



# Desert

## EXPLORING LAKE POWELL

Canyon by Canyon

## TWO LIVING GHOSTS

Sky-City, New Mexico  
Jerome, Arizona

## DESERT SOLITAIRE

A Full-Color Critique

THE MIRACLE OF  
THE HUMMINGBIRDS





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And your strength shall be renewed day by day,  
like the morning dew ..... Psalms 110:3

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## Our Covers

Blossoming saguaro buds herald spring in the Arizona desert. Photographer Jeff Gnass captures their intricate detail on our front cover, looking southwest one morning on the far western side of the Tucson Unit, Saguaro National Monument. Our back cover, also by Jeff, shows the spring wildflowers you'll soon see if you follow the main loop road through Organ

Pipe National Monument, also in Arizona. A Toyoview 45A was used for both pictures, as was Daylight Ektachrome film, E6 Process. The saguaro was shot through a 400mm Chromar-T lens, 1/2-second at f90; the flower display in the afternoon looking south with a 135mm Nikkor W lens, 1/15th-second at f36.

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*Desert Magazine* (USPS 535230) is published monthly by Cactus Paperworks, Inc., 74-425 Highway 111, P.O. Box 1318, Palm Desert, CA 92261. Telephone: (714) 568-2781. **Officers:** R. C. Packer, President and Treasurer; Chester M. Ross, Vice-President and Secretary; Donald MacDonald, Vice-President and Editorial Director; Barbara Wheeler, Assistant Secretary. Controlled circulation postage paid at Sparta, Illinois and at additional mailing offices in the U.S.A. Copyright 1980 by *Desert Magazine*. All rights reserved. No part of this publication may be reproduced in any manner without written permission from the publisher. **Subscription Rates** for U.S. and its possessions, Canada and Mexico: 1-year, \$11.00; 2-years \$20.00. Elsewhere: Add \$4.00 per year surface, \$20.00 per year air mail (U.S. currency). **To Subscribe, Renew or Change Address:** Write *Desert Magazine*, P.O. Box 28816, San Diego, CA

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PUBLISHED MONTHLY SINCE 1937

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**National Advertising Sales, Inc.**  
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ABC MEMBERSHIP APPLIED FOR 8/19/80  
Advertising Information: See current SRDS, Sec. 30A.

Lithographed in the U.S.A. by World Color Press (Kent Witherby, Acc't. Exec.) • Color separations by Pacific Coast Color Service • Set in Times Roman and Goudy Old Style by Thompson Type • World distribution by Dell Distribution Co., Inc. (John Gaffney, Acc't. Exec.) • Offered in microfilm by Xerox University Microfilms • QUIP transmission available.

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# EDITORIAL

## Sandbagging an Old Friend

**W**HEN ONE THINKS of "bad-road" driving, as we at *Desert* like to call it rather than "off-road," one immediately thinks of the Jeep CJ. And be careful to capitalize the 'J,' too, or you'll get a nasty letter from the present manufacturer's attorneys. It's been copyrighted since the late Joe Frazer, then president of Willys Motors and later half of Kaiser-Frazer, coined the name for the World War II version.



Collection of Don MacDonald

These same attorneys are powerless, however, when the nation's most popular television program, CBS's "60 Minutes," dispenses serious and irresponsible doubt as to the Jeep's safety, which is what commentator Morley Safer did one Sunday evening last December to an audience of millions. He said, in essence, that Jeeps are unsafe on the highway in the hands of the average driver.

The fact is, as all readers of *Desert* know, that Jeeps aren't and never have been designed for operation on paved roads. They particularly aren't and never have been designed to make what Safer called a "J" turn into a parking lot at 32 miles per hour. They'll tip over doing this, Safer charged.

The Jeep has a military heritage, as do the similar in concept Toyota Land Cruiser and English Land Rover. These vehicles have a narrow track, as narrow as possible within the limitations of carrying two adults

abreast. The minimum width, high clearance and short wheelbase permit the shortest possible turning radius, a capability that can save lives in both military and civilian situations. I suppose they could be considered "top-heavy," but owners with a modicum of experience install a \$2.00 inclinometer on the dash and pay attention to its readings.

It's quite possible to build wide-stanced bad-road vehicles. Chevy Blazers and Dodge Ramchargers are existing examples of these, with their vulnerable "modern" styling and high hoods that block out everything but the horizon when cresting any kind of a hill. These may not tip over so easily, but they're too fat to go where a Jeep can go. Neither type, however, is designed to make "J" turns into parking lots, and even the Blazer feels out of place on a freeway.

Sequences of the program showing Safer gingerly maneuvering a Jeep on a proving ground somewhere in Arizona showed me he was out of his element, more normally the back seat of a New York taxicab. And much the same accusation could be leveled at the researchers from the University of Minnesota who cooked up the charges that prompted the show.

The Jeep's design is considered so functional, and therefore esthetic, that it is the only vehicle currently in production to be accorded permanent exhibition at New York's prestigious Museum of Modern Art. It has lasted without basic change since 1940, a life span that exceeds those of the Model T and the Volkswagen Beetle.

In the hands of one with a closed mind, any vehicle is unsafe, off highway or on. Morley Safer should be made to drive the "road" from Puertocitos in Baja to El Crucero in anything but a Jeep. He'd then know what it's like to walk out.

*Don MacDonald*

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# LETTERS

## A MESSAGE FOR PEGLEG

Dear Pegleg:

Your letter published in the April, 1974 issue of *Desert* stated you had written to the Magazine answering the questions of readers Victor Stoyanon, DeWalt, Miller and Gilbert O. French, and that your answers were never printed.

Those of us who have treasured every letter of yours published and who have had many years of desert pleasure because of your letters would really appreciate having you re-submit the unpublished letters.

Those letters would be a treasured addition to my collection of Pegleg Black Nugget stories. Please keep writing, Mr. Pegleg. Searching you out is the best therapy for what ails us all in these days of high tension.

*Fred J. Barrett  
San Diego, Calif.*

## LOOKING FOR 3,000,000

The U.S. Marines are looking for a "few good men." I'm looking for 3,000,000 — all those who served in the Civilian Conservation Corps from 1933 to 1942. Last summer some 500 former members of the CCC from 39 states met at the VFW Hall in West Sacramento, California, and organized the National Association of Civilian Conservation Corps Alumni (NACCCA). Those who are eligible and want to join, please write me at 1709 Michigan, zip code 95692, or phone (916) 372-5858.

*Jack Vincent  
West Sacramento, Calif.*

## TERRA CALALUS, U.S.A.

I really do not desire to become involved in or renew an old controversy. However, your interesting article in *Desert* (December 1980) regarding the possible settlement of Romans here in Arizona caught my eye. I remain very skeptical of the idea but due to my personal interest in American Indian symbolic writings, I studied your pictures of the "Roman" artifacts carefully. There just might be some truth in this strange story. It is, of course, possible that the artifacts were a product of an elaborate hoax of the 1920s. However, such a hoax would require

an understanding of Latin and Indian communicational systems.

These artifacts contain a mixture of Indian symbols and Latin. While I cannot speak as to the validity of the Latin, I can state that the Indian symbols are genuine. Furthermore, they follow a consistent and typical theme for messages regarding sacred areas or burial grounds. Certain perceptual ingredients of the Indian communicational system would make it very difficult to fake. The themes, the Latin, and the Roman images are very well integrated into each other. The integration of image and symbol is very much a part of the Indian system. It is possible to theorize that these artifacts were a joint effort of the Indians and Romans. If the Romans were in the area for the period of time indicated they may well have learned the Indian system.

The "crosses" occurring in these artifacts need not be construed as Christian. The cross is an ancient American Indian symbol probably greatly predating Christianity. Such cross symbols refer to the "crossing over" from material being to the spiritual. The "X" refers to the exchange of flesh into spirit form.

The Indian symbols make up all of the images on the paddle-shaped artifact. The crown, swords, large center cross and the "Roman" building all are composed of discrete Indian symbols. These symbols, while presenting unusual images for Indian artifacts, do not present unusual linguistic messages. They are nearly stereotypes of the usual burial statements, such as "Rest in Peace" would be in our present culture.

While I do not pretend to be totally accurate in translation, the general theme of these artifacts is that there are many burials under the hill near the area these objects were located. Excavation of the hill site would prove or disprove the messages on the artifacts.

*Clifford C. Richey  
Phoenix, Ariz.*

With reference to Terra Calalus, U.S.A., yes I believe Arizona had a Roman king 592 years before Columbus. As a lifelong Mormon, I

have believed it all my life. The Book of Mormon tells the fascinating story, and Joseph Smith gave it to all the world and to those who will read it and believe. Unfortunately, there are too many in the secular world who cannot be bothered, especially writers.

*Lola Esplin  
St. George, Utah*

## TARANTULAS AS PETS

Regarding your recent article on tarantulas (*Desert*, December 1980), a friend of mine says tarantulas would not have such a bad image if they learned to purr.

*Patricia McConnel  
Las Cruces, New Mex.*

## PRE-NEON LAS VEGAS

Have you ever thought about printing some history on Las Vegas, Nevada? A boy was born at the old Kiel Ranch on Oct. 11, 1909, and the doctor had to come out on a speeder (a railroad hand car). We had coyotes that ate the grapes and wild cats that took the chickens. In earlier days outlaws holed up there and could see the posses coming and could take off.

Mr. Kiel and his son were shot by a shotgun at the same time when they opened the door one night. Lots of people had their ideas on who did the killing but as long as one woman was alive, nobody or no newspaper ever accused her sons. And no prisoner ever ran from the sheriff, Sam Gay. He was noted for shooting their heel off to stop them. Indians used to come into town and sit on their blankets against the store buildings, feet out front and knees up, all day without ever saying a word or moving.

*Ethel Rocklin  
Ontario, Calif.*

We have an article on the history of Las Vegas scheduled for a near future issue but on second thought, what more need be said?

## SAGEBRUSH REBELLION

This is my second letter to *Desert* Magazine. My first was published about 29 years ago when I was sixteen years old and angry about an



article whose thesis was that the Apache chieftain Geronimo was actually a Greek who had fallen off a settler's wagon as a baby. After all, the article argued, Geronimo looked like a Greek. I am almost as angry this time at your equally silly assertion that the motive behind the Sagebrush Rebellion is the desire to solve human problems. To the contrary, the motive behind that "rebellion" is the same to be found behind most activities today; that is, profit.

Donald Palmer  
Fairfax, Calif.

Support the Sagebrush Rebellion (Editorial, January 1981) and give our wildlife areas to people who think like you evidently do, to despoil and decimate? No way! I do not consider you to be of more purpose on earth than any animal.

H. R. Simmons  
Coupeville, Wash.

I'm very interested in joining. Can you send me the address of the Sagebrush Rebellion?

Gerald R. Scott  
Anaheim, Calif.

We too would like to see our public lands given back to the people. Where can we obtain information on the Sagebrush Rebellion?

Patricia C. Geer  
Huntington Beach, Calif.

There are some who think, including us, that if the citizens of a state such as Nevada are denied even access to, much less ownership of, 87 percent of their land, that they have reason to "rebel." As to Mr. Simmons' charge, to quote the editorial, "... the habitat of wildlife (is) not at issue." And, too, we suggested that you, Mr. Simmons and all our other readers, "... were of more purpose on earth than any animal." We didn't mention us. For those who wish to "join," we must explain that the Sagebrush Rebellion is not an organization. It is a movement supported by diverse groups and individuals. Among the latter are the governors of the thirteen western states. Among the former is the League for Advancement of States' Equal Rights (LASER), 350 South 4th St. E., Suite 65, Salt Lake City, UT 84111. Your name and address will bring you a free monthly newsletter.

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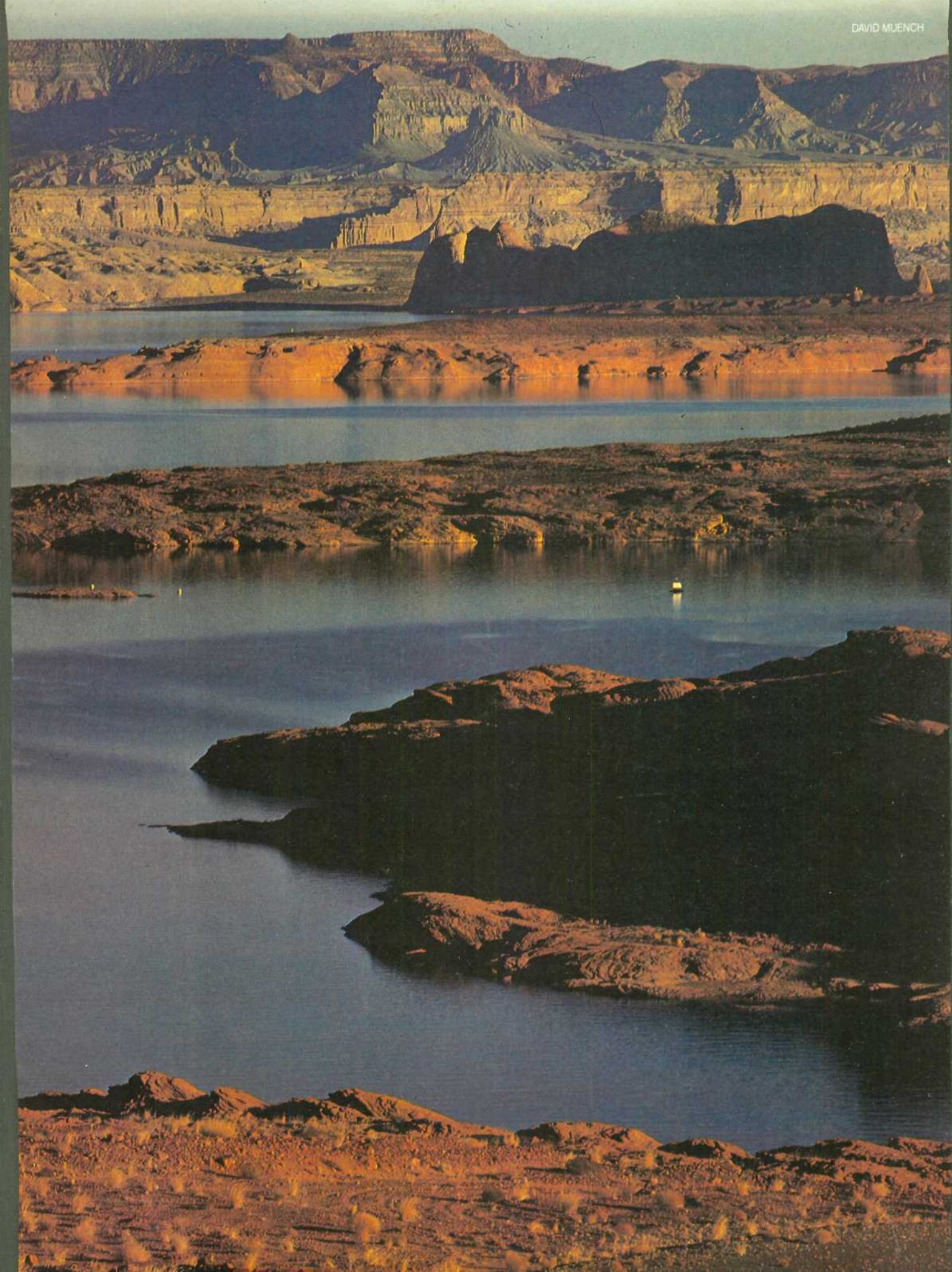


*If you're a bit slack in the middle and short  
of wind, rent a houseboat to explore*

## **The Canyons of LAKE POWELL**

Lake Powell's shoreline actually exceeds the combined distance of the California, Washington and Oregon coastlines. One of its most famous landmarks (insert, left) is the Cookie Jar as seen from Padre Bay.







