. DESERT readers have shed some light on the mystery, and Pat now writes: "The Woolley story is beginning to break. I hope to be able to get the material to you in time for the July DESERT."

**Had Enough?** As the first warm summery weather descended over the Southwest, residents of the more populated centers paid somewhat more attention to the air around them. "Smog Problem Vital Concern to Reno Area," blared a headline in Reno's Nevada State Journal. "Air Pollution Has Quality of Mirage," answered Phoenix's Arizona Republic. The Republic publicized a report which made it plain that for Phoenix, at least, "Control of Air Pollution Essential."

There was someone in town unkind enough to remind her fellow citizens that way back in 1955 Phoenix and Los Angeles almost went to war over the smog issue.

"It is considered ironic by some Valley of the Sun residents," wrote Republic columnist Charlotte Buchen, "that only seven years ago, two Phoenix real estate men caused a furor in Los Angeles with a playful billboard boasting of the Valley's pure, clear air. 'Had enough?' the poster asked Los Angeles smog victims. 'Try Phoenix—In Arizona's Valley of the Sun.'"

**Desert Boating Boom.** Salton Sea State Park, now only one of several facilities on Salton Sea catering to the boater, reported that 33,310 boats were launched from the park's shores last year. But this total will without doubt take a giant jump when 1962 figures are in, because of the recent completion of a 248-foot ramp off which 20 boats can be launched simultaneously. Salton Sea State Park welcomed 477,350 visitors in 1961; 226,400 in 1958.

**A Secret No More:** Three Sparks, Nevada, men, prowling around in the desert, made what they joyously thought was the century's greatest archeological find by amateurs, but officials of the Nevada State Museum and Desert Research Institute went and spoiled their fun. News of the trio's "discovery" forced state and University officials to admit that archeologists have been secretly working at the site for 18 months. The treasure cave contains countless and priceless prehistoric artifacts.

**June Calendar.** Big event on the California deserts this month is the 12th annual Grubstake Days at Yucca Valley, the bustling community on the highway to Joshua Tree National Monument. This year's theme, "Grubstake Pioneers," honors the early settlers, Indian and white. On the three-day (June 1-3) program are: Western parade, barbecue, horse show, pioneer pageant, square dancing, and exhibits. The parade starts at 10 a.m., Saturday, June 2.

Utah focuses its attention on the Greenriver to Moab Friendship Cruise (June 2-3), and the main race (Canyon Country River Marathon) on June 16. Hundreds of boats will sail from Greenriver down the stream of the same name, to the confluence of the Colorado and then north to Moab—total distance: 196 miles.

In New Mexico, the Pueblo Indians dance: June 8—Buffalo Dance, Santa Clara; June 13—Corn Dance, Sandia; June 24—San Juan's Day Dances, Taos, San Juan, Isleta, Cochiti and Acoma.

Other June events:

June 2-3—Mineralogical Society of Southern California Show, 175 N. Los Robles Ave., Pasadena.

June 6-10—Tonto Trail Ride, from Payson, Ariz. Limited to 100 horsemen. For information write: Tonto Rim Riders, 6715 East Camelback Rd., Scottsdale.

June 15-17—Arizona Junior Rodeo, Globe.

June 30-July 1—Nevada Gem and Mineral Show, 790 Sutro St., Reno, Nevada.

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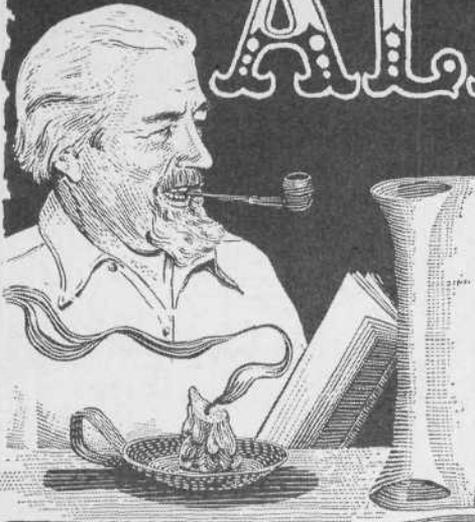
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Circulation Dept., Desert Magazine  
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# DESERT RAT HARRY OLIVER'S

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## SALTON SEA SCROLLS

Here—for the first time—are the fascinating Salton Sea Scrolls as best I could decipher them from hastily scribbled notes I made just a very few feet above the Old Sea Line at Travertine Point, most picturesque rock formation in Coachella Valley.

