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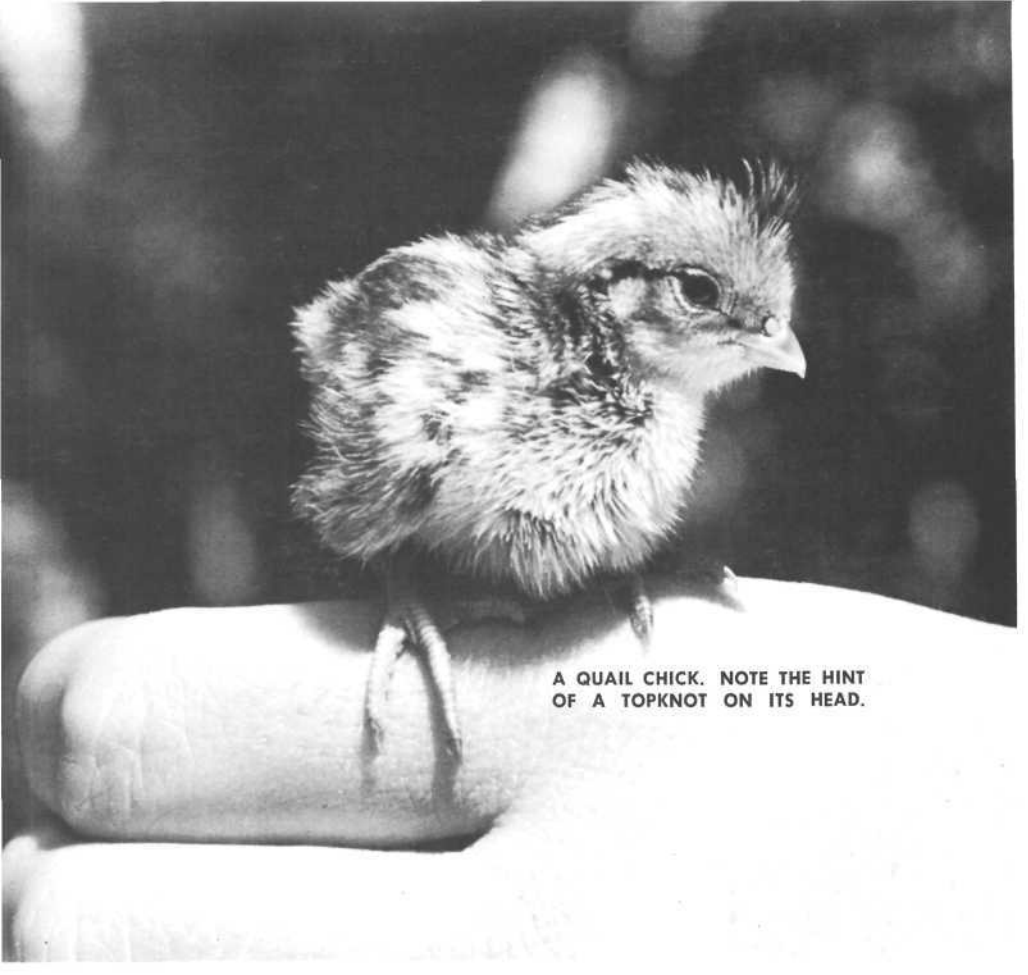
Desert

Magazine of the
OUTDOOR SOUTHWEST



Desert Quail

These birds offer one of the happiest sights on the desert —busy, bouncy and beautiful. For an illustrated article on quail, see pages 2 and 3.



A QUAIL CHICK. NOTE THE HINT OF A TOPKNOT ON ITS HEAD.

THE QUAIL--

see color illustration on cover

One of the desert's most captivating delights

TRIPPING BY with quickened cadence like tiny Shriners in gaudy headdresses and black tassels, the haughty Desert (or Gambel's) quail are the feathered Beau Brummels of Southwest desert and rangeland.

Beneath a maroon fez and flaunting black topknot, the male is attired in a buff tunic and black cravat with contrasting white trim. A Quaker gray cape thrown about his shoulders completes the costume. His mate is much less conspicuous in her dress, retaining only the gray cloak and modest topknot.

Shunning high altitudes, the quail's cheerful call can be heard on the deserts from El Paso westward to Palm Springs. Utah to Upper Sonora, Mexico, are his northern and southern extremes.

There are three more species of quail native to the deserts of the Southwest: the Scaled Quail, the Mearns' Quail, and the Masked Bob-White. The latter, which is probably now extinct in the United States, is still found in Sonora, Mexico. (The Eastern Bob-White has been introduced locally in certain Southwestern areas).

But of all the desertland quails, the Lilliputian Shriners are by far most numerous. Known scientifically as *Lophortyx gambeli*, the Desert Quail can be found on rangelands, arid desert sweeps, citrus groves and along city outskirts of the Southwest.

With the coming of spring, the quail's covey relationships are set aside as individual birds pair off. When first paying suit, the male selects a choice food morsel to attract the female. If this tribute is met with approval, he quickly takes heart and finds more bits of food to deposit at her feet. While the hen relishes these tokens, her suitor bows up and down uttering low sharp whistles. Then with crest rising and falling he sashays in a mincing dance about his lady.

However, these attentions are not liable to go unnoticed by other cocks, and soon our hero may have to make good his claim among other males in the covey. When affronted by another male the diminutive desert rooster ruffles neck and breast feathers. With rising and falling crest (many emotions are displayed in the rise and fall of the crest) the small pugilists square off, warily eying each other.

Circling, pecking and slashing, they strike with beak, feet and wings, raising dust until one of the battlers retires defeated to a nearby bush.

But the victor is not always destined to get the prize. Meanwhile, the demure object of the conflict may innocently glance at another male. With a flourish the newcomer is at her side, bowing and bobbing, his topknot flashing jauntily. If bold enough, he may glibly succeed in walking away with her while the battle is still going on.

Later, the jilted males, rage forgotten in this new turn of events, may perch side by side in a mesquite tree, re-arranging their feathers. They dismally whistle the irony of lost love and hopefully call for more responsive mistresses.

Some hens apparently bide their time until almost the last minute before deciding on a spouse, and consequently the spring air about the birds' favorite haunts is filled with the clear pleading notes of the persistent cockbirds.

With flirtation and courting over, the quail get down to the serious business of raising a family. Nests may be only mere hollows in the ground, hidden under brush. Others are cleverly constructed cups of leaves and grasses.

One of the most popular nest habitats are clumps of prickly pear. In these the nest is situated so the hen has a wall of cactus to her back. While laying and setting, she faces an opening. This approach generally leads between runners of cactus, forming a crude chute. Needless to say, such a formidable and spiny rampart discourages many would-be molesters.

In some cases, needles protrude into the home, but the hen seems to avoid them without trouble. To view one of these snugly-hidden shelters the observer must lie prone to peer into the cactus hideaway.

April normally marks the beginning of the setting period. Ten to 20 eggs, speckled with brown, comprise a clutch. These she lays one a day until four or five of the treasures grace her nest. Then she skips a day or two. The rest are laid irregularly. Incubation takes 23 to 24 days.

During this time the male keeps his watch from a favorite bush or post 200 to 400 feet away, scanning the

• By Willis Peterson

underbrush and cactus-studded landscape for any suspicious movement. His occasional cheery call undoubtedly is reward enough to the beloved mate during her lonely vigil.

Perhaps twice a day the cock leaves his lookout to escort his mate on foraging expeditions. Following a discreet and circuitous route, the male makes his way to a point close by the nest. Hearing a call signaling his approach, the hen leaves her eggs to join the food search.

When the hen is setting there is little the pair can do to ward off danger. The cock may use the broken wing trick, but this ruse is of little avail when the nest has been found. Predators include coyotes, bobcats, skunks, snakes and to some extent, gila monsters.

Since quail are in the order of gallinaceous fowl, they scratch and glean. Probably 90 percent of all their forage may be classed as vegetable matter. The mesquite is a favorite item of diet. Hackberry and buckthorn contribute berries. In summer, grasshoppers and other small insects are changes in diet.

If water is handy the quail will drink often. In arid locations it is believed the desert quail receives enough moisture for his needs from seeds and leaves and dew.

On the twenty-third day, while still inside the egg, the chick begins to peck a ring in the big end of the egg. Finally, this cap swings open, much like a ship's hatch. Pushing with tiny feet, the charming bit of fluff steps free of the shell. Just hatched, the chick is no bigger than the end of a thumb. Though his little legs are a bit unsteady at first, it isn't long before he can run with the same agility as his parents.

So endowed are the chicks with the instinctive sense of self-preservation that if the first cluck their mother utters is a warning sound, they will "freeze" — not to move until their parent thinks it safe to do so. And so perfect is their camouflage that it is almost impossible to spot the elusive youngsters in this attitude.

Even at an early age the animated bits of down display a faint hint of topknot. Their bodies are clothed in buff suits, with darker gray-brown stripes running length-wise from their heads. The little fellows look exactly alike and are so quick and bright-eyed that it is difficult for the hen to keep order.

During the first few days, the family's movements are limited. Resting and brooding are done under any handy canopy of desert growth. On these occasions the male flies to a nearby lookout to keep vigilant watch.

In this domestic chore the diligent hen gets little rest. Her chicks continually vie for positions under wing and breast feathers, then peek out and pluck at the ground. Others desperately try to climb up on her back. Some nod and sleep in fitful starts. Scolding clucks from their patient mother bring back the more adventuresome.

The chick's wing primaries develop rapidly. In seven to ten days the young are able to make short flights. This is extremely important because now the family can roost in shrubs, greatly eliminating danger from ground predators.

Juvenile plummage appears on the body after wing and tail feathers are about three-fourths inch long. By the twentieth day, the little quail have taken on their parents' characteristics. However, the youngsters look unkempt and ragged, with bits of down still clinging to their bodies.

During the chick's development, feet look conspicuously large considering the body size. The reason is quite evident. They must be stout enough to carry the chick away from enemies, they must be strong enough to scratch, and they must be hardy enough to scramble over countless rocks and fallen brush.

Summer is a season filled with coaching and tutoring for the offspring, for they must be "educated" by fall. Instruction is given in finding the proper roosting sites, food selection, acquiring wariness, and predator detection. Parents and youngsters stay together as a close family unit until early fall when they group with other families to form coveys during winter months.

In October and November the young molt their drab mottled-gray juvenile feathers and acquire their striking adult plummage. As mature quail they will live from three to five years.

When the tantalizing moods of spring begin to be felt again, last year's offspring will be ready to find their mates. With the successful conclusion of their first responsibilities, the life-cycle will again be complete.—END



BUILD THEIR NESTS ON THE GROUND. THIS PAIR ▷ A PROTECTED SITE UNDER A CLUMP OF CACTUS.

Volume 23 Number 5

Desert

--magazine of the Outdoor Southwest--

CHARLES E. SHELTON
publisher

EUGENE L. CONROTTO
editor

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circulation manager

Contents for May, 1960

COVER		A Desert Quail lends his beauty to Palo Verde blossoms in this start-of-summer scene. Photo is by Willis Peterson of Phoenix.	
WILDLIFE	2	All About the Quail	**Willis Peterson**
LOST MINE	8	Wilson's Bonanza	**Harold O. Weight**
ARCHEOLOGY	12	Rescuing a Mammoth Fossil	**Gordon G. Pond**
DESERT BOATING	14	The Boom Is On	**V. Lee Oertle**
DESERT BOATING	18	Last Chance for Glen Canyon	**James Tallon**
DESERT BOATING	20	A Guide to the Professional Guides	
ART	21	Whimsy Tommy Rogers	**May Thompson**
PHOTOGRAPHY	22	"These Are My Favorites"	**John L. Blackford**
INDIANS	24	A Visit to the Hopi in 1924	**Laura Armer**
NATURE	28	Enjoying the Outdoors	**Edmund C. Jaeger**
THE HOME	31	The Charm of Adobe	**Amy P. Hurt**
NATIVE CRAFTS	42	Navajo Weaving: The Dying Art	**Bill Bryan**

—also—

Desert Quiz: 4
Readers' Letters: 6
Hard Rock Shorty: 6
N.M. Travel—Ghost Ranch: 27
Southwest Books: 32
Poem of the Month: 32
33: News Briefs
34: Nevada Travel—Genoa
35: Utah Travel—"Dixie"
40: California Travel—River Route
41: Editorial

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Desert Quiz

(Answers are on page 33)



1

Her parents were killed, she was captured by Indians: (A) Nan Wickenburg; (B) Louise Prescott; (C) Olive Oatman.



2

Delicate and rare is the beauty of this plant's blossom: (A) Saguaro Cactus; (B) Night Blooming Cereus; (C) Ironwood Tree.



3

Spanning the Colorado River six miles below Lee's Ferry is: (A) Roosevelt Bridge; (B) Navajo Bridge; (C) Wahweap Bridge.



4

Low desert regions of the Southwest are this bird's home: (A) Gila Woodpecker; (B) Rock Wren; (C) California Thrasher.



5

A living legend of Death Valley is this prospector: (A) Shorty Harris; (B) Seldom Seen Slim; (C) Drywater Blackie.

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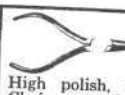
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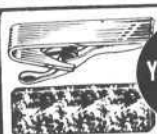
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LETTERS
. . . FROM OUR READERS . . .

The "Ghanats" of Peru . . .

To the Editor: A note on "horizontal wells" and the article by William E. Warne on the Ghanats of Persia in the February issue:

Mr. Warne states that the horizontal wells of Chile are evidently a Spanish introduction. Perhaps so, but I have seen similar ones in the Nazca Valley of southern Peru that are not only pre-Spanish but probably pre-Inca as well. These ancient underground aqueducts were discovered by the plantation owners in the 1920s while digging new wells to relieve the desperate water shortage of those years.

The coast of Peru and northern Chile is the world's most arid area. The only measurable rainfall of the past 400 years fell in 1925, (about three inches) and was evidently related to a shift in the offshore ocean currents. Probably less than 100 inches has fallen here since the end of the Pleistocene Age.

The continental divide here is the summit of the western range of the Andes, only 50 to 100 miles inland from the Pacific shore. A little rain falls on the western slopes of this range and it is led into the irrigation system of the valleys. But the rainfall decreases to the south and in these southern valleys shallow wells are dug to augment the water supply.

The slope of these alluvial fans is slight, perhaps 25 feet to the mile. The scheme of the ancient conduits (called *puquios*) is essentially the same as that described for Persia by Mr. Warne. The conduits were made of squared flat stones, about 12 by 20 inches in size, laid culvert style. But the method employed was evidently not by tunneling as in Persia, but by open ditches which were then filled over. The partially filled open pits at the foot of the mountains can still be seen. I do not know if similar systems are found in other coastal valleys of Peru.

RONALD L. OLSON
Valley Center, Calif.

Arango's "Nom de Guerra" . . .

To the Editor: The article in the February issue on Pancho Villa's widow was very interesting, but the author failed to mention the fact that "Pancho Villa" was a name suggested by an American journalist. The general's real name was Doreto Arango.

PERRY G. POWERS
Sunnyvale, Calif.

A Paiute Arsenal . . .

To the Editor: I have been a reader and subscriber to your fine magazine for 20 years, and I want to tell you how much I enjoy your new style. The color pictures are really life-like, and would be nice framed if it were not necessary to cut up the magazine.

The story of the "Lost Arsenal of the Papagos" in the January issue reminded me of another "lost arsenal." This one was supposedly located near Pyramid Lake in northcentral Nevada.

Many years ago while living in Nevada I befriended an elderly Paiute Indian. He could speak English fairly well and when he found out I was interested in the history of his tribe, he told me the story of the stockpile of arrows he had seen as a young lad. His father had taken him to a cave on the northeastern side of Pyramid Lake, and there they inspected arrows fitted with shafts and stacked higher than the boy's head. His father told him that these arrows were being cached for the day all the Indians would unite to wipe out the white man. As this battle never took place, the arsenal must still be there. I spent many days trying to find this cave, but was never successful.

I relayed this information to Mark Harrington and his son, a nationally-known cave explorer. Harrington was head of the Southwest Museum in Los Angeles for many years, and has done more for the preservation of Indian artifacts than any other man.

PERRY G. POWERS
Sunnyvale, Calif.

Trail to an Oasis . . .

To the Editor: In the January, 1954, *Desert* there appeared an interesting article by Randall Henderson on Stein's Rest—now officially Travertine Palms — Oasis, California. Recently a friend accompanied me on a search for the oasis, but it seems we "zigged" when we should have "zagged" and thus we failed to find our objective within the time at our command. However, we were determined to try again, and have just now completed a second trip to the area with successful results. In the cool shade of the palms our lunch tasted mighty good after that hike.

I found four waterholes, with water, but the water did not look clean enough to

Hard Rock Shorty of Death Valley



"Dangdest noise I ever heard on th' desert?" Hard Rock Shorty repeated the question put to him by the Tenderfoot who had joined the old-timers on the porch of the Inferno Store.

"Thet would hafta be th' time me an' Pisgah Bill waz in th' Funeral Mountains a'huntin' fer some raw asbestos to mix into our 'dobe bricks so they wouldn't catch fire durin' th' hot part o' th' summer.

"Pisgah waz workin' 'long one ridge, and I waz on t'other, jest across this narrow deep canyon. We'd stop ever' hour or so to look fer th' other feller so's to see thet we still knowed where we both waz.

"Near 'bout sundown we waz near th' top o' thet mountain, an' th' canyon betwix us seemed it waz 10 miles deep. Pisgah shouted over somethin' to me—an' I shook my head thet I couldn't hear him. Then I shouted back, an' he shrug his shoulders so I knowed he didn't hear me neither.

"Thet waz somethin' 'cause we waz only 40-50 yards apart, but separated by this whale of a cut in th' mountain.

"Wal, we tried fer half an hour more to make ourselves heard, then gave it up. We both made camp, cooked our grub an' turned in.

"Long 'bout midnight I hear Pisgah's voice jest like he waz layin' alongside me. 'Can yu hear me?' he whispers. 'Yu ol' deef coyote—can yu hear me? Did yu find any asbestos?' Then this voice changes and he sez: 'Now, why don't thet danged fool answer me?'

"He goes on like this for a half hour — mostly cussing me out fer bein' deef. Next day when we meet on top, we figured out what happened.

"There waz sech a down-draft o' air in thet gorge thet our voices couldn't make it across in a straight line—they had to travel all the way down one side o' the canyon, cross the wash on th' floor, an up th' other side. Thet's what took 'em so long."



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drink as it apparently oozes out too slowly. Surely many animals must visit this place at night.

The oasis is within the boundaries of the Anza-Borrego State Park. Loaded firearms are not permitted. This is an interesting trip for rugged hikers (stout shoes essential), taking about three miles from Travertine Point. If anyone uses the map that appeared with the 1954 article referred to, I strongly recommend going around the north-end of the intervening foothills rather than climbing through the first two saddles as indicated.

C. I. KANAGY
Los Angeles

A Crop of Homes . . .

To the Editor: I was in Indio, Calif., recently, and stopped to eat lunch in the shade of one of the date palm groves. I was disturbed to see that the water had been turned off and the trees were practically dead. A real estate sign in front of the grove told the reason why — another subdivision.

These date groves are one of the big drawing cards for tourists. Why can't our real estate planners put the homes on the slopes where the ground is rocky and gravelly and much better for home sites, instead of on the wonderful fine agricultural lands down in the flats?

WILLIAM EARL HORNE
Burbank, Calif.

Lake Powell Crusade . . .

To the Editor: I take issue with the statement in the February editorial that "civic groups in Utah have proposed that the new lake to be formed by construction of Glen Canyon Dam in the Colorado River be named in honor of Major John Wesley Powell . . ."

Over four years ago I made the original suggestion to the Bureau of Reclamation and at the same time to the *Arizona Republic* that the reservoir be named Lake Powell. Since then I have written dozens of letters in support of this move to Congressmen, members of the Administration, and other officials.

Recently Congressman Stuart Udall of Arizona wrote me a letter in which he said: ". . . I think you should have a medal of some kind for your work on gaining official recognition for the explorations of Major Powell. I am sure that your work is at least partially responsible for the decision to name the lake in his honor . . ."

Congressman Udall now seeks to have the dam itself bear Powell's name. His bill (H.R. 9030) will be voted on during the 86th session of Congress.

CLARE E. REDDING
Camp Verde, Ariz.

Laura Armer Series . . .

To the Editor: In reading recent issues of *Desert* I find myself intrigued with Laura Armer's articles on the Four Corners' area. I am interested in that country. Would it be possible for you to give me Mrs. Armer's present address?

I can't begin to tell you in words how much pleasure *Desert Magazine* brings to me. I find myself longing for the peaceful wide open spaces of the desert country.

BLYTHE H. TEEPLE
San Jose, Calif.

(Mrs. Armer welcomes letters from readers of her current series of articles in this publication, but at 87 years of age she no longer has the time nor energy to answer all of these letters. Her address is: 983 14th St., Fortuna, Calif.—Ed.)

Navajos in Oregon . . .

To the Editor: I am enjoying my first issue of your interesting magazine. When I read the article by Laura Adams Armer about Navajoland in 1923 (March '60) the statement ". . . by 1923 there had been but little contact between these tribesmen and whitemen" brought to mind a few thoughts that I believe will interest your readers.

In February of this year Chemawa Indian School, located near Salem, Oregon, celebrated its 80th anniversary. This is significant because the children attending this school are Navajos. At the start of each school year our government transports these children from their homes in Arizona to Chemawa. They spend the summers at home.

Several girls who have graduated from Chemawa are now working in hospitals in Salem, and a few boys are working in a mushroom plant at Salem. I suppose this is a rather lonely life for these youngsters, far from their homes in the land of red mesas and turquoise skies, but the lure of greater freedom than they knew on the reservation is probably the explanation for their decision to remain and work in Oregon.

MARIE C. WOLFRAM
Portland, Oregon

The Beat's the Thing . . .

To the Editor: I find the poem in your March issue ("But, Let the Gadget Fail" by Clarence Powell) to be a Petrarchan sonnet with irregularities. When I first read it aloud the final reversed words at the ends of the octave and sestet caused me to raise my eyebrows. But, then I concluded that the author did this to shock the reader. Other poets have purposely given readers shock endings.

IMOJEAN E. YOUNGER
Monterey Park, Calif.

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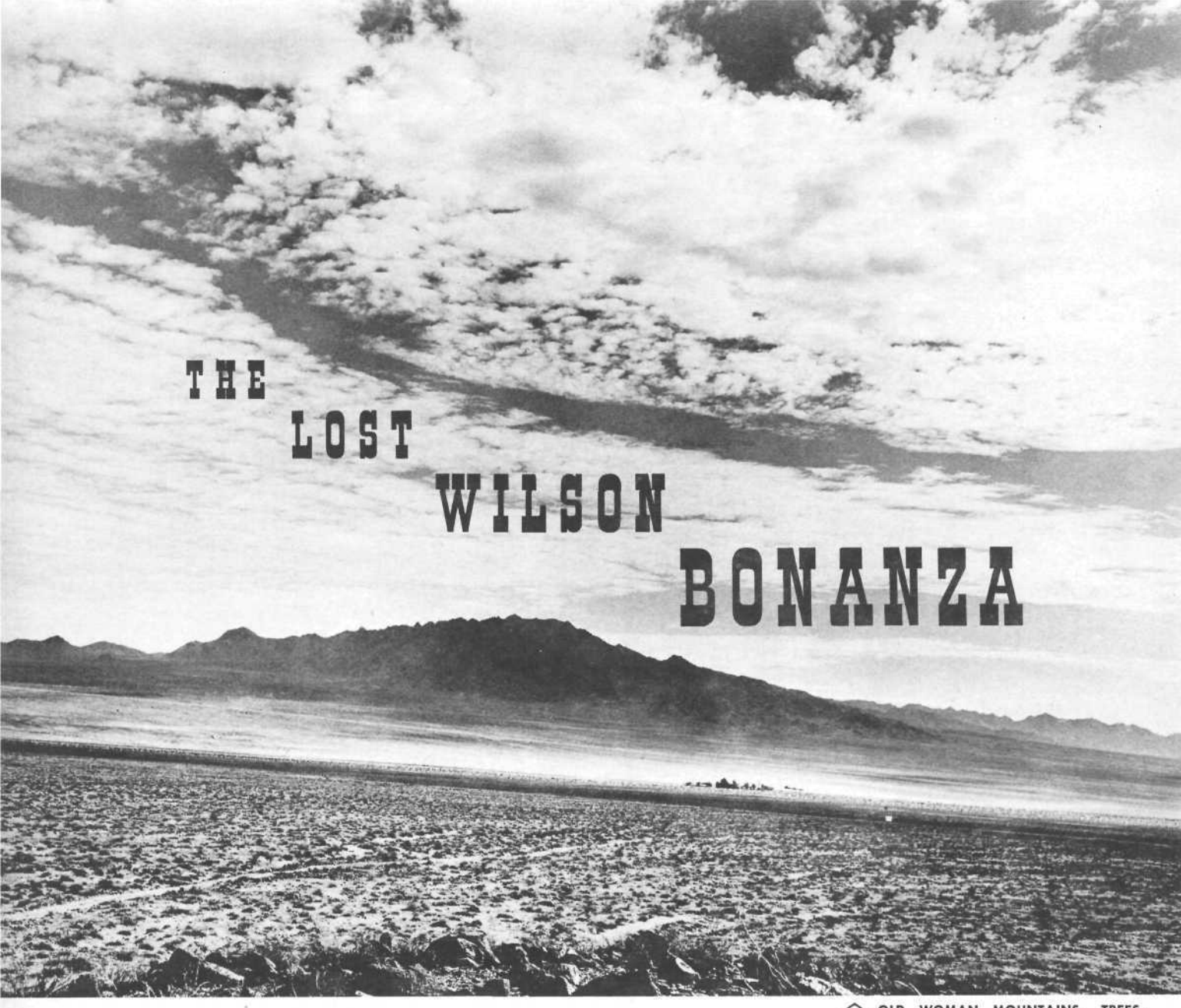
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THE LOST WILSON BONANZA

OLD WOMAN MOUNTAINS. TREES, BUILDINGS MARK DANBY STATION.