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## The 583-foot-high dam that created the lake was named for Civil War Major John Wesley Powell.

by LARRY L. MEYER

**T**he pairings of deserts and lakes is not exactly the rule in nature. Where it occurs, the waters are likely shallow, salty or alkaline, but in any case "bad." But where nature leaves off industrious man begins. Like the beaver, he impounds water — scarce or otherwise — for his provender and his pleasure.

Take Lake Powell for instance. Seen from the cruising altitude of a transcontinental jet, it looks like a green centipede dropped on a rumpled fabric of rust-red corduroy. But seen from the deck of, say, a houseboat, it is blue and clean and endless, stretching 186 miles as the buzzard flies from northern Arizona into southeast Utah, but with so many labyrinthine side-canyon legs as to measure more miles than the coastlines of California, Oregon and Washington combined. That's a mighty big lake in a mighty big desert.

Though more than 2,000,000 visitors a year now come to this vacationland administered by the U.S. National Park Service, Lake Powell remains unknown to some desert lovers. In part that's due to the Lake's youth, having only started to fill in the Colorado River's deep bed in 1963, with the completion of Glen Canyon Dam.

But Powell remains known though unseen by some because of its very existence. Truth is, the lake was born in a bitter controversy that rages still. The Sierra Club and other conservation groups fought the plan to build the dam near present-day

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To the consternation of some, Lake Powell is open to all kinds of watersport. Here, a skier and fast powerboat sweep by a houseboat at anchor in Cedar Canyon.

LARRY MEYER

Page, Arizona, when it was proposed in the 1950s. They lost and the Bureau of Reclamation constructed the 583-foot-high dam that created the lake named for Major John Wesley Powell, the one-armed Civil War veteran who first ran the primal Colorado in 1869 as leader of a government survey team.

Although desert prose laureate Edward Abbey has discussed dynamiting the Dam in his novel, *The Monkey Wrench Gang*, chances are that the concrete and Powell's

impounded waters will be in place for a long time. That galls many desert lovers who still consider man's intrusion into this last-explored region of the west nothing less than rape. Well, probably so. But personally I follow the advice of the Chinese, namely that when rape is inevitable, or a *fait accompli*, why not kick back and enjoy it?

And that's exactly how I've been spending my spare time the last five years. With my two brothers' families and mine — three

generations of us, twelve strong — we have rented houseboats and explored from the Dam at the bottom to Hite at the top — as well as a majority of the lake's 91 major side canyons.

We found that each canyon has its own special character. And by virtue of the attractions we've seen and the adventures we've had, we've accumulated some favorites. Here they are, starting from Wahweap, on the lake's southeast end and by far the largest of its four widely spaced marinas:



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*An occasional storm will  
briefly come up and usually  
move on after bestowing a  
shower and gusting winds. A  
protective canyon is never  
far away.*

### NAVAHO CANYON

Anasazi ruins are to be found on the north wall of this longest of all Powell's side canyons, and today Navaho shepherds graze their flocks on its upper reaches. Should you probe it to the end of its seventeen miles, and the rains be recent enough, you'll be treated to the spectacle of Chaol Canyon Falls cascading more than two-score feet into a lovely grotto.

### PADRE BAY

From the name you know this is more than a canyon. Indeed, the bay is so immense that our party, split between houseboat and speedboat, managed to get lost from one another for the better part of two days. The fishing is good and the landscape is dominated by a striking formation known as the Cookie Jar. The Bay, by the way, takes its name from Padres Escalante and Dominguez who in the summer of 1776 made a courageous journey of exploration into the unknown territory of what is now northern Utah. On their return to Santa Fe they crossed the formidable Colorado River gorge here, on land beneath the present waters.

### RAINBOW BRIDGE CANYON

This natural wonder with National Monument status overwhelms all the cliches used to describe the largest

natural bridge in the world. It soars more than 300 feet high and was not even seen by white men's eyes until 1909. Perhaps the Navahos said it best with *nonezoshi* — "the rainbow turned to stone."

### DAVIS GULCH

Even at the height of summer Powell's many side canyons are seldom crowded. Except here. Within these sheer and narrowing canyon walls are cliffside Anasazi ruins, a 100-foot-wide natural window under which your houseboat glides, water so glassy and reflective that your head starts to swim, and an up-canyon cave that houses the best gallery of pictographs in the region.

### MOKI CANYON

A short trip from the mid-lake marinas at Bullfrog and Halls Crossing, it was one of the most densely populated of the canyons in prehistoric times — as attested to by the prevalence of ruins and petroglyphs. We, however, prize Moki most for the variety of its scenery, the towering patinated walls with their draperies, its water caves and lush meadows, cottonwood copses and fine camping sites.

### FORGOTTEN CANYON

A gorgeous gorge in which the National Park Service has stabilized, more than reconstructed, a small

Anasazi village high above the canyon floor. The sweat-generating climb up to Defiance House is well worth it, though, affording a look into two dwellings, a ceremonial kiva, and some large pictographic depictions of warriors who seem to be guarding the home of our vanished countrymen.

## RED CANYON

The ruckus raised by our Irish setter Jason turned some heads after we tied up here. There, four feet from my brother Glenn's two-year-old daughter Lee Abigail, a coiled sidewinder prepared to do battle. Brother Glenn dispatched the serpent with five of the truest shots ever fired from a .22. Red Canyon is also cluttered with remains of the uranium boom of the 1950s. We dutifully inspected them, looking for the famous Happy Jack Mine from which Joe Cooper is said to have realized more than \$25,000,000. We hiked to adjacent White Canyon where the mine is said to have been, but we didn't see anything to get our hearts pounding. Maybe they were right when they said the ore from the Happy Jack was so rich it didn't even need a tailing dump.

## FARLEY CANYON

Others might not find this up-lake canyon exceptional, but we had our share of family fun and adventure here. One involved the early-morning sighting of a beast that seem to be wading directly toward us from a shallow inlet about 200 yards south. Guesses as to what it might be ranged from the Incredible Hulk as a Young Man to a lame bear cub to a javelina in need of a bath. Even with our glasses on it, it remained a mystery creature — right up until the indifferent beaver swam within twenty feet of our gawking crowd. That same night we spent one of our few uncomfortable nights in Lake Powell country. The weather is generally kindly here. An occasional storm will briefly come up and usually move on after bestowing a shower and gusting winds. In any case, a protective canyon is never far away. Except that we had pitched our three tents right on a ridge-top that was directly in the

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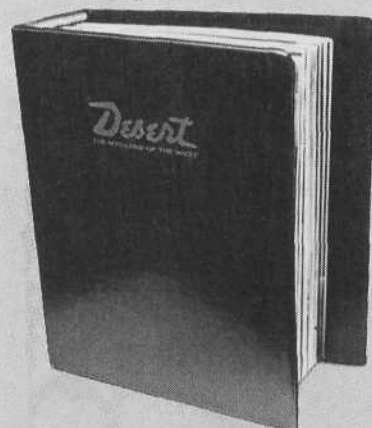
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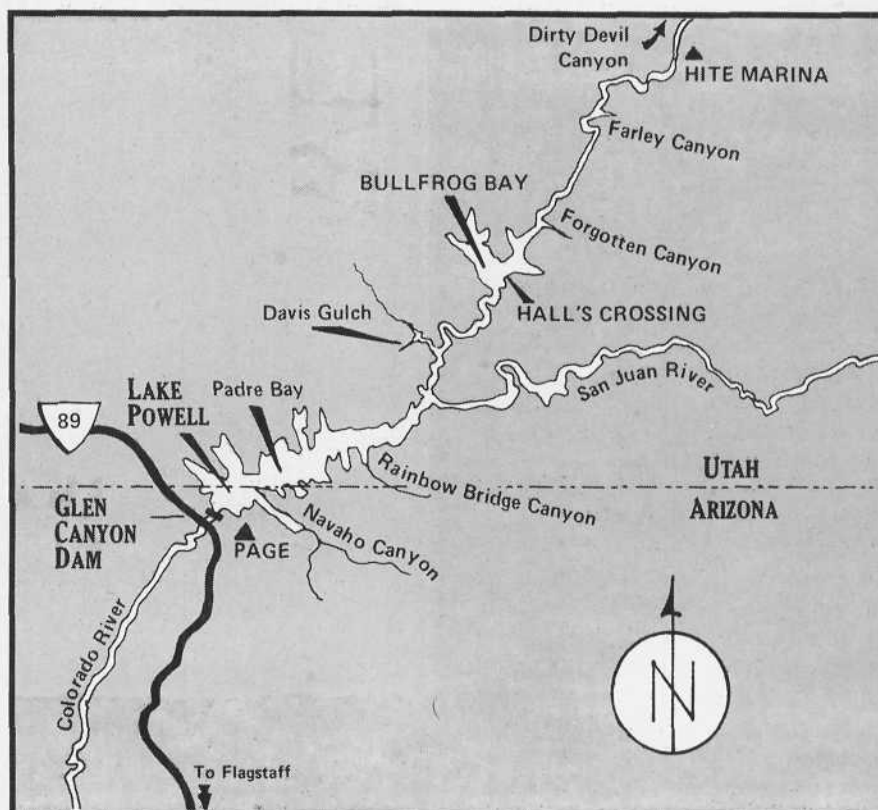
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## Even at the height of summer Powell's many side canyons are seldom crowded.



path of a gale that arrived in the post-midnight blackness. Rather than get pelted by rain we huddled and tried to sleep the night in our flattened tents. Morning's gentle dawn saw us wearily begin a three-hour clean-up. But not before we recorded with our cameras the scene we all know as Apache Massacre Campground.

## DIRTY DEVIL CANYON

This half-hidden corkscrew-twisting feeder river at Lake Powell's north end was flowing when Major Powell passed by here in the summer of 1869. According to the July 28 entry in his *Journal*, one of the men in a rear boat called ahead to ask if it was a trout stream. The man forward replied, much disgusted, that it was "a dirty devil." There were plenty of largemouth bass for us — two days' worth, feeding twelve, that were pulled from water that wasn't at all dirty.

Those are our favorites. Other Powell habitués may favor other canyons, and for equally valid reasons. One thing, however, I'm sure all agree on: the specialness of Utah's dry canyonlands.

Lovers of the arid west know the subtle varieties in deserts, in basins and plateau that to the casual eye "look all the same." Well, the canyonlands embracing Lake Powell are distinctively different — as is obvious even to that same casual eye. This is slickrock country, the weathered wonderland of the Colorado Plateau. Layers upon layers of sedimentary rock formed on the bottom of what was at least twice in the eons of prehistory an inland sea. Now raised and carved by wind and water into a polychromatic badlands, its majesty humbles and silences. *The Place No One Knew*, as the Sierra Club book so aptly described the region before the lake's creation, is now intimately knowable, and in a degree of comfort that John Wesley Powell could scarcely have imagined. [Z]



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# AN AWAKENING GHOST

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# JEROME, ARIZONA

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## BY DON MACDONALD

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**C**ITIES ACROSS THE COUNTRY vie with each other for all kinds of civic awards but if there was one for persistency, Jerome, once the fifth largest city in Arizona, would win hands down. It refuses to die even though today, in terms of population, it is probably the smallest incorporated city in the state.

Most everyone knows the official history of Jerome. Gov. Frederick A. Tritle of Arizona held leases on the site nestled against Cleopatra Hill and early in the 1880s, he talked Eugene Jerome into financing large-scale operations to extract the copper, which was known by the Spanish padres in 1582 and by the Indians who predated them to exist in the area. Jerome agreed on the condition that the city be named for him. Later, the flamboyant W.A. Clark of Montana took over.

The famous United Verde Mine, the Little Daisy and Jimmie Douglas's Wade Hampton and Eureka diggings, plus extensions of and additions to these when Phelps-Dodge arrived on the scene, allowed Jerome to call itself "The Billion Dollar Camp", and that was in the early 1920s when U.S. national budget wasn't much more than that sum. Then and now, Jerome's snakelike main thoroughfare drops 1,500 feet within the city's limits, and briefly hosted a trolley line on the short part of

*Little Daisy Hotel was built mainly to house visiting mining company executives, not tourists.*

it that was level.

Eighty-eight miles of mining tunnels still exist under the city proper for it was this, called the United Verde Extension, that kept Jerome prosperous well past World War II. The deepest of these tunnels reached to 4,460 feet under the surface but now they are filled with water up to the 1,000-foot level. It would be higher except that the water found an escape at that point.

Natural heat in some of the tunnels was so intense that the gasses ignited, burning out of control until recent times. And, too, there was an intentional explosion of 250 tons of dynamite to blast what is called the Black Pit in 1925. This idiotic engineering decision caused the whole city to start shifting at the rate of three-eighths of an inch per month. Today, what was once the city jail is 300 feet from its original location and although the earth movement seems to have stabilized, many other buildings shifted lesser distances.

Jerome never achieved a reputation for lawlessness that matched, say, Tombstone or Dodge City, perhaps because the city fathers employed a succession of famous marshals (Wyatt Earp and

Bat Masterson were two) to keep order. This, in turn, results in Jerome being of less interest to tourists today than those other, more notorious communities.

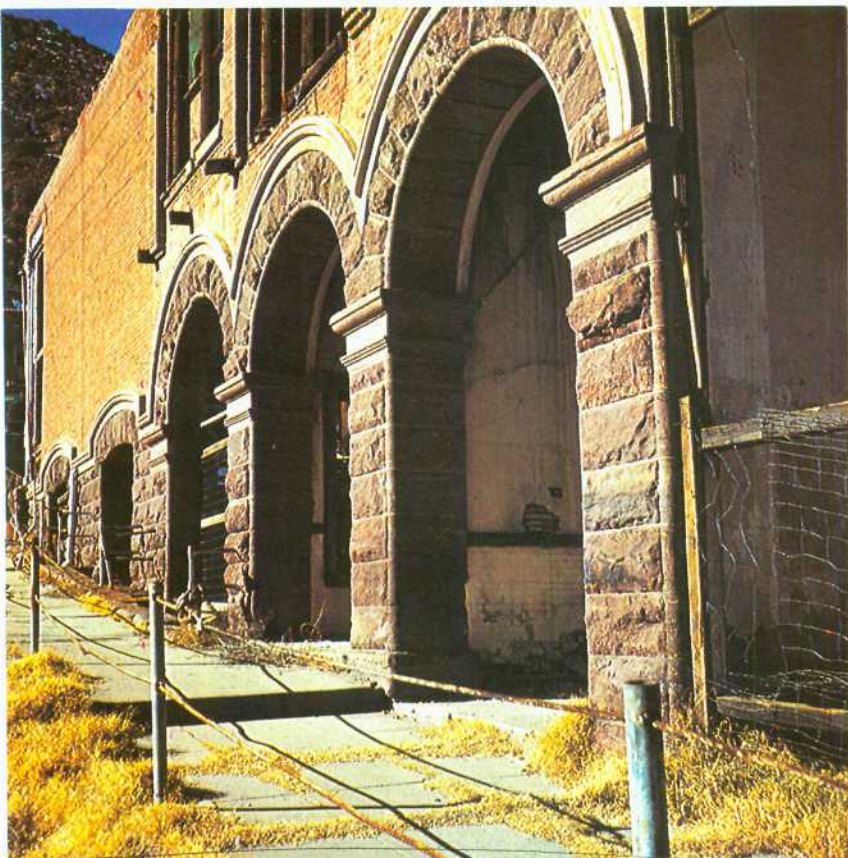
Much went on behind closed doors, however. A lady never known by any name other than the "Cuban Queen" ran a house of pleasure for a decade embracing the 1920s that was unique in being designed by an architect specifically for its purpose. The building may be seen today (if you ask for it's not in the official guide book), complete with cramped "cribs" that were staggered in elevation to make maximum use of available space. The Queen disappeared with her girls early in the 1930s, never to be heard from again.