With my dog Whiskers driving the old 1928 Station Wagon, we pulled off Old Highway 99 to visit the most enchanted circular mile the Valley has to offer. The year was 1946.



We were coming back home from an earthquake in Brawley.

The Old Station Wagon is long-gone; so is my dog. I write this in the first days of 1962 as I try once again to find the Lost Hiding Place of the Salton Sea Scrolls.

That day, 16 years ago, it was my dog that found the secret hiding place on Travertine Point. Sniffing in between the boulders, Whiskers barked a come-see bark. Looking, I saw many little paths leading under a large flat rock. With my auto-jack and a shovel handle, I widened the opening and scrambled down.

I took a look around; the cornerless walls of this natural bubble in the rock showed no sign of tool marks. I sat on the floor, and there at my feet was a neat little ghostlike pile of papers—many in Spanish and Latin—Indian drawings on bark, clippings, printed items, booklets. I immediately noted familiar names and places: "Father Kino, 1645-1711;" "Yuma, Captain Palma's (buxom) daughter—a great swimmer; she painted on her swim suit with red-ochre mud."

Had some hermit used this little dungeon as a place to file his notes and scrolls with skilled-up knowledge of their future historic worth? Or was this the work of pack rats?

As the bright daylight came over my shoulder, I pored over the items before me: Antonio de Fierro Blanco's story of a 50-ton ship carrying a great fortune in pearls, lost in the Salton arm of the Gulf . . . the pack rats' trail of pearls across the sands.

Peg Leg Smith, 1836. On a rumpled sheet was this note: "Peg Leg stirred up the gophers on his walk from the Colorado River to Warners Hot Springs. He punched a gopher hole with every other step."

"Fig Tree John planted fig trees at all the waterholes near the Salton Sink."

Here is a man who would have become the "Desert Johnny Appleseed" had he had—noted a Scroll postscript—a "rabbit screen to protect his little trees." (This item was written on a piece of Zane Grey Ranch stationery, P.O. Box 17, Mecca; dated February 7, 1910.)



Many say the pack rat or trade rat is a Scotsman, but at the Travertine cache there were no trinkets—just items of historic worth.

A clipping from the *Indio Date Palm*, 1911—a story of Dick Wick Hall (Desert humorist of Salome) who was stopping over with William Jennings Bryan for grape juice at Mecca. Bill liked his grape juice sweet; Dick liked his aged.

I was wallowing in forgotten facts of Coachella Valley! There were many unsigned notes, some of one line: "The old Colorado River water was too thick to drink and not thick enough to plow" . . . "Imperial County was surveyed completely from a Saloon in Yuma" . . . "The only Red Menace on our desert is sunburn."

Headline, 1906: "Teddy Wires SP: 'Stop the Colorado River from Flowing into Salton Sink.'" Despite the extra cost for a quick telegram, the job took two years. 1912—News: "Selig Studio to make motion picture of Harold Bell Wright's Best Seller—'The Winning of Barbara Worth.'" 50,000 girl babies were named Barbara after the book came out.

It was getting dark; I could not read more. I climbed out. The flat rock slipped into place with a crunch. Two giant pack rats poked their heads out of holes just above me. They were bigger than any I had ever seen, and had whiskers—or they were holding their tails in front of their faces. I may be wrong, but I would swear one thumbed his nose at me. All this took place in 1946. Every time I scrambled over the rocks, I remember that I have read many strange stories and have written a few myself, about pack rats. I think they are as close to being Leprechaunes as anything this Southwest can offer.



For years I had a very smart pack rat as a pet. He could out-trade other trade rats. I called him "Raffles, the amateur cracksman," but as far as I know he could not read—as the Salton Sea Scroll pack rats surely can.

# White Man's Medicine

continued from page 19

cere. Furthermore, we white doctors can go farther in healing the patient with the medicine man's cooperation. If we want the chanters to recognize the limit of their range, our approach must be reasonable, exerting the slow persuasion that is so essential with the Navajos. Most medicine men know that a TB patient needs a doctor and mostly a sanatorium. They appreciate to some degree the need for operations, and I had a few medicine men as dermatological patients.

This does not mean that it is always easy to understand the reasoning of the Navajo patient. A man came late in the evening with excruciating pain of an abscess on his hip. He had been working in Colorado where a doctor advised him to return home for treatment. After a Demerol injection, which put the patient at ease, I advised him to proceed to the hospital. But, next morning I learned that he had decided first to have a sing. I was puzzled. This man had worked off the Reservation where he had had contact with the white world. He spoke English. He had consulted two doctors and had obtained excellent relief. Why then did he follow the Navajo way? Or why had he not done so from the very start?