"Quartz" Wilson struck it big on the Mojave . . . but the big desert swallowed-up his horn silver strike when he and others tried to relocate it

By

Harold O. Weight

SOMEWHERE ON the Mojave Desert, within a day's horseback ride of a spring in the Providence Mountains and between this arid range and the Old Woman Mountains, is a small rocky mound. On the rise is a windbreak (if it has not been obliterated by weather or man during the past 80 years)—a rough half-moon of piled rocks opening to the east. Nearby are a claim monument and a large stone — apparently part of a ledge projecting from the ground.

These are the keys to Quartz Wilson's lost silver mine. The rocks and ledge are fabulously rich in horn silver. Or so Quartz Wilson said. And many a prospector and lost mine hunter of last century believed him, because Quartz had the ore specimens to prove it.

I have hunted Wilson's lost ledge half a dozen times, covering the jeep trails and back roads between the Providence Mountains and Highway 66, and between that highway and the outliers of the Old Womans, and every likely mound within reasonable hiking distance of them. And I still would not testify that the bonanza does or does not exist. To settle that question would require months on horseback, working out from every known spring in the Providences. So my sentiment remains mixed; my lost mine hunting instincts tantalized.

Unquestionably such a ledge could

occur in this country. Silver has been found in a 75 mile north-south belt stretching from Clark Mountain. To bracket Wilson's lost ledge more precisely, rich horn silver was mined at the Bonanza King on the southeastern side of the Providence Mountains and was reported from the southwestern tip of the Old Womans as early as 1887.

But if the ledge is there, described with such exactness in a definitely bounded area, why hasn't it been stumbled on a second time? An answer plausible to all of us who have footed after lost mine mirages is that even a limited bit of desert becomes enormous when you are trying to locate a small object in it. And Wilson's windbreak would be small at best, while its possible habitat is discouragingly large in terms of square miles.

Whatever the facts about the lost silver, Quartz Wilson was a real enough desert pioneer — one of the first citizens of Twentynine Palms. Date of his arrival there is uncertain, but he was living at the palm oasis in the early 1880s and spent much of the remainder of a long life in that area. Legally he was Jonathan W. Wilson, but he was better and variously known through the years as Quartz, Chuckawalla, Johnny, Charley and Dirty-Shirt Wilson. He is remembered in local geography by the place name of Wilson Canyon, which lies in Joshua Tree National Monument between Twentynine Palms and Highway 60-70.

Col. T. W. Brooks of Pomona, trailing the Lost Wilson, visited its discoverer at the palm oasis in 1885: "He was living in a dugout and for company had procured a rooster to crow and apprise him of day, and a cat to hear his dreams of future millions. He is a stamp and picture of a tortured man; brains and bones nearly baked, and in a sun and temperature often of 130 degrees of heat, the skin was peeling from his face as it had often done before. He is a man of rugged build."

Wilson was a good prospector, credited with the discovery of famous old Virginia Dale mine east of Twentynine Palms and the El Dorado on the edge of Pinto Basin, now in the national monument. But, he allegedly had the failing of "salting" himself and his grubstakers through overenthusiasm.

"He had the prospector's high hopes and his equally vivid imagination," wrote George Wharton James, who met Wilson at the oasis about 1906. "Every time he came in from a trip he brought specimens of quartz which he solemnly informed you were simply 'buggy' with gold. 'Why, man, that's thousand-dollar quartz if it's anything,' he'd say. That's how he got his name —Quartz Wilson." James must have been repeating local opinion—which at that time principally consisted of two other well known Twentynine Palms prospectors—Phil Sullivan and Bill McHaney.

However, while Wilson was said to sell grubstakers the picture of an immensely rich mine, then lead them to an unproved prospect hole—he *did* lead them to his discoveries, doubtful though their value might prove. He seems to have lost only one mine—and it may be a sort of evidence for its actual existence that this one mine's ore was horn silver rather than "buggy quartz."

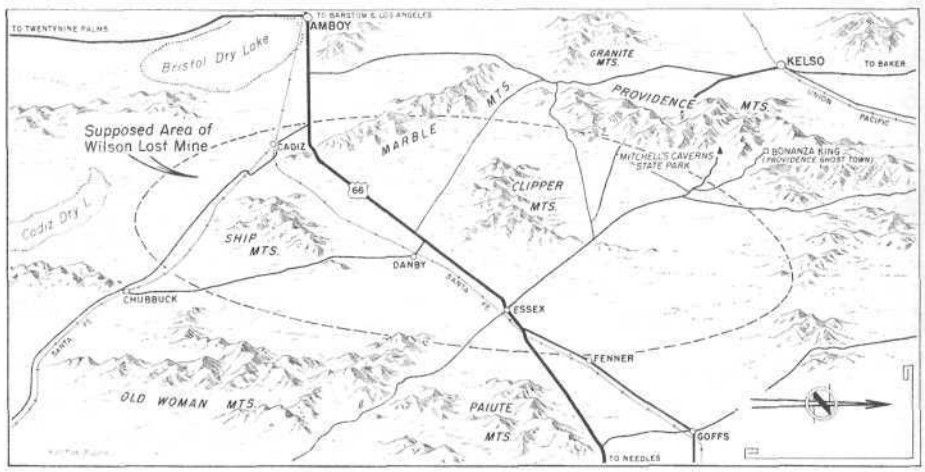
Quartz Wilson found and lost his silver ledge in the fall of 1880, on a long prospecting tour through the upper Mojave Desert. From discovery of the Potosi mines, about 1860, through the Clark Mountain and Ivanpah strikes, and the Bonanza King and Calico booms of the 1880s, silver was much sought by desert prospectors and Wilson was among the early seekers.

When he decided to take a *pasear* into the Old Woman Mountains, he was camped across the big valley at a little spring "at Providence Mountain." His starting point is identified only in that manner. The Providences were defined by the 1890 California State Mineralogist's Report as being about 80 miles long, "several partially disjointed masses being included, to some of which distinct names have been given, though the whole properly constitutes but one chain." Since Providence Mountain was specified, Wilson probably was camped near the base of the main mass. Even so, he could have started from any of a considerable number of springs, many unmapped or little known today.

Apparently he was not equipped for dry camps. When he started across the valley, he carried only two quarts of water and no fodder for his horse. He also was without blankets. The day was hot, the distance great, the going hard—deep sand one story said. His water "lasted short" and it soon became apparent to him that he would not reach the Old Woman Mountains before night.

As darkness fell he sought a good camping place and found a little rocky mound. He tied his thirsty, hungry and exhausted horse to a large stone thrusting up through the mound and made what preparations were possible for the night. With the sun gone, an increasingly cold wind swept across the knoll and he gathered loose rock and built a half-moon shelter against it.

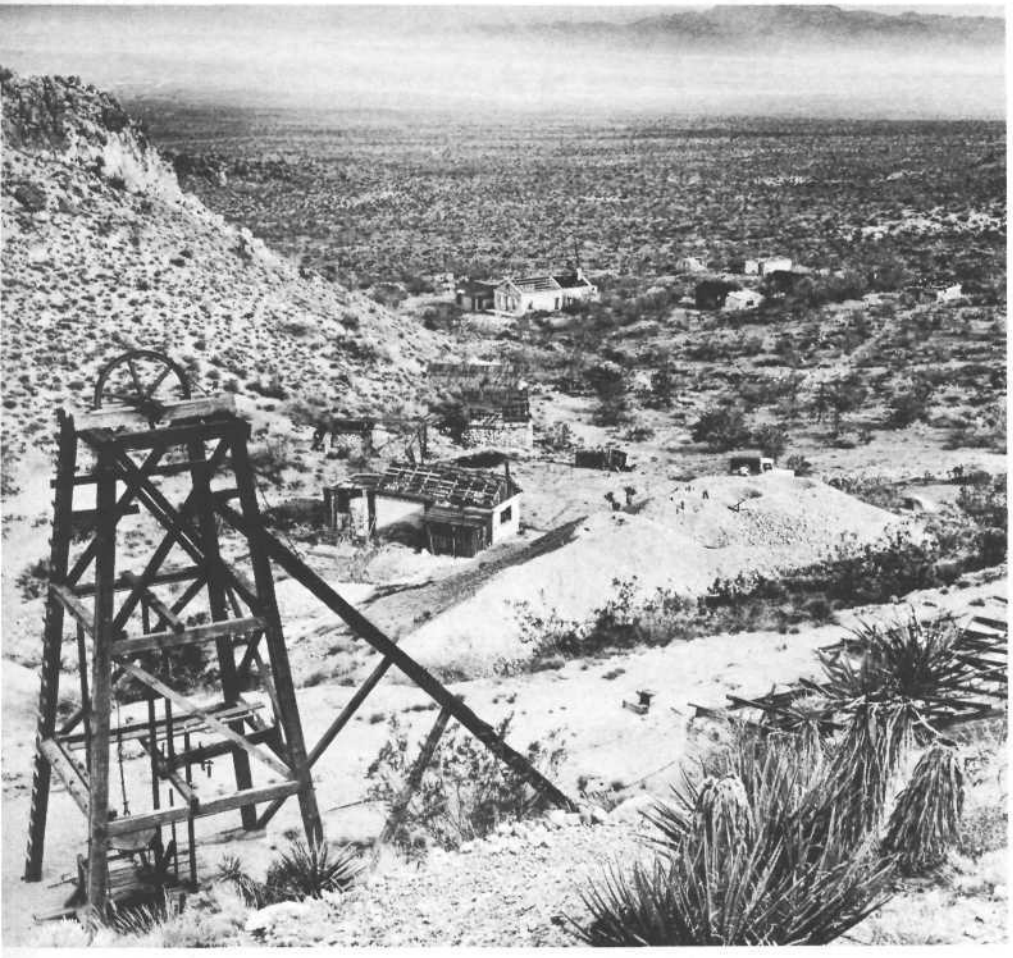
At daybreak, after an uncomfortable night, Wilson prepared to move on to find water. But—always the prospector—he examined the rocks that had made his bed and shelter. They were composed of "immensely rich" horn silver. Even his horse, according to a newspaper story of the 1880s, was "larietted to a part of a valuable mine."



Even a good prospector can be misled about a number of ores and their richness. But horn silver—cerargyrite, the chloride of silver—is not likely to be misidentified. It cuts like horn, it will melt in a candle flame, it carries a huge percentage of metallic silver.

Wilson lost interest in prospecting the Old Womans. He dared not even go on in the chance of finding water there. Building a claim monument and gathering samples, he headed back for the spring in the Providences. But before leaving, he sought, by memorizing surrounding landmarks, to make certain he could return to the ledge.

He picked, as a principal identification, a distant mountain showing a



THE BONANZA KING SILVER MINE AND PROVIDENC
GHOST TOWN AT FOOT OF THE PROVIDENCE MT

large horizontal red band or streak with a prominent white spot, which he believed lime, above the red. The mountain was timbered with pinyons, at least on the top, and was to the east for he had seen the sun rise behind the timber.

Before he had gone far up the bajada toward the Providence Mountains, Quartz Wilson knew that he was in trouble. Entirely without water, he and his horse faced a day rapidly becoming hotter than the previous one. The grade, the soft ground and the horse's exhaustion slowed them down. Sometime during the day, Wilson lost touch with reality. But the horse plodded on, and the man regained his senses to find himself lying in the water of the little spring where he had camped.

It is said that Wilson made several immediate attempts to return to the rocky mound, unsuccessful ones "because the heated condition of his brain was not fully restored." Then he gave up and hurried down to San Bernardino where his samples were reported to carry silver "worth $15,000 per ton."

More than seven dollars a pound!

Wilson had no trouble finding grubstakers and a prospecting company. Soon he and Hank Brown, O. D. Gass and Joseph Janson, well-equipped, were hastening back toward the Providence Mountains. A fifth partner, F. M. Slaughter, did not go along. This was no group of easily-fooled tenderfeet. Hank Brown was a noted figure in early desert history—stage driver, freighter, explorer and miner. O. D. Gass was a Fortyniner, successful miner and former president of the Arizona senate representing Mohave County. Fenton Slaughter, another Fortyniner, a successful rancher and business man, was then a San Bernardino County supervisor.

But Wilson could not return to his strike. Carefully they searched the entire area. The mound, the windbreak, the rich horn silver eluded them, and it continued to elude them and other lost mine hunters through the years. Finally Wilson abandoned any attempt to find his ledge and took up his gold prospecting at Twentynine Palms.

But Hank Brown was a stubborn man. Convinced that the silver really existed, he was determined to find it. And in the fall of 1885, Southern California newspapers broke out in a rash of excited stories.

The fabulous Lost Wilson Mine had been rediscovered!

Brown, in his continuing search, questioned a desert Indian, describing the windbreak and the monument. That Indian knew nothing about it, but a "Chimavaro" (Chemehuevi) who had been listening told Brown he could take him to that exact spot for $40. The money promptly changed hands. The Indian took Brown directly to the identifying landmarks. Brown found the ledge and brought back to San Bernardino ore worth $16,000 a ton.

The confusion and the events that followed have never been explained.

Hank Brown, with a load of supplies, backtracked for the mine, which was described as being "30 or 40 miles northeast of Twentynine Palms." O. D. Gass followed a few days later. Not far behind him came Col. Brooks who—from information given him by Slaughter—had written the first story regarding the ledge's rediscovery for the *Pomona Progress*. All the men went by way of Twentynine Palms.

Hank Brown was unheard of for weeks, then came the unhappy statement that, like Wilson, he had been unable to return to the ledge. The railroad between Barstow and Needles had been completed since Wilson's original strike, and Gass turned up at one of its stations—which he called Cadey and which possibly was Cadiz. He wrote a letter explaining that the "Chimavaro" Indian was really a Paiute married to a "Chimavaro" woman, and that this fellow had taken off for Nevada to pick pine nuts. Gass was in hot pursuit and would bring the Paiute back to guide them once again to the ledge.

Col. Brooks got no farther than Twentynine Palms, having to turn back when a member of his party developed typhoid. At the oasis he met Quartz Wilson. At this time Wilson probably was doing well with the results of his Virginia Dale strike. But he assured Brooks that Brown could not possibly have relocated his ledge by going in from the west, northwest or southwest. Due to absence of water and overabundance of sand, it could not have been reached in that way.

"Wilson," said Brooks, "can tell you more of the desert, the watering places and the habits and customs of the Indians than any man upon the plains; in fact, Mr. Wilson seems to be familiar with all important facts in that country except the whereabouts of the Lost Wilson Mine."

Back in San Bernardino the *Index* reported: "Old miners hereabouts say

that the statement regarding the 'Lost Wilson' mine is a base fabrication manufactured out of whole cloth."

"Lost Wilson Mine Still Lost" newspaper headlines read.

Apparently Gass never caught up with the Paiute. And in all the years since there have been no important additions to the story of Wilson's lost ledge. Continuing fall of the value of silver made the search for it less attractive. And lost mine hunters had a headier treasure to seek in that same area when the story of Tom Schofield's discovery of the Lost Dutch Oven in the Clipper Mountains in 1894 began to spread.

Wilson's ledge has almost been forgotten. Among the miners and prospectors and desert people I have questioned, only the late Jack Mitchell seemed to know the story. Jack—developer of Mitchell's Caverns in the Providence Mountains, now a state park—came to these mountains in the late 1920s to examine silver claims to which he had obtained title. He had a silver-copper ledge practically in his front yard which he claimed would some day pay off. The Caverns are only a few miles south of the Bonanza King, and other old silver properties are scattered roundabout. Jack was in a position to know about Wilson's ledge and have opinions on it.

"The story ties together very well," he said, looking out from his high perch on the Providences across the valley to the Old Woman Mountains. "There's no reason why Wilson could not have found such a ledge out there. There's silver all through this country."

Had he himself looked for it? Jack smiled. "There are very few areas anywhere around these mountains I haven't prospected. And very few stories I haven't looked into—some with a lot less basis in fact."

Obviously, Jack never came across the little rocky mound with its horn silver bed. Neither have I. But I have had a good deal of time to think about it, tracing out the trails of that big and lonely country. And certain questions have risen time and again.

Why was the great Bonanza King mine never mentioned in accounts of the Lost Wilson? Could Quartz have obtained his horn silver from the croppings of the King? True, most accounts set its discovery prior to his strike, but I have found no documentary evidence of the actual date. It has been given as 1851, the 1860s, the late 1870s. But there is no record of production until the early 1880s.

John Brown, Jr., and James Boyd, in their "History of Riverside and San Bernardino Counties," say that about 1880 a 10-stamp dry crushing mill was erected by Bonanza Consolidated Limited. Official returns, printed in a newspaper, were $251,604.15 for a run of 115 days. The superintendent's 1884 report stated: "Nearly $1,000,000 has been taken from the mine in 18 months and 10 days." The California State Mineralogist's 1888 report declared that from 1883 to 1887 the King produced $60,000 a month from chloride of silver ore averaging $100 a ton, 80% of the assay value being recovered.

Give or take a year or two for Wilson's discovery and the finding of the King, this might have been the ledge that Quartz stumbled upon. The rocky mound might have been a rise at the base of the Providence Mountains rather than the isolated knoll most of us have hunted.

Certainly it is possible Wilson might have obtained samples of King ore after the strike and—quite honestly or through the confusion of his "heated brain"—mixed them with specimens he took from the knoll where he made his night's camp.

Whether the King might be the Lost Wilson could only be answered if we knew the point in the Providence chain from which Quartz started and the point in the Old Womans for which he was striking. It can even be questioned whether or not his rocky knoll lies anywhere between those two ranges, or whether this is a confusion caused by his sufferings or by the interpretation of those who first heard his story. Either the given location of the mine being "30 to 40 miles northeast of Twentynine Palms" is entirely wrong or the strike must have been to the west of the Old Womans. This would bring it into a truly sandy and waterless land like that described by Wilson.

Such puzzles and inconsistencies are part of the fascination and despair of lost mine hunting. However, the area in which Wilson is supposed to have lost his silver ledge offers challenge enough.

Not long since, as we bumped onto Highway 66 after dark—and after a day-long back-trail crossing from the southwestern tip of the Providence Mountains, Lucile summed up the present status of the Lost Wilson for us: "There are too many springs and too many trails and too many mounds."

But, planning a future try from another angle, we agreed that — to paraphrase bold old Castaneda, who marched with Coronado after that phantom gold of Cibola — whether Quartz Wilson did or did not find and lose a rich silver ledge between the Providence and Old Woman Mountains, he certainly gave lost mine hunters a fine country in which to look for one.—END



OSHAY PASS NEAR THE SOUTHWESTERN END OF HE PROVIDENCE RANGE. THERE ARE AT LEAST HREE SPRINGS NEAR THIS TRAIL, ONE OF WHICH IAY HAVE BEEN THE SITE OF WILSON'S CAMP.



THE AUTHOR POINTS OUT THE BROKEN END OF THE MAMMOTH TUSK WHICH HAD BEEN WORN SMOOTH BY THE ANIMAL'S USAGE. ON TABLE AT RIGHT IS IMPERIAL MAMMOTH'S TOOTH. NOTE RIDGE PATTERNS.

Rescuing the Fossil Remains of an Imperial Mammoth

by Gordon G. Pond

LAST SUMMER I used a few days of my vacation to visit the ranch of Carl Rainwater, near Scholle in central New Mexico. Knowing of my interest in natural history, Carl showed me a small Indian ruin on the back of his property. This prehistoric dwelling is situated on the bank of an arroyo that is slowly undermining the ruin, carrying away some of the old walls. After our inspection tour, Carl remembered another curiosity.

"There's something farther down the arroyo that I'd like you to see," he said. "It must predate the ruin by thousands of years."

A hundred yards downstream he pointed out an unusual piece of material protruding from the eroding bank. A layer of wet chalky substance was easily broken off of the large "rock," and I put this in my pocket for future identification.

I thought nothing more about the specimen until my return to California. By then the mystery substance had dried out to a peculiar yellow coloration, revealing strange lines on its surface. I took it to the Los Angeles County Museum where I had formerly worked as a scientific illustrator, and showed the specimen to Paleontologist Dr. Theodore Downs. He confirmed my suspicions.

Rainwater had discovered a tusk of an American mammoth. A rare and scientifically valuable find.

This knowledge, and the thought of more water coming down the arroyo and possibly destroying the tusk, sent me hurrying back to New Mexico.

Carl and his wife were fascinated with the news I brought them. Leonard, a young nephew who was staying with them for the summer, also showed keen interest in the subject, and it was obvious that he wanted to help me with the digging. When Carl released him from his ranch chores to go with me, the boy was overjoyed.

Our first view of the tusk next morning was disheartening. Swift water had sluiced down through the arroyo, battering the specimen which was now clearly displayed. Only a few feet away, a mammoth tooth lay in the coarse gravel. Overcast skies and the misty rain that was falling made it imperative that we get our prize out before more water came roaring down the gully.

Freeing the tusk from the gravel and clay bank was hard work. Finally, a five-foot length of tusk lay bare before us. The large end, which had broken off some distance from the skull, measured 22¾ inches in circumference—almost a record size. The narrowing end showed that the old fellow had broken off a length of tusk during his life-time, and then had worn the jagged-end smooth with usage.

We were not able to find more of the animal's bones. The tooth and tusk, by virtue of their composition, had persisted for thousands of years in this soil. By the time we had removed them to higher ground, heavy rains were falling and water in the arroyo was rising.

The remains we had found were those of the Imperial mammoth (*Archidiskodon imperator*) which at one time had dominated the southern half of what is now the United States and parts of Mexico. The Woolly mammoth roamed the northern U.S. and Canada; the Columbian mammoth ranged throughout the middle U.S. (see accompanying map).

The Imperial, largest of the trio, attained the enormous height of 13 to 14 feet at the shoulder, exceeding by several feet the height of the largest modern elephant. His long curving tusks reached a length of 15 feet and were larger at their base than the circumference of a man's head.

Unlike the smaller mastodon, the mammoth had teeth which were composed of alternating layers of enamel and cement whose exposed ends appeared on the grinding surface as a pattern of ridges. Only a few of these ridges were used at a time. As these wore away, they were replaced from behind by new plates of enamel. It is the

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For the past six years Gordon G. Pond has been an instructor at Compton College, Calif. He was formerly staff artist and senior preparator for the Los Angeles County Museum where he worked on the new "Hall of Evolving Life." His art skill is shown in the illustration accompanying this article. Pond's hobbies and interests are in the area of natural history and desert travel.