Another industry that has disappeared is Jerome's justly famous "white mule." During Prohibition, practically every house had its basement still. While that was not unusual, what was is the fact that only one customer of record ever went permanently blind.

Many tried hard enough. Old-timers in Jerome still tell of "Handsome Dan" Murphy, scion of a wealthy Boston family, who would lay for hours in the middle of the



JIM PRICE



DAVID MUENCH

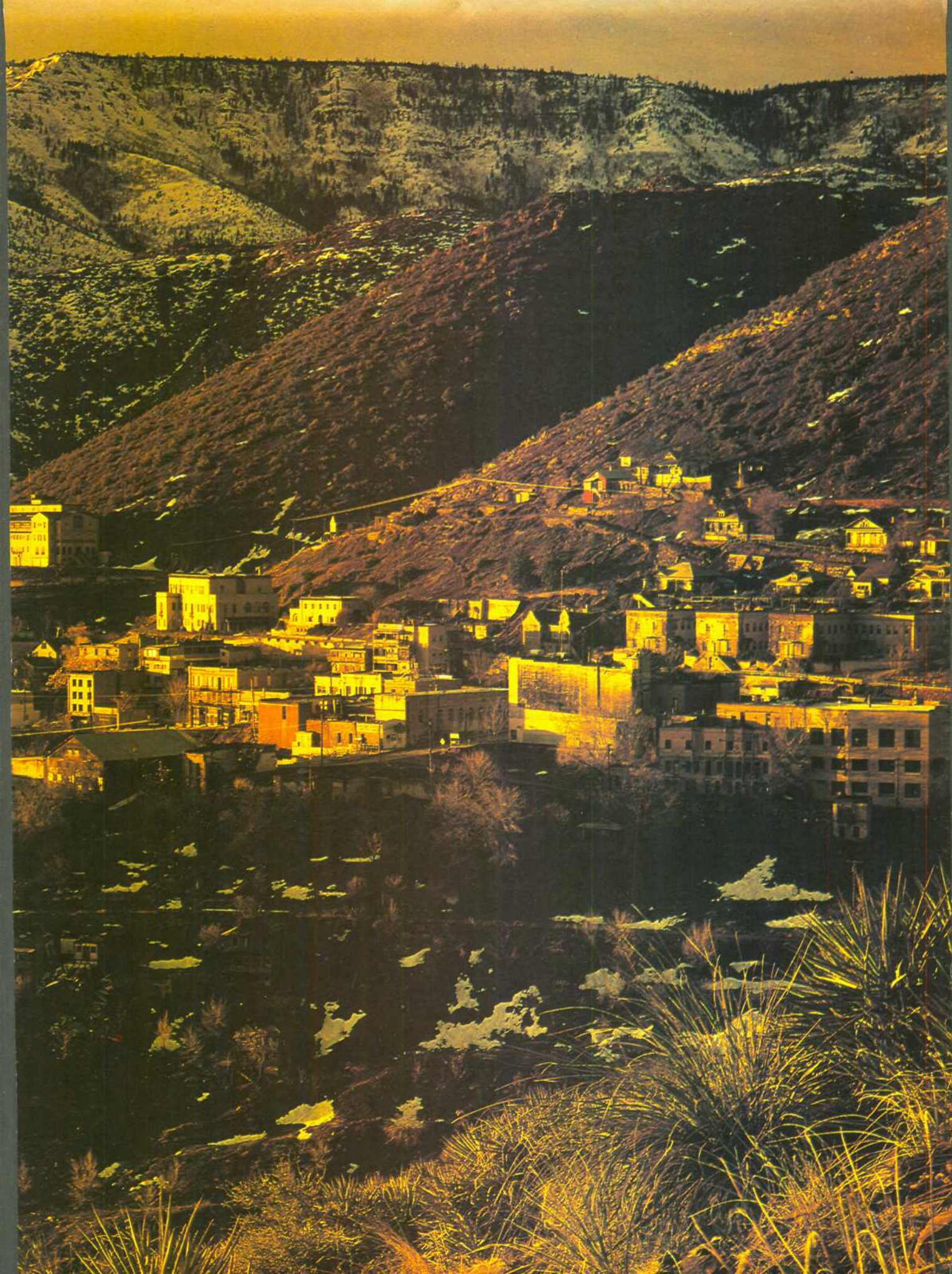


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*Downtown Jerome (photos above) has not deteriorated to the degree where restoration is impractical. And viewed toward the Mingus Mountains (right), the old city still seems an attractive place to live.*







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# JEROME

main street (by then a numbered state highway), collecting dust and flies. For Murphy, the mule was apparently as nutritious as Hadeacol for he lived until the late 1940s in this manner, borrowing a dollar at a time.

Jerome's English Kitchen also isn't listed in the guide book, or rated by Mobil either. Visit the building, though, knowing that throughout its active days and despite its name, it had always been a Chinese restaurant. Sometime around 1950, before Jerome became a true ghost, two of the three partners had a disagreement that involved those cleavers normally used to create chop suey. In the morning only one partner, who claimed to have slept through the melee, was left. He kept the Kitchen open by appointment until about fifteen years ago, a device that circumvented Arizona's Department of Health and Sanitation which had officially closed the place down. One body, incidentally, was never found.

What would have been the death knell for any other city came to Jerome with the census of 1950. This disclosed the fact that there were only 250 or so residents, a total about ten times less than the figure upon which the city's share of state and federal tax revenues was based. The boondoggle was over. Jerome's property tax shot up of necessity to \$18 per \$1,000 of valuation, the highest rate in the state, and since nothing anymore had much value, Jerome became a city without any but volunteer services.

When I first visited there in 1969, the big issue before the unpaid mayor and his council was whether to spend the \$961 received that year from the state on advertising for tourists, or to use it to build a much-needed public restroom for the tourists who might wander in anyway. Today, there's still no restroom but plenty of tourists, so the decision to not spend the money on anything was a wise one.

It was in the early 1970s that Jerome began a slow recovery, one which now sees about 400 permanent noses to be counted. It began when pensioners from the midwest discovered you could buy a fairly substantial, intact, two- or three-bedroom house in Jerome at a price ranging from \$500 to no more

than \$2,000. These people shooed the hippies out, spruced up the houses, and today, you might pay between \$40,000 and \$60,000 for what long-time residents still refer to as "old shacks."

The hippies that refused to leave became artists and soon, the once deserted streets were dotted with shops selling a wide variety of crafts. One ex-hippie, Dick Martin, is now the mayor and there are dark hints bruited about that he has Republican leanings.

If you reserve your visit for Saturday or Sunday and make reservations several weeks in advance, you may dine at the House of Joy, a thirty-seat restaurant that serves food acknowledged by those who have eaten it to be of gourmet quality.

The famous and once plush Hotel Jerome has not yet been reopened except for three rooms that house Mayor Martin's government. However, there are a few rooms available to guests at the nearby Connor Hotel. Another business that traces back a long time is a toy store that offers one of the finest selections in the state. The local garage, though, complete with signs identifying it as a Studebaker dealership, is still shuttered.

Every account of Jerome's past mentions its awesome high school football team, toughened from playing home games on a field spread with mine slag. The grassy fields away from Jerome were sheer luxury and the team seldom lost a game anywhere for obvious reasons. This mustard-colored building still stands, unused, at the lower city limits, today's few children being bussed elsewhere.

Will the mines open? That question is always asked, even by the old-timers. It's possible. While the copper is gone, at least in percentages that would make extraction at today's prices profitable, there is zinc, lots of it, enough to cause the knowledgeable Phelps-Dodge Corporation to hang on to its properties under and around the city. The problem is that zinc, as used in die-castings, has lost much of its market to plastics. And therein is the key to Jerome's future. Plastics require petroleum to manufacture and the scarcer that becomes, the more chance there is that Jerome may once again become the fifth largest city in Arizona. **[D]**

## HANDY-DANDY FIRE STARTER

EVERYWHERE ONE goes through the tinder-dry forest and high desert lands this year, there are signs cautioning smokers from throwing lighted matches out from car windows and that is as it should be. We all seem to be into an extremely arid winter.

Matches, lighted cigarette and cigar butts, and pipe ashes are potentially lethal; everywhere, that is, except at your campground where you want a small, controlled and encircled fire for the evening meal.

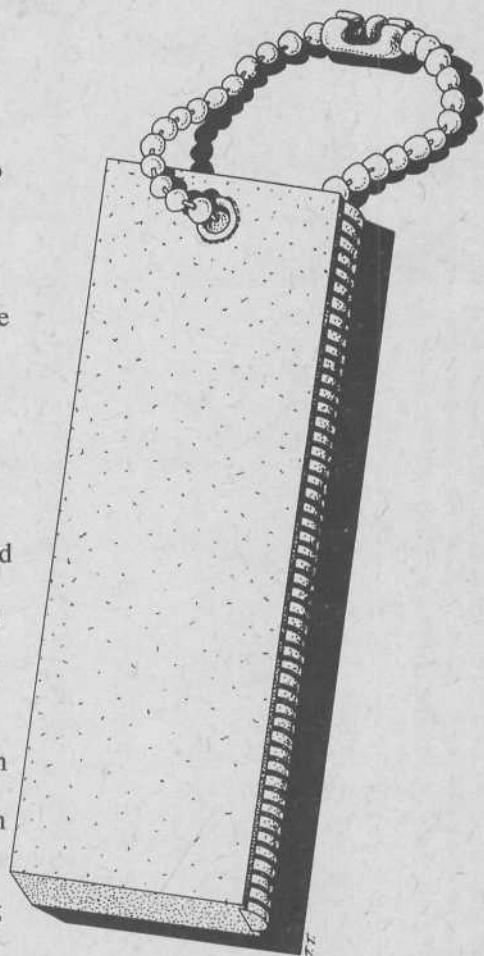
Sporting good stores stock innovative waterproof match containers, manufacturers waterproof the matches themselves and there are the variety with extra-long heads which are supposed to stay lit in the wind. They don't, most of the time. Fire is a sure thing only when you don't want it.

So, we read with more than usual interest a leaflet that came to us describing a product called the Magnesium Fire Starting Tool. Then we sent for one and found that it worked just as well if not better than the claims made for it.

It is a two-ounce block of magnesium, about three inches long and one-and-three-eighths inches wide, with a hole in it so that it may be carried on your key chain. On one side is a built-in sparking device. The only item you have to provide is a small, not necessarily very sharp, pocket knife.

To use the tool, you scrape off a small pile of magnesium shavings with your pocket knife. The magnesium is quite soft and you can accumulate an adequate pile of shavings in half a minute. Then bunch the shavings together and place them in some tinder, which needn't even be dry.

You're ready now for some sparks which can be created by briskly scraping the flint-composition insert on the block with the scraper provided. Hold the tool firmly and



close to the shavings while doing this so the sparks may be directed properly. With a little practice you should have the shavings and thence the tinder ignited within ten seconds.

I carried one of these tools on my key chain for about nine months, using it on outings and letting others try it, for what I guess must be close to 300 lights. With all that, there was only a slight indentation on the side of the tool where it had been scraped, maybe five percent of it gone. I suspect that one tool would be worth thousands of lights, at least a lifetime of normal use.

One man to whom I was pitching this "lifetime" concept agreed that the magnesium was a great idea, but

predicted the sparking insert would turn to powder in a year, making the tool worthless. Upon further questioning, I learned he related his prediction to the performance of so-called "metal matches" which are sold in most camping stores. True, the matches will do this, but not the sparking insert on the tool. It is made from entirely different, much harder materials.

A concerned lady asked me if the magnesium could explode, since the material is so highly flammable. To find out, I tossed my Fire Starter (by now I had acquired extras) into the campfire one evening. In about ten minutes there was a deep golden glow and then a small shower of sparks that subsided in another five minutes. There was no explosion.

Since there is literally nothing that can go wrong with it, the tool should *always* work. Failure to produce a flame is usually the result of: 1), not cutting off enough shavings; 2), not pushing all the shavings into a single pile before attempting to ignite them; or 3), not holding the tool firmly when igniting, thus causing your hand to slip and scatter the shavings.

The Fire Starter is not yet widely available in sporting goods stores. The quickest way to obtain one is to send \$5.00 (includes postage and handling) to Survival Services, P.O. Box 42152D, Los Angeles, CA 90042. We've been assured that your order will be shipped promptly.

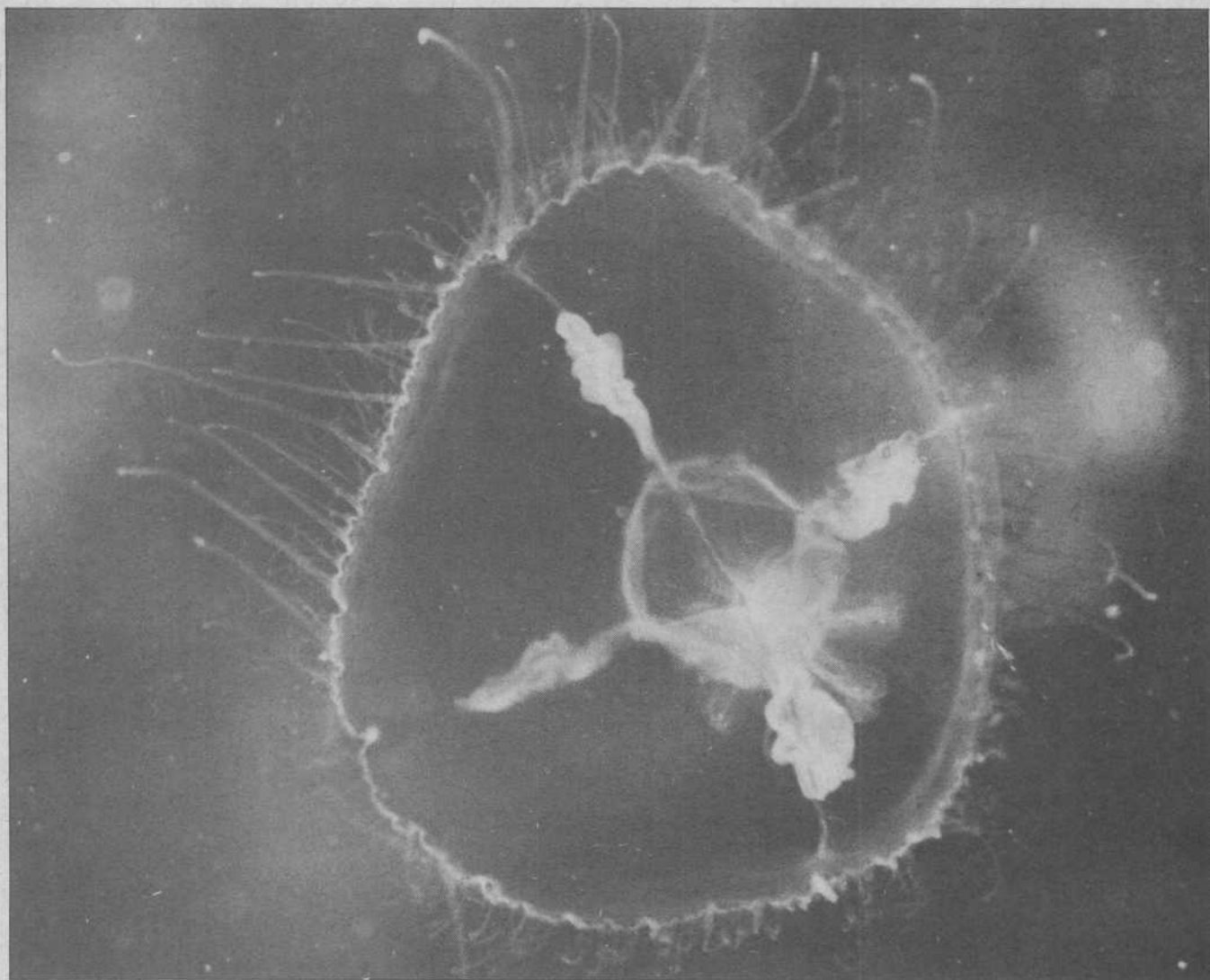
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# DESERT JELLYFISH



DESERT MAGAZINE ARCHIVES

by  
**Choral Pepper**

*Strange Lake Mead jellyfish sprang to life as the waters rose due to construction of Glen Canyon Dam in 1962, then disappeared a few weeks later without a trace.*

**I**T WAS A SUNNY autumn day on Lake Mead in 1962. My son, Trent Lowe, was hanging over the water from the deck of our boat. "Hey," he yelled, "what are those circles in the water? Look, they're alive!"