Is the answer not perhaps that white physicians are known to give quick relief, which a sing cannot match for speed?

When it became clear to my patient that a protracted effort was needed—that he had to travel to the hospital and stay there for an indefinite time, it was no rejection of the white doctor if the patient first tried a familiar procedure in familiar surroundings. Under the circumstances, the sing was a reasonable alternative.

This broadminded and at the same time selective attitude was once formulated to me by a Navajo. One evening I was called over to the dispensary where a 17-year-old girl had been brought in suffering abdominal pain.

Her father pressed her head, an old man massaged her abdomen by lifting the skin with his fingers, a woman kneaded her legs. The behavior of the girl was conspicuously hysterical and there was only minor resistance of the abdominal muscles on palpation. But she was pale and

the pulse was so fast, irregular and weak, that I could not count it.

I had to consider the possibility of a ruptured ectopic pregnancy and urgently advised immediate transportation to the hospital. The family declined and declared their intention rather to arrange for a sing.

A few days later, I ran into the father who could express himself in English. He reported that they had had a sing and the girl was doing fine. And then he added (in approximate rendition), "the white doctor should study the medicine man's art, too. Then he would know both and would be better than the medicine man."

The viewpoint of a progressive-conservative Navajo could not have been more succinctly presented. We must not assume that the man had a clear insight into the psychosomatic mechanism of this and similar healing. Although some Indian tribes believe that diseases may come from unfulfilled desires, as a whole it is a modern conception. If a Navajo has a particular sing performed, let's say because he assumedly has stepped on bear tracks, he takes this thing to be literally true.

But, something else was expressed in the statement — something that overshadows all other reasons for the survival of Navajo medicine. White and Navajo medicine are not just two different methods of treatment, like chemotherapy and surgery. A sick person has two needs: to be healed and to be treated. In this instance the latter had served the former, but they are not the same, and the ceremony (or any way of taking care of the patient) is almost as important as the actual success of the treatment. And where the result is less satisfactory or even less dramatic, care comes completely into its own.

We have tremendously enlarged the range of effective treatment, both for the individual and the statistical picture. We have done so by discovering and using measurable facts. But we have not so much extended the biblical age as enabled more and more people to come closer to it. Once the limit is near, or by irreparable signs is discerned from far away, all progress seems to have come to naught. Discomfort, pain, fear, weakness, decay and the specter of death beset the patient the same as his archaic brother, and his expectations from the physician are not different.

These essentials of disease were brought home to me by my sojourns on the Navajo Reservation. ///

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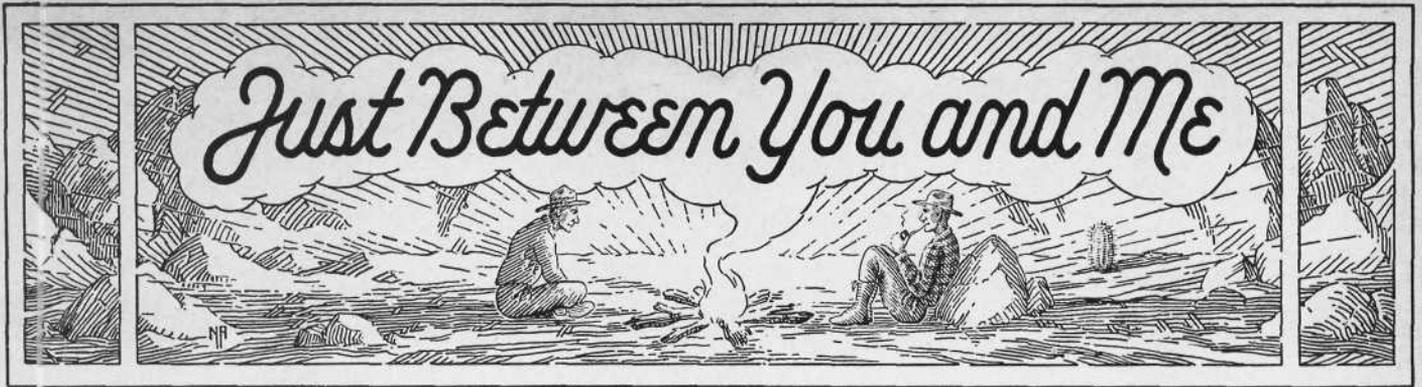
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Artwork reproduced above is from the first issue of *DESERT*

FOR THE first time in a quarter-century, Randall Henderson's monthly commentary does not appear under the familiar "Just Between You and Me" heading on this page. The decision to discontinue writing his column was entirely that of Henderson, founder and for 22 years editor of this publication.