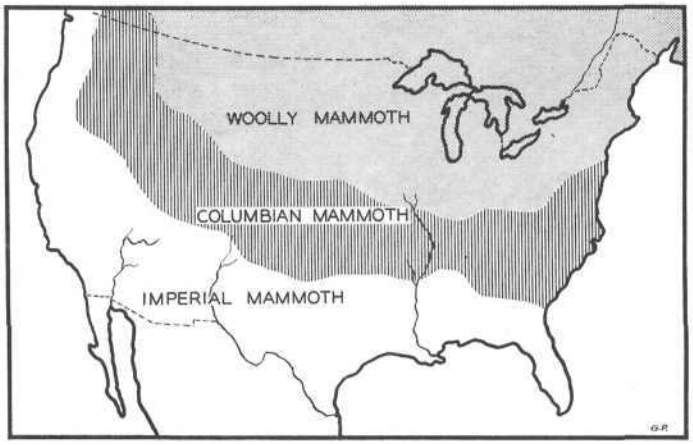
number and thickness of these ridge plates that help determine the kind of mammoth they came from.

Huge ice sheets have made their advances across the North American continent four times during the last million years. The last great ice retreat began almost 30,000 years ago, leaving behind it a broad plain to be drained by the Colorado and Mississippi rivers. Animals must have grazed at the edge of these ice sheets in much the same way they do today, nibbling at the rich grasses of the new-born tundra and stripping leaves from the trees on the mountain slopes.

Pine trees, plants and grasses of many kinds growing today covered wide areas of the Southwest, but the terrain was less eroded and rugged. The Petrified Forest in northern Arizona testifies to the fact that great trees covered plains that are now desert. The inner gorge of the Grand Canyon which is 1000 feet deep at present, was only 100 to 200 feet deep when the first Imperial mammoths roamed this country.

The very short sparse hair on these beasts made them favor the warmer climates of the south; they drifted into Florida—their "last outpost" before total extinction. What was the combination of events that led to their removal? Giant six-foot wolves (*Canus dirus*) might have harassed them from coast to coast. The mastodon and bison may have out-grazed the Imperials, making them easy prey to flesh-eating beasts and man.

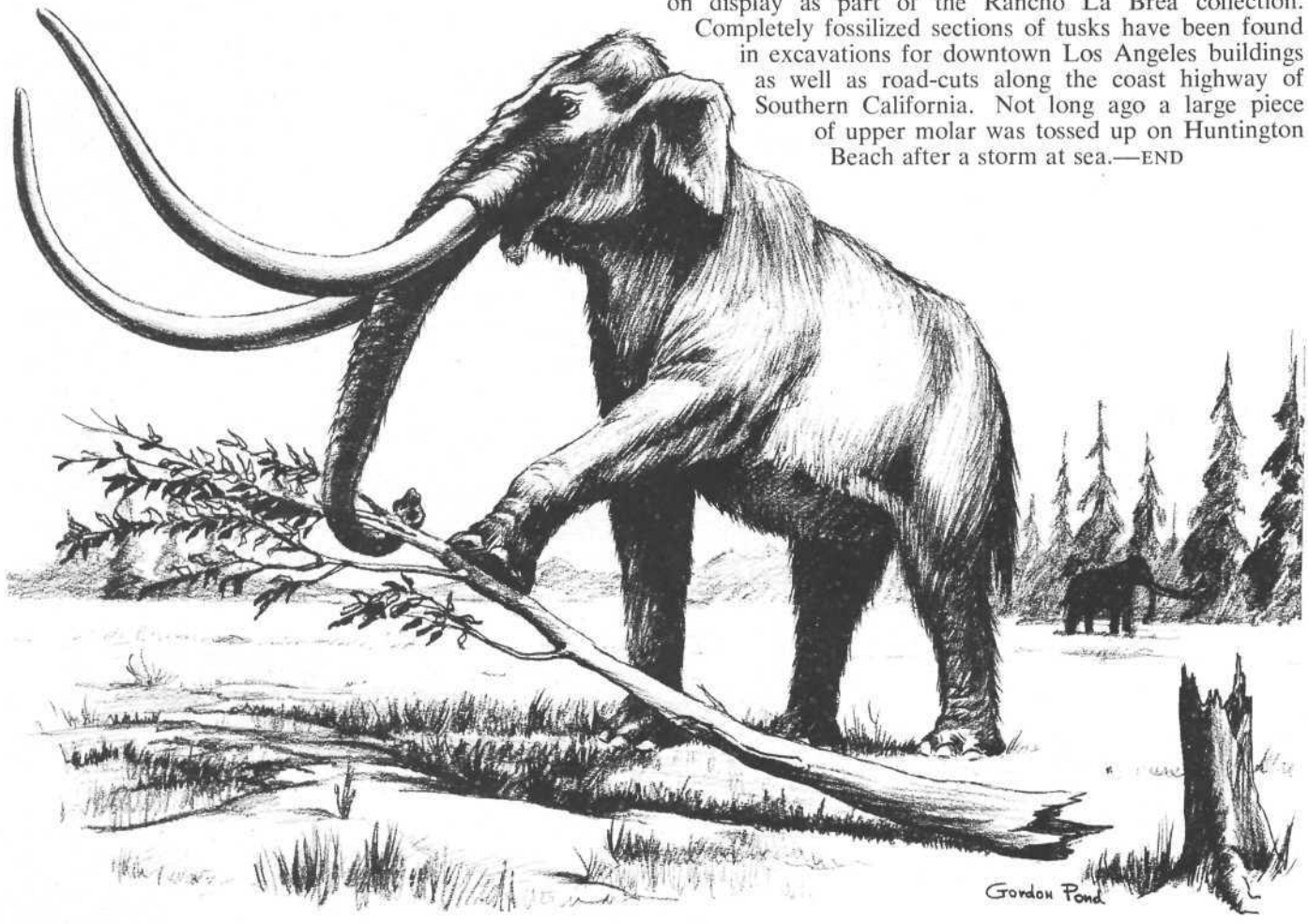
Evidence shows that man hunted and killed the mammoth here in the Southwest. A man-made spear was found embedded in the bone of the foreleg of a mammoth found near Clovis, New Mexico. A more sensational find of a "mammoth kill" was the celebrated Lehner site near Douglas, Arizona. The Museum of Arizona, in Tucson, presents a fascinating exhibit of material related to this discovery, along with miniature dioramas and illustrations showing what the scene must have looked like when early men made their kill.



DISTRIBUTION OF MAMMOTHS IN NORTH AMERICA

The slaughtering of one of these elephants probably supplied man and animal for miles around with enough food for days. No proof has yet been found that prehistoric man in the Southwest used the ivory for any purpose, but other tusks found in frozen parts of the world have been traded by people for centuries. Tusks of the Imperial mammoth, long enough to encircle a small sports car, are never found in a good state of preservation because of climatic conditions and the geology of this country.

Whole skeletons of the Imperial mammoth are rare, but the Los Angeles County Museum has a fine example on display as part of the Rancho La Brea collection. Completely fossilized sections of tusks have been found in excavations for downtown Los Angeles buildings as well as road-cuts along the coast highway of Southern California. Not long ago a large piece of upper molar was tossed up on Huntington Beach after a storm at sea.—END



THE DESERT BOATING BOOM



SALTON SEA HAS BECOME THE CENTER OF MUCH BOATING ACTIVITY

Boating Authority

V. LEE OERTLE

tells all about sailing the Southwest's waterways . . . the special lure of blue skies, blue water and eroded, jagged shoreline . . . where and when to enjoy this sport . . . what equipment your family will need . . .

POPULARITY OF BOATING in the Desert Southwest is moving ahead in seven-league strides. Just as the prairie fell to the plow, so now the desert waters are being tilled by the outboard propeller.

Vast arid lands encircle every major Southwestern waterway—where else can water look so inviting? Western skippers know the special lure of arid landscape and jagged skyline, the sharp separation of land and water. In the Southwest this division is distinct: we have practically no swamplands; there are no populated flood-plains, no valleys under threat of inundation every time it sprinkles. Land is land and water is water, and each is a universe unto itself.

There are two other big reasons behind the boom. First, boating is a year-round sport in the Southwest. Secondly, much of the back-country easily reached by boat is practically inaccessible by automobile. Consider that most of the Lower Colorado River region, much of Lake Mead's 550-mile shoreline, and nearly all of Baja California is semi-primitive, with few roads and small population. Entering these regions overland usually requires a four-wheel-drive vehicle and plenty of muscle. By contrast, exploration of these same areas by boat is possible without real hazard and undue physical strain, and with the maximum of pleasure. Backwater lagoons and hidden rocky canyons offer an isolation and privacy more rare than diamonds.

Though there are many lesser lakes and reservoirs, the most heavily "boated" waters in the Southwest are those which "surround" Southern California: Lake Mead, Lake

Mohave, the lower Colorado River, the Gulf of California and the Pacific coastal shelf extending from Los Angeles to south of Ensenada, Mexico. An estimated half-million boat owners regularly use these waters! Counting the family and friends of these skippers, the area is enjoyed aquatically by upwards to four million persons annually.

Most obvious example of the Southern California boating boom can be found at Salton Sea on the Low Desert. Once its lonely beaches were frequented but rarely—an occasional fisherman, a few duck hunters, the amateur geologists. Transfusions of money and talent, triggered by the boating boom, are changing the face of this land with almost frantic speed. Coming into being practically every week are new marinas, trailer parks, homesites and boating facilities of all kinds.

Nearby, the Colorado River, long considered a roaring froth of destruction, is in the throes of recreational evolution. Flood control projects have tamed the river. The outboard family has opened the wilderness. A complicated legal battle is shaping up over ownership of much of the suddenly-valuable Colorado River shoreline. Vast developments are projected by local, state and federal agencies. Already huge sums have been expended by private enterprise, and more will follow. Within a few years, the boating family can expect to see many new marinas, trailer parks, public camps and better boating facilities from Hoover Dam to the Mexican border (see "Recreation River" in the Aug. '59 *Desert Magazine*).

Baja California also is beginning to reap the harvest from boating pleasures. Skin diving, exploring, fishing, extended outboard cruises—these are but a few of the many new interests found in this old land.

For those skippers desiring civilization and the company of other adventurous souls, there are waterways with every modern convenience—boats moored rudder-to-rudder. The Southwest offers the boating fan a wide-range of activities, and thus it follows that equipment-needs vary considerably.

First, let us consider the matter of inboard vs. outboard motors. Because of our peculiar Western problems of fluctuating water, shallow river drainages, tremendous tidal difference (in the Gulf of California), and the great distances usually necessary to tow boats to water, I recommend the outboard boat without reservation.

Outboard launching, cruising, and handling is far less complex than inboard boating. Initial cost is lower, the weight factor is much better, insurance costs and maintenance expenses all favor the outboard. Inboards are best suited to deep-water situations, where they can be moored for months or years in one location.

How large should the boat be? Here are the major factors to consider before selecting a boat for your family: 1. number of persons in family; 2. intended recreational use of the boat (whether water skiing, cruising or rock-hunting); 3. where boat will be used (offshore or inland); 4. how the boat will be transported (car-top or boat-trailer); and 5. budget. Supplying the answers to these questions will determine the right boat for you.

Boats the prospective buyer may examine on his first visit to the marine dealer often leave the customer more confused than ever. Remember: because the boat has three or four seats doesn't mean the craft can safely transport six to eight people. Seats in small craft are designed for maximum comfort in limited space, and have nothing at all to do with weight capacity. Choosing a boat large enough to accommodate your family is best done by consulting the manufacturer's rated weight capacity. Here are some "rule-of-thumb" figures:

Family Size	Recommended Minimum Boat Length (Feet)
One or two persons	12
Two adults, one child	13
Two adults, two children	14
Two adults, four children	16
Three adults, two or three children	17
Two adults, more than four children	18

Though many marine dealers may be quick to point out that boats smaller than those stated above can safely haul more passengers than I have indicated, I am assuming that the Southwest skipper will want to haul extra camping gear, some food and water, sleeping-bags and related equipment. Thus an extra weight-safety factor is necessary, for overloading is the second-greatest single cause of serious boating accidents (excessive speed is first). No matter how powerful the boat's motive force, if its hull



BOAT CLUB MEMBERS ASSEMBLE ON A SANDY BEACH AT LAKE MOHAVE TO PLAN DAY'S ACTIVITIES: GAMES, RACES, SINGING, POTLUCK DINNER

is not designed to carry the weight-load placed in it, the boat is dangerous.

The following table will throw some light on requirements needed to fulfill the second factor in chosing the right boat: intended recreational use.

Intended Use	Minimum Size of Boat (In Feet)	Recommended Motor (HP)
Water Skiing—one or two persons	14	25
Water Skiing—two or more skiers, two or more boat passengers	16	50-75
Fishing—small lakes, rivers, bays, reservoirs	12	5
Fishing—offshore ocean, Lake Mead, Gulf of California	14-18	35-75
Pleasure Boating (same considerations as Fishing)		
Extended River Cruises	14-18	35-75
Overnight Cruising—weekend camping for two adults, two or more children	16-21	50

Here are some average speeds obtainable with various

Continued ▶



BOAT LAUNCHING IS A PROBLEM IN GULF OF CALIFORNIA BECAUSE OF FLUCTUATING TIDES, BUT THIS SKIPPER FOUND PLENTY OF HELP

boat-motor combinations. These speeds are for "ideal" conditions: water calm, boat and load balanced.

Boat Size (Feet)	Number of Passengers	Motor Size (HP)	Average Speed (MPH)
14	2	25	25-28
14	4	35	25-30
14	4	50	32-40
16	4-6	35	20-25
16	4-6	50	28-34
16	4-6	75	35-40
18	6-8	50	22-27
18	6-8	75	30-35

Speed on water is very expensive. Unless you have a real need for speed over and above that produced by the combinations listed above, forget it. Automobiles, because of a tremendous variation in basic equipment, can be purchased with high or low performance engines for small extra-cost options. Increasing boat speed is a much different proposition. On water, it takes four-times the horsepower to double speed.

Initial cost of the more powerful outboard motors is over $1000. These include such power-brutes as the Evinrude and Johnson 75-horsepower engines, the Mercury 60, 70 and 80-hp motors, and the Scott 60-hp motor. Many other makes are available, but these four are the leaders in the horsepower race.

Bigger boats require larger motors to propel them—at progressively higher cost. The intelligent boat buyer aims at a purchase that brackets his major aquatic desires 90 percent of the time. The right boat should do almost everything that falls under the heading of boating pleasure —with the sole exception of racing. Racing is a separate classification, and should be considered only after much experience in the outboard field. It is very specialized and time-consuming.

Probably the most versatile boat-motor combination in general use today is the 14-foot boat with 35-horsepower motor. This combination will handle a wide variety of tasks, from fishing to water-skiing. Price range for an outfit this size, including boat trailer, is from $1100 to $1600.

Boat construction materials in the small-craft field are of four general kinds: fiberglas, aluminum, wood and steel. All four materials are strong, durable and dependable. Years of research and testing have eliminated many of the "bugs" inherent in the use of plastics and metal-alloy hulls.

Wood, of course, is the old stand-by, and its usage is far from finished. The molded plywood hull has become extremely popular, and most competitively-priced boats today are built of this material. Natural flotation, light weight, strength and low cost make wood the front-runner in boat sales.

However, fiberglas boats are receiving the most attention. There are many reason for this sudden interest in reinforced plastic boats. Maintenance is reduced to an absolute minimum. The fiberglas boat is molded, therefore seamless. No water can enter; there are no problems of dry-rot, mildew, swelling, splintering and cracking which affect old-style wood hulls. Color pigments are added to the plastic during the molding process, thus eliminating the need for annual painting. Being plastic, the boat cannot rust or corrode. Spilled fuels and battery acid, salt water, weather and sunlight don't seem to bother fiberglas excessively. It is a good buy. From the standpoint of longevity and freedom from maintenance, it is tops in its field. It does have a few very minor drawbacks. Fiberglas, heavy and non-porous, has no inherent flotation safety, but boat manufacturers have molded buoyancy tanks into the hull as an added safety factor.

Aluminum has several advantages as a boat-hull material. It is extremely lightweight, comparing favorably with wood. Because the flotation value is zero, it also must have built-in buoyancy tanks. Like fiberglas, aluminum cannot rust, and new alloys have made it highly corrosion-resistant. But, vibration is more noticeable than in the wood hull, and an aluminum boat is difficult to repair in an emergency. However, these criticisms are admittedly minor.

Steel boats are fighting an uphill battle against expense. Steel cannot be molded into shape without extensive internal bracing, and this sometimes leads to trouble. Bracing that tends to be too rigid won't allow the hull to "flex" with the water, and therefore is susceptible to internal damage. Steel has not been used extensively in the small-craft field.

Boat transport is accomplished in one of two ways: car-top carrier or boat-trailer. The former costs just over $100. For the family that tows a travel-trailer, the car-top carrier is practically a must. The one disadvantage is that mud and water drip off the boat onto the car. The camper-coach, mounted on a pickup truck bed, makes the use of a boat-trailer desirable. Boats in the 14-foot or larger class

are difficult, if not downright impossible, to carry on the car roof.

A good boat trailer takes most of the back-strain out of launching operations. Advanced models have dump-bed frames, a geared-winch for retrieving boat from water, full-roller loading features, and weight-engineered design for easy highway towing. Actually, the selection of the right boat trailer can mean the difference between fun and despair on many an outing. Such areas as the shallow beaches of Salton Sea or the sands of San Felipe on the Gulf can be major obstacles to fun.

What to take along on your desert boating adventures depends on how long you intend to stay and where, and how much "comfort" you demand in the outdoors. For purposes of evaluation, here is a list of the gear and its weight that I took on my last family boat outing.

Two six-gallon fuel cans, full	110 lbs.
Battery for electric-starter	40 lbs.
Portable camp stove	35 lbs.
Large box groceries	50 lbs.
Ice-box, cooking utensils	50 lbs.
Four sleeping-bags	40 lbs.
Camp lights, toilet supplies	25 lbs.
Fresh water (five gallons)	50 lbs.
Extra clothing	20 lbs.
TOTAL	420 lbs.

Modern outboard motors are as reliable today as auto engines, but a few spare parts offer a comfortable margin of security: extra propeller; several spare shear pins; propeller nut; extra set of spark plugs; crescent wrench, pliers, screwdriver, hammer, knife; fire extinguisher, flares, matches. Always take a flashlight and extra gasoline. Safety equipment for the passengers includes a life-jacket or floating cushion for each person in the boat. Never leave the dock without them. An anchor, two paddles and a bailing bucket are also on the must-have list. A fiberglas patching-kit can be used to repair hulls of almost any basic material—even metal, if used by a skilled hand.

Here are some recommended best times for boating on specific areas:

Lake Mead and Lake Mohave: though visitors come year-round, best months for boating are April, May, October and November.

Lower Colorado River: October through May are best months. Summers are hot but livable. Water skiing is often good in summer in the vicinity of Parker Dam, Lake Havasu and Blythe.

Gulf of California: Boating is best in early spring months. Vicious unpredictable winds are always a hazard. Summer heat is oppressive.

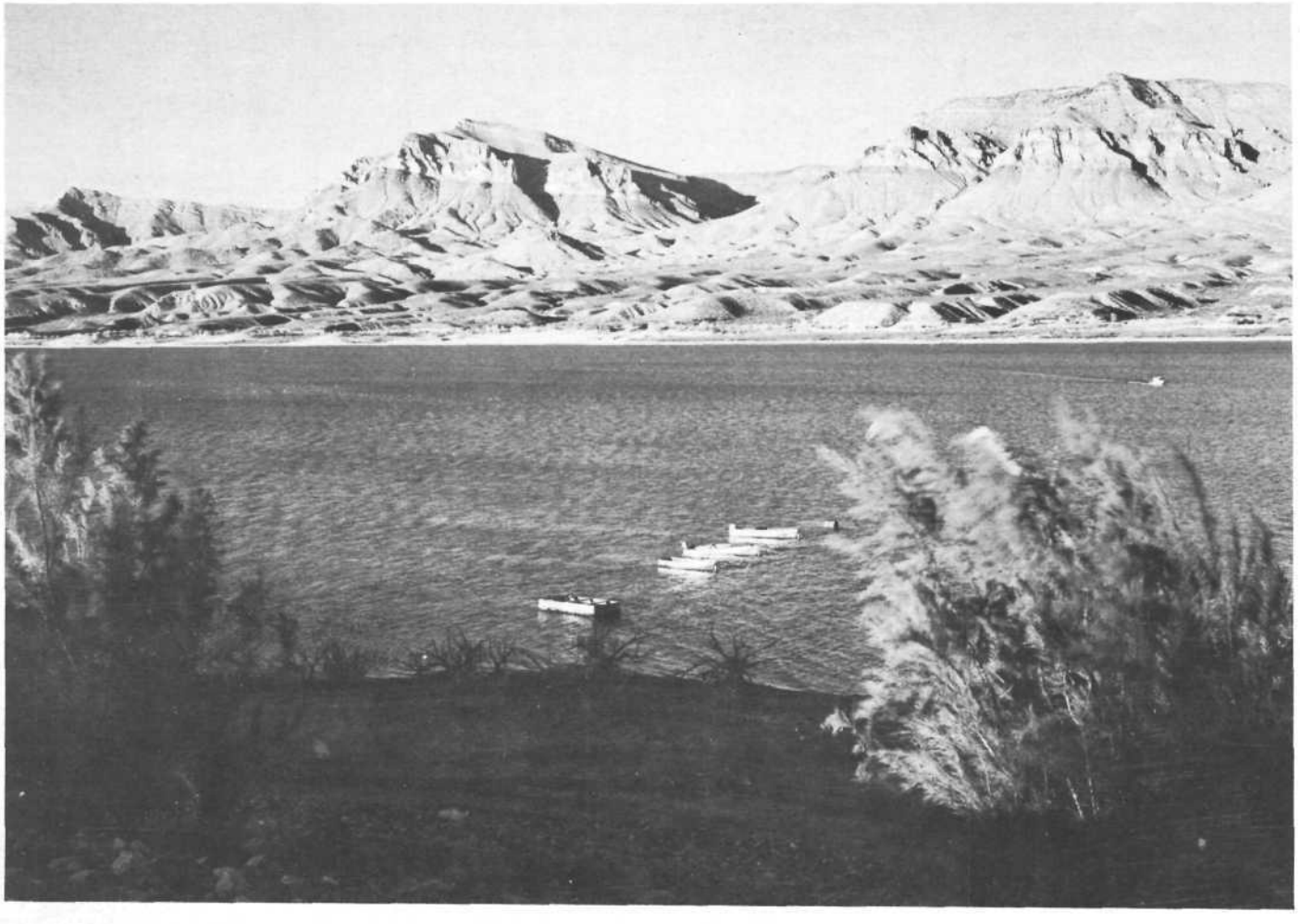
Southern California Coast: Year-round boating, but best time is during summer.

Salton Sea: Best time for pleasure boating is from October to May. July to September is hot and sticky. Water temperature here occasionally rises to 100 degrees at surface!

Arizona: Boating in the central portion of the state is pretty much confined to the lakes of the Salt River System. The sport is a year-round activity. Roosevelt Lake, largest of the area's lakes, is 115 miles east of

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"WHERE ELSE CAN WATER LOOK SO INVITING?" SCENE BELOW SHOWS BOATS MOORED IN CABALLO RESERVOIR, NEW MEXICO.