In a few moments, we were asking ourselves the same thing. Our familiarity with the water of Lake Mead was experienced enough to recognize that the sudden

appearance of this foreign form of life represented some kind of phenomenon.

Slightly smaller than a quarter, the strange creatures had bodies that were entirely transparent except for a faintly etched, four-petal outline in their centers. When not in motion, they resembled a pattern of geometric circles inscribed by a compass. In motion, they pulsated, with their bodies assuming the shape

# Seen Once, They Never Return

of a mushroom cap.

The cove in which we found them lay far up the lake where few boaters strayed. This was an interesting time on Lake Mead. The water level was the highest it had been in the Lake's history due to the construction above of Glen Canyon Dam. Arid desert that never before had been touched by masses of water was inundated now. The cove in which we were anchored was such a place.

While watching the masses of iridescent, pulsating circles, I recalled reading a few years earlier about a tiny fish-like creature that had sprung to life in a California dry lake bed when a flash flood suddenly filled it with water. Scientists had rushed to the scene, hopeful of witnessing a manifestation of spontaneous generation. They were disappointed. Instead, the mysterious life proved to be a form of apus, a water flea. What appeared as spontaneous generation was actually a product of "resting eggs." Dormant eggs of the species had remained buried in the sand from a time when water had covered the desert. The flash flood had resurrected them.

Could the strange life we now watched actually be a demonstration of spontaneous generation? That was the question we asked when we carried a bucket filled with the creatures to the biology department of the University of Nevada at Las Vegas.

Doctors Bill Haskell and Jim Deacon were as confounded as we until their preliminary research identified the life form as *Craspedacusta sowerbyi*, an exceedingly rare and elusive fresh-water jellyfish. Because soft bodied organisms such as this fail to leave fossil imprints, it is impossible to deduce a definite date of origin,

but scientists believe that the transparent animal foreshadowed a basic plan from which all forms of more highly developed animals evolved. One factor is certain — of

**Because soft bodied organisms such as this fail to leave fossil imprints, it is impossible to deduce a definite date of origin, but scientists believe that the transparent animal foreshadowed a basic plan from which all forms of more highly developed animals evolved.**

the few pre-cambrian forms of life still extant, the jellyfish is the most primitive to possess a true mouth and stomach. It is so elemental, so simple, that only the sponge and certain one-celled protozoa could have preceded it. Where it comes from, where it goes, or its ultimate effect on other forms of life is still unknown, even though we know more about it now than we did then.

Previous reports of the species had come from newly filled lakes and

water-filled quarries in locations difficult to study. Lake Mead, however, was endowed not only with an interested university nearby, but also with help from the Lake Mead Recreational Department, the Shore Patrol and private individuals with boats and scuba diving experience.

To study a creature as nebulous as this may seem irrelevant on first thought, but the same could have been said about the lowly algae — an educated understanding of which solved the problem of disposal of human excretion in sealed space capsules. Doctors Haskell and Deacon immediately launched an elaborate testing station to study jellyfish activity around the clock. Divers studied them underwater. Laboratory technicians studied them in tanks. Our family maintained some in fishbowls to study at home. It was hoped that a deeper understanding of this elemental form of life might help to shed light on the very fact of life itself.

Although referred to as a "jellyfish," the *Craspedacusta sowerbyi* is really not a fish at all, but rather an animal without a skeleton. The transparent jelly-like substance contained in its endoderm and ectoderm (skin and tissue) is composed of 98 percent water. The creature has no brain, no blood vessels, no throat and no food canal. There is only one principal internal cavity, the stomach, which opens to the exterior by a single aperture, the mouth. It is strictly a one-way system. That which enters exits by the same route.

The flaps traced by the four-petaled design contain gonads (glands which generate). Around the margin of the mushroom-like cap is a fringe of almost imperceptible tentacles that contain coiled



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## JELLYFISH

stingers. When triggered, they emit a poison powerful enough to stun a fingerling. A tubular section — the stem of the mushroom — extends from the center of the body and acts as a mouth. Jellyfish are carnivorous. The microscopic plankton upon which they feed are caught and placed in the mouth opening by the tentacles.

Their progress through water is achieved as a result of rhythmic pulsations, or spasmodic muscular contractions of the bell part of the body. The animal lacks a true central nervous system, but it does have an efficient network of sensory cells connected with its muscular fibres which, when stimulated, controls the rate of pulsation of the bell for locomotion. Horizontal progress is slow, but the creature moves up and down as fast as a yo-yo.


**A**S STUDIES AT the University continued, formerly published research on the species proved questionable. Most marine jellyfish have ocelli, or eye spots, located around the outside rim of their bodies, but it was generally believed that their fresh water descendants lacked these. However, Dr. Haskell detected an apparent sensitivity to light. It is unlikely that the animals surface to feed when the plankton they feed upon is far below the surface. It is equally unlikely that they surface to avoid predatory fish, since even carp ignore them. Possibly they respond to red-yellow sun rays close to the surface, or even a gravitational pull. In the University aquarium, Dr. Haskell divided the tank into two sections, masking one side to keep it dark. Jellyfish placed in each sector were soon all attracted to the light side, those on the dark side having slipped through a thin crack left in the partition.

An emotionally uncomplicated as the life of a jellyfish might sound, its sex life shouldn't happen to anything. The only way to distinguish a boy from a girl is to remove its petal-like gonad for microscopic inspection. Among jellyfish, of course, the decision is less devastating, since they haven't the brains to figure it out anyway.

A similar complaint is often lodged by biology students trying to

understand the animal's love life. The cause of confusion is a feature referred to by zoologists as "alternation of generation." This means that a single animal may achieve two forms during its lifetime — one sexual and the other asexual. The first is the "medusa" form, as seen on Lake Mead. The medusa reproduces sexually as other animals do by means of eggs and spermatozoa which, after union, produce baby polyps. The polyp is the asexual form. It has no sex organs and maintains a vegetative mode of reproduction by means of budding. Its buds may give rise to other polyps or to medusae. Because medusae produce only polyps, but polyps produce either other polyps or medusae, a regular alternation between polyp and medusa is attained. The polyp itself is difficult to study because of its inconspicuous size and immobile nature. None were recovered in Lake Mead and it proved impossible to raise them in the laboratory.

Another question is whether or not the sting of these jellyfish is potent enough to deplete game fish in sporting waters. Dr. Deacon said that they had stunned and even killed fingerlings in the aquarium, but because of their short-lived existence he couldn't visualize them having a marked effect upon the fish population in Lake Mead. As for injuring persons, that, too, is unlikely, although the sensitive skin of a child might respond with an allergic reaction similar to that caused by a bee sting.

In the laboratory, thirty days was the maximum length of time botanists were able to keep an individual jellyfish alive. Dr. Haskell reported that some question remains in his mind as to whether his procedure was correct or whether this is their normal life span. In all instances of natural occurrence, jellyfish have lived for a relatively short time before disappearing as suddenly as they first appeared, never to return again. The Lake Mead project didn't produce any startling discoveries, but it did accumulate ecological data which could expedite future studies. Considering that all animal life very likely evolved from the primitive jellyfish, it is an interesting species to study. We might want to begin the whole thing all over again — on Mars! 



*The late Maria Martinez (left) and sister, Clara, stand ready to ignite the fire at an instruction session at U.S.C.'s Idyllwild campus.*

### **By Ernest Maxwell**

*If this country honored its artists and craftsmen as does Japan, Maria Martinez of San Ildefonso would have been designated a living national treasure. As it was, the famed Indian potter became a legend in her own times and was feted at the White House twice.*

**N**OTED FOR HER burnished black-on-black pottery, Maria died in late July, 1980, at the announced age of 94. Since the exact date of her birth is unknown, there is the possibility that Maria was closer to 100 years. She is buried in the small church cemetery at the San Ildefonso Pueblo on the Rio Grande River in New Mexico.

Although her pottery is now listed as "priceless" and masterpieces sell for upwards of \$20,000, Maria received only small amounts for her works. Her daughter-in-law, Santana Martinez, once said she never kept "a dime for herself." A close friend, Susan Peterson, said it was Maria's policy to share her life and pottery with others.

Ms. Peterson said that Maria Martinez felt she was "born for people." Her openness toward all people stemmed in some measure from the fact that early in her life her father taught her Spanish and English. By the time she was thirteen Maria was ready for any opportunity. Yet, she was extremely loyal to her people and the San Ildefonso Pueblo.

The Pueblo is the hub of the reservation of 26,202 acres lying on the upper side of the Rio Grande River. It is located between Santa Fe and Taos, and is one of a small group of Tewa-speaking pueblos that hug

# **A Folk Art Is Alive And Well, Thanks To MARIA MARTINEZ**





*Maria, colorfully dressed, poses for one of the last pictures taken of her before her death.*

*Pueblo Indian pottery-making is always a family affair, the art being handed down from generation to generation. The jug (below) was made by Santana and Adam Martinez, the bowl by Barbara Gonzales, Maria's granddaughter.*



the river. It is believed that the San Ildefonso Pueblo has been in existence for about 400 years.

Because of her ability to communicate, Maria and her husband, Julian, were drawn into cultural research projects begun many decades ago in New Mexico. The couple was exposed to archeological expeditions and the search for more information about the origin of southwest pottery.

One of these expeditions was led by Dr. Edgar Lee Hewett, then head of the archeological department of the University of New Mexico. In 1908-09 he uncovered shards of black pottery in the vicinity of San Ildefonso. As the then director of the Museum of New Mexico, Santa Fe, he had become acquainted with both Maria and Julian. He was aware of her skill as a potter.

Dr. Hewett asked the couple if it was possible to duplicate the blackware. At that time there was no evidence that the fragments resembled anything produced by Indians of the southwest. Virtually all of them, including Maria, were creating polychrome ceramics with light backgrounds. Even today, many of the indigenous potters continue to produce polychrome ware.

Julian began experimentations that eventually led to the black-on-black pottery for which Maria became famous. Key factors were the kind of clay and the iron-bearing slip added to the piece of ceramic slip. The slip functioned as a glaze that could be polished with a smooth stone. By reducing the oxygen in the firing, both the slip and clay body turned black. This process was evidently known centuries before in Mexico.

Early pottery revealed little or no decoration, since the ware was used primarily for cooking. Throughout the world most primitive pottery was a simple container form that replaced the cupped hand, and there is some evidence that vessels produced by earlier southwest natives evolved from basketry. Woven baskets were daubed with clay to make them watertight and "fired" by sunlight.

According to Ms. Peterson, a well-established ceramist and author of a recent book on Maria Martinez, pottery production of Pueblo Indians is today performed essentially as it has been for centuries. The potters

*(continued on page 28)*



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wheel is not used nor is the gas or electric kiln. Pots are made by the coil method and firing is by means of the campfire technique. Clay bodies are indigenous to the different pueblos.

**N**OT ONLY DO Indian potters hold to traditional production procedures but attitudes are consistent with native philosophies. They are creating a folk art that stands high in a world that isn't easy to imitate without a basic understanding of Indian customs and beliefs. There is a great difference between the Indian potter and the so-called "production potter" popular in this country today.

Once Maria and Julian successfully recreated the blackware uncovered by the Hewett expedition, they were encouraged to continue with the black-on-black pottery. Because the making of pottery was traditionally the woman's role, Maria made the ware and her husband, a painter, added the decorations. However, Hewett insisted at the start that designs be limited to those characteristic of the San Ildefonso Pueblo.

Southwest pottery, as mentioned above, is made without the wheel. Starting with a puki, or shallow clay saucer, the pot is built with rings of clay laid one on top of the other. Fluted together and rubbed with a piece of gourd, the walls of the piece are shaped. Considerable patience is required during this process because the type of clay body used cannot tolerate too much handling or moisture.

Normally, many hours are required to fire both low fire and high fire ceramic ware. The heat in kilns is raised gradually to prevent shattering clay items. Southwest Indians use a campfire procedure that not only calls for less time but permits immediate high temperatures. A firing of Indian pottery can usually be completed within two hours.

The secret is in the clay body. Gathered from special sites near each pueblo, native clay is mixed with a volcanic ash that reduces the thermal shock factor. Each step requires patience and the observation of tradition. Because the making of pottery is invariably a generation-to-generation craft among Indians, there is a thorough

knowledge of how to gather, mix and fire the clay.

To produce the black-on-black pottery made famous by Maria and Julian, special attention is paid to the firing. When the wind is right and pots are dry, the fire is laid in an open area. Dry wood is used to start the blaze beneath the ware stacked on a metal grill. Large pieces of manure cover the pots and to control drafts, old pieces of metal are added. The Martinez family uses old mess trays and license plates.

The fire is lit and as the manure burns fiercely, a careful watch is kept to see that the pile burns uniformly. At the proper time finely pulverized horse manure is added to cover the smoldering mass. It is this process that reduces the oxygen and blackens both the pot and slip. Production potters accomplish the same reduction in gas kilns by reducing the supply of oxygen near the end of the firing.

When the Martinez family was invited to instruct at the Idyllwild School of Music and the Arts, the University of Southern California's campus in the San Jacinto Mountains, students were exposed not only to the techniques of making black-on-black pottery, but they also learned something about Indian culture and the art of being patient.