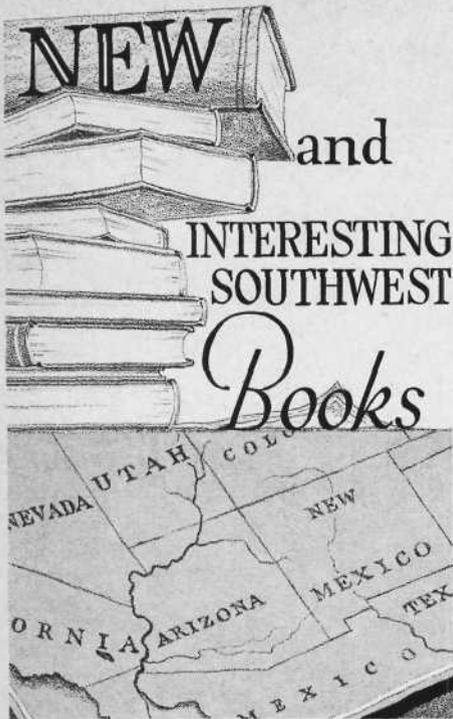
We hope that from time to time Randall will use these pages to address himself to old friends, and to those who have lately come to know and love a "worthless" desert whose beauty and worth he, more than anyone else, recognized and shared with the outside world.

"Have you ever experienced that glorious relaxation which comes after a long day's hike over mountain or desert trail and toward evening arrive at a spring of cool water where camp is to be made for the night?" asked Randall in the first "Just Between You and Me" column, in the November, 1937, *DESERT*. "Well, that is the sensation I am enjoying just at this moment. All the rest of the copy for this first issue of *DESERT* has gone to the printers, and there remains only the pleasant task of sitting by an imaginary campfire and chatting with the companions of the trail.

"For that is what this page is to be—just the informal kind of talk which you would expect from an old friend. You'll disagree with what I say sometimes, and perhaps think I should be locked up in the crazy house. But who would want to have a friend, or be the kind of a friend who never took issue on any question? The old world would grow stagnant on that kind of friendship."

The long day's hike is over. The spring of cool water has been found. Camp has been made.

EUGENE L. CONROTTO  
*editor*



UNFORTUNATELY late to serve as a guide to this past spring's floral display, *CALIFORNIA DESERT WILDFLOWERS*, by Philip A. Munz, is still an important addition to any desert-traveler's library. By far the best booklet devoted to the flowers of the arid lands, the guide has 96 color plates of desert flowering plants and 172 black-and-white sketches to help the desert visitor identify the colorful shrubs and cacti and trees that grow in the California deserts.

Dr. Munz, one of the world's leading botanists, devotes a descriptive chapter to each of the some 260 plants he includes in *CALIFORNIA DESERT WILDFLOWERS*. The text is understandable, even by the beginner. The book is a handy guide-book size.

Two of the Southwest's finest observers, the late Edwin Corle, and Ansel Adams, teamed up to produce *DEATH VALLEY AND THE CREEK CALLED FURNACE*, recently published by the Ward Ritchie Press.

Corle, a writer whose sensitive pen enriched the legends of the American deserts, contributed several chapters of text, telling facts and fables in his delightfully informal style. Though his writings add little to the lore of Death Valley, his tongue-in-cheek chapters are good reading.

Ansel Adams, a purist among the top rank of Western photographers, uses his incisive lens to document the dunes and the badlands and the long-abandoned cabins that are trademarks of Death Valley. Again, his works add little that is new, but, as always, the Adams photograph is worthy of much viewing. His everlasting glory is his honesty—no tricks, no props.

The Corle-Adams book is finished off with high quality printing worthy of the authors.

Western bibliophiles will be interested in the newest round-up of Southwestern novels, as selected by Edwin W. Gaston, Jr., Texas-born newspaperman and English professor. *THE EARLY NOVEL OF THE SOUTHWEST* is his critical analysis of the early-West novel (1819-1918), and synopses of some 40 major novels whose setting is Southwest.

Gaston tackles a big job, fit for a Texan, and actually comes off very well with a project that is carefully indexed, and precisely bibliographed.