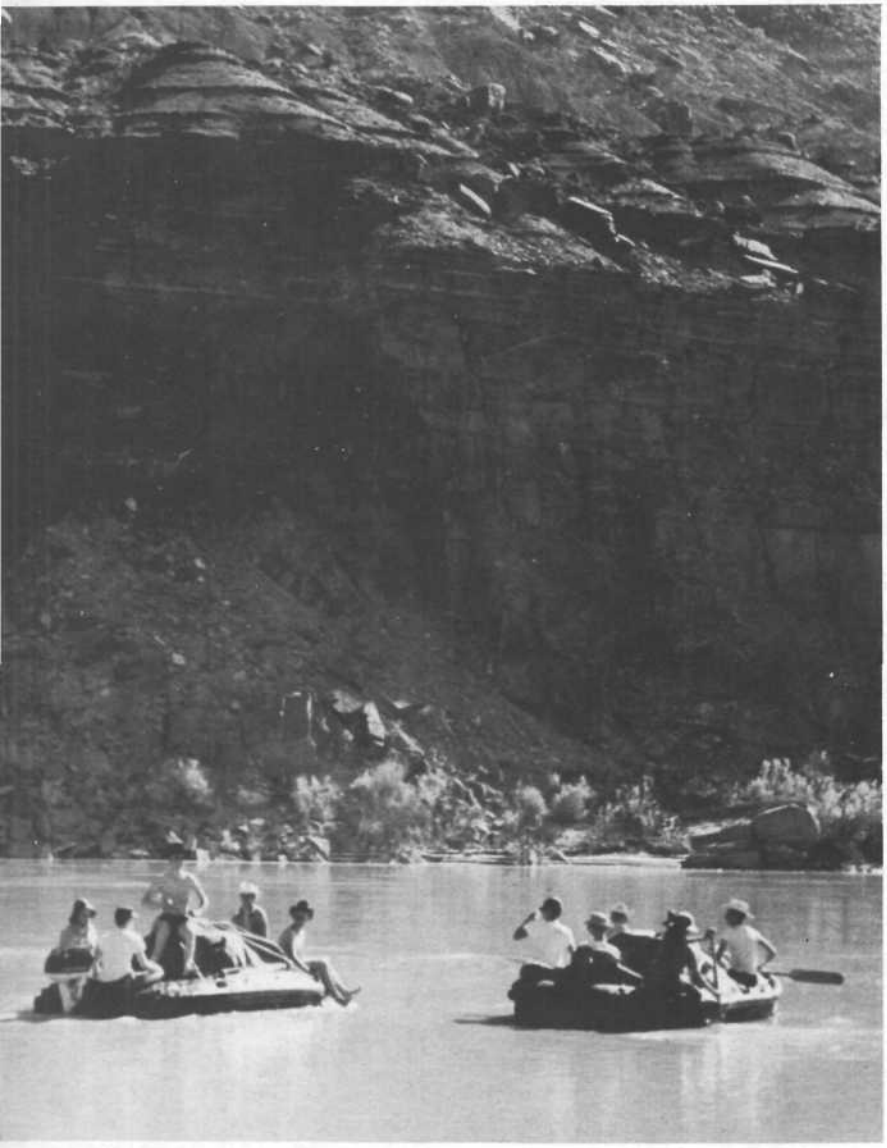
BOATING BOOM . . . continued

Phoenix and is reached by turning northwest on State Route 88 off U.S. Highway 60-70 between Globe and Miami. Apache Lake is 65 miles east of Phoenix; good bass and crappie fishing here. Canyon Lake is 51 miles east of Phoenix. Saguaro Lake is 41 miles east of Phoenix via the Beeline Highway north of Mesa. Saguaro is probably the most popular boating lake in the area. Still another lake, Bartlett, is 46 miles northeast of Phoenix via Cave Creek; fair to good fishing here for bass and catfish. Boating in eastern Arizona is sparse because most of the lakes in the mountains restrict the use of motors.

Utah: Major pleasure-boating areas in the state are: *Utah Lake,* near Provo, rated as "excellent" for boating, skiing and fishing. *Bear Lake* lies east of Logan on the Idaho border. There are several resorts along the shore of this beautiful large body of water. *Pineview Reservoir* east of Ogden, 15 miles. Popular boating and skiing water; recreational developments by Forest Service. *Rockport Lake State Park,* 50 miles east of Salt Lake City, is well-equipped with picnicking, camping, lodge, cafe and modern rental units. *Fish Lake,* near Richfield, offers good fishing and boating, but high altitude makes water too cold for skiing. Campgrounds are maintained by Forest Service, and there are resort and boat rentals in area. *Panguitch Lake* near Panguitch offers excellent fishing, but boating restricted to 10 mph; boat rentals, resorts and campgrounds. *Navajo Lake* near Cedar City is a high altitude lake; boating and fishing are good. *Scofield Lake,* near Price, is being developed as a State Park. Best time to enjoy Utah boating is from May to September. All boats using Utah waters must conform to the state law, and must be numbered.

New Mexico: There are seven major boating centers in the state: Alamogordo Reservoir, Conchas Reservoir, Conchas Dam State Park, Bottomless Lake State Park, Bluewater State Park, Elephant Butte Dam and Reservoir, and El Vado Lake.

Nevada: In addition to the Nevada side of Lake Mead, the major pleasure boating area in the state is at Lake Tahoe where cruisers, speedboats, row boats, canoes and kayaks can be rented. Boating and fishing in Walker Lake near Hawthorne are gaining in popularity. Boats can be rented here. Pyramid Lake, 30 miles northeast of Reno, is open to fishing year-round, but best season is late summer through early spring.—END



The construction of Glen Canyon Dam on the Colorado River seals the fate of one of the greatest of all Southwest boating excursions. This summer may be the last time boating parties will be able to float past the towering cliffs of

GLEN CANYON

PHOTOGRAPHS

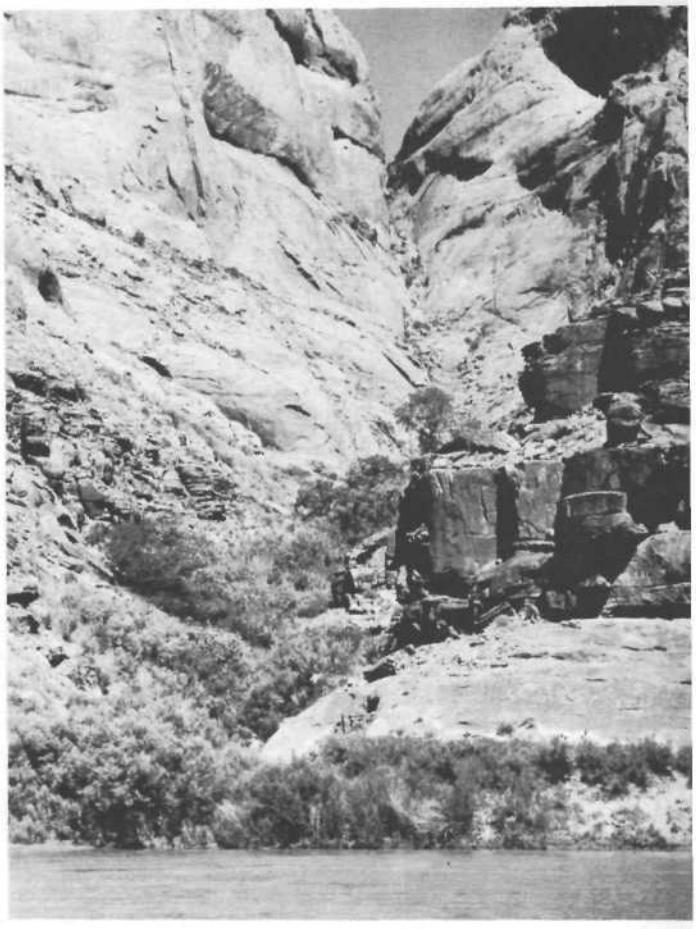
By JAMES TALLON

For a listing of professional boating guides and their scheduled trips through Glen Canyon this summer, see p. 20

◊ A BOATING PARTY SHOVES-OFF FROM HITE



BROAD SHAFT OF SUNLIGHT STREAMS INTO A DARKENED MUSIC TEMPLE POOL, ONE OF THE HIGHLIGHTS OF MAJESTIC GLEN CANYON

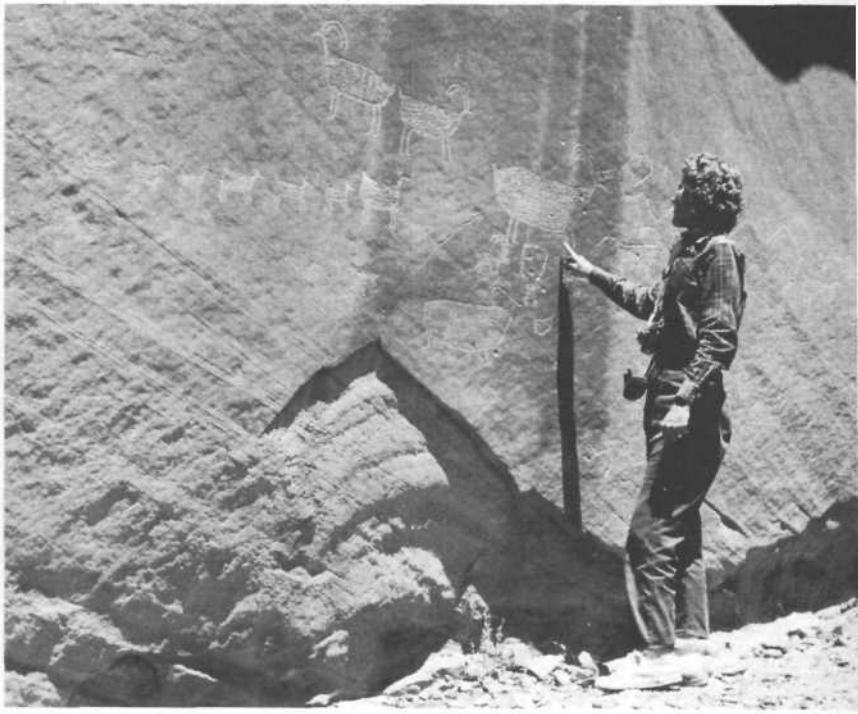


HISTORIC HOLE-IN-THE-ROCK WHERE MORMON PIONEERS CUT A WAGON TRAIL TO THE RIVER

PROFESSIONAL BOATING GUIDE HARRY ALESON CHECKS THE OUTBOARD MOTOR ON A RAFT



LOWER PORTION OF GLEN CANYON WALLS ARE LITERALLY COVERED WITH PETROGLYPHS LIKE THESE FOUND ON BANK NEAR MUSIC TEMPLE



Continued ▶

Glen Canyon Boat Trip (continued)

THE PROFESSIONAL GUIDES

The professional boating guides listed below have safely escorted hundreds of people through the rugged beauty of Glen Canyon. The information given here regarding their trips for this season is by no means complete, but is intended to supply you with names and addresses of the guides, and to give a broad picture of types of trips available, scheduling, and cost. In all cases, prices quoted below include meals and guide service; and most prices include round-trip transportation, and camping equipment. For complete details, write to the individual boating operations.

BOATING OPERATION	OPERATOR	ADDRESS	SCHEDULED GLEN CANYON TRIPS IN '60	DEPARTURE POINT	TRIP PRICE PER PERSON	MISCELLANEOUS
Canyon Tours	Art Greene	Wahweap Lodge Box 1356 Page, Ariz.	2-day trips: Saturdays Through Sept. 24, except May 17. 3-day trips start May 3, 10, 31; June 7, 14, 21, 28; July 5, 12, 19, 26; Aug. 2, 9, 16, 23, 30; Sept. 6, 13, 20, 27. 7-day trip, May 17.	Wahweap Lodge	$77 (2-day trip) $99 (3-day trip) $192 (7-day trip)	Up-river power-boat trips to Rainbow Bridge
Glen Canyon Boating	Gay Staveley	White Canyon, Utah	June 21-27 July 30-August 8, Sept. 1-8, 13-20	Hite, Utah	From $145 (4-day power-boat trip to Rainbow Bridge) to $305 (10-day float trip)	Both float and power-boat trips, of 4 to 10 days duration. Also 1-day sight-seeing trips.
Harris-Brennan River Expeditions	Don Harris and Jack Brennan	3794 Hermes Drive, Salt Lake City 17	April 17-May 6 (trip can be joined about May 1 for final week)	Hite, Utah	$125 to $300	Charter trips available anytime after May 15
Hatch River Expeditions	Bus, Don and Ted Hatch	411 E. 2nd North Vernal, Utah	Any date of passengers' choice Minimum: 10 persons in group	Fly from Page, Ariz. to Hite, Utah	$135	Offer wide variety of boating, overland tours
Share-the-Expense Plan River Trips	Georgie White	435 W. Laconia Blvd. Los Angeles 61	May and June trips planned; July 21-26 trip scheduled	Fly from Page, Ariz. to Hite, Utah	$100	Specialize in 10-day trips for photography groups
Western River Tours	Harry Aleson	Richfield, Utah	May 3-5, 10-13, 17-19, 24-27, 31-June 2, June 7-10 14-16, 21-24	Hite, Utah	$85-$100 (short trips) $17.86 per day for longer trips	Non-scheduled trips available thru fall. Arctic expedition July 15-Aug. 31
Wonderland Expeditions	Ken Sleight	6575 So. Main Street Bountiful, Utah	May 1-7, 8-14, June 4-10, 9-15, July 16-22	Richfield, Utah	$75	Also offers non-scheduled trips

THE WHIMSY WORLD OF TOMMY ROGERS

By May Hall Thompson

TOMMY ROGERS of Tucson began his desert art career in a conventional enough fashion. He painted landscapes and did sculpturing of familiar Southwest subjects. But, soon on his sketching forays into the back country he began to notice an unusual aspect about his subject-matter—the capricious, often ridiculous, sometimes beautiful shapes common to dead and dying desert plants.

Fallen saguaros array themselves in fantastic display, lying about the lush desert floor like sleeping giants. Dead roots of the mesquite shape - up like naughty gnomes. Eroded cholla cactus bark hides elf-like half-buried in drifts. Or in a tangle of cottonwood roots might lie a Desert Madonna.

Whimsical displays — yet all with a semblance of artistic usefulness when seen through the imaginative eyes of Tommy Rogers. Here was a desert mood often overlooked by "serious" artists. Rogers accepted the challenge. He began to make ornamental objects and figurines from these dead stalks, roots, skeletons and tendrils.

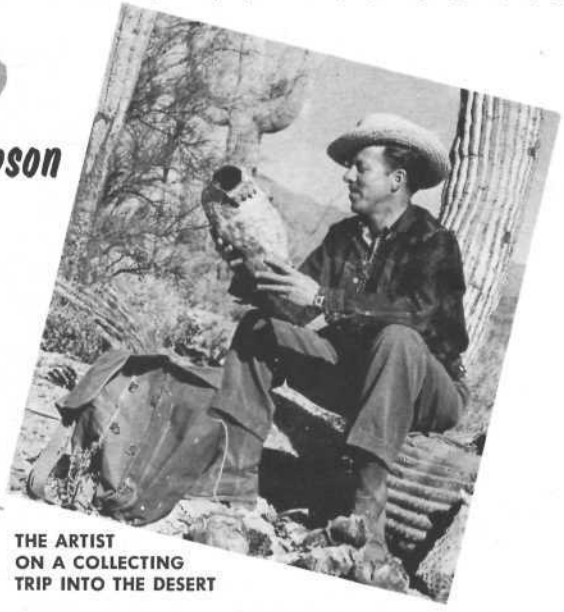
In most cases, Mother Nature has done the preliminary "carving." Rogers adds a missing arm or leg or eye, a bit of ribbon, feather — and *presto!* — a pixie emerges. So important a part of his work today is the creating of these sprites out of dead desert vegetation that the artist has re-named his place "The Desert Leprechaun Studio."

Here Rogers works hard assembling the materials collected on his frequent desert outings. He is very discriminating as to which specimens he brings home, which he leaves undisturbed. An entire morning can be spent searching for just one piece—but it will be the right piece. Almost every stick he gathers has a predestined place in a Rogers creation. Obtaining this material takes time, patience and plenty of footwork.

After every storm the desert lays bare new materials for Rogers to examine. Perhaps there is something to the Irish folklore that says fairies travel about in whirls of dust.—END



ROGERS' OUR LADY OF GUADALUPE



THE ARTIST ON A COLLECTING TRIP INTO THE DESERT



THIS LITTLE FELLOW CAPTURES A DESERT MOOD THAT FEW PEOPLE REALIZE EXISTS



"These Are My Favorites"



A distinguished writer-naturalist selects four photos as his best

John L. Blackford's early acquaintance with photography was intended to promote other interests outdoors. Yet after several years' picture-taking in the Desert Southwest, he was never sure but that the order of things had been reversed. Camera and tripod have since become as indispensable as binoculars and field book on his car-camping trips afield. Blackford is the author of numerous books and articles on outdoor subjects, and most of these works are illustrated with his outstanding photos. He is a resident of Libby, Montana.

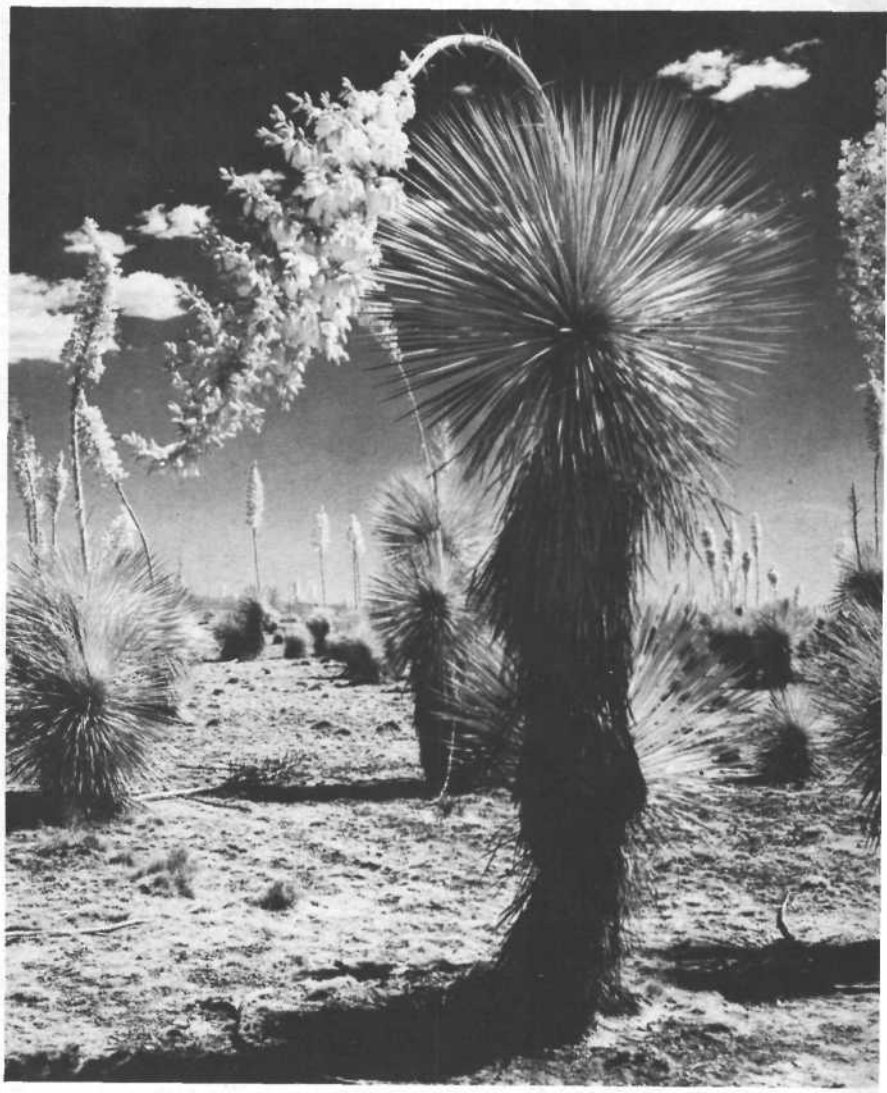


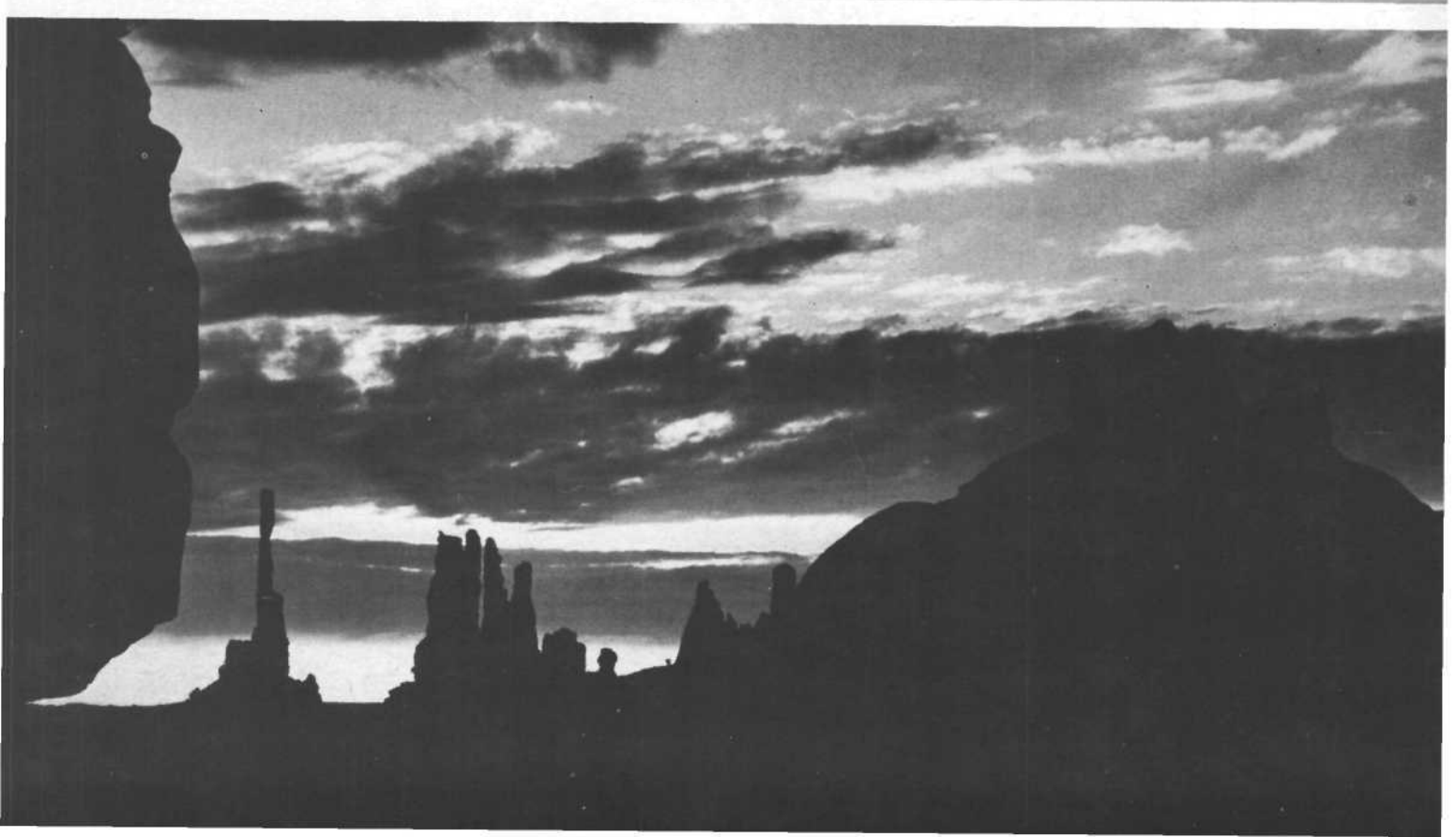
INDIAN GIRL: There was one among the
hundred dancers on the wide plaza—
clad in doeskin bootees,
green skirt, rose shawl and satin bodice,
with belted waist and raven hair.
Silver and turquoise ringed her fingers,
banded her wrists and necklaced her throat.
Beneath flashing eyes,
ceremonial symbols painted her cheeks.
She was the one for the picture.
San Juan Pueblo, New Mexico.

CLIFF RUINS: Undoubtedly the gem of
North American cliff-dweller architecture,
Cliff Palace is seen in its
dramatic setting from the precipice above.
For centuries this site
was the cultural center of a prehistoric
population on Mesa Verde in southwestern
Colorado. The Great Drouth of 1276-99
forced its abandonment.

YUCCA BLOSSOMS: Sheer startling beauty,
contrasting vividly with the desert's
harsher moods, is portrayed
by the tree yucca in bloom.
Delicate, cream-white bells, clustered on
tall spikes, are seen in massed
array in June in the
flower forests of southern New Mexico.

SILHOUETTED SPIRES: With fiery glow,
dawn comes to the
Totem Pole and Yebachai Formation
of inner Monument Valley, Utah-Arizona.
These sentinel rocks that soar
1006 feet high are resistant,
outlier remnants of a massive mesa wall
retreating slowly
before the irresistible forces of desert erosion.







A VISIT TO THE HOPI



THE TRADING POST AT ORAIBI

By Laura Adams Armer

AT WILLIAMS Post I had contacted fine types. In two weeks I was ready to leave for the Hopi village of Oraibi. The problem was to secure headquarters in the village. That could only be done through the trader, Lorenzo Hubbell. I had written him that I wished to paint peach trees in bloom. I could get no definite answer as to a roof over my head. The gentleman merely said: "Come."

Roy drove me and my baggage. After many miles through the Painted Desert we glimpsed a village of dull-hued stone crouching upon a mesa top, colorless and insignificant in the landscape, barely distinguishable from the rocks which formed its base. Oraibi, the busy brown people named it 800 years before, when the first stragglers from other mesa settlements founded it upon the barren rocks. Oraibi, it is today, the oldest continuously occupied village in the United States. It is a place of buried secrets, underground kivas and silent little people packing their water from some hole in the rocks, drying their peaches on the mesa-top, never forgetting the lean years when famine stalked the land.