At the start of the workshop each student was given a handful of clay and ash. From the first day it was obvious that mass production was not a goal of the learning process. For students with ceramic experience there was a critical problem. Conditioned to producing a daily quota of pots, they had to shift gears to working for days on a single item.

**T**HE IDYLLWILD venture was a new experience for the Martinez family. It was the first time Maria had instructed in a classroom apart from her own New Mexico setting. The opportunity came as a result of a grant from the National Endowment of the Arts arranged through Ms. Peterson. She was head of the Idyllwild ceramic program. The grant brought the Martinez group to the campus for four summers.

Five generations were involved in the instruction. Since Maria ceased to make pottery several years before her death, her only living sister and son, Clara and Adam, headed the

teaching team. Maria's husband died in 1943, and until his death in turn, another son, Popov Da, took his place. Two other sons preceded Maria in death.


Usually among the Pueblo Indians, the art of making pottery passed from mother to daughter. There appeared to be a "motherly" sense of responsibility that flowed from the parent to not only the children but to the pueblo. Maria was considered the "spiritual leader" of San Ildefonso because of her interest in that Pueblo. She encouraged others to make pottery, and occasionally signed her name to the work of others when she felt it would help a sale.

Maria is credited with altering the custom of Indians not using their names on pottery. Although potters worldwide usually sign their names, those of the southwest followed traditional beliefs that the introduction of a human name to a creation dealing with nature and spiritual matters was competing with the Supreme Being.

Two other well-known pottery-making families have taken Maria's place at Idyllwild where interest in southwest native culture is strong. Blue Corn, also of San Ildefonso, and Lucy Lewis, of Acoma, now bring their families to the mountain institution for workshops. Again, students learn that the Indian way is not that of the city potter who depends more on mass production.

Blue Corn and Lucy Lewis have established their own niche in a field that still depends upon methods and philosophies that date to earlier times in the southwest. There are differences, however, from the Martinez final product because of techniques and the fact that Acoma clay is different from that of San Ildefonso.

Because both black-on-black and polychrome have become popular throughout the world, the demand is strong from large eastern dealers. The temptation increases for ways to step up production. Shortcuts are possible and among younger Indians, the desire to adapt to the market may bring about changes.

Meanwhile, thanks to established pueblo families of the southwest, the link with the past is secure. One of this country's greatest contribution to folk art is alive and well. The seed planted by Maria and others was of good stock. 

THE CACTUS CITY

# Elarion

THE NOSIEST NEWSPAPER IN THE WEST

VOL. 2 NO. 3 • MARY EILEEN TWYMAN, EDITOR • MARCH, 1981

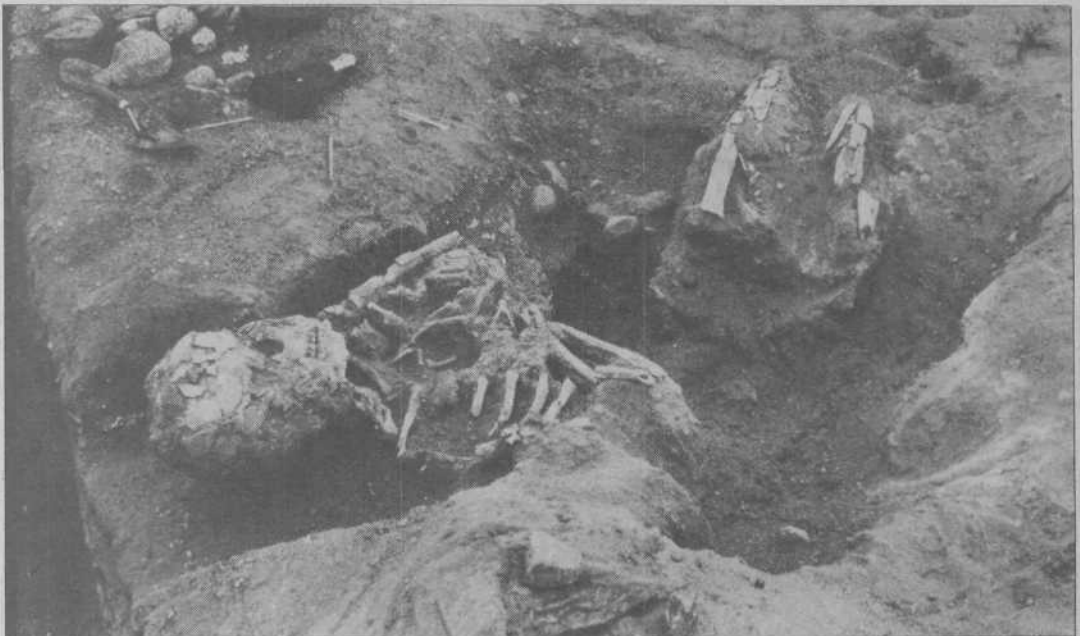
## \$1,000 REWARD OFFERED FOR RETURN OF STOLEN YUHA MAN

by Herman W. Ronnenberg

El Centro, Calif.—Scientists who have been unsuccessfully looking for the misplaced bones of Peking Man now have a missing American fossil to seek as well. Yuha Man, one of the oldest human remains ever found in America and the pride of Imperial Valley College's Barker Museum, has been stolen. The theft took place about the middle of October but was not made public for about six weeks.

The skeleton was unearthed west of Calexico, California in the Yuha Desert Basin in October of 1971. El Centro lay archaeologist Morlin Childers discovered the site. Carbon dating has indicated the semi-fossilized bones to be 21,500 year old. Since its excavation it has been extensively studied by the University of Arizona and San Diego's Museum of Man among other institutions and has become well-known in archaeological circles.

Recently, arrangements were made for the Smithsonian Institution, Washington, D.C., to take custody of the bones. Having been found on federal land, the remains are federal property, and the Museum and the Bureau of Land Management had suggested that the Smithsonian accept custody of the skeleton. The Museum in El Centro was awaiting shipping instructions when the absence of the bones was first noted.



Yuha Man, shown as found, is said to be 21,500 years old. Photograph by the author.

Besides taking the footlocker containing the bones from Imperial Valley College's rural campus, all photos, negatives and other documentation on

the find were stolen from the Museum five miles away in downtown El Centro. It is suspected that a person knowledgeable of the storage

locations committed the robberies.

I.V.C. Museum curator Jay von Werlhof says the thefts of  
**Continued on page 36**

## WETBACK MAKES GOOD, NEVER FORGETS ROOTS

by Lee James

Bisbee, Ariz.—Benny Cortez, a prominent Sierra Vista businessman, has never forgotten his beginnings. Twenty-six years ago he was a scared young Mexican alien who had waded the Rio Grande in pursuit of a dream.

"I always address myself as a wetback," said Cortez. "When

I first came to the States the one thing in my mind was to do or die. Of course I was always thinking, what will happen if I'm picked up?"

Cortez became a naturalized citizen in 1962, following a stint in the U.S. Army. It was the beginning of a new life, one that has led him to numerous business successes and a

certain stature because of his many civic activities.

He came from a poor family of ten that lived in Saltillo, Mexico, about 1,300 miles from Sierra Vista. By the time he had reached his late teens, he could see no future in Saltillo.

Cortez's first job in the  
**Continued on page 36**



## UNDERSEA GEYSERS SEEN IN GULF OF CALIFORNIA

—Reese River REVEILLE



## BLM TO CHANGE NATURE'S PLAN

by Denys Arcuri

Blythe, Calif.—The Bureau of Land Management's Corn Springs campground, already a haven for desert wildlife, is slated for some improvements in the near future which should enhance the quality and quantity of the wildlife habitat.

Humans camping near the spring itself, and the drinking habits of tamarisk trees on the site, have caused deterioration of the habitat.

The tamarisk, closely related to the salt cedar, is similar to

that plant in appearance and also in its poor performance as a provider of wildlife habitat.

Birds are the chief feature of the unique oasis. Since the oasis is the only one of its type for many miles, migrating birds are strongly attracted to its greenery.

A group of BLM planners will visit the area in the near future to study the area and the proposed changes.

—Palo Verde Valley TIMES

## URANIUM A HARD WAY TO GO

Monticello, Utah—Uranium is difficult to find, hard to mine and it takes a ton of the rock-like ore to produce just five pounds of energy-rich uranium oxide, the compound that serves as a fuel source in nuclear reactors.

Despite those complications, nuclear power remains one of the top contenders as a supplement to conventional energy sources now and the years ahead because the five pounds of uranium oxide recovered from a ton of ore is equivalent to almost 7,000 tons of coal or a comparable amount of oil.

Mining uranium is not easy

work. A miner may be working as far down as 1,300-feet below the surface, on two shifts. There might be water seepage, mud underfoot and water trickling down the mine walls. The only light that pierces the darkness is the thin beams radiating from miners' hardhats. Without the beams, it is total darkness.

Still uranium, the only new source of energy discovered in the 20th Century, fills but a fraction of our electric-power needs. Experts predict, however, by the year 2000, nuclear power will be a common part of the U.S. energy base.

—The San Juan RECORD

## LOW-ENERGY COOLING RESEARCH TO START

Bisbee, Ariz.—The University of Arizona's Environmental Research Laboratory has been selected as the site of a federally-financed test center to study low energy-use cooling systems for hot, dry climates.

Called the "Passive Cooling Experimental Facility," it will test methods of making desert living more comfortable with little energy consumption by working with the environment and relying on little or no machinery.

Examples of passive cooling include a partially or fully buried basement which taps the natural coolness below the

earth's surface, and a special roof which radiates the day's heat into the nighttime sky while, at the same time, cooling house air that is circulated underneath the roof.

Many of these systems will be combined with construction techniques, such as thick adobe walls, to keep coolness inside the structures during the day.

Approximately 26 different passive cooling methods along with other ways of enhancing comfort will be studied over a three-year period.

—Brewery Gulch GAZETTE

## GOLD-BEARING GRAVEL MAY CAUSE PROBLEMS

Monticello, Utah—The *Mining Record* reports that a former Idaho state policeman has been given permission by the Bingham County Commission to prospect for gold in the county's gravel pits.

Earl Farmer of Blackfoot will have thirty days to take samples from the County's gravel

pits at Moreland and Shelley. The pits are twelve to twenty feet deep.

Officials say they aren't quite certain what would happen if Farmer finds gold in the gravel pits, since the County by law may neither give gravel away nor sell it.

—The San Juan RECORD

## HIDDEN CAVE RICH IN ANCIENT ARTIFACTS

Tonopah, Nev. — Most archaeological sites consist merely of the garbage of the past, broken and worn-out artifacts that have been deliberately discarded centuries ago as useless. But nearly all of the artifacts from the site at Hidden Cave near here are unbroken and still serviceable; some have never been used at all. This suggests that Hidden Cave was not merely a campsite, but rather that the deep cavern served as a cache area, as a hiding spot where valuable artifacts were stored and hidden for future use.

But studying the wide range of artifacts which have been recovered from Hidden Cave, a team of archaeologists headed by Dr. David Hurst Thomas of the American

Museum of Natural History in New York City will learn how prehistoric people survived in this area for thousands of years.

Hidden Cave is also unusual because the deposits contain a rich array of animal bones, fossil pollen grains and fragments of plant remains. A team of consulting scientists will work with Dr. Thomas to recover and analyze thousands of these important non-artifactual remains.

By studying the bones, the pollen and plant macrofossils, the researchers will be able to reconstruct the nature of the area, known as the Great Basin, over the past several thousand years.

Hidden Cave is also of contemporary interest because of the presence of a thick lens of

volcanic ash, similar to that recently emitted from Mt. St. Helens in Washington. Archaeologists at Hidden Cave have found evidence of an extremely violent, disruptive volcanic eruption of Mt. Mazama in Oregon, nearly 7,000 years ago.

The force of Mt. Mazama's eruption must have been several times that of Mt. St. Helens because, although Hidden Cave is hundreds of miles away, the distinctive volcanic ash blew into its entrance to form a two-inch thick layer throughout the cave. The Mt. Mazama ash is easily recognizable and well dated, providing an excellent marker-bed for archaeologists.

The current excavations will attempt to locate artifacts and

other evidence of human occupation below the Mt. Mazama ash. Because of the excellent stratigraphy at Hidden Cave, archaeologists know that any artifacts found below the ash must be older than 7,000 years.

A rich array of bird and mammal bones has already been found in these early levels, including bones of the now-extinct American horse and camel. Artifacts have also been found in these pre-7,000-year old contexts. But the precise relationship between the bones of the extinct animals and unmistakable evidence of human occupation at Hidden Cave remains to be established.

—Reese River REVEILLE

# HOW MONO'S HISTORY WENT TO THE DUMP

by Buddy Noonan

Who can put a value on the relics, photographs and documents displayed at our western museums? Take for example, the collection of the Mono County Museum in Bridgeport, California. There, spanning back over more than 100 years, is physical evidence of the County's rich heritage. Of special interest are the written chronicles, receipts and cancelled checks, many of which were embossed in real gold. And ironic as it may seem, many of those documents protected in glass cases were actually redeemed from the city dump. Here is how it happened:

The year was 1976. Ann Webb was working in the clerk recorder's office at the county courthouse in Bridgeport. High above her in the attic of that historic building was the accumulation of Mono County's early past in the form of papers and documents. Besides Ann, few remembered that they even existed. To most, they were simply "in the attic up there somewhere." But on this particular day the old door —

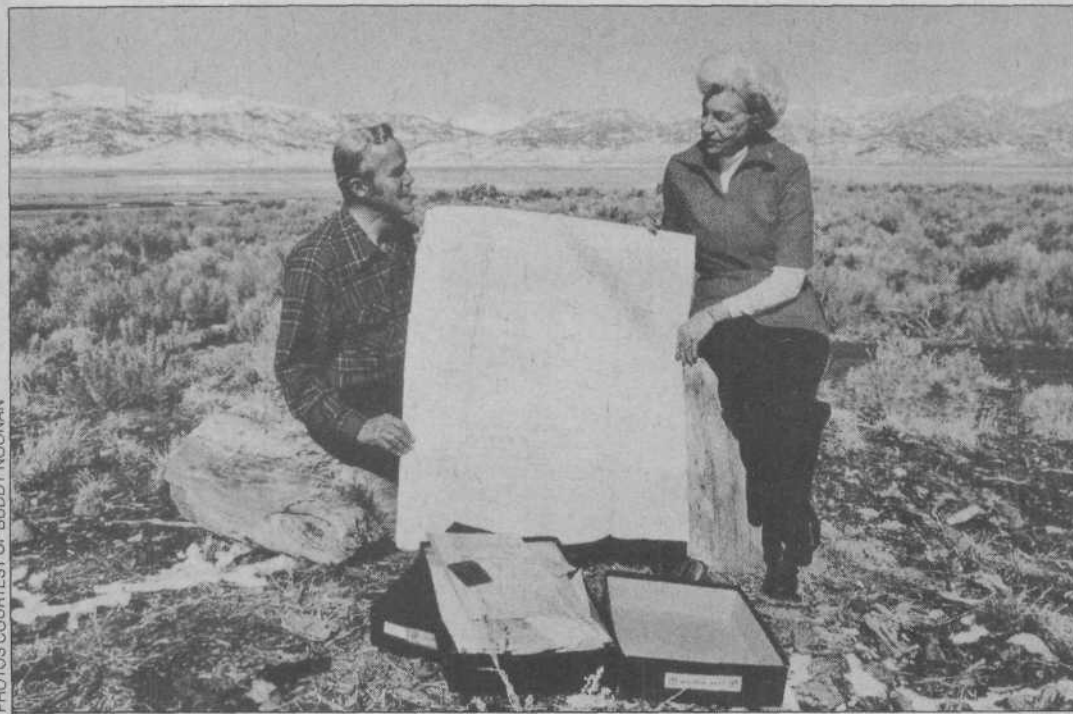
and the past — was suddenly reopened as a team of county workmen started to remove the contents of the attic. Ann and other office employees watched the men as they paraded back and forth, up and down the stairs, tossing boxes of papers in waiting trash trucks.