—Charles E. Shelton

#### THE NEW BOOKS . . .

*CALIFORNIA DESERT WILDFLOWERS*, by Philip A. Munz. 122 pages. Papercover, \$2.95. Hardcover, \$4.75.

*DEATH VALLEY AND THE CREEK CALLED FURNACE*, by Edwin Corle and Ansel Adams. 60 pages of text; 32 photographs. \$7.50.

*THE EARLY NOVEL OF THE SOUTHWEST*, by Edwin W. Gaston, Jr. 318 pages. Hardcover. \$5.

#### ALSO CURRENT . . .

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*ON DESERT TRAILS—TODAY AND YESTERDAY*, by Randall Henderson. A desert journalist's 50-year report. \$5.

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*FAMILY CAMPING*, a Sunset Book. Tells how to pitch camp. \$1.75.

*THE BOTTLE TRAIL*, by May Jones. A hobbyists' guide for those who have "purple bottleitis" (see pages 20-21, this issue). \$1.50.

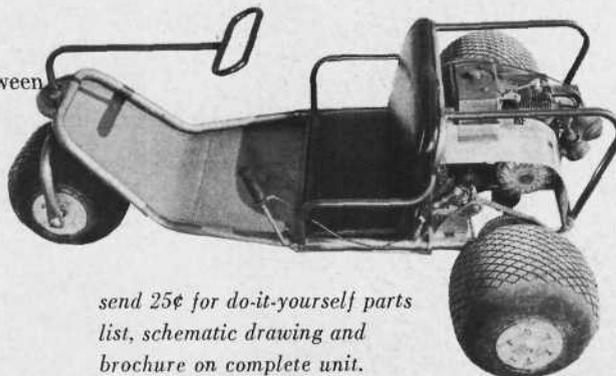
*THE STORY OF EARLY MONO COUNTY*, by Ella M. Cain. A pioneer remembers the desert high country. \$4.75.

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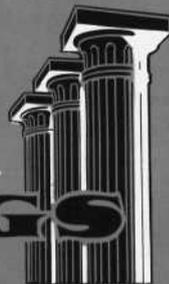
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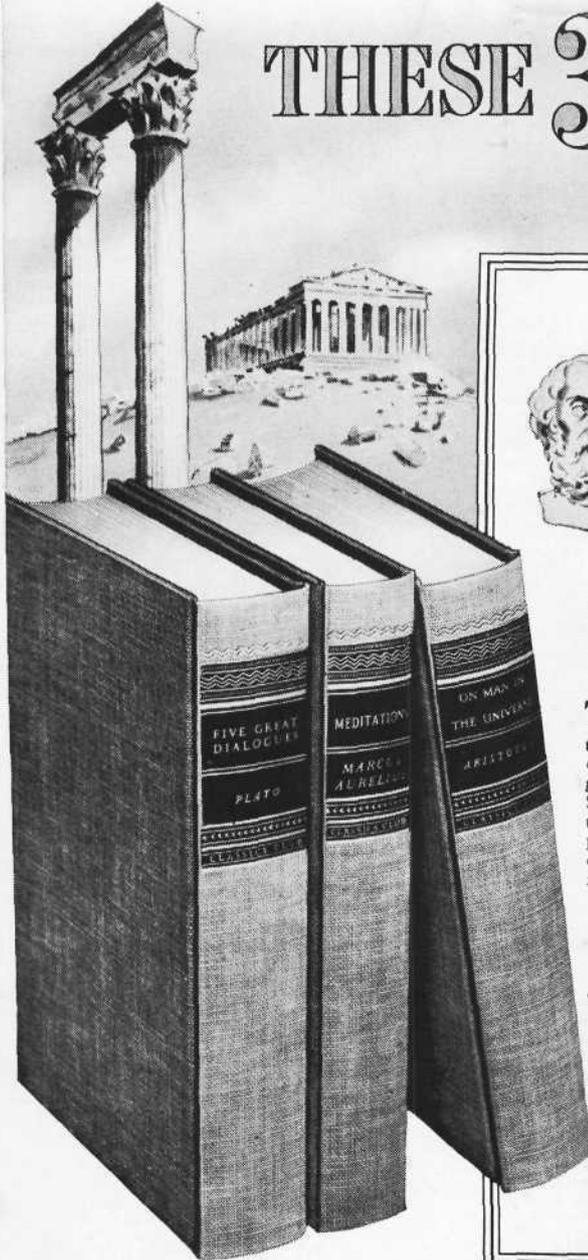
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