It was at the modern village at the foot of the mesa where Lorenzo Hubbell's trading post and the government day school took care of the Hopi population, that I made my home in a one-room stone house, mud-plastered in the interior. Mr. Hubbell had persuaded a Hopi man and his wife to move next door for the price of $30 a month. A good wood-stove, a couch, a table and chairs were ample furnishings. Nelly, the Hopi owner, baked delicious bread for me, kept the water buckets filled, brought wood and was altogether a most helpful and sympathetic friend. But for her I should have been desolate. The conservative Hopis withheld their smiles.

In that little house field mice scampered about at night. I was forced to set traps for them, not a pleasant task. I comforted myself philosophically, knowing that if I were to study primitive life in America, I must take whatever came. I was pondering over that necessity one night as I lay on my cot in the dark. I heard a peculiar scraping sound on the cheesecloth ceiling. I relighted the coal-oil lamp. To my consternation I saw a four-inch centipede wending its way across the cheesecloth. I knew that he must be waylaid. I pulled on my stockings and shoes, covered my hands with paint rags, grabbed a broom and climbed a chair. I brushed the articulated anthropod animal to the floor. With terrifying swiftness it sought to escape. Discarding the broom, I relied upon the iron rod of my sketching umbrella. I managed to spike the hard jointed beast. It was difficult to cut in two. When that was accomplished the parts continued to wriggle and squirm. I had greeted that monster boldly.

The next day, without premeditation, I painted a brown figure with long black hair clasping an olla turned upside down. Not one drop of water fell to the parched earth below. That painting of drouth expressed something of the austere land where elemental powers announce themselves in no uncertain terms; where windstorms spiral the sand, and drouth sears the souls of men with fear.

In the center of the small village of Oraibi rose a sand hill which served the purpose of an arena for the town-crier. In the evening, his deep-toned voice filled the air as he stood on the rise of ground, silhouetted against an orange sunset sky. Erect and sure, he spoke to the village people standing near their doorways. Some sat on the ground in front of their stone houses eating their simple meals of beans and corn meal. They listened with interest to the news. The town-crier, announcing a rabbit drive for

Third in a series of previously unpublished articles by the distinguished Navajo-Hopi authority, based on her 1923-31 experiences in Arizona.
"Navajoland in 1923" appeared in the March Desert Magazine: "Because I Wore The Turquoise" in April.



LORENZO HUBBELL



TYPICAL AUDIENCE AT A HOPI CEREMONIAL

the morrow, continued in a strong voice:

"Be up before daylight, young men of the village. To the fleetest runners I say: have your rabbit sticks ready. Go to the fields back from the wash. There the rabbits are eating our young corn."

The town-crier finished his harangue with one long drawn-out note, which faded into the evening air along with the smoke from the village chimney-pots. Then he joined his family group where his three-year-old son played in the sand. The naked golden-brown babe ran to his father who gladly held him in his lap. From his pocket the father brought forth a small dry gourd to which he had fitted a wooden handle.

"This I have brought for a rattle, so that Ete-ee, my little son, may learn to dance to its sound."

The mother of the child laughed the soft laugh of Indian women. Her even white teeth sparkled and her brown eyes showed pride in her baby. "Dance now, for your father, Ete-ee."

The black-haired child lifted one tiny foot and stamped it on the ground in the intricate rhythm learned from his elders. Soberly the family watched the young dancer to see that he made no mistakes.

"You are learning, child," said the father. "You will help the corn to come up and the rain to fall."

The orange light gave way to dusk. The people entered their stone houses. The sky darkened until it became as the black stone of jet, set with sparkling stars brilliant in the desert air. On the mesa tops the Hopi men danced month after month, long rows of them with white kilts, gay sashes of their own weaving and with elaborate masks over their heads. The audience, sitting against adobe walls and on tops of roofs, included interested Navajos as well as Hopis. Painted bodies of different kachinas artfully represented very old characters in Southwest mythology. I was transported out of the modern world into a fairyland where turquoise blue and yellow bodies took the parts of birds hopping about the plaza beneath turquoise skies.

In the Oraibi government school, the principal, J. Preston Myers, arranged that I teach art to a class of 40 Hopi boys and girls. Twenty minutes a day, five days a week, the children quickly dashed-off joyous compositions. All I had to do was to point out any occasional influence of modern magazine illustrations on the schoolroom walls. Mr. Myers, eager to help the children be themselves, copied Hopi pottery designs from Ethnological Reports and set the girls to embroidering in wool the patterns he drew for them on paper. Inane fancy work, a la ladies' journals, was abolished. Corrals, horses, cows, storms, peach trees and mesas took form on paper, with rhythmic beauty of line.

One small boy of seven who went about the village on crutches on account of a tubercular condition of the bones of his legs, haunted my footsteps. He wanted to paint. He had no brushes, no paper, no pigment. I outfitted Waldo Mootska and he went into the sanctuary of a kiva to copy the mask of a Hopi kachina. The result was so astounding that I continued to help him, being more than careful not to influence his style in the least. I marveled at the native ability of the Indian people. I learned more of the real value of design and painting among those people than I ever absorbed in an art school. Later Waldo developed into one of the fine Hopi water-colorists. One of his earliest paintings shows a Navajo Yay with the tube-like lips which caricature



"YOU WILL HELP THE CORN TO COME"



NAVAJO MEDICINE MAN

the Navajo manner of pursing the lips and pointing with them.

As August approached, the villagers were absorbed in preparations for the coming snake dance. Mr. Myers had given me an empty schoolroom for a studio. I decided to turn it into a museum of Indian art. Rugs, pottery and jewelry were loaned by the trading post. My canvases hung upon the walls. I longed to have a sandpainting of the Navajos on the floor. When I spoke to Mr. Hubbell about it, he said: "You ask for the moon. If anyone can get it for you, I can."

In a day or two, he brought to the studio, Ashi, a tall medicine man wearing a faded purple velveteen jacket and much turquoise. Ashi stood in front of my paintings of the myths of his people.

"I will make the sandpainting taught me by my uncle," he said to Mr. Hubbell. "The white woman knows good medicine."

In four days Ashi arrived with two helpers. On the floor they spread clean sand from the Oraibi wash. They leveled it with a weaving batten. That done, they proceeded to grind their colors on a metate: gypsum for white of the east, black made of charcoal for the north, the two mixed for gray-blue of the south. Yellow for the west came ready-made from the cliffs. Ashi started to pour the dry colors in intricate designs. Holding the powder between thumb and forefinger, he poured it where his mind willed. From a central square of blue radiated the cloud people in groups of four wearing triangular cloud dresses, one cloud rising out of another. Alternating with them grew the four sacred plants of the Southwest: maize, squash, bean and tobacco. Impressive in design and pastel-like in color, the painting was arched by an anthropomorphic rainbow, red and blue, outlined in white. To complete the work, two strange beings called Dontso were drawn to guard the sandpainting, to add their blessing to that of the rainbow.

When the pourer of sand left, I sat alone in the quiet room with shades drawn and door closed. Ashi had requested that precaution. Power of the concentrated authority of tradition emanated from the painting. Every detail was holy, having an esoteric value through the ages. If we could fathom the lore of the Navajos we might compile a history of aboriginal America, so various have been their borrowings.

On that warm day in August as I sat copying the painted Cloud People, a rumble of thunder announced itself in the distance. The voice that beautifies the land was speaking. Again and again it sounded among the dark clouds, coming nearer and nearer, the voice of the thunder. Rain poured down from the clouds. Lightning brightened the room. The windows rattled in their loose frames. I opened the door that I might smell the moistened earth. When the shower passed I walked to the trading post to show the copy of the cloud painting to Mr. Hubbell.

"You asked for the moon and you received the clouds. It looks as if Ashi put one over on the Hopis. Their prayers for rain culminate with the snake dance in four days."

Guests were arriving to witness that ceremony to be held at Hotevilla, the last village on Fourth Mesa. In my schoolroom studio decorated with green sheaves of corn in native pottery jars, I acted as hostess to those visitors whom Mr. Hubbell and Mr. Myers brought to my door. That was a joy and a privilege, considering the variety of inspired people to be contacted: scholars, painters, writers, seekers of the deep, evasive mysteries hidden in the Southwest. — END OF PART III. Next installment: "Days spent in Blue Canyon"



By W. Thetford LeViness
P.O. Box 155, Santa Fe

MAY IS THE month the mountain streams of New Mexico swell with the spring run-off and the foliage comes out of winter hibernation. Thousands of people bundle in their cars and speed over sun-drenched highways, enjoying the scenery. Of the hundreds of places to go for a day's outing, perhaps the most delightful is the drive on U.S. 84 from Espanola to Chama, then via State Route 17 to the Colorado line. Geology, paleontology, archeology and history are present in abundance, and there's a glimpse to be had of the D&RGW's narrow-gauge railroad as it chugs its romance-filled way from 10,000-foot levels of the San Juan Mountains to Lumberton, Dulce and beyond.



Variegated cliffs in this area have yielded fossils of Mesozoic vintage. Remains of ancient Indian villages lie within walking distance of inhabited pueblos. An old church at Abiquiu, in classic adobe, bears mute witness to the grand era of mission building in New Mexico. Spanish is still the dominant tongue in the region—in the towns and on the small farms that dot the Chama Valley. Hernandez, Cebolla, Canjilon are communities as Spanish as their names. Tierra Amarilla, with its rigid Victorian two-story stone Rio Arriba County Courthouse, alone suggests that since 1846 all this has been a part of the United States of America.

Ghost Ranch Nature Museum, located 15 miles north of Abiquiu on U.S. 84, tells the story of this portion of New Mexico from Mesozoic through atomic times. Its fine collection of desert fauna — snakes, mammals, birds—merely updates its exhibits depicting older life in the region.

Oldest of all is Coelophysis (pronounced: see-lo-FI-sis), the "granddaddy dinosaur." Fossils of this creature, about the size of a turkey, were found in Triassic rocks on Ghost Ranch in 1947. They are said to be 175,000,000 years old. A meat-eater which stood on two feet, Coelophysis was an ancestor of the 10-ton monster of similar habits, Tyrannosaurus Rex. It also preceded the land-giant of all time, Brontosaurus, the 40-ton herbivorous quadruped most commonly associated with the term "dinosaur." A block of rock, showing the fossils as they were found, is on exhibition in the museum's main hall.

Near Ghost Ranch is Echo Canyon, with its natural amphitheatre for picnicking. In Chama, diminutive locomotives and rolling stock of every description—box cars, cattle cars, gondolas and flat cars—line the three-foot tracks traversing the community. Northward to Colorado, State Route 17 parallels these narrow-gauge tracks, through bits of the most magnificent mountain vistas in the entire Southwest. And the D&RGW runs excursions for passengers several times a year, from Alamosa, Colorado, through Chama to Durango and Silverton. The next one takes place over the three-day Memorial Day holiday weekend.

Just two events of interest to tourists are scheduled in New Mexico in May. On May 1—a Sunday this year—San Felipe Indian Pueblo gives the first of the summer's great all-day corn dances. Hundreds of Indians participate in these ceremonies, and afterward villagers and visitors go to vespers in the old church near the plaza. San Felipe is on the west bank of the Rio Grande, two miles off U.S. 85 north of Bernalillo.

The other event is Albuquerque's "Old Town" Fiesta, to be held May 28-29 this year. "Old Town" is the original Albuquerque, laid out in 1706. Though now a part of a metropolitan area of more than 200,000 souls, Spanish-speaking descendants of New Mexico's first settlers still live in low, adobe houses along its narrow, twisting streets and attend San Felipe de Neri Church on its picturesque plaza. This mission, built the year the city was founded, contains perhaps the earliest family records in the Southwest—prominently displayed in a vertical glass case near the entrance. "Old Town" is a block north of U.S. 66, near the four-lane bridge over the Rio Grande. Some of the old buildings facing the plaza have been converted into curio shops and restaurants where Mexican food is served. *Vivan las fiestas de San Felipe de Neri!*—END



A PAIR OF SIX-FOOT COELOPHYSIS DINOSAURS. FOSSILS OF THESE BEASTS ARE EXHIBITED AT GHOST RANCH MUSEUM NORTH OF ABIQUIU.

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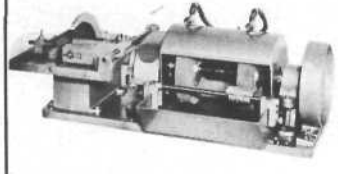


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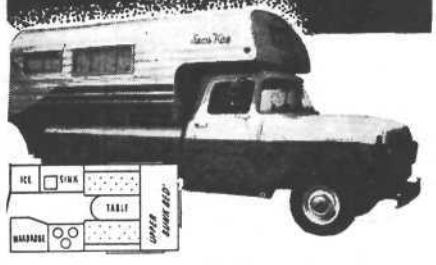
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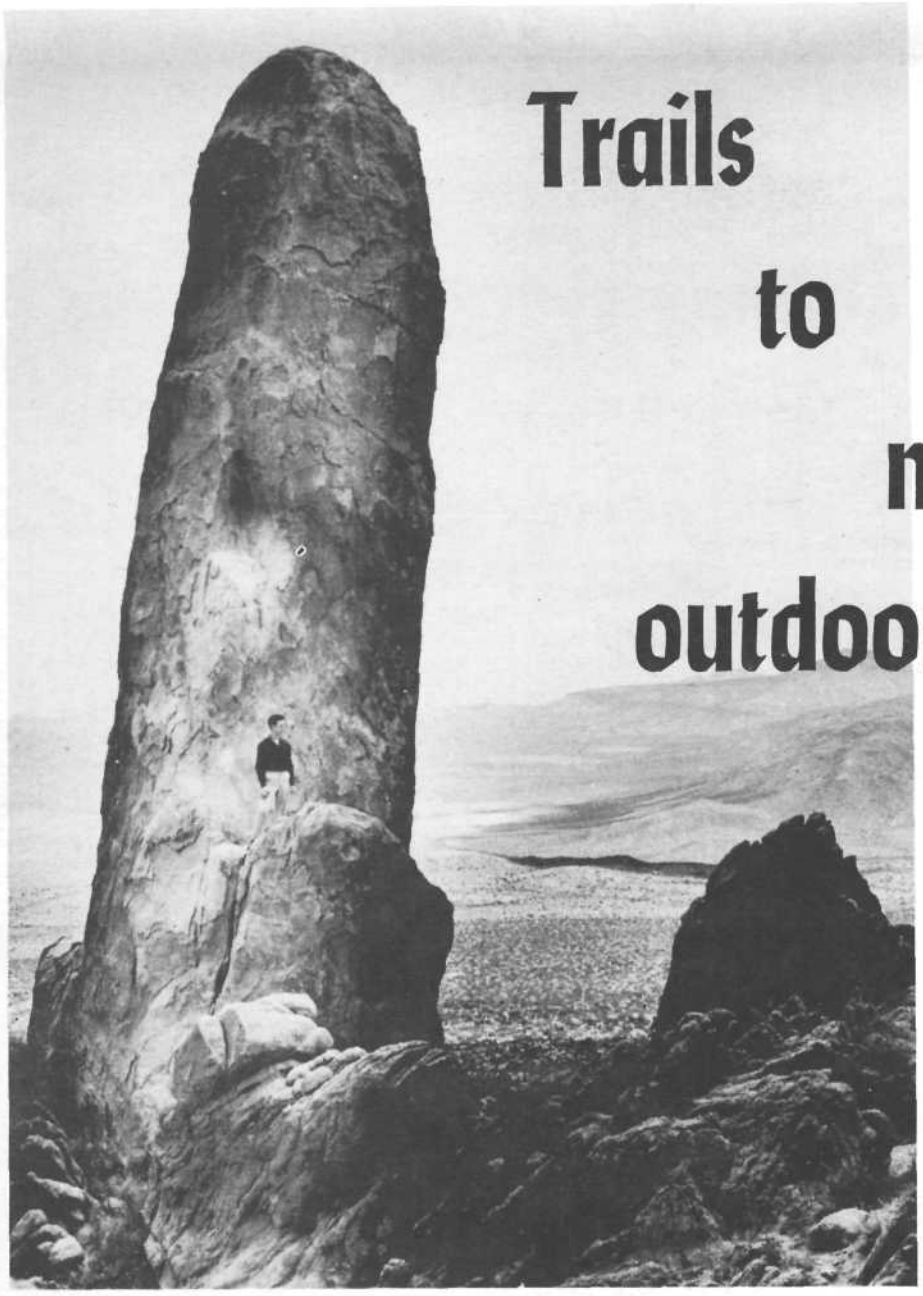
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Trails to more outdoor enjoyment

By
EDMUND C. JAEGER

Author of *Desert Wildflowers, The California Deserts, Our Desert Neighbors, The North American Deserts*

"HERCULE'S FINGER" IS A PROMINENT LANDMARK ON THE MOJAVE DESERT

THE LONGER I live and the more I travel and observe the world around me, the more convinced I am that broad knowledge is the key to pleasurable understanding of nature. I am very certain that it was John Muir's studies as a youth in botany and geology and his early wide travels and reading about natural phenomena that made it possible for him to so competently capture the significant beauty of the High Sierra. He followed the same trails that the sheepherders did, but where they saw only grass to make wool and mutton, "John of the Mountains" saw ten hundred new facets of nature. And with this perception, he was able to open the eyes of untold thousands to the amenities of wilderness travel. To the sheepmen the trails all looked much alike, mile after mile, but to Muir every rod of the mountain path had individuality, every stretch of upgrade and downgrade, each near and each distant view, every cranny with its almost hidden group of dainty flowers, was important and worthy of note.

And why?

Because Muir understood fully their significance and relationship one to the other.

Keeping this in mind, I try to impress my youthful companions on desert treks with the fact that it is important that they know at least the rudiments of a dozen or more sciences; that even a knowledge of music, of history and the classical languages can help them to get more enjoyment out of their travels.

Some time ago I made a special excursion to the Mojave Desert of California with a group of college men to view various forms of granite and to observe and study the different plants and animals associated with them. Among the places we visited were the spectacular Negro Buttes near Lucerne Valley, and the unique Cinnamon Roll Country about 12 miles farther northeast. The latter place receives its name from the peculiar concentric cinnamon-to-red bands which occur in many of the rounded granite blocks. There are only a few places on earth where such a large collection of similarly banded rocks are found.

Eventually we came to a spectacular narrow monolith jutting vertically some 60 feet from one of the ridges (see photo). It reminded us of the huge index finger of some grotesque giant. I told my companions that for many years this has been a well-known landmark and reference point, first among the Serrano and other Indians and later among the early white settlers and travelers. It came to be known as "Hercule's Finger" or "The Monument." Its very height and prominence, and the steepness of its almost smooth sides, has offered through many years a challenge to the rock climbers. I was not surprised when my youthful companions eagerly attempted to scale it; nor was I less than hugely amused

when I saw them try and try again in vain.

We made camp that night in a nearby sandy wash where we could look upon the monument's impressive form by moonlight. After supper had been cooked over an odorous fire of creosote bush twigs, there came the usual gathering around the friendly ever-changing flames.

"The importance of granite is great," I remarked, pointing to the silent sentinel above our camp. "Granite is the foundation material of all of the continents. It is a rock formed by the slow cooling and solidification of molten material from deep in the earth while under pressure from a thick overlying blanket of rocks of other kinds. It makes up the core of many of our largest mountain chains such as the Sierra Nevadas, the Rockies and the backbone of the peninsula of Baja California. It is so commonly met with that there are few states in the United States and few provinces in Canada that do not contain exposures of it. It is certainly widespread on our deserts."

"Well, just what's it made of?" asked Bill Wells.

"Largely of the two common minerals," I answered, "quartz and feldspar and often of some black mica, or aluminum-rich hornblende, which also is black."

In the hardening of these molten materials making granite, the darker mica and hornblende crystallize first, then follow the feldspars and last of all the quartzes. The feldspar and quartz fill in between the dark minerals, taking whatever space is left.

When granite is long exposed to the weather it takes on very characteristic and often beautiful rounded forms. For this reason it is quite easy to spot granite mountains even from great distances. Among the unique but not too uncommon forms of weathered granite are handsome spires, conical protuberances, domes, and finger-like prominences such as "Hercule's Finger." Examples of all of these are readily found in arid lands. They are more easily seen there because they carry no mantle of green vegetation on their surfaces.

Residual boulders of granite, sometimes called boulders of disintegration, are originally formed from rectangular jointed blocks. The corners have been gradually rounded off by being knocked about in streams or by exposure to the elements which causes peeling. Beautifully formed boulders are often found in the bottoms of canyons of desert

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mountains or spilled out on the broad and impressive detrital fans which issue from canyon mouths. The nearer the top of the fan these boulders are situated, the larger they tend to be.

But, "Hercule's Finger" did more than remind us of granite's important place in the natural scheme of things. The conversation around the campfire drifted to man's association with such an imposing landmark. It was then that I gave the men a history lesson. I told them of the great battle that had taken place almost in the shadow of our monolith.

After the secularization of the early California Missions in 1834, the spacious pasture lands of Southern California's San Gabriel Mission and its subsidiary stations fell into the possession of a few ambitious landholders. These men used their vast properties for the raising of vast herds of cattle and horses.

During all of the early years of the 1800s the Mission herds of sleek livestock, and later those of the private ranchers, were tempting prey not only to desert Indians but also to groups of lawless renegade half-breeds and demoralized Canadian, Mexican and American adventurers known by the settlers as *Chaguanosos*. Their frequent stock robberies aroused excitement, fear and deep indignation among the *rancheros*. The trouble came to a head in 1840 when a band of Indians led by the crafty Ute chief, Walkara, and "Americans from the Rocky Mountains," led by Jim Beckwourth and perhaps Pegleg Smith or Bill Williams, came down from the Mojave Desert along the Caravan Trail and deployed their forces to plunder and steal in a really grand way. Striking with lightning speed they drove off between 3000 and 5000 horses and mules from lands that now comprise San Luis Obispo, Ventura, Los Angeles, San Bernardino and Riverside counties.

The herds were driven through passes in the mountains and across the dusty desert, their destination being New Mexico where there was always a waiting market for such animals. It was the greatest livestock robbery in California history.

Vowing vengeance, three mounted parties were hastily organized and sent after the *ladrones* (thieves). Every available man was drafted, even prisoners in jails were released, and all were supplied with any kind of arms that could be gathered together, including bows and arrows.

The first party to go out was a small group of men led by Ygnacio Palomares from Rancho San Jose; the second was under command of Juan Leandry, a Los Angeles justice of the peace; the third group, under the direction of Jose Antonio Cabrillo, moved out five days after the raid.

Exceedingly tough was the running battle that now stretched out over many miles of desert wasteland. The Palomares party was among the first to encounter the thieves and an engagement took place on the fourth day out in the rough country near "Hercule's Finger." The hard-pressed outlaws suddenly turned upon their pursuers and killed or wounded several of Palomares' men. When he retreated to San Bernardino he had but eight of the 23 men who had gone out with him.

The other Californians kept after the bandits and although they never were able to overtake them, they pressed them so hard that the outlaws could not stop long enough to water and rest their stolen horses and mules. At least 1500 of the poor animals perished on the hot desert. The pursuit ended at Resting Springs, southeast of Death Valley. Because of lack of food and the exhausted condition of their mounts, the Californians returned to Los Angeles. They had gained little, having not even retrieved more than a few of the stolen livestock.

Even after the United States took over California, the Indian raids continued, although not on so grand a scale. Old crafty and cruel Walkara kept coming forth from his haunts on the Mojave Desert to harrass the *rancheros*. Only his death in 1855 put a stop to his marauding. In such veneration and awe was he held by his tribesmen that at his funeral "held high in the Utah Mountains, 15 horses were slaughtered at the gravesite and their carcasses covered with rock; food, rifles and bows and arrows were deposited; two faithful wives, who had been killed to accompany him, were placed at his side; and finally two trembling children—a boy and a girl —were buried alive to serve him," writes William W. Robinson in his recently published *Story of San Bernardino County*.

I cannot think that the men I had with me that evening will ever forget the story I told them. Surely the great rock, that before was only a spectacular piece of stone, now took on a peculiar new and significant meaning.