Ironically, the documents had already survived a long journey in both distance and time. It was 1863 when an official U.S. survey team determined that the neighboring town of Aurora was indeed inside Nevada, three miles to be exact, and not in California as previously thought. As a result, the county seat of Mono was moved from Aurora, Nevada to Bridgeport, California. There, after a rugged 27-mile journey from Aurora, the historic documents of Mono County's earliest beginnings were stored until they could be permanently housed in the "new" courthouse which was erected in 1880. But now, in 1976, a newer administration, lacking historic insight, had decided to make more room by cleaning house.

Obviously no thought was



Historic documents tracing Mono County's earliest beginnings were stored in the attic of the Bridgeport Courthouse for 96 years, then carted unceremoniously to the dump.



Art and Ann Webb hold the first voting poll used at the general election in Aurora on March 18, 1861. All that was saved was what the boxes (foreground) could hold.

given as to how to do this properly, such as perhaps reviewing, reducing to microfilm, editing, auctioning, or even donating the documents to the local Mono County Museum. Instead an order was given from high up in city government: "Send them to the city dump!" And so . . . the trucks departed with their precious cargo.

Bridgeport Historical Society President Art Webb was attending a chamber of commerce meeting in Mammoth that day, fifty miles distant, when he got a phone call from wife Ann. "They're clearing out the attic," she said in a hushed voice, "and the trucks are on their way to the city dump right now." Art lost no time in returning to Bridgeport and racing to the dump. Once there he discovered that all was just as Ann had said. Historic documents lay everywhere, workmen treading on them as they tossed still others into the





Cancelled checks provide valuable insight to an area's early history. Document at bottom was signed by James G. Flair, prominent in the development of the Comestock Lode.

smoldering pit. Envelopes with rare postage stamps blew about in all directions, caught by Sierra mountain breezes. A book lay open at his feet. Stooping down, he discovered Mark Twain's autograph inside the flyleaf. Quickly ascertaining the tragedy of that moment, Art grabbed two discarded boxes, then proceeded to fill them with whatever documents lay nearby.

Back at home, Art and Ann could hardly believe the treasures those boxes revealed. There were bonds, receipts, checks, lawsuits, mine-claims, photographs, stereoscopic views, daguerreotypes, and signatures of the famous and infamous, everything dating back to the 1800s. The original first voting poll, used at Aurora's general election, March 18, 1861 was there, signed by the first board of supervisors, Justice C. R. Worland, E. Green, and J. S. Schultz. A mineral certificate dating from

the years of Rutherford B. Hayes' presidency had somehow survived the ordeal along with extremely rare Bodie & Benton Railroad receipts.

But back at the city dump, already starting to smolder was enough history contained in other papers and documents, it was estimated, to have filled an area of 400 cubic feet. The value of what the Webbs were able to save can be measured by what one reads 'in such recent books as Mono Diggings by Frank S. Wedertz, Art Webb's nephew. Much of Wedertz' writings were gleaned from those two boxes of salvaged history.

Today, at the Mono County Museum you can see some of those early documents which survived the holocaust. It's sort of ironic. There they sit, protected by glass cases, locked doors and burglar alarms. If you were foolish enough to attempt to steal them, you'd be arrested.

Bodie, *Oct. 16<sup>th</sup>* 1897

Received from **Bodie Railway and Lumber Co.**

*2 Cords B.P. 4 ft. Wood,*

*Bodie Tunnel Mill*

To. *File No. 5*

*Pho Arnold*  
Receiver.

Receipts from extinct railroads like the Bodie & Benton are treasured by collectors. The B & D once carried lumber 31 miles from Mono Mills to the booming town of Bodie.



Two Mono County pioneers stare out from a faded tintype that was saved. Handwriting on the photo identifies man as W. King, age 62, August 30th, 1879.

**\$17.50** **COUPON** **No 5**

*The Treasurer of MONO COUNTY, CALIFORNIA will pay to the holder hereof on the twentieth day of September 1886 at his Office at Bridgeport in said County SEVENTEEN DOLLARS AND FIFTY CENTS. United States Gold Coin for interest on County Bond No. 45*

*Ben A. Miller*  
COUNTY AUDITOR

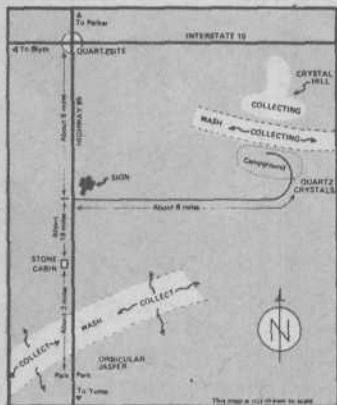
A bond coupon measuring only 1½ x 2 inches guaranteed the holder \$17.50 in gold coin upon presentation on or after September, 1886.

# THE DESERT ROCKHOUND



by RICK MITCHELL

**Collecting Sites:** There are two collecting locations, between Quartzsite and Yuma, Arizona, that should be of interest to any rockhound. The first, only a few miles from Quartzsite, is a spot where outstanding quartz crystals can be found. To get there, go south approximately nine miles on Highway 95 from Quartzsite to the sign turnoff for Crystal Hill. Head east toward the mountains, and continue another six miles. At this point you will be in a public campground, and the primary collecting area is on and around the hill to the north, as well as in the wash separating the campground and the hill.



There are two primary methods of obtaining the crystals. One is by screening the loose soil, both in the wash and on the hill, while the other is the more direct approach of using hard-rock tools, directly splitting the crystal-bearing seams and extracting them from where they were formed.

The hard-rock technique is much more tiring and is not necessarily more productive than the screening and sifting method. Sometimes very nice cavities can be exposed while at other times, hours of arduous work produces very little. Meanwhile, the "sifters" may have found quite a number of the little gems.

Sizes range from less than one-quarter of an inch, to those that are many inches in length. This has long been a

popular collecting area, but, in spite of all the past collecting, it will still reward the patient rockhound with many fine specimens. The campground is yet another bonus, offering the visitor a little more luxury than will be found at most other desert collecting spots.

Further down the road is a location where fine specimens of orbicular jasper can be picked up. To get there, return to Highway 95 and head south to Stone Cabin, approximately eighteen miles. From Stone Cabin continue another three miles just past the large wash, pull off the road, and you are in the collecting site. Walk a distance along the wash and look for the brownish orbicular jasper.

It is easily identified since it is obviously jasper, and is made up of numerous reddish-brown, concentric, circular patterns, looking something like an unusual fossil. Don't confuse the jasper with the more prevalent orbicular rhyolite, which is also found in this area. The rhyolite is a more purplish color and does not polish as well as jasper. The jasper is somewhat scarce, but, with some patience and by hiking a distance from the highway, you surely will locate a few pieces of this highly prized cutting material.

In Colorado, the famous Crystal Peak location north of Florissant has been closed by the property owners. This has long been one of the finest places in the country to collect amazonite in addition to outstanding smoky quartz crystals, topaz, phenakite and amethyst, just to name a few. Currently, there is an intensive effort to keep all trespassers out of the area, with a neighborhood watch program in effect. Those caught violating property rights will probably be prosecuted. It's a shame that yet another outstanding collecting location has been closed, especially one that has been so productive.

**Equipment:** A few months

ago I mentioned a two-way tape used for holding stones to dop sticks while forming cabochons. I recently received a letter from the TAGIT Company requesting I emphasize that the tape must be used on a smooth flat surface, which includes the back of the stone as well as the dop stick. The head of a nail works well for smaller stones, and TAGIT manufactures cabber heads for larger ones if you cannot obtain something workable in your own equipment. For more information, write TAGIT at P.O. Box 164D, Pico Rivera, CA 90660.

**Helpful Hints:** Black petrified wood when polished often has no resemblance to wood at all. It just looks like a plain black polished stone. You can, though, highlight some of the beautiful grain structure by bleaching it. Soak your already cut and sanded pieces in common household bleach. Cover the container and let the preforms stay submerged for three weeks to a month, replenishing the solution as needed. When the desired grain contrast has been obtained, remove the objects, fine sand and then polish. Some extremely interesting pieces can be produced by this method.

The usual way to find out what a given stone will look like after polishing is to wet it. This procedure is adequate, but the water will evaporate quite rapidly and the stone must be continually re-moistened while you inspect it for patterns and color. A better way to enhance these characteristics is to use liquid detergent. Simply rub some onto the stone and then wipe it off. The colors and patterns will easily be seen, and the soap film will not evaporate nearly as fast as water.

Have you tried to get an even coating of grit onto your flat lap, only to produce little mounds that often stick to the sides and tops of the slabs instead of grinding them as intended? If so, I suggest placing

the grit in a salt or pepper shaker. It can now be sprinkled onto the lap more evenly, making the grit more productive with less mess and waste.

If you would like to try your luck at stabilizing a porous stone such as turquoise so it can be cut and polished, the Silvery Colorado River Rock Club offers these instructions: Take a jar with a lid, and add one pint of acetone. To this, add the complete contents of both the resin and hardener tubes of epoxy glue, mixing it well. Next, add your well-dried stones, cover the jar, and let them remain there for at least four days. Then remove the stones and allow a week for them to dry. They should now be stabilized and ready for working.

Sometimes when rocks have just been polished in a tumbler, they do not turn out quite as shiny as you may have hoped. A good way to increase the luster is to wash these tumbled stones in a half-and-half solution of warm water and vinegar. After this cleaning step, especially if detergent had been added to the polish, they will sparkle. Don't use the vinegar and water solution on onyx or other minerals that may be affected by acid, though. This would make the polish worse, rather than better.

**Special Program:** A special symposium will be held at the University of Arizona in Tucson on tectonics and ore deposits. Field trips are being scheduled before and after the program and the dates are March 19-20, 1981. If you would like more information, contact John Reinbold, Conferences and Short Courses, The University of Arizona, 1717 E. Speedway Boulevard, Tucson, AZ 85721.

**Oregon Diamonds:** Diamonds have recently been found in gold placer deposits in Oregon. It is not known where the diamonds came from, and, at this time, there is no effort being made to find the source.





# DESERT CALENDAR

Listing for Calendar must be received at least three months prior to the event.  
There is no charge for this service.

**Feb. 27-Mar. 1:** "Ecology of the Coachella Valley" is offered through the University of California Extension at Riverside and the Palm Springs Desert Museum. Sessions at the Museum, 101 Museum Dr., Palm Springs, Calif., will be held on Fri., Feb. 27, from 7 a.m. to 10 p.m.; Sat., Feb. 28 from 9 a.m. to 5 p.m.; and will conclude with a field trip on Sun. Mar. 1, from 9 a.m. to 4 p.m. Fees are \$66.00 if taken for credit and \$52.00 if the noncredit option is desired. For more information, call (714) 787-4105.

**Feb. 27-Mar. 8:** Imperial Valley Gem and Mineral Society presents their 34th annual show as part of the California Midwinter Fair at Imperial, Calif. Hours are Mon. through Thurs., 4 p.m. to 10 p.m.; Fri., 12 noon to 10 p.m.; Sat. and Sun., 10 a.m. to 10 p.m. Guided field trip to Old Mexico on Sat., March 7th. Admission is charged to the Fairgrounds.

**Feb. 28-Mar. 3:** *Carnaval* (Mardi Gras) time occurs in Mexico through March 3rd. It is enthusiastically celebrated in seaport towns such as Veracruz, Mazatlan and Merida.

**Mar. 5-6:** In Gallup, New Mexico, the Four Corners Area Exposition. This includes an Indian design style show, arts and crafts and creative writing. For further information call Red Rock State Park at (505) 722-5564.

**Mar. 7-8:** The Desert Lily Gem Show sponsored by the Bellflower Gem and Mineral Society will be held at Bellflower High School, 15301 McNab Ave., Bellflower, Calif. The hours are Sat., 10 a.m. to 9 p.m. and Sun., 10 a.m. to 6 p.m. The show includes exhibits, a film, boutique, food and dealers. For further information contact Gladys Walters, Chmn., 533 East 224th St., Carson, CA 90745.

**Mar. 15:** The 13th Annual Desert Gardens Walk, sponsored by the Anza-Borrego Committee of the Desert Protective Council will be held at Hawk Canyon in Anza-Borrego Desert State Park. After a short welcome and introductions, hikes and walks will be guided by State Park rangers and expert members of the California Native Plant Society. Bring lunches, water, walking shoes and hats. Signs will be posted on State Route 78 to direct visitors to Buttes Canyon Rd. For information, write Roscoe and Wilma Poland, 3942 Hughes Ct., San Diego, CA 92115.

**Mar. 20-22:** San Antonio, Texas. Southwest Gem & Mineral Society Inc., 21st annual "Fiesta of Gems" show. Villita Assembly Bldg., 401 Vil-

lita St., San Antonio, Texas. Dealer space filled. Hours are 10 a.m. to 9 p.m. on the 20th and 21st; and 10 a.m. to 6 p.m. on the 22nd. For information contact Mrs. Charles Pedrotti, Chmn., 733 Venice, San Antonio, TX 78201.

**Mar. 20-22:** In Gallup, New Mexico, the Annual Arts & Crafts Fair. Indian and non-Indian artists and craftsmen. Sponsored by the Gallup Arts Council at Red Rock State Park. Admission is 50¢ for adults, 25¢ for children. For further information, call (505) 722-5564.

**Mar. 21-22:** The 43rd Annual Gem Roundup sponsored by the Sequoia Mineral Society will be held in the Dinuba Memorial Bldg. in Dinuba, Calif. Hours: 21st, 10 a.m. to 9 p.m.; 22nd, 10 a.m. to 5 p.m. Dealer space is filled. For information contact Ray Franklin, Show Chmn., 10300 Kings River Rd., Sp. 56, Reedley, CA 93654.

**Mar. 24-29:** Palm Springs, California, will launch its first annual Festival of the Desert under the auspices of the Northwood Institute and featuring the famed Northwood Symphonette in a five-day series of afternoon and evening concerts. The Festival will also include a number of seminars in business and the arts and a special event billed as "An Adventure in the Culinary Arts." For more information, contact Mimi Rudolph, 729 High Rd., Palm Springs, CA 92262, or call (714) 325-4471.

**Mar. 27-29:** "Gems and Jewels of the Orchid World" is the theme for the 36th Annual Santa Barbara International Orchid Show. The show will be held at the Earl Warren Showgrounds, Route 101 and Las Positas Rd., in Santa Barbara, Calif. Hours are Mar. 27, 6 p.m. to 8 p.m.; Mar. 28, 10 a.m. to 10 p.m.; Mar. 29, 10 a.m. to 5 p.m. General admission is \$3.00. For information, contact Alice Rypins at (805) 682-1263.