Next morning we examined the exfoliating granite slabs at the base of the monolith. There we found in deep crevices numbers of bats (*Myotis californicus*) in hiding. Several were flushed from their roosts and they

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quickly flew into cracks in nearby rocks.

We were not through with our big rock yet. About its base were plants to identify and examine, among them the low-growing semi-parasitic shrub, Krameria, whose handsome wine-colored flowers adorned a tangle of gray-green stems. To make certain that no one would forget how Krameria survives at the expense of other plants we dug down along its "roots" to the peculiar pad-like structures it lays across the roots of host plants to rob them of water.

Not far away we spied another robber among plants—an Indian Paintbrush (*Castilleja*), now prominently displaying its striking red-bracted flowers. This plant's root system was uncovered and we saw where it had attached itself to the roots of a shrubby wild buckwheat (*Eriogonum*).

Under granite boulders and in rock crevices nests that cheerful-singing sprite of stony places, the rock wren (*Salpinctes*). So we began to look, and sure enough, we soon spied the telltale sign of a rock wren's domicile, a little apron of small flat white stones spread out on the ground before an opening under a granite boulder. Deep within the crypt was a little collection of twigs and rootlets—a last year's nest.

High upon a perpendicular pile of granite rocks we spied the nest of a sparrow hawk, and hovering high in the air above it were two much concerned, much annoyed parent birds. When we heard their high-pitched cries—*killi, killi, killi*—as they gracefully circled and dove toward us, we were certain that there were young in the nest. Among our resident land birds there are few except prairie falcons and swifts that can exceed the magnificence and adeptness in flight of this small handsome bird of prey.

That afternoon we returned to our homes in the busy city, carrying with us precious memories of hours well spent among the granites of the high desert. We learned that when investigating one phenomenon, another — equally fascinating—is usually uncovered.

The really competent geologist must be somewhat of a botanist; the well-informed botanist somewhat of a geologist. Knowledge of chemistry and history help. A good broad education is essential to the specialist. We must know many things other than the ones we are primarily interested in if we are really going to enjoy our work and our hobbies.—END



The Charm of Adobe . . .

By AMY P. HURT

POSSESSING ALL the charm and atmosphere of a Spanish *hacienda* of two centuries past, the Sherman Smiths' *adobe* house in Albuquerque has none of the inconveniences of 200 years ago. Modern plumbing, radiant heating and a world of "built-ins" afford comforts a Spanish grandee never dreamed of.

The Smiths' three-bedroom, two-bathroom house is U-shaped and built around a patio, with the living room and master bedroom forming the upper wings of the "U," and the dining room, kitchen and two small bedrooms the bottom.

An excellent example of the traditional *pueblo* type of architecture, with Spanish-Colonial detail, a combination very popular in the Southwest, the house is cool in summer and warm in winter. Its exterior *adobe*-brown stucco contrasts pleasingly with the gleaming white paint of window frames and doors.

"We've always loved the traditional type of house," said Mrs. Smith, "and we find ours ideally suited to our informal way of living. It also lends itself beautifully to entertaining, a great advantage, since we often entertain as many as 75 students at a time." (Dr. Smith is director of student activities at the University of New Mexico.)

Both living room and dining room open on the central patio. Floors in the entrance hall and dining room are of red brick, laid over the cement slabs containing the radiant heating system. All other floors are either carpeted or covered with vinyl-tile.

"Sherman and I did all the painting and finishing," said Mrs. Smith. "We also laid the brick floors. Thus we saved enough to build the size house we wanted."

"Laying brick floors is not difficult," she explained. "We used red patio brick and laid them in a plain pattern on the cement slabs. Then we scrubbed a mixture of dry sand and cement into the crevices with gunny-sacks. After that was done, we sprinkled the floors with the garden hose. This set the mortar. Next, we sanded the inside floors with an electric floor sander, gave them a coat of wood-filler, or sealer, and then applied hard, colored floor wax with an electric floor waxer and polisher. The resultant glossy, brick-red floors take an incredible amount of abuse but they are quickly restored to their original beauty with the floor polisher. We wax them once every six months."

The long, spacious living room with its beamed ceiling and plastered white walls features a large fireplace at one end flanked by ceiling-high bookcases. Colorful Mexican tile borders the opening of the fireplace and matches tile decorations in other parts of the house.

Dear to Mrs. Smith's heart are the huge bins in both kitchen and rear hall, where built-in cupboards are plentiful. The bins—which resemble old-fashioned flour bins—are receptacles for soiled clothing, one for wet-wash, the other for dry cleaning.—END

BOOKS of the SOUTHWEST

DEFINITIVE WORK ON WILLIE BOY MANHUNT

Horace "Doc" Parker, the one-man Western publishing impresario (Paisano Press), has come up with his best effort to date: *Willie Boy, a Desert Manhunt.* The author, journalist Harry Lawton, researched his subject with a thoroughness that unquestionably makes this book the definitive work on Willie, the bad Paiute of California's west desert fringe. In fact, before the publishing of this book, 50 years of rumor had so outweighed fact that some minor "authorities" were certain the Indian murderer never existed in real life.

But, exist Willie did, and in 1909 he committed the classic crime. He killed his sweetheart's father and ran off with the girl. From near Banning he headed on foot for home and help at Twentynine Palms.

On the way he intercepted the posse. For some reason unknown to Willie, the white men chose to interfere in this all-Indian affair. Even more puzzling was the fact that the lawmen showed no signs of turning back to the comfort of their city homes as other Indian-chasing posses had done before. Willie had to make better time. He disposed of the girl. Now the story became a sensation. Willie would be hunted to the death.

Lawton takes the reader over every step of the tortuous way — from One Horse Spring to The Pipes to Mesquite Springs and finally to Ruby Mountain where the desperate young man saved his last bullet for himself.

It's latter-day Wild West and it's manhunt, but the author wisely puts the emphasis where it belongs: on Willie's almost miraculous march across an inhospitable desert, literally running all the way—outrunning horses, white men and bullets.

The 224-page book has good historic halftone photos; bibliography. It sells for $5.98 from the Desert Magazine Book Store (mail-order details are listed below).

EXCELLENT WORK ON ARIZONA PLACE NAMES

Maps, sketches, excellent typography and enough facts on Arizona's towns and places to fill 519 pages of a handsome 8x11-inch book—that's what goes into the recently revised and enlarged *Arizona Place Names.* The library of the serious student of the West cannot be complete without this book.

Arizona Place Names first came out in 1935. It was compiled by Will C. Barnes, a prominent name in pioneer Arizona. Barnes was the first to admit that his standard reference work, now long out of print, was not complete. Add to this the tremendous growth and change that has come about in Arizona since 1935, and the reason for a new volume becomes more than apparent.

Byrd H. Granger edited the elaborate revised work. Illustrations are by Anne Merriman Peck. Barnes would be very proud to see what his humble paperback work has grown into.

This book can be purchased from Desert Magazine Book Store for $10. (See footnote below.)

THE OLD WEST'S TRANSPORTATION KING

The Saga of Ben Holladay by Ellis Lucia is an authoritative book based on much original research. One of the author's main fact sources was "Big Ben's" only surviving son, who turned over all records, photos and documents pertaining to his father, the "Transportation King" of yesterday's West. (Ben Holladay should not be confused with "Doc" Holliday, the dentist-gunman, or with Cyrus K. Holliday, builder of the Santa Fe Railroad.)

Craving excitement, and determined to make good, Ben left his birthplace and humble home in Kentucky at an early age, and headed for St. Louis. He built a transportation empire and became one of the era's wealthiest and most colorful tycoons. He was responsible for the Overland Mail—Express Lines and the Pacific Northwest Railroad. His steamships brought the West closer to the Orient. He had power and he used it, playing a bold hand in the politics of his day.

Lucia's biography is fast moving, even exciting in stretches. Readers will love and hate Holladay at the same time. But, whatever the man's bad qualities, he was a champion of the underdog in the best American tradition.

Holladay died a forgotten man. His friends and employees, Buffalo Bill, Wild Bill Hickok and Snowshoe Thompson, gained the immortality denied to Big Ben. Lucia blames Holladay's potent enemies for this robbery of glory.

Historic transportation photos highlight the book. There are maps, index and bibliography; 374 pages. Priced at $6.50 from Desert Magazine Book Store (see footnote on this page).

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

POEM OF THE MONTH

saguaro

By
KATHLEEN BRIGGS
La Jolla, California

Cactus sentries
guard the night,
Silent, massive,
row on row,
Where once rocks rang
to jingling spurs
And coyote-cry
of Navajo.

Now, keepers
of a wind-strewn waste,
They witness
decades slipping by,
And lift their arms
in stern salute
To thundering warriors
of the sky.

Desert Magazine pays $5 each month for the poem chosen by the judges to appear in the magazine. To enter this contest simply mail your typewritten poem (must be on a desert subject) to Poetry Contest. Desert Magazine, Palm Desert, Calif. Please include a stamped return envelope.

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SOUTHWEST NEWS BRIEFS

Plank Road State Park

¶ The California State Division of Beaches and Parks and the Federal Government have entered into negotiations that may lead to creation of two state parks in eastern Imperial County. Applications for the exchange of Federally-owned land have been proposed by the state for the purpose of preserving the famous old "plank road" across the sand dunes east of Holtville. The state also wants to make a park out of the Picacho 4-S Ranch along the Colorado River. This park would embrace Picacho Peak, an outstanding desert landmark. The State Parks Division received authorization and enabling legislation during the last session of the legislature to enter into an extensive exchange program with the Federal Government. This was brought about due to the contamination of an extensive portion of Anza Desert State Park, through its use as a Naval bombing range. In addition to the two proposed desert parks, the State would also like some Federal lands to enlarge Mitchell Caverns and the Los Angeles County Joshua Trees parks.

Find Depot Remains

¶ University of Arizona archeologists have unearthed the remains of the old Butterfield Stage Depot near Gila Bend. All that is left of the station are three feet of double-thickness adobe walls and a few relics of the past.

DESERT QUIZ ANSWERS
(questions are on page 4)

1. Olive Oatman. Captured by Apaches and later sold to the Mojaves, Olive's ordeal was a national sensation in the 1850s. Marks on her face were crude tattoos inflicted by her captors. She died soon after her release, having gone completely insane.
2. Night Blooming Cereus.
3. Navajo Bridge on U.S. Highway 89 north of Flagstaff.
4. Gila Woodpecker.
5. Seldom Seen Slim.

PHOTO and ART credits

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

Page 9: Map by Norton Allen. **17:** New Mexico State Tourist Bureau. **21:** All photos by Charles W. Herbert. **27:** Photo courtesy American Museum of Natural History; Map by Norton Allen. **34:** Nevada State Highway Department; Map by Norton Allen. **35, 40:** Maps by Norton Allen. **43:** Reservation scene photo by D. Clifford Bond.

"Apacheland" Started

¶ Work is underway on the new Apacheland amusement development seven miles southeast of Apache Junction, Ariz. Planned on 293 acres of desert land two miles north of U.S. Highway 60-70-80-99 and just south of Superstition Mountain, Apacheland will combine an amusement park and a street set for shooting Western films, the "Phoenix Gazette" reports. Plans call for opening the park area by January 1, 1962 in time for Arizona statehood's 50th anniversary.

Radiation Study

¶ The Public Health Service has initiated in San Juan County, New Mexico, the "most comprehensive study ever undertaken in this country to determine the effects of environmental radiation on the health of large population groups." Site of the project is one of the largest uranium producing areas in the country. Earlier studies revealed that radioactivity from radium in the surface water of the Animas River was higher than that found in most areas of the U.S. Effective steps were recently taken to reduce the amounts of radioactive waste discharged into the rivers in this area from milling operations, but the PHS wants to find out if "an actual or potential health problem exists."

Long-Term Leases

¶ The Department of Interior is seeking legislation that would permit the leasing of Indian lands on the Navajo Reservation for periods up to a maximum of 99 years. Under present law the maximum term permitted for such leases is 25 years, with an option to renew for another 25 years. The bill is needed, the Department said, to permit leases with a long enough term so that the lessees can obtain financing for the type of real estate development contemplated on the Navajo Reservation.

Record Production

¶ A world's record for uranium ore production was recorded at the Rio de Oro Uranium Mine in the Ambrosia Lake district near Grants, New Mexico. Miners took out 2016 tons of commercial ore in one day. The mine is reportedly the world's largest underground uranium operation.

California Boat Law

¶ California's new state boat registration act is now in force, and boat owners were advised to comply with its provisions. Here, briefly, are some of the law's stipulations: All undocumented boats using California waters must be numbered (excepted are boats propelled solely by oars or paddles, said boats eight feet or less propelled solely by sail, boats propelled by electric motors of 10 horsepower or less); boats must be registered at any Department of Motor Vehicles office; registration cost is $5; the new California registration numbers will supersede county or Coast Guard numbers.

Observatory Dedicated

¶ Kitt Peak National Observatory in the Papago Indian Reservation 40 miles southwest of Tucson was dedicated in a ceremony attended by 100 scientists. The observatory atop 6875-foot Kitt Peak will be a research center for optical astronomy using such equipment as two stellar telescopes of advanced design and the world's largest solar telescope.



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By Peggy Trego
Unionville, Via Imlay, Nevada

GENOA, FIRST lady and diminutive *grande dame* of Nevada towns, is at her charming best in May. She is no less charming for her 110 years of existence, a life-span that has seen the vicissitudes of gold- and silver-hungry emigrants, the political and judicial strife of nascent territories, the turbulent advent of Nevada's first transcontinental mails and stages, first telegraph line, first newspaper. Genoa, lying close against the sharp-rising peaks of the Sierra, is Nevada's oldest-known white settlement; she is part and parcel of the Early West's most exciting history.



The town lies a dozen miles south of Carson City and only four miles west of U.S. Highway 395. Geographically, she is almost directly "over the hump" from Lake Tahoe, and a historic road leads from near the Lake's south-end to Genoa. This is the 13-mile Kingsbury Grade, and it follows almost exactly the route of 1850. I like to drive the Kingsbury slowly, enjoying the wonderful views of Carson Valley and thinking of those who traveled this way. Emigrants bound for golden California . . . "Snowshoe" Thompson on skis, bringing the mail over the winter-bound Sierra . . . the hard-riding Pony Express . . . silver-fevered hordes headed east for "Washoe" . . . mule trains, stagecoaches, wagons . . .

Genoa knew all of these travelers. Technically, her beginnings were in the spring of 1851 when John Reese established his trading-post at "Mormon Station." But, pioneer Robert Lyon remembered that there had been a settlement here in the spring of 1850 where he and other members of the Wilmington wagon train from Illinois stopped to buy beef at "six bits per pound" and flour at $1.50 a pound. Reese, however, declared that nothing remained of the first community when he arrived in '51, and therefore the log house he erected, with its protective stockade, was Nevada's first permanent building. For years this building did service as trading station, hotel and meeting place.

Situated close to the Carson River, Genoa's land was (and is) rich, providing the settlers with vegetables and grain and pastures. When Carson County was organized in early 1854, "Mormon Station" became the center of that section of Utah Territory.

Some say Orson Hyde, Carson County's first administrator, named the community Genoa; others credit it to another early resident who thought the surrounding hills resembled those behind Italy's famed seaport. However it happened, Mormon Station became Genoa for keeps in the 1850s and entered into a lively couple of decades.

In 1857, after the Mormon withdrawal, Genoa was declared the political center of a nebulous but fascinating "Territory of Columbus" (some called it Territory of Sierra Nevada) which reached from Oregon to Mexico and included parts of California. Later it became Douglas County seat of justice. During these eventful years, nearly every advance of civilization into the raw new country that was to become Nevada came first to Genoa. Here were recorded the first civil and criminal court cases, the first land claim and first toll-road. Genoa citizens even took care of a semi-legal execution, hanging "Lucky Bill" Thorrington for harboring a murderer. Genoa thrived through a highly unsuccessful gold rush and a more successful lumbering boom, and though the town had passed its prime by '81 it still had five hotels, a printing office, 15 other business houses of varying sorts, and a half-dozen saloons.

These troubled and exciting years are only peaceful memories to the Genoa of 1960. As you drive into the tree-shaded streets with their pleasant old homes and bright gardens, you will find that most of the memories are assembled where you can enjoy them at leisure—in the reconstructed log house and stockade, now a Nevada State Park museum. John Reese's original buildings burned down in 1910, but they have been faithfully rebuilt.

The Las Vegas Helldorado and Rodeo takes place May 20-22.—END

RECONSTRUCTED BUILDINGS, STOCKADE OF MORMON STATION ARE NOW STATE MUSEUM



Gem-Mineral Shows In May:

April 30-May 1—8th annual San Joaquin Valley Gem and Mineral Show at the County Fairgrounds, Stockton, Calif.

April 30-May 1 — Tacoma, Washington, Agate Club's annual spring show at the South Park Community Center Building.

April 30-May 1 — Yakima, Washington, Rock and Mineral Club's first annual show at the Yakima Armory.

May 7—La Mesa, Calif., Tourmaline Gem and Mineral Society's annual show at Grossmont High School.

May 7-8—Benicia, Calif., Rock and Gem Club's 8th annual show.

May 14-15 — Spokane, Washington, show at West Valley High School.

May 21-22—Fort Vancouver, Washington, Gem and Mineral Club's first annual show at Vancouver Barracks.

May 21-22 — Everett, Washington, Rock and Mineral Club's annual show at Forest Park.

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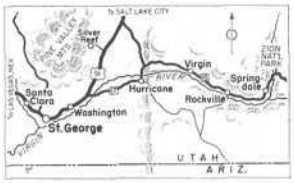
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Frank Jensen
Box 808, Cedar City, Utah

UTAH'S "DIXIE"—scene of the Mormon Church's attempts of a century ago to grow its own cotton and thus throw off dependence on distant sources—covers 50 square miles in the southwestern corner of the state. St. George, largest and most thriving of the Cotton Mission settlements, is a modern city of 5000 persons. It is located on busy U.S. Highway 91, 132 miles northwest of Las Vegas, Nevada. In addition to being the garden center of Southern Utah, St. George is also the site of the gleaming white Mormon Temple, completed in 1877.



More than a million feet of lumber and 17,000 tons of native stone went into the construction of this edifice in a day when tools were homemade, and horse power was the genuine article. The temple's classic design is considered by many authorities as the second most impressive example of pioneer architecture in Utah; the temple and tabernacle in Salt Lake City claiming top laurels. The St. George Temple grounds are certainly the most handsomely landscaped in Utah. The floral display here vies with the building itself as a tourist attraction.

From St. George the highway swings north through Washington, the "Garden City" of Utah and the site of a historic cotton mill. This building was built of native sandstone in 1867; machinery was hauled 1300 miles from the East by team and wagon. The mill operated with varying success until 1910.

The highway continues north, paralleling the Pine Valley Mountains, rugged peaks of volcanic lava that rise more than 10,000 feet above the Southern Utah desert. You'll want to see the crumbling ruins of the old mining camp of Silver Reef which are nestled against the mountains. Silver ore in the sandstone was discovered in 1869, and the usual rush of miners followed. The boom lasted a decade during which time the mines disgorged over $10,000,000 in silver bullion. The 50-room Harrison House was the pride of the city. The presence of the rollicking mining camp in the midst of the staid Mormon settlements was upsetting at best.

Five miles north of the Silver Reef junction, Highway 91 is joined by Utah Highway 15, the main-traveled route through Zion National Park. Along this road you'll meet rustic tree-shaded Mormon villages pervaded with an air of timelessness—Hurricane (named for a gust of wind that lifted off a buggy top) Virgin, Rockville and finally Springdale at the south entrance to Zion.

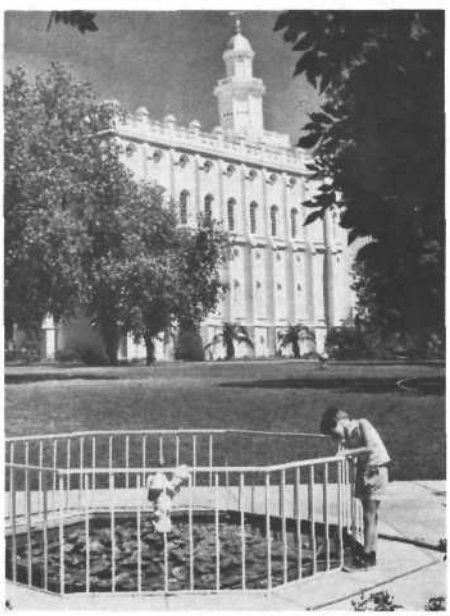
Hurricane today is a town of 1300; almost all of these people earn their livelihood from the fertile orchardland that spreads out across the Hurricane Bench in a patchwork of greenery. The story of this town and its sister hamlets is the story of the Rio Virgin. The seven-mile-long irrigation ditch known as the Hurricane Canal gives testimony to the pioneers' hard struggle to turn the muddy waters of the Virgin into their fields.

In 1862 one Chapman Duncan surveyed a canal for the community of Virgin. Somehow he scrambled his figures and the ditch was built uphill. Duncan beat a hasty retreat and Virgin became known as "Duncan's Retreat."

The discovery of oil near Virgin in 1907 gave the town a new lease on life. The "boom" has been a fizzle so far, production during the past 53 years totaling less than a quarter million barrels of low-quality oil.

Utah's May events: 6-8, Moab Uranium Symposium; 13-14, Logan Education Fair; 21, Moab Friendship Cruise; 30, Provo's 20th Annual Boat Regatta and races on Utah Lake.—END

Arizona Calendar: April 23-May 15, Junior Indian Art Show, Museum of Northern Arizona, Flagstaff; May 1-5, Fiesta de Mayo, Tucson, Nogales and other border communities.



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ROCK HOBBY "Hobby Gems" is the original rock polishing kit for beginners; 7 gem stones, ring and earrings and necessary materials to shape and polish the gem stones. Only $3.00 postpaid. Omaha Lapidary, 5620 Ohio Street, Omaha 4, Nebraska.

WALNUT DISPLAY cases: Solid Walnut construction, glass top with cellucotton pad and resilient cotton filler. Two depths. Dimensions: Inside 7¾ x 11⅝ inches and outside 8½ x 12⅜, ½ inch depth—$3 each, 1-inch depth $3.75 each. Write for free brochure. Dealers' inquiries welcomed. Museum and Collectors Supply, P.O. Box 1188-D, Ardmore, Okla.

FOUR DRAWER collection cabinets: Solid Walnut—natural brown finsh, Hard Maple—colonial finish, solid Honduras Mahogany—blond finish. With natural brass or antique copper hardware. Outside Dimensions—10½ x 13 x 20½ inches long, 20 pounds—price $49.50. 12 x 17 x 26½ inches long, 30 pounds—price $64.50 FOB Ardmore. Write for free brochure, dealer's inquiries welcome. Museum and Collectors Supply, P.O. Box 1188-D, Ardmore, Oklahoma.

BUILD YOUR own (Unikit) combination camp table and stove carrying case, suitcase size closed; will seat four when opened. Send $1, cash or money order for plans and details. c/o Chris' Letter Shop, 7562 San Fernando Road, Sun Valley, California.

• FOR WOMEN

LADY GODIVA "The World's Finest Beautifier." Your whole beauty treatment in one jar. Protect skin against sun, wind. For free brochure write: Lola Barnes, 963 North Oakland, Pasadena 6, California.

MAKE YOUR own shampoo: costs $1 gallon, leaves hair soft and silky. Buy chemicals from drugstore. Send $2.50 for formula to: E. L. Sliger, 8505 San Fernando Road, Sun Valley, California.

DRY SKIN conditions solved with daily application of G'Bye Dry. Large jar prepaid for only $1. Try it now and be desert happy. Nevada RX Drug, Boulder City, Nevada.

SOUR DOUGH biscuit recipe and full directions $1. Dutchoven or modern baking. Revive the lost art. Franks Murdock, Dalhart, Texas.

• GEMS, CUT - POLISHED

FOR YOUR collection—Florida's beautiful coral agate. Send one dollar (no tax) for polished specimen to The Agatery, 851 Bay Point Drive, Madeira Beach 8, Florida. Money back if not satisfied.

AUSTRALIAN TUMBLED gemstones, 8 different polished baroques, identified, suitable for necklace or chain bracelet. $1.10 postpaid. Or 10 different polished baroques, identified, from around the world. $1.25 postpaid. Bensusan, 8615 Columbus Avenue, Sepulveda, California.

BETTER BAROQUES: large assortment, expertly tumbled, no culls. Mixed $3 pound plus postage. Satisfaction guaranteed. Spring Creek Agate Shop, Lewiston, Montana.

OPAL, AMETHYST, etc. 10 ringsize stones, ground and polished ready to set, $5. Opals, deep red, blue, green, golden flashing in all colors of the rainbow, direct from the mine, 15 for $5. Kendall, San Miguel d'Allende, Guanajuato, Mexico.

ATTENTION GIFT and curio buyers: First quality tumbled stone jewelry, preform and baroque style. Substantial discounts given for quantity purchases. Dealers and jobbers write for free price list. Red Wing Co., Route 1, Box 25A, Parker, Colorado.

OREGON BEACH natural agate and jasper stones, highly polished, many sizes for jewelry mounting. N. Needles, Box 136, Delake, Ore.

TRADING POST CLASSIFIEDS

$17 PER 100, assorted gem stones, cut, and tumble polished for cuff links, ear wires, bolas, etc., all millimeter sizes (not baroques), wood, obsidian, dinosaur bone, jade, aventurine, etc. Send $1 for samples. Satisfaction guaranteed. Victor Valley Gem Shop, Star Route, Hesperia, California.

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

CALIFORNIA DESERT rocks. Gem quality. Polished. Large assortment. One dollar postpaid. Pollard, 12719 Laurel Street, Lakeside, Calif.

PERSIAN TURQUOISE: small round cabochons, oriental cut, clear robin's egg blue, 1 mm. to 4 mm. diameter, natural high grade Persian turquoise—$1 dozen postpaid. These snake-eyes ideal for cementing in clusters. Lost Mountain Gems, 3005 North 39th St., Phoenix, Arizona.

PALM—PETRIFIED—California: multicolored slabs from old timer's collection, exceptional designs, patterns and combinations, 30 square inches $10 postpaid. Extra fine large slabs 60c square inch postpaid. C. T. Brown, 1355 Gladys, Long Beach, California.

• GEMS, DEALERS

CHOICE MINERAL specimens, rough and cut gem material, lapidary and jewelry equipment and supplies, mountings, fluorescent lamps, books. Valley Art Shoppe, 21108 Devonshire Street, Chatsworth, California.

VISIT GOLD Pan Rock Shop. Beautiful sphere material, mineral specimens, choice crystals, cutting materials, jewelry, bolo ties, baroques, spheres, bookends, paperweights, cabochons, faceted stones, fluorescents, jewelry findings, lapidary equipment and supplies, Navajo rugs, custom sawing—by the inch or shares. Saws, up to 30-inch diameters. John and Etta James, proprietors, 2020 North Carson Street on Highway 395 north end of town. Carson City, Nev.

NATIONALLY KNOWN and noted for choice varieties of gem stone, minerals, fossils, Indian artifacts, etc., including unusual gifts at reasonable prices. Visitors or correspondence welcome. The Cole's, 551 S. W. Coast Hiway, Newport, Oregon.

ROCKHOUNDS, SWAPPERS, Wildcrafters: Let Mother Nature finance your collecting, prospecting, swapshop. Details free. Rockhound-Wildcraft Suppliers' Bulletin 25c. D. McCampbell, Box 503, Calexico (since 1929), California.

RED ROCK Shop has minerals, slabs, petrified wood, gifts, curios. Will trade. 2½ miles southwest on U.S. 89A, Sedona, Arizona.

SPECIAL OFFER: send 50c for new price list and receive a 2 square inch slab of petrified whale bone free. 50c refunded on first order. Worldwide Gem & Minerals, 1628 11th Street, Sacramento 14, Calif.

NEW LOCATION, new store: everything for the rock hounds, interesting gifts, minerals, slabs, rough material, lapidary supplies, mountings for your cabs. Stop and see us. Shamrock Rock Shop, 593 West La Cadena Drive, Riverside, California. OVerland 6-3956.

SELLING OUT bargains. Odd shaped concretions; field-picked agates, geodes, jaspers, ulexite and boron; million-year-old mollusk shells. Write for list: August Gathman, 6622 Jones Avenue, Arlington, California.

VISIT OLD Tuscarora! Nevada's largest museum of minerals, lapidary and antiques. Nevada redwood, cutting material, gifts. Rocks and Relics Shop, Earl and Della Phillips, Tuscarora, Nevada, 50 miles north of Elko on Hwy. 11A.

DESERT ROCKS, woods, jewelry. Residence rear of shop. Rockhounds welcome. Mile west on U.S. 66. McShan's Gem Shop and Desert Museum. P.O. Box 22, Needles, California.

• GEMS, MINERALS - FOSSILS

12 POUNDS of beautiful Colorado mineral specimens, $8 prepaid. Ask for list of others. Jack the Rockhound, P.O. Box 245, Carbondale, Colorado.

FOSSILS. 12 different for $2. Other prices on request. Will buy, sell or trade. Museum of Fossils. Clifford H. Earl, P. O. Box 188, Sedona, Arizona.

ALASKA MINERALS: Set of 10 for $2. Bulk minerals—rare epidote crystals, unusual paligorskite. Also cinnabar, cassiterite, jade, stibnite, bornite, scheelite, uranium and many others. Alaska Scientific Prospecting Co., Box 914, Ketchikan, Alaska.

PECOS DIAMONDS — small doubly terminated quartz crystals, ⅛ to ⅜ inches, pink color, very beautiful. 15 in plastic case, postage and tax paid, $1. Oran Ferguson, Hatch, N.M.

OLD MINERALS, private collector will buy unusual specimens from named locations. Describe, and price, in first letter. P.O. Box 4132, Glendale 2, California.

SOMETHING FOR everyone: World wide specimen minerals, micromounts, thumb-nails, faceting and cabochon materials, lapidary equipment and supplies, books, etc., Highland Park Distributors. Write for free lists. Museum and Collectors Supply, P.O. Box 1168-D, Ardmore, Oklahoma.

FINE DOMESTIC and foreign crystals and massive minerals. Please ask for free list. Continental Minerals, P.O. Box 1206, Anaconda, Montana.

• GEMS, ROUGH MATERIAL

TURQUOISE FOR sale. Turquoise in the rough priced at from $5 to $50 a pound. Royal Blue Mines Co., Tonopah, Nevada.

MOZARKITE COMPOSED of jasper, rhodonite, chalcedony and agate. Beautiful colors in pink, grays, reds, blues and browns. Takes a beautiful polish. Send $2.50 for get-acquainted offer. Timberline Lake Rock and Gem Shop, Lincoln, Missouri.

MINNESOTA SUPERIOR agates ½ to 1 inch $1.35 pound postpaid; 1 to 2 inch $2.50 pound postpaid. 3 polished Thompsonites $1 postpaid. Frank Engstrom, Grey Eagle, Minn.

COLORFUL AUSTRALIAN Fire Opal $25.00 worth on approval. No deposit! Select the best. Return the rest. See before you buy. Free list. Western Rock & Gem, 20385 Stanton, Castro Valley, California.

CENTRAL OREGON rocks. Good variety for cutting. Good, 10 pounds $3.50. Better, 10 pounds $6. Best, 10 pounds $11. Postpaid. 100 pounds of above mixed, $40 freight paid. Ashby's, Route 2, Box 92, Redmond, Oregon.

FOR SALE: All rough gem stones—plume, icicle, Chalcedony, agate, obsidian, amethyst, geodes, gypsum, spikes, sillimanite, silver lace, onyx, desert roses, amethyst crystals. Frank Jackson, 1031 May Street, Las Vegas, Nevada.

CALIFORNIA GEMS rough. 14 full pounds agates, jaspers, palmwood, howlite, others. Just $6 delivers. Location and type identified. Small saw size. Prince C. Parkhurst, 14823 Huston Street, Sherman Oaks, California.

INDIA IMPORTER has star ruby crystals for specimens from 75c to $1.25 per piece and also this same material for practice cutting at $1.45 per ounce, with instructions included. Inspect these crystals for either purpose and your money will be refunded if you simply send them back. E. D. Skinner, Box 4252, Station K, Milwaukee 10, Wisconsin.

ROCKS OF age: good mixed tumbling material 40c pound, prepaid; petrified wood, thundereggs, same. Cut petrified wood and two cut halves geodes $2 postpaid. All local. Walt's Rocks, Nyssa, Oregon.

MOJAVE DESERT jasper, howlite, agate, 75c pound, Australian rhodonite, adventurine, lepidolite, rainbow obsidian, $1 pound, postage and tax extra. Tubby's Rock Shop, 3329 Mayfield, La Crescenta, California.

GEMS — MINERALS — Special offer: ¼ pound phantom amethyst; from Africa; 75c postpaid. Free list. For the beautiful and exotic, write at once to The Vellor Company, P.O. Box 44(D), Overland, St. Louis 14, Missouri.

GEM MATERIAL from the Mojave Desert. Your choice: Mojave agate, lavic jasper, verde antique, palmwood, travertine (green), chapenite, onyx, opalite, jasp-agate, buds eye, and mixed jasper. 100 pounds — $22.50; 100 pounds mixed $12.50. Sample $3.50. All material F.O.B. Barstow. Morton Minerals and Mining, 21423 (Old) Highway 66, R.F.D. 1, Barstow, California. Phone 8551.

OPALS AND sapphires direct from Australia. This month's best buy: Rough emeralds, fine cabochon material, deep color, 2 carat to 25 carat pieces. Two qualities, $15 and $45 per oz., sent airmail. Send personal check, international money order, bank draft. Free 16 page list of all Australian gemstones. Australian Gem Trading Co., 294 Little Collins St., Melbourne C.I., Australia.

ARIZONA AGATE mixed 75c pound, purple sage agate $1.25 pound. Include postage, excess refunded. Mikwill Minerals, 4928 W. Earll Drive, Glendale, Arizona.

WOOD, VERY colorful and good gem quality. State color and size wanted, 75c per pound, postage paid. Simonds Mines, Box 511, Hanksville, Utah.

WANTED ROUGH and tumbled stones, and arrowheads to stock new store. Oliver's Repair Shop, 17 Little St., Matawan, New Jersey.

• JEWELRY

UNIQUE LOVELY bracelets of ten different identified gems set flat on untarnishable gilt H.P. mounting. Choice of "Gems of the World" or "Western Gems," $3 each. Also choker-style necklaces to match, $3.75 each. Tax, postage included. Bensusan, 8615 Columbus Avenue, Sepulveda, California.

JEWELRY PARTS—why pay retail? Catalog lists bracelets, sweater clips, tools, bails, cuff links, bell caps, Epoxy-Adhesive, earrings, belt buckles, chains, neck clasps, key chains, lariat slides, tips or cords, as well as ring mountings, pendants, brooches, silver. Send 4c stamp to cover postage. Rock Craft, Box 424D-2, Temple City, California.

KEY CHAINS: gold and rhodium plated, with colorful Mexican agates, petrified wood, or Apache tears, $5 dozen. Bolo ties, mixed, $12 dozen. Postpaid. Bill Osborne, P.O. Box 407, Alamogordo, New Mexico.

MORE CLASSIFIEDS ▸

TRADING POST CLASSIFIEDS continued

ALUMINUM CHAINS! Dealers, write for wholesale price list on our fabulous line of nontarnishing aluminum chains. Include $1 for samples postpaid. Please use letterhead or state tax number. R. B. Berry & Company, 5040 Corby Street, Omaha 4, Nebraska.

• LODGES, MOTELS

ROCK HOUND headquarters: Moqui Motel, Escalante, Utah — on Highway U. 54, phone MArket 4-4210, Dyna and Mohr Christensen. Pack and Jeep Trips by appointment.

HEALTHFUL RECREATION for couples and families. Swimming, sports, sunbathing. Select group of congenial people. Reasonable rates. For complete information write Lupin Lodge Nudist Park, 20600 Aldercroft Heights Road, Los Gatos, California.

MELODY LANE Apartment Motel, 6259 Adobe Road, P.O. Box 66, Twentynine Palms, California. All electric, air-cooled, trees and patio, opposite post office, near super-market. Day, week or monthly rates.

SPEND A thrilling vacation in a historical ghost town in West's most scenic setting, 3-room modern apartments $50 month, plus utilities. For reservations write: 8531 East Ramona, Bellflower, California.

WELCOME ROCKHOUNDS: Western Nevada ghost towns, rock hunting, guide service to our guests, jeep trips, lapidary materials. Ranch House Motel and Rock Shop, Box 605, phone 760, Yerington, Nevada—95A.

• INDIAN GOODS

FOUR ARROWHEADS $1. Three birdpoints $1. Three flint knives $2. Three spearheads $2. Grooved net sinker $1. Drill, scraper and blunt $1. Strand trade beads $1.25. Pueblo thunderbird necklace $2. Zuni fetish $3.75. Navajo wedding basket $5. Atlatl spearhead (classified) $1. Paul Summers, Canyon, Texas.

INDIAN ARTIFACTS, mounted horns, buffalo skulls, pottery, Navajo rugs, curios, list free. Thunderbird Trading Post, highway 80 at Brazos River, Millsap, Texas.

APACHE TRADING Post: Indian artifacts, antiques. No lists. George W. Stuttle, Angeles Forest Highway, R.R. 3, Box 94, Palmdale, Calif. WIndsor 7-2743. Open Sundays only.

FINEST RESERVATION-made Zuni, Navajo, Hopi jewelry. Old Pawn Navajo rugs, Chimayo blankets, baskets, pottery, squaw boots. We appraise, buy and sell Indian jewelry, Navajo rugs and basket collections. Send for brochure. The Indian Room, 1440 South Coast Highway, Laguna Beach, California.

PRIVATE PARTY wants ancient Southwest Indian pottery. Broken pots or bowls acceptable. Prices must be reasonable. Write Mrs. Franklin Barnett, 1823 Aliso Drive, N.E., Albuquerque, New Mexico.

LEGENDARY APACHE Tears bracelet, beautiful drop baroque style, silver or gold, $3.95 gift boxed and postpaid, dealers write for wholesale prices. Wes-Jan Originals, 859 Whittier, Wichita 7, Kansas.

THREE FINE prehistoric Indian war arrowheads $1. Flint scalping knife $1. Rare flint thunderbird $3. All $4. Catalog free. Arrowhead, Glenwood, Arkansas.

PINE VALLEY Trading Post deals in authentic Indian goods, rugs and jewelry, also gift items, imports. On Highway 80, 43 miles east of San Diego. Mailing address, Box 208, Pine Valley, California.

AUTHENTIC INDIAN jewelry, Navajo rugs, Chimayo blankets, squaw boots. Collector's items. Closed Tuesdays. Pow-Wow Indian Trading Post, 19967 Ventura Blvd., East Woodland Hills, Calif. Open Sundays.

SELLING 20,000 Indian relics. 100 nice ancient arrowheads $25. Grooved stone tomahawk $3. Indian skull $25. List free. Lear's, Glenwood, Arkansas.

NAVAJO WEAVER-Woman sitting at loom weaving rug, 8½ inch $2.95, 10½ inch $3.95. Kachina dolls: 3 inch $1.25, 4 inch $1.75, 5 inch $2.25, 6 inch $3.50, postpaid. California buyers add 4 percent tax. TEWA Indian Shop, Box 4806, Carmel, Calif.

FINE RESERVATION-MADE Navajo and Zuni jewelry. Old pawn. Hundreds of fine old baskets, moderately priced, in excellent condition. Navajo rugs, Yei blankets, Chimayo homespuns, pottery. A collector's paradise! Open daily 10 to 5:30, closed Mondays. Buffalo Trading Post, Highway 18, Apple Valley, California.

INDIAN PHONOGRAPH records, authentic songs and dances, all speeds. Write for latest list: Canyon Records, 834 No. 7th Avenue, Phoenix, 1, Arizona.

• MAPS

SECTIONIZED COUNTY maps — San Bernardino $3; Riverside $1; Imperial, small $1, large $2; San Diego $1.25; Inyo $2.50; Kern $1.25; other California counties $1.25 each. Nevada counties $1 each. Include 4 percent sales tax. Topographic maps of all mapped western areas. Westwide Maps Co., 114 West Third Street, Los Angeles 13, California.

GHOST TOWN map: big 3x2 feet. California, Arizona and Nevada, with roads marked. Plus Treasure catalogue 100 items. $1. Foul Anchor Archives, DM, Rye, New York.

• MINING

BERYLLIUM ASSAY with berylometer. Presence or absence of beryllium, $1. Accurate analysis of beryllium oxide content, $8. 24-hour service. Boulder Assay Office, 250 Pearl Street, Boulder, Colorado.

WESTERN MINING News, monthly, for miners, prospectors, claim owners, $2 per year. Sample copy 25c. Box 787, Sonora, Calif.

NEW! METALS & Minerals Buyers Guide for 1960. Market values—who buys what and where. Price only $2.50 postpaid. Comprehensive Chemical Co., Dept. 4, 2427 Dawes St., Rancho Cordova, California.

ASSAYS. COMPLETE, accurate, guaranteed. Spectrographic. Over 55 elements including rare earths and radioactives. $8. Reed Engineering, 620-R South Inglewood Avenue, Inglewood 1, California.

RADIATION DETECTOR, model DR 299 Nucliometer cost $530. Best cash offer takes. Will take 1886 model 45-70 Winchester good condition as part payment. George Robinson, 1916 Baxter Street, Los Angeles 39, Calif.

BIG STOCK of new and used treasure and mineral detectors, geiger and scintillation counters, ultra violet lights. Free list. Easy terms. All makes serviced. White's Electronics, 1218 Main Street, Sweet Home, Oregon.

ROCKS, MINERALS identified. Dependable petrographic methods. $3. Price includes technical data and summary of uses. Rock samples should be 2x3x4"; minerals, over ¼". Samples returned on request. Include remittance with order. Gordon Campbell, Box 404, Redlands, California.

FIND BORON, lithium, tungsten, strontium and other valuable minerals with the new always ready fluorescent mineral detector. Detector operates in daylight, uses no batteries, fits in shirt pocket and eliminates dark box. Price only $12.50. Free brochure. Essington Products & Engineering, Box 4174, Coronado Station, Santa Fe, New Mexico.

OIL LEASE. Federal land. 120 acres close Holbrook, Arizona. Oil north, gas south this acreage. Sell $19 acre, all or 40 acre parcels, or trade for jeep or cabin-type boat and motor. Lease-owner, 1602 4th Avenue, Yuma, Arizona.

MINING EQUIPMENT: ⅜ yard Bucyrus Erie combination shovel crane $1900. Jeep parts: front wheel drive differential (also rear), bumper weights, wheels, frame, body. Neil Pipher, Capistrano Beach, Calif. GY 6-5331.

DRY WASHER 24x12x15 folded, built on order. High recovery. Weight 45 pounds. Especially adapted for the jeep prospector. $100. Drake's Fix-It Shop, 6877 Pine Avenue, Twentynine Palms, California.

$1 FOR gold areas, 25 California counties. Geology, elevations. Pans $3, $2.50. Poke $1. Fred Mark, Box 801, Ojai, California.

• PHOTO SUPPLIES

WILDLIFE OF Alaska, 16 or 8 mm. movies: walrus, sheep, caribou, moose, goat, bear, glaciers, Lake George Breakup, wildflowers, small animals, birds, sport fishing & Eskimo dances. Elmer & Lupe King, Alaska Film, Box 5621, Mt. View, Alaska.

COLOR SLIDES. Re-live your vacation trips. 3000 travel Kodachromes, parks, U.S., foreign, nature, etc. Free list (sample 30c). Send today. Kelly D. Choda, Box 15, Palmer Lake, Colo.

BLACK AND white photo finishing: 8 exposure roll—60c, 12 exposure roll—85c, 16 exposure roll—$1.10. Color processing: 20 exposure kodachrome $1.25, 36 exposure kodachrome $2.15, 8 mm. kodachrome roll $1.25. 8 hour service. Rancho Photo-D, Ontario, California.

JEROME, ARIZONA — 10 Kodachrome original slides, $2. List of scenic, ghost town slides, sample, $20c. Joe Smith, 304 Picker Ave., Wood River, Illinois.

STEREO REALIST slides of the desert in three dimension color. Original kodachromes 3 for $1, 10 for $3. Specify California, Arizona, New Mexico, or Utah. 18321 Glenburn Avenue, Torrance, California.

NATURAL HISTORY color slides 35 mm.: snakes, lizards, spiders, insects, birds, and ocean life. For free list write to Bucky and Avis Reeves, Box 3164 Hillcrest Station, San Diego 3, Calif.

FOR SALE: Serenar lens F2 85 mm. with case screw mount $40. Also Harman Kardon recital Hi-Fi, excellent condition $75. Dorothy Darling, 317 North Shelton Street, Burbank, California.

• PLANTS, SEEDS

WILDFLOWERS SEEDS: New catalog offers over 600 different kinds of wildflower and wild tree seeds. Catalog 50c. Clyde Robin, Carmel Valley, California.

CACTUS AND Succulents: Eight of these exotic plants from the deserts of the world. $2 postpaid. G. Robert Meyers, Box 521, Vista, Cal.

FOR SALE: fan palms, five gallon size. R. N. Goodwin, Fitzpatrick Road, San Marcos, Calif.

TRADING POST CLASSIFIEDS

GIVE A gift of a Redwood burl. Fernlike plant cut from Giant Redwood's sprout. All year. $1 to $3. Waterproof Redwood bowls to hold cost $2. Beautify your room. Eternal tree House, South Fork, California.

ROSSO'S CACTUS Nursery, 25399 Highway 99, Loma Linda, California, between Colton and Redlands. See the largest variety in the world.

OLD FASHIONED large gourd seeds, mixed types, certified, 50c. Ornamental; useful for birdhouses. centerpieces. Christmas decorations. conversation pieces, etc. Certi-Seeds, 5915 Shoshone Avenue, Encino, California.

• REAL ESTATE

CHOICE 626 acres on Dillon Road, few miles from Desert Hot Springs, California; $275 per acre. Write Ronald L. Johnson, Thermal, Cal.

80 ACRES near Lockhart, level, $125 acre, 25% down. 20 acres Highway 395, level, north of Adelanto, $150 acre, 10% down. 2½ acres west of Adelanto, level, $1495, 10% down. 2½ acres Lancaster on paved highway, shallow water, level, $2495, 10% down. Dr. Dodge, 1804 Lincoln Blvd., Venice, Calif.

FOR SALE: Johannesburg, California; modern two-bedroom home furnished or unfurnished, four lots fenced, trees, two-car garage, cooler, heating stove—"Heart of the Rand District"—$3000, full price. Phone Randsburg 5131 or write Box 152, Johannesburg, California.

FIVE MINUTES to downtown Redlands, yet private and secluded—ten acres, low as $2990. $100 down, balance EZ. Write today. Pon & Co., Box 546D, Azusa, California.

CHOICE CATTLE ranches: Arizona, New Mexico. Well improved. Some stocked at market price. From 150- to 3000-head operations, year-round country. As low as $275 per cow unit. Myrlan G. Brown, Strout Realty, P.O. Box 96, St. Johns, Arizona. Phone FEderal 7-4966.

APPLE VALLEY: five prime level acres near Deadman's Point, excellent speculation or homesite $600 per acre, $300 down payment. Bob Scollin, 4426 Commonwealth Avenue, La Canada, Calif. SY 0-1461 evenings.

50 ACRES, three miles from Coachella $5000 full price. Also Salton Sea acreage and 160 acres good cropland. Sell for cash or trade for suitable income property. Bleitz, 1001 North McCadden Place, Los Angeles 38, Calif.

SALE OR trade: Six unit apartment house, Hood River valley for building in desert town, prefer Arizona. T. Reinoehl, 1114 12th St., Hood River, Oregon.

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

YUCCA VALLEY: ranchtype house on five acre $14,500 cash, block garage, 1200-gallon water tank, electricity available, aluminum roof, beautiful view, patio, Joshua trees. 15 more acres available. E. Allen, 5733 Hillcrest Drive, Los Angeles, 43, California.

DESERT LOTS for sale, build your own retreat, heart of Rand mining district, wonderful view, paved street, water, lights, terms. Box 96, Johannesburg, California. Phone 5691, N. A. Lederer.

FOR SALE: Hesperia business lots, C1, corner 65 by 135, $3990—terms, $3490 cash; C2, 75 by 135, $4990—terms, $4490 cash. Write: Edward Anania, 38351 Jeanette St., Palmdale, California.

FOR SALE by owner, 10 acre homesite in southern Nevada near California state line. Deeded land, shallow water, many springs in surrounding area. $1000 full price. Write: V. Smith, Route 2, Box 721, Thermal, California.

WANTED. BUY or rent isolated shack, cabin site or camp site for weekends, Riverside or San Bernardino counties. Box 162, North Hollywood, California.