**Mar. 28-29:** The Santa Ana Rock and Mineral Club is holding its 12th Annual Gem and Mineral Show at the Laborers and Hodcarriers Hall, 1532 East Chestnut St., Santa Ana, Calif. Hours: 28th, 10 a.m. to 8 p.m.; 29th, 10 a.m. to 6 p.m. For information contact Cliff Coan, 12262 Adelle St., Garden Grove, CA 92641 or call (714) 539-8394.

Ongoing through April: The Eldorado Polo Club's winter season has started with matches every weekend at 2:00 p.m. Admission is free. The Club is located west on Monroe St. between Avenues 50 and 52 in Indio, Calif. For more information, contact Alex Jacoby, Mgr., P.O. Box 733, Palm Desert, CA 92261 or call (714) 342-2223.

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#### CORTEZ (from page 29)

United States was as a janitor in a factory belonging to the U.S. Rubber Company. His service in the Army followed, and he entered into his first business venture eighteen months after he was discharged.

That first business was Benny's Union 76, which he continuously owned from 1962 until a few months ago. He sold the station to pay more attention to his other business interests—Benny's Furniture Manufacturing, Blue Sky Security and numerous real estate holdings.

Cortez said he has reached most of his personal goals, but he isn't avoiding the possibility of politics.

One of his most notable activities has been annual Christmas trips to Naco and other trips deeper into Mexico. During December of 1980, he made his fourteenth Christmas trip to Naco, taking tons of toys, food, clothing and other items donated by local residents and civic organizations

throughout the year. Cortez said one of his ambitions is to make the effort to provide to the poor a citywide project. Each year, he has been adding groups to his Naco project and those to other areas of Mexico.

He is also frequently called upon to help illegal aliens who encounter troubles with U.S. authorities.

"I think to myself, I have to help these people because there were many people who went out of their way to help me when I was a green, scared kid who had just crossed the Rio Grande."

He said he hopes recent oil discoveries in northern Mexico will eventually help the poor.

"I can never be happy until the wealth of their precious liquids are spread out to help the people—aid to the schools, hospital care and things like that.

"No two ways about it, when I see thirteen people die in the desert just because they are looking for something better, I think of myself."

—Bisbee DAILY REVIEW

#### U.S. CAN NOW DIAL MEXICO DIRECT

Calipatria, Calif.—People calling from the United States are now able to directly dial all of Northwest Mexico.

Calls to the Mexican states of Sinaloa, Sonora, Baja California Norte and Sur may be dialed by using "70," followed by a three-digit city code, then the existing five-digit Mexican phone number.

The city codes for the major cities in these states are: Cabo

San Lucas, 684; Culican, 671; Ciudad Obregon, 641; Ensenada, 667; Guadalupe Victoria, 653; Guaymas, 622; Hermosillo, 621; La Paz, 682; Los Mochis, 681; Luis B. Sanchez, 653; Mazatlan, 678; Mexicali, 656; Nogales, 631; Rosarito, 661; San Luis Rio Colorado, 653; Sonoyta, 653; Tecate, 665; and Tijuana, 668.

—The HERALD

#### BENEVOLENT BLM RETURNS LAND TO THE PEOPLE

Reno, Nev.—The Bureau of Land Management expects to start awarding 320-acre parcels of Nevada land to modern pioneers who will try to create oases of cropland in the middle of the desert.

Since the Desert Land Entry Program reopened in January 1979, the BLM has received nearly 4,000 applications for parcels. Of those, about 1,000 were rejected out-of-hand, while another 2,000 or so are still in the preliminary stages of study.

In order to qualify, applicants must find parcels of fed-

eral land not classified for public purposes. It has to be land that can be cultivated, which means it must have a water supply.

The land will be sold to applicants for approximately \$1.25 an acre, though farmers may spend up to \$100,000 developing the parcels for cultivation.

Those who are deeded land don't have to live on it as was the case under the Homestead Act, but they do have to cultivate it.

Desert News Service

#### YUHA (from page 29)

the bones and photos are certainly related. "There's absolutely no market; nobody in his right mind would want to buy it and no one could give it to a museum because it is so well known," von Werlhof said. "The only value of such a fossil is for scientific research," he said.

The F.B.I. is investigating the theft because the skeleton is federal property but as of press time, no new leads have surfaced. The Museum has offered a \$500 reward, and farmers and business men of nearby Brawley have added another \$500, for information leading to the arrest and conviction of the guilty parties.

—Desert News Service

#### 50-YEAR-OLD PLANE CARRIES ITS 82-YEAR-OLD DESIGNER

Las Vegas, Nev.—Fifty years ago aviation designer John Lee was 32 and the famed Ford Tri-Motor, a plane he helped build, just an infant.

Recently, the 82-year-old engineer rode the Tri-Motor again, this time over the Grand Canyon.

On his way to attend a conference in San Francisco on aviation history, Lee took time out to fly one of the regular tours in the Tri-Motor offered by Scenic Airlines affiliate,

Grand Canyon Airlines.

Scenic owns two of the three remaining fifteen passenger Ford Tri-Motors still in commercial service.

The plane helped usher in the age of commercial aviation during the late 1920s. It flew Admiral Byrd over the South Pole, inaugurated airmail postal freight delivery and gave Henry Ford his first and only plane ride.

—Desert News Service

#### BEES ESCAPE TO DESERT SUNSHINE

Ajo, Ariz.—During the winter there are more than just human visitors to Arizona's deserts.

Beekeepers from as far away as North Dakota have found a bee bonanza, wintering bees on the desert. Heretofore, bees either had to be fed and kept warm in cold northern climates or, to save that expense, gassed

and new ones purchased the next spring.

If the desert blooms, the bees produce a bumper crop of honey. In drier years, the bees get fed sugarwater or honey.

Local beekeepers also winter their bees in the western and central Arizona deserts.

—Ajo COPPER NEWS

#### NEW MINE OPENS AT ADELAIDE

Winnemucca, Nev. — Gold, silver and copper is now being extracted at a small mine in Adelaide, about 25 miles southwest of here.

About 1,000 tons of ore was stockpiled and began running through the Austin Concentration Plant, while an additional 1,000 tons has been drilled and is ready for mining.

Activity will continue through the winter and may average as high as 100 tons per day. An additional open pit mine may someday be opened, leading to a production of 500 to 600 tons of ore per day.

Preliminary tests have indicated a gold content of .025 ounces per ton of ore.

—Humboldt SUN





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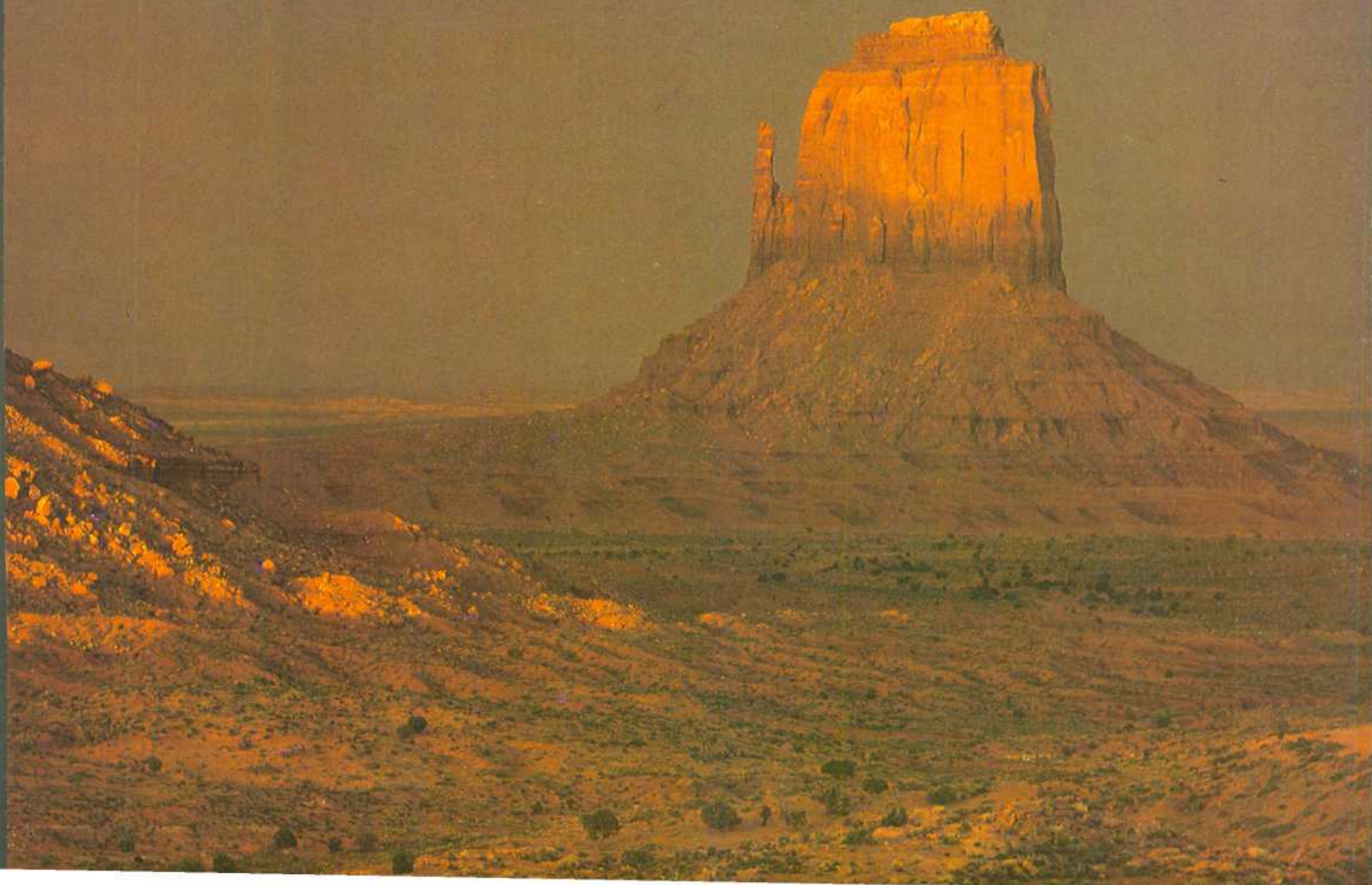
MITTEN BUTTES, MONUMENT VALLEY NAVAJO TRIBAL PARK, ARIZONA/UTAH. PHOTOGRAPH BY JEFF GNASS.



# HEART OF THE DESERT

When I first met her I wasn't impressed  
with her plain, dry appearance,  
or the way she was dressed.  
But after a moment, I could see, just a part,  
of the glorious treasure that hid in her heart.  
She was blessed with the Lord's finest beauty,  
unpainted and plain,  
yet she'd shine in her glory,  
when after the rain, in flowers adorned,  
she donned her best dress, at sunrise each morn.  
I saw in her strength, endurance and pain  
as she struggled to store each droplet of rain.  
She lives on so little, part of God's plan,  
yet renders such beauty, a lesson for man.

*Linda Owings*



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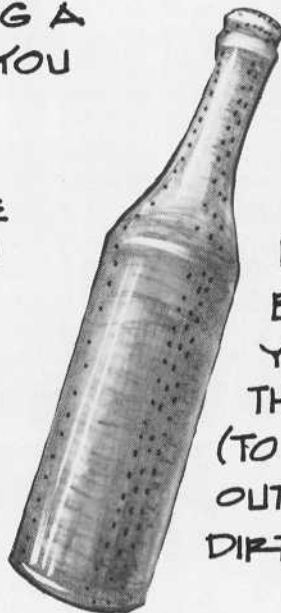
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by Nyerges

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CAN MORTAR  
WINE BOTTLES  
BETWEEN THE  
STONES. WHEN  
THE SUN  
SHINES ON  
THE WALL  
MORE LIGHT  
AND COLOR  
WILL  
ENTER  
THE ROOM.



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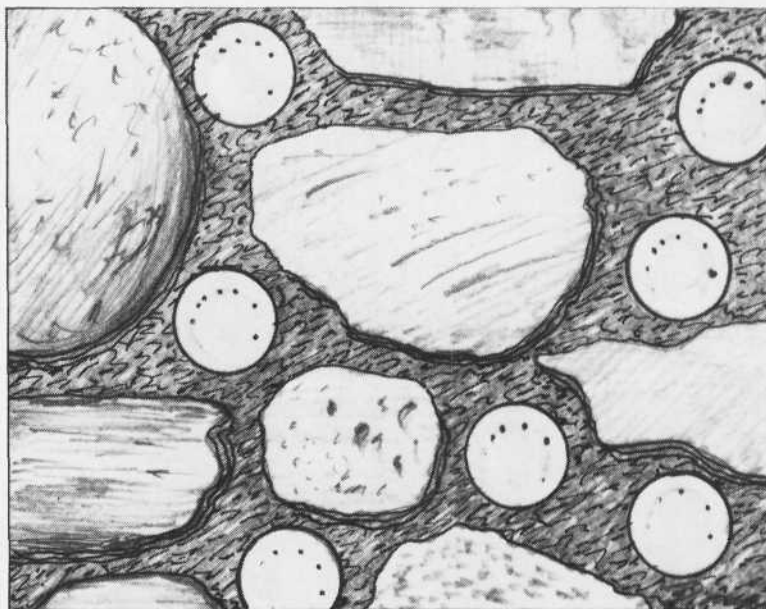
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# CHUCK WAGON COOKIN'

## Doughnuts

by Stella Hughes



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inside. Following her son's advice, she made holes with her thimble and the resulting doughnuts were so delicious that all doughnut makers soon copied her method, and the doughnut with a hole in it has been with us ever since.

In the far west, women were practically unknown in the lonely cow-camps, scattered over the open range from Canada to the Mexican border. Good cooks were as scarce as women, and the ranchers and cowboys cooked their own monotonous meals of beef and biscuits, with perhaps a treat of sweetened, dried apple sauce occasionally. Andy Adams in his

he'd become an artist at making doughnuts. He said he'd acquired the art from a woman down in the Panhandle Country.

The next morning, after breakfast, the boss rolled a barrel of flour into the kitchen from the storehouse, got out twenty gallons of lard, 100 pounds of sugar, and told the doughnut maker to go at it.

"About how many do you think you'll want?" asked the genial old-timer.

"That big tub full won't be any too many," answered the boss. "Some of these fellows haven't had anything like this since they were little boys. If news gets out, I look

for men from other camps."

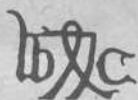
The next day was Christmas, and the doughnut-maker stirred up a large batch before breakfast. It was a good thing he did because early that morning a rancher and four of his men rode in from the west.

The new arrivals hadn't near satisfied their craving by bedtime but sometime the next day, the doughnut maker finally filled the tub. Too bad no one kept tally on how many doughnuts were eaten. Worse yet, no one took the time to write down the recipe.

Is there anything more reminiscent of country kitchens than the wonderful aroma of frying doughnuts? No barn raisings, cider pressings, square dances or holidays could have been complete without batches of sugar-coated doughnuts piled high in the center of the dinner table. Doughnuts fall into two classes: one kind is leavened with yeast, the other with baking powder. The yeast-leavened ones are called raised doughnuts; their dough, like bread, is not very sweet. They derive their sweetness from sugar dipping or a topper of glaze or frosting. The baking powder-leavened kind are called cake doughnuts; their dough is sweet, but that doesn't prevent us from shaking them in a bag of confectioner's sugar or cinnamon sugar, or giving them the glaze or frosting treatment.