LUCERNE VALLEY area: 160 beautiful acres near Bessemer Mine with good road from Lucerne Valley to it, $35 per acre, good terms. Robert Shaw, 1912 Cordova St., Los Angeles 18, RE 5-7465, AX 1-5633.

$8 PER ACRE. Choice timber and agricultural land in fabulous Bazil. 200 acres minimum. Located on rich plateau west of Brazilia. Write Pan American Land, 7305 Van Nuys Blvd., Van Nuys, California.

PANORAMIC VIEW Air Force Academy, Pikes Peak. Beautiful five acre tracts, $4800. Terms. 12 miles north Colorado Springs near Academy entrance. Details: Gregory Realty, Colorado Commercial Bank Bldg., Colorado Springs, Colo.

COLORADO RIVER minnow and frog farm. Modern home and cabin. $16,000 full price. 20 miles north of Blythe. Yankee, Parker Route, Box 18, Highway 95, Blythe, California.

PALM SPRINGS: Lots from $2150. New three-bedroom, airconditioned home $12,950, adjacent to $7,000,000 tramway. 25 acres on Highway 111, $25,000. Terrific terms. Owner: E. Bandringa, Paramount, California. Telephone MEtcalf 3-9038.

TWENTYNINE PALMS: Small, centrally located home with seperate income. $3000 down. Rental pays off balance. Owner: 1919 Taft Avenue, Los Angeles 28.

WEEK-END CABIN on five acres, near 29 Palms. NE¼ of sec. 27, township 2N, range 8 — $2500.00. One of 3 purchase plans to suit. Box 997, Palm Desert, California.

• WESTERN MERCHANDISE

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

FREE "DO-it-yourself" Leathercraft catalog. Tandy Leather Company, Box 791—G35, Fort Worth, Texas.

GOLD SCALES and other antique items from early California gold period. Excellent condition. Extra fancy quartz crystals with colorful phantoms and inclusions, for advanced collectors. Call or write for appointment. Paradise Gems, 6676 Paragalia Way, Paradise, California.

DESERT TREASURES, primitive relics, purple glass, gem stones, paintings, rock trips, information on Last Chance Canyon. Visit Roberta's in the ghost town of Garlock, 12 miles east of Red Rock Canyon Highway 6, via Randsburg road, or 8 miles west of Randsburg and Highway 395. Mail inquiries answered. Roberta's, Box C, Randsburg, California.

• MISCELLANEOUS

SCIENTIFIC INTRODUCTIONS by College Professor, Ph.D., in person or by correspondence. Famous Wallace matchmaking system; personality analysis and electronic selector. Write Dr. Karl Wallace Foundation, 54042-G Terminal Annex, Los Angeles 54, California.

30 BEAUTIFUL, foreign, real butterflies, one large, gorgeous irridescent blue Morpho (S.A.), one pair golden bird winged butterflies. Introductory offer—all for $3. Free list. Postpaid. Ben Karp, 3148 Foothill Blvd., La Crescenta, Calif.

BABY SHOES bronzed to last forever. Each shoe is carefully electroplated with pure copper by skilled craftsmen. Each order is guaranteed and backed by 30 years of know-how. $7.95 for one pair, unmounted. Write for folder. Alice Ames, 5915 Shoshone Avenue, Encino, California.

MUSIC BOX, 19th century, named "Stella." Plays 18-inch steel discs. Beautiful mahogany cabinet. Perfect for western home. 26 discs worth $5 each included. Swiss make. $385. Correspond Box 153, La Quinta, California.

ESTABLISHED AND successful TV writer, planning new series of programs, will consider financial partner. References furnished if desired. Further information from Larry Laurence, Box 544, Pico Rivera, California.

WANTED. OXEN yoke in good usable condition. Contact immediately quoting price. Emray A. Price, Sedgwick, Colorado.

COLT'S REVOLVERS: M-1873 frontier caliber .32-20 Winchester, has custom grade Arizona walnut grips. NRA very good condition. $100. Also Colt's "Frontier Scout" caliber .22-LR has super fancy Arizona walnut grips. NRA excellent. $45. M. S. Vaughn, Sixth Avenue Motors, 1129 South 6th Ave., Tucson, Arizona.

RARE CARSON City Mint dollars, 1880, 1881, 1885, uncirculated, $10 each. 1882, 1883, 1884, 1890, 1891, $7.50 each. 100-page coin catalog 50c. Shultz, Box 746D, Salt Lake City 10, Utah.

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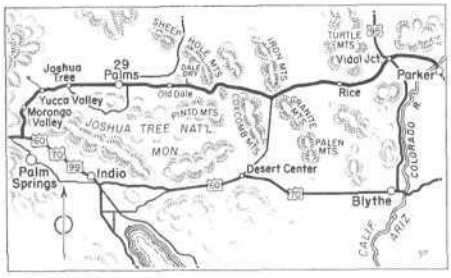
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By Lucile Weight
P.O. Drawer 758, Twentynine Palms, Calif.

CROSS-COUNTRY motorists, Colorado River boatmen and fishermen, and desert enthusiasts are discovering an enjoyable short cut to and from Southern California. It leads from upper Coachella



Valley through the High Desert to the river at Parker, Arizona, 155 miles away. Traveling east, you leave Hwy. 60-70-99 a few miles from Whitewater at Twentynine Palms cutoff. The road angles into Dry Morongo Canyon, a cleft in the Little San Bernardinos. Motels, cafes and all auto needs will be found as far as Twentynine Palms; from there nearest accommodations are at Vidal Junction.

While the final paved link was finished only in November, 1959, and the highway still is little known, this is an ancient route having served Indian tribes between the river and San Gorgonio Pass country from time immemorial.

As closely as topography allows, the road follows San Bernardino Baseline which was surveyed in 1855 by Col. Henry Washington; the year following section lines were run by A. P. Green. The Kansas Pacific Railway survey was made through here in 1867, and soon afterward cattlemen and miners penetrated the area.

Entrance to the High Desert is at the community of Morongo Valley, 2600 feet elevation, settled in 1873 by the deCrevecoeur family. The Mark Warren family started ranching here in 1884 and had a stage station during early desert mining days. Then came W. V. Covington whose name is preserved in "Covington Park" a pleasant wayside stop where community events including a May fiesta are held.

The road then climbs to 3200 feet in Joshua Tree studded Yucca Valley, earlier known as Warren Valley for the well and cattle camp Chuck Warren had near today's airport. A few miles northwest is Pioneertown, setting of Western movies and TV shows. Attractions at Yucca Valley are Desert Christ Park, with heroic-sized sculptures by Antone Martin; a golf course; Grubstake Days, May 13-15.

East of Yucca the unusual architecture of Mentalphysics, designed by Frank Lloyd Wright, attracts attention. The cafeteria usually is open after Sunday services.

Next is Joshua Tree, home of the Turtle Races in May or June, and Little Town of Bethlehem pageant at Christmas. Twentynine Palms is 15 miles ahead, or a detour may be made here through part of Joshua Tree National Monument. Monument headquarters is in Twentynine Palms, east end of the palm oasis which was home to various Indians until 1913.

Continuing east, the Baseline short cut enters an area of hundreds of Small Tract cabins. These are some of the thousands of government homesteads that reach over 50 miles from Dale Dry Lake to Old Woman Springs area. Almost 2000 of these homesteaders now have electricity provided by a cooperative financed by REA loans; some are forming water districts; many are developing year-round homes.

The Gold Crown Mine branch, at the site of Old Dale, 15 miles from Twentynine Palms, leads into the 70-year-old Dale mining district. At a crossroad six and one-half miles east, right leads to the operating Iron Age mine; left leads to Amboy Road across Dale Dry Lake past the closed Dale Chemical plant and the salt works where Dale salt is processed.

Soon the Sheepholes, left, and Pintos, right, narrow to form Clark Pass, often a prize wildflower area. Ahead loom the granite Coxcombs, the road angling through their north end. This range was the scene of uranium excitement a few years ago. Its 4400-foot peak, visible from the road, has been the successful objective of Sierra Club climbers. The motorist now faces the Granite Mountains and can see their southern extension, the Palens; left ahead are the Iron Mountains.

The road descends to a point where it crosses the Metropolitan Water District aqueduct, which brings water from the Colorado River at the Parker Dam intake. One of several booster stations enroute to Southern California is at the east base of the Iron Mountains.

At the highway junction, 53 miles from Twentynine Palms, right leads to Desert Center on Highway 60-70, the short cut to the river continuing left, past Rice, between the Turtle Mountains (rockhound favorite) and the Little Marias, to Vidal Junction where Highway 95 is crossed, then south of the Whipples to Earp, west of the Parker bridge. Up and down the river on California and Arizona sides are many desert-lakeshore recreation spots. From Parker Highway 60-70 may be reached at Ehrenberg or may be picked up farther east at Hope.

This varied Baseline Highway, besides being a short cut, is a desirable summer route because of its generally higher elevation.

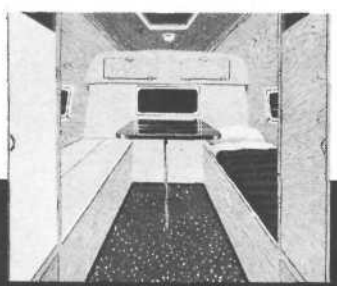
Here are some California desert highlights this month: April 30-May 1, Turtle races at Joshua Tree; May 6-8, Calico Days at Yermo; May 7, Annual Wildflower Show, Julian; May 7, Apple Valley Flower Show; May 7-8, Ramona Pageant, Hemet; May 21-22, Lone Pine Stampede; May 22, Pageant at Placerita State Park.—END

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By RANDALL HENDERSON

THANKS TO THE development of the media for mass communication, the most remote dwellers on the desert today are no less informed as to the events happening around the world than are the folks who reside in the metropolitan areas.

We are concerned over the bitter racial struggle in South Africa. Many of us are ashamed of the bigotry of elected legislators in Washington who would deny the opportunity for economic and political equality to fellow humans who happen to have dark pigment in their skins. We wish we could trust the men in the Kremlin. We are wondering who among the presidential candidates has the statesmanship to give direction and purpose to our foreign policy. We hope the summit conference at Geneva will end the threat of radio-active contamination of the air we breathe. We wish the doors would be opened so we could get more complete and accurate reports on the great social upheaval involving 650 million people in China. We are deeply concerned over the statistics of increasing juvenile delinquency.

In our meditative moments we wonder if the leadership in our civilized society is putting too much stress on scientific progress and giving too little thought to the disciplining of human emotions. We wonder if many of the evils which threaten our personal freedoms and the security of the world are not due to a distorted sense of values. Could they be the inevitable products of an era in which civilized men have come to regard science as more important than religion, money more important than art, justice more important than love, brains more important than morals?

Science is an impersonal thing. Whether it shall be used for good or evil, depends on what is in the hearts —not the minds—of men and women. For science is intellectual, and faith a matter of the emotional life. It is what we feel more than what we think that ultimately determines the course of life.

Perhaps John MacMurray in his book *Freedom in the Modern World,* has defined very bluntly the weakness in our social order. He wrote: "In the modern world, that is to say since the break-up of the medieval world, there has been an immense development of knowledge. There has, however, been no corresponding emotional development. As a result we are intellectually civilized and emotionally primitive; and we have reached the point at which development of knowledge threatens to destroy us. Knowledge is power, but emotion is master of our values and of the uses, therefore, to which we will put our power. Emotionally we are primitive, childish, underdeveloped. Therefore we have the tastes, the appetites, the interests and the apprehensions of children. But we have in our hands a vast set of powers which are the products of our intellectual development. We have used these powers to construct an intricate machinery of life, all at the service of our childish desires. And now we are waking up to the fact that we cannot control it. . . . That is the modern dilemma."

* * *

Visitors who motor along the highway see very little of the real desert. With the exception of an occasional lizard or roadrunner or jackrabbit, they observe practically no wildlife. And of the shrubs and trees which grow along the roadside, few of them can be called by name—and nothing is known of the fascinating story revealed in the life cycle of the most lowly plant.

And yet the desert has a teeming life—much of it nocturnal—which has a deep interest for the naturalist, and for the lay observer who has taken the trouble to learn about the denizens of this arid land.

As an introductory lesson for those who would know more about this strange land, I would recommend a visit to the Arizona-Sonora Desert Museum 15 miles west of Tucson (See *Desert,* Jan. '60). The Museum includes not only a zoo containing representatives of the animal world, but an arboretum of plant life and an underground tunnel for the observation of life beneath the surface—reptiles, rodents and even the root systems of desert plants.

There is also a Watershed Exposition—Water Street it is called — where finely adjusted gauges and dials hooked up with push-button controls reveal how important it is for man to learn how to conserve that indispensable and dwindling resource of the desert—water.

In the years ahead, with population increasing at more than three millions annually, the conservation of water will become a critical problem not only for desert people but to Americans in many sectors of the United States. The time may come when whole towns will have to hang out the "No Vacancy" sign, and chambers of commerce will reverse their goals to the limiting rather than the increasing of population.

This will be one of the problems of our grandchildren, but we today can make it easier for them by far-sighted planning for the future. Conservation is one of the most important concepts in our vocabulary.

* * *

From my scrapbook: Aldo Leopold wrote: "We abuse land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect. There is no other way for land to survive the impact of mechanized man, nor for us to reap from it the esthetic harvest it is capable, under science, of contributing to culture."



DON WATSON HOLDS A CLASSIC "TWO GRAY HILLS" NAVAJO TAPESTRY

Concerned Indian Traders in the Four Corners Area report Indian craft production is falling off 20 percent a year . . .

By BILL BRYAN

GOOD NAVAJO rugs are becoming scarce. Within a few years it will be impossible to get them.

This is the opinion of Don Watson, owner and operator of the Museum of Navajo Rugs near Cortez, Colorado, and his thoughts are shared by Indian traders and agents throughout the Four Corners area.

There are three Indian reservations in this land of giant blue skies and red soil — Navajo, Ute Mountain and Southern Ute. Trading with the Navajos has been brisk for more than 100 years, but the Utes have no crafts left and are out of the trading picture. How long will it be before the Navajo craftsmen go the way of the Utes? A few years — perhaps a generation—at the present rate.

Watson believes the lessening number of good rugs will soon eliminate trading posts like the one he operates. "Some traders say production is dropping off as much as 20 percent a year," Don said. "This may be a bit more than is really true, but we are getting less and less good rugs each year."

He attributes the lack of real quality Navajo weaving to "changing times and ways" among the tribesmen.

"The young girls go away to school and learn more about modern living. They aren't interested in learning the old crafts such as rug weaving. And only one man

The Dying Art

is now known to be weaving any rugs."

Don Watson has been interested in Indian life and crafts since his boyhood in Canyon City, Colorado. He majored in archeology at the University of Denver and studied "anything else pertaining to Indians." He took postgraduate archeological study at the University of Chicago.

Some 29 years ago Don went to work as park archeologist at Mesa Verde National Park near Cortez. During his 27 years there he continued to study, search and learn about Indians. He wrote three books on the subject.

Don's rug collection began while he was at the park. He has added to it steadily since that time. "We started to notice the growing scarcity of real good rugs and other Indian artifacts some time ago," Don related. He determined to do something about it.

First he resigned from his job at the park, then opened a shop east of Cortez and began to make regular trips into the reservation to look for the best specimens of Indian crafts. The fine rugs "not for sale" are hanging around the walls of his museum. Many are valued at thousands of dollars.

In addition to the rugs, there are shelves of pottery, baskets, bead and leather work and dolls. In a corner is a table covered with the oil paintings of Juan Nakai and Beatien Yazz, Navajo artists. A glass-case holds trays of turquoise and silver jewelry.

Don said he and other traders are doing as much as possible to keep the Indian crafts alive.

"We all pay almost anything for good quality Indian items," he said, "especially if they have been made by a new weaver or silversmith. We do this in the hope that these people will become steady producers of more quality specimens of their crafts."

Even so, the production dwindles. Don said this has become more noticeable each year when he makes his winter trips into the reservation. It has become a rare streak of luck to find more than a very few really good rugs.

Don said the traders are offering to pay higher prices for quality work to partly offset the relatively meager financial return Navajo weavers get for their work.

"Most of the weavers earn about six cents an hour—some as much as 10 cents. Real works of art like the "Two Gray Hills" made by Daisy Taugelchee pay more, but are extremely rare."

Watson said that last year Daisy Taugelchee, one of the most famous Navajo weavers, made only two tapestries. She received $1100 for one, $1600 for the other.



CLASSIC EXAMPLES OF THE NAVAJO WEAVERS' ART ARE DISPLAYED IN DON WATSON'S MUSEUM NEAR CORTEZ, COLO.

The Navajo women use the same methods to spin, card and weave their wool into rugs that were used by the Pueblo Indians about 700 years ago. The dynamic Navajos — "great borrowers" — adopted this system some 300 years ago. The present looms are still the same primitive ones used by their ancestors.



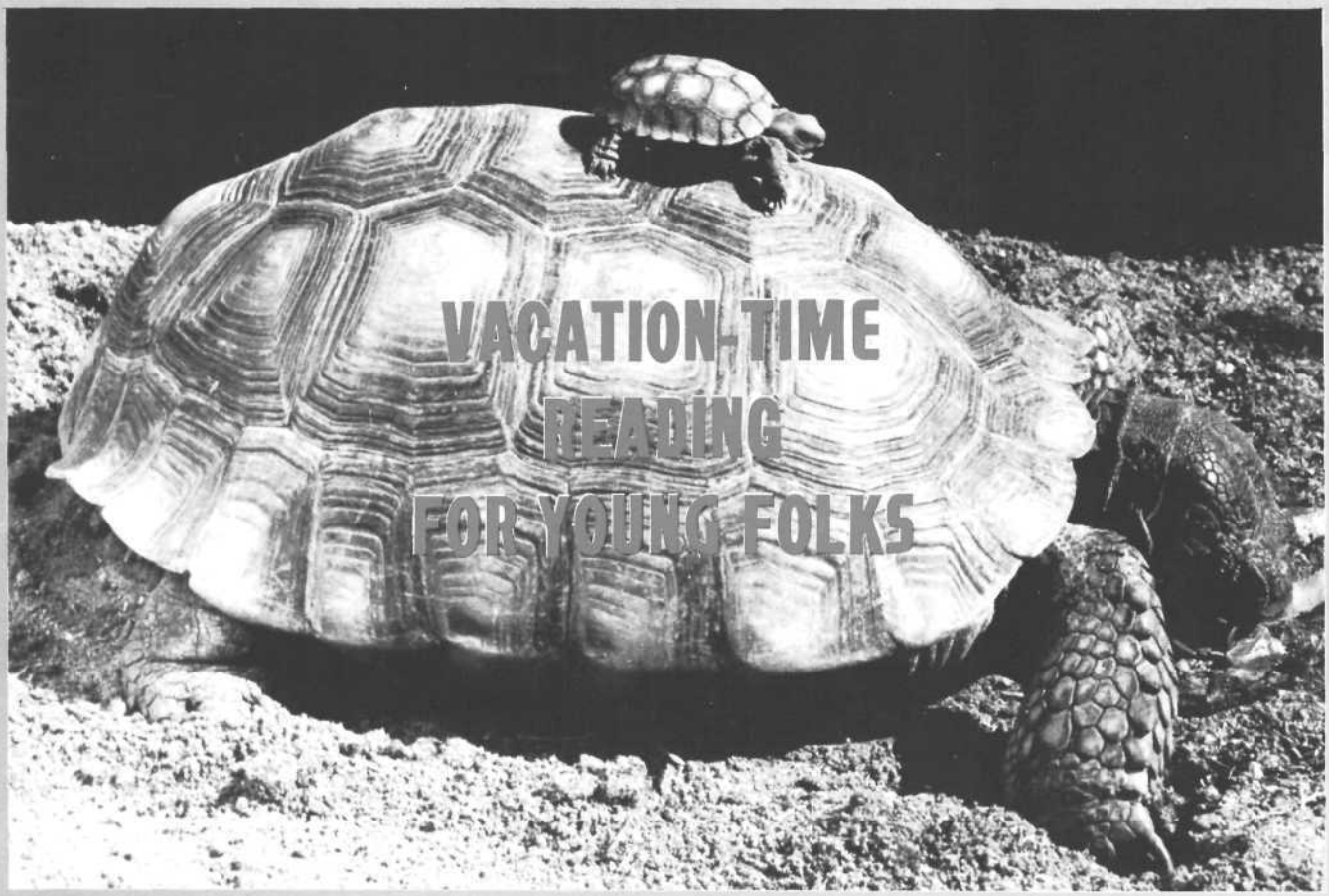
NAVAJO RESERVATION SCENE THAT IS FAST DISAPPEARING

Commercial dyes are used in the brighter-colored rugs like the *Tec Nos Pos,* Storm Patterns, Ganado Reds and *Yeibichais.* But a few, like the Two Gray Hills, Wide Ruins, Crystals and *Chinles,* are made with natural - colored wools or vegetable dyes.

Don's search for the best has brought him three prize - winning rugs which are displayed on his museum walls. One has taken three grand prizes, one a first prize, and another has won second and third prizes at tribal, inter-tribal and state fair competitions in New Mexico and Arizona. At least a dozen more among those in the museum would take prizes if they were ever entered in competition.

Watson says the rugs on the wall are not for sale until he finds a better example of each type he now has. And from the way Indian crafts are disappearing from the Southwest, it seems unlikely that many of these will ever be sold.

—END



Wild Folk in the Desert—The young naturalist will enjoy this authoritative interesting book about desert animals. There are 63 line drawings — everything from antelope to collared lizards. Written by Carroll Lane Fenton and Evelyn Carswell, the 128 page hard-cover book covers outdoor interests of the 7 to 12 level. It tells of how animals adapt themselves to the arid, hot desert lands of America. Price **$3.50**

Author Phil Ault writes a popular volume for teenagers who want to know some of the lore and legend of the desert. His book, **This is the Desert,** is historical, geological and authentic. The 180 pages are nicely illustrated. This book is for those who want some basic information about the desert country. It's aimed at the neophyte. Price **$2.75**

The last sentence in **Young Ranchers at Oak Valley** states: "And so off they went, down the dusty road, to a secret place where the raccoons live." And before the reader comes to the last sentence he has learned dozens of secrets about horses and rodeos and roundups and hayrides. Many fine photos illustrate this brand-new 64 page book. It was written by Lucille W. Nixon, and is aimed at the 8 to 11 age bracket. It is a Sunset Junior book. Price **$2.95**

The Cowboy at Work is a perfect out-west'er for the dedicated young cowhand, 11 to 15 years of age, either sex. Note some of the chapter headings: "How a Branding Crew Works," "Ranch Work," "Roundup Equipment," "Bronc Busting" and "Working Wild Stock." There are 32 chapters in all—and the type is large. Excellent detail drawings—600 of them—by the author, Fay E. Ward. The book, 290 pages, is written in range terms, but carefully describes western terms that might be unclear to the tenderfoot. **$8.50**

Before and After Dinosaurs covers a lot of time, geologically speaking. In 95 pages the authors, Lois and Louis Darling, describe the ancient reptiles and mammals that are now fossils. The beginnings of life are examined in this illustrated book that will please naturalists, aged 10 to 13. Price **$2.95**

The old west still lives strongly in young minds. For those who dream they will grow up to be cowboys, the new Sunset Junior Book entitled **Rodeo Days** is the right buy. The story of the rodeo sport is told in simple language, yet the colorful illustrations fill in completely for any big words that may be missing. Authored by Elizabeth Clemons, the book is marked for the 8-12 age range. 64 pages. **$2.95**

Kit Carson, Mountain Man is a new junior-level book about one of America's great Western heroes. Author Donald E. Worcester writes of the best of the dramatic life of the trapper, scout, and rancher in the 192 page hard-cover book. The story goes from boyhood to his adult days in New Mexico and the desert country of the Southwest. Illustrated with sketches and maps. For readers from 9 to 12 years of age. **$1.95**

Nezbah's Lamb is a small book about a small Navajo girl and her black lamb. It's for girls who are getting C's or better in the third grade. Edith J. Agnew has wisely used illustration heavily, type sparingly. The paper-back issue sells for **$1.25**

Sonia Bleeker's booklet **The Navajo** gives a very good basic background to life in a reservation village. There's some yesterday and much today in this story about a teen-age Navajo boy's life. Line drawings illustrate the volume which chronicles the story of the herders, silversmiths and weavers of Navajoland. 160 pages, hard-back, price **$2.50**

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