Raised doughnuts may be the old familiar round with a hole in the middle type or they may be a long éclair shape, or twisted; or square, or round, but without a hole, so they may be filled after frying with jam or jelly or smooth cream custard. Cake doughnuts are often round, but inside the crispy brown crust can lurk any number of flavors—nutmeg, chocolate, chopped nuts, crushed hard candy or candied fruits.

Raised doughnuts must rise before they are fried. Cake doughnuts can be fried at once, but it is a good idea



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to let the dough cool in the refrigerator an hour to firm it up. Then very little flour is needed to roll them out.


Be certain that the fat you use for frying is at the proper temperature which is 365 degrees F for most doughnuts. And, don't forget to fry the holes—some people claim they're the best part.

### CAKE DOUGHNUTS

2 eggs  
1 cup sugar  
2 tablespoons butter, melted  
1 cup milk  
1 tablespoon baking powder  
½ teaspoon nutmeg  
¼ teaspoon mace  
About 5 cups flour

Beat the eggs and sugar until thick and light. Add butter and milk. Sift together the baking powder, nutmeg, mace, and 4½ cups of flour. Stir the dry ingredients lightly into the egg mixture, adding enough additional flour to make a soft dough. Cover the dough and refrigerate for about an hour. Roll the dough to a thickness of ½ inch on a lightly floured board and cut with a doughnut cutter. Heat vegetable shortening to a depth of 3 inches in a deep fryer, kettle or electric skillet. When the fat has reached a temperature of 360 to 375 degrees, drop in the doughnuts, 3 or 4 at a time, and fry them, turning once, until golden brown on both sides. Drain on paper towels. The doughnuts may be dusted with sugar and cinnamon if desired. Makes 24 doughnuts.

### SPUD DOUGHNUTS

2 cups milk, ½ cup shortening, ½ cup sugar. Bring to fast boil and let cool. Then add ½ cup mashed potatoes (instant mashed potatoes serves just fine), 2 packages dry yeast dissolved in ½ cup lukewarm water, and ½ teaspoon soda, ½ teaspoon baking powder, ½ teaspoon vanilla. Let batter rise until foamy, about 30 minutes. Then add two beaten eggs, 1 teaspoon salt and about 6 cups flour. Mix well and let rise until double. Roll out on well floured board about ¾-inch thick and cut large doughnuts. Let rise again. Fry in deep fat as in making any other regular doughnuts. For glaze, mix 1 pound powder sugar, ½ cup water, vanilla to taste. Bring water to boil, add sugar and vanilla and dip doughnuts while still warm. Place on paper towels. 





# THE LIVING DESERT

## The Turkey Vulture: Hero Or Horror?

by Susan Durr Nix

**I**F I WERE reincarnated," said William Faulkner, "I'd want to come back as a buzzard. Nothing hates him or needs him. He is never bothered or in danger and he can eat anything." Skillful writer though he was, Faulkner was no earnest birdwatcher! The "buzzard" of fiction may be fearless, independent, bold, secure and omnivorous, but the turkey vulture of fact is among the most detested, cautious, vulnerable and specialized of animals.

Buzzard is only one of several colloquial names for *Cathartes aura*, the red-headed relative of the California condor. Like his more celebrated cousin, the turkey vulture is a scavenger, but unlike the condor, he ranges from the shores of Hudson Bay to the Straits of Magellan and in America, from coast to coast. Turkey vultures are popularly associated with deserts although they are equally at home in mountains, grasslands, agricultural areas and around human settlements. They are called, variously, turkey buzzard, red-headed vulture, vulture and carrion crow.

A turkey vulture named Leftovers is a permanent resident at the Living Desert Reserve in an exhibit cage opened to the public last December. Some years ago he flew into a power line and damaged his wings. His name is a genteel euphemism, because the unpleasant truth about vultures is that they eat the decaying flesh of dead animals. A troop of vultures gorging itself on a carcass—dipping naked, warty heads and necks into putrid cavities, jostling each other for select bits, grunting and hissing and stuffing themselves until they vomit—must be one of the most revolting sights in the world. Their vigils over the weak and wounded make us shudder; their

dowdy plumage and awkward, stumbling behavior on the ground seem no better than they deserve. People hate and fear them because they signify doom and all that is dark, evil and cruel.

I don't know why carrion eating is considered an exclusively vulturian habit because nearly all predatory birds occasionally feed on dead animals, and many other birds fill this dietary niche including ravens, jays, gulls and house sparrows.



Faulkner to the contrary, carrion is not "anything." It is a very specific and very limited source of nourishment that excludes both vegetable foods and live prey.

Turkey vultures have been restricted to carrion for 12,000,000 years, so it is not surprising that their bodies are superbly suited to it. Although technically birds of prey, vultures don't have the raptorial equipment to kill their own food. Instead of strong beaks for piercing and tearing the hide of newly dead animals, their hooked bills are just adequate for ripping decomposing meat. In fact, they must often wait until the skin rots before attempting to eat. Rather than sharp gripping talons for grasping live prey, they

have weak feet and dull claws more useful for walking. Despite their savage appearance, vultures are completely at the mercy of happenstance for their next meal and must often go many days without eating.

They locate food by a combination of sight and smell. Which sense is paramount has been a matter of controversy for years. The conciliatory position emphasizes sight in the air and smell at close range. Turkey vultures have the largest olfactory system of all birds. Taste and smell are connected in humans, but surely these birds can't have taste buds! Compared to other birds, many of whom discriminate between edible and unpalatable foods, vultures, with their indifference to "ripeness," are gastronomic oddities. But with or without a palate, condors and turkey vultures have remarkable mouths. Hard spiny points on the roof work against a serrated tongue to shred the meat as it is swallowed.

A young turkey vulture develops a taste for carrion in the nest, where it is fed by regurgitation, and quickly associates a full stomach with the odor of decay. Although its complexion does not turn red until it matures, a nestling's head is as bare as an adult's. Once it leaves the nest at eight to ten weeks, a bald head becomes a great advantage because it is easier to rub clean of food and parasites picked up during feeding and it does not encourage the growth of infectious bacteria as matted feathers would.

The digestive system of a turkey vulture is a marvel, destroying even the most virulent strains of bacteria and viruses. Thus the bird protects itself from the diseases carried in the flesh of its prey, like hog cholera and anthrax. Over the eons, vultures have helped control health hazards by cleaning and disinfecting animal

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material before it is recycled into the  
food chain. (The generic name  
*Cathartes* means "the purifier.")

Turkey vultures are not as well  
protected against troublemakers as  
they are against disease. They have  
none of the daring of hawks and  
falcons, perhaps because they lack  
the weapons to back it up. The  
slightest disturbance makes them  
back off with a hiss and if pursued,  
regurgitate an evil smelling mess  
meant to put a stop to further  
hassles. Larger or more aggressive  
scavengers can easily steal a meal  
from the timid turkey vulture and  
often do.

A turkey vulture's final refuge is  
the sky, but here he is without peer  
in the bird world. Flight lends him  
dignity, even majesty. In the sky he  
is the master soarer, spending hour  
upon effortless hour aloft, skimming,  
sailing, swooping on broad black  
wings. Soaring is a highly specialized  
flying skill that capitalizes on  
updrafts and air currents. It demands  
little energy because the wings are  
not used for propulsion, but it does  
require a large supporting surface  
and slight weight, like a paper kite.  
With air-filled bones, a six-foot wing  
span and a broad rounded tail, turkey  
vultures achieve the requisite balance.

It's not necessary to move quickly  
when your prey is stationary, so  
turkey vultures are able to take their  
time and space themselves over  
many miles. They don't waste  
energy defending a territory because  
they can't expect to find food  
consistently in an area small enough  
for one bird to patrol. Instead they  
cooperate in the search and share the  
meal. Turkey vultures have  
remarkable eyesight, estimated to be  
four to eight times better than man's.  
A few dozen soaring birds can  
survey hundreds to thousands of  
square miles each day. Each bird  
stays within sight of several others  
and watches for the quick descent  
that means carrion has been spotted.  
The second signals a third with his  
descent and so on until the whole  
group has gathered. The system is  
very efficient, particularly since  
many carcasses are too large for one  
bird alone.

Faulkner was wrong to say that  
nothing needs a buzzard. They need  
each other and we need them to  
cleanse the countryside of the dead  
and to remind us that the cycle of life  
and death has many heroes. 

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# SKY-CITY

## *A Living Example of Pueblo Culture*

Pueblo Acoma, known as Sky-City, is maintained as a memorial to the Pueblo Indians of New Mexico who lived there 2,000 years ago. Historians say there were no buildings in New England or Virginia in Colonial days comparable to those one sees in this village. Fifty miles west of Albuquerque, New Mexico, on U.S. 66, a small arrow points south, and a sign reads "Sky-City 10-12 miles." These miles are a jolting contrast to highway speeds and lead the traveler back in time nearly twenty centuries.

*Photograph (circa 1920) shows Sky-City much as it is today.*

by  
*Allye Terrell*



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*Sky-City today still lacks electricity,  
but modern doors, windows and stove  
pipes have been added to the  
structures.*

*Pueblo Acoma is one of the  
oldest continuously occupied  
places in America.*

But it is a rewarding bit of discomfort when the skyline of the "city" can be seen. The road winds for a short distance at a lower level than the cluster of buildings, then turns upward for the approach. Twisting and climbing over dips and bumps, it leads to this fact of history — a complete and active Pueblo village on top of a mesa 360 feet above the surrounding country. It commands a view of the desert stretching away in the distance; this was ready-made protection.

Pueblo Acoma is said to be one of the oldest continuously occupied places in America. The church was built in 1629 and the dwellings, pueblo-style, story-on-top-of-story, are exactly like those used when only Indians inhabited the land.

Making use of whatever is at hand is a mark of ingenuity, and the Indians certainly showed originality in their building of Sky-City. They mixed adobe clay with strong yucca leaves and tied available cedar and pine logs together for their homes. Later, the Spanish used this formula in their buildings.

A bell hangs in the tower of the Spanish-style mission church. It was a gift from the King of Spain. There is a small graveyard near the church. The occupants of the village perform religious ceremonies in an enclosure called the Priests' Garden.

**E**ight to ten  
families live at

Sky-City and bring water from the valley. Some of it is still brought across a foot-log that spans a narrow place on the stream. This is the work of women and children. The men farm in the lowlands, or work for the public. The few families at Acoma are no indication that the Indian population is decreasing or that all modern Pueblo Indians live in primitive circumstances.

Larry Martin, a full-blood Pueblo, was born at Sky-City. He earned BA and MA degrees from New



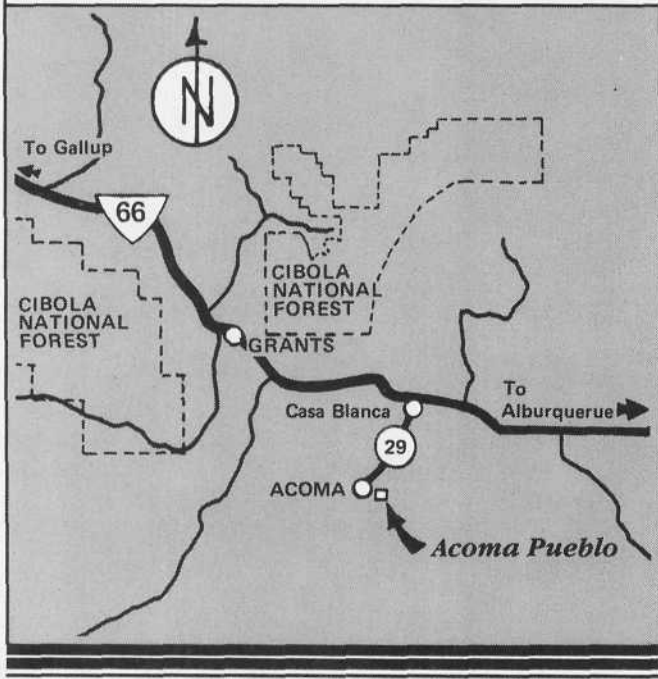
DAVID MUEENCH







*The Spanish conquest  
influenced living at Sky-City,  
but could not wipe out this  
Pueblo culture.*



Mexico universities. He was Dean of Students at Fresno Junior College in California when he said, "The Pueblos are not vanishing Americans as some have reported. On the contrary, the population has increased between fifty and sixty percent during the last thirty years."



**he Pueblo Indians  
were high on the**

scale of civilization and advanced in art, religion and law long before European culture reached this continent. Law (government) among these Indians is as old as the race. Some tribes divided into clans, people who spoke the same language, lived in about the same manner and never fought each other. The smaller groups, like Sky-City, had a chief as a leader, but the strength of their government was in the council, and decisions made in that body were truly democratic.

The imprint of Spanish rule is evident at Acoma, but the religion of the Indian has its concept in nature. The sun, moon, stars and living things, plants, animals and birds, speak to him and he understands. The medicine men adopted some of the Spanish ceremonies and the Pueblos celebrate saints' days as the Spanish did, but still perform the Rain Dance, honor corn planting, and observe other religious practices of their ancestors.

Three hundred years ago, an average village housed 200 people for protection. Even so, in 1680, when the Indians attempted a revolt against the Spanish, this fortified citadel, Acoma, manned by 500 Pueblos, could not repulse the attack of 100 Spanish soldiers. The conquest influenced living at Sky-City, but could not wipe out this remnant of Pueblo culture.


The Spanish found the Indians, in New Mexico, a mixture of tribes that had entered this area a few at a time, over a long period. The Indian method of securing food was immensely helpful to the conquerors. At that time, the white man learned to plant and grow native foods, snare wild animals and tame turkeys to eat, and these gifts from the Pueblos made pioneer living easier at a later date when the Anglo-Americans arrived.

The ancestors of Sky-City residents had learned to grow corn by the time Christ was born. Soon they were growing beans, squash, melons and cotton. They had also mastered the art of weaving cotton, making beautiful pottery and constructing buildings that still stand as testimony to their advanced civilization. In addition, they left a dedication to democracy and an appreciation of beauty that shows in their pottery and water painting.



**he Indians at  
Acoma dress as**

any other American, except on days of ceremony. Some have served the country at war; others are professional people, but the historical importance of this unique village has been overlooked. Most Bicentennial travelers, for example, gravitated eastward to renew a schoolday acquaintance with the beginning of American history. But that was just 200 years ago. This so-called pagan race left Sky-City as proof of a civilization that goes back to before the time of Christ. They knew how to irrigate long before the Pilgrims arrived.

On a visit to this most unusual, least advertised and least known "city," a guide will show visitors through the church, up and down the narrow streets, and explain the way in which the inhabitants lived. Some buildings have been restored, none are modern, but all are there, defying time and the elements. A pole ladder leans against a wall, and high above is a small round window covered with the thin sheets of mica we now call isinglass. A pickup truck is parked near one building, a meeting of the long gone past and the present, a span that boggles the mind, twenty whole centuries of it. 



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THE

# MIRACLE

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OF THE

# HUMMINGBIRDS

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*A Blind Man's Adventures with  
Little Redbird, Pushy and Twinky,  
Lady Esmeralda and Others*

**T**HIS IS A  
once-upon-a-time  
story that really  
happened. It's about a  
blind man who learned to  
see again because of a  
hummingbird.

Impossible? With  
hummingbirds nothing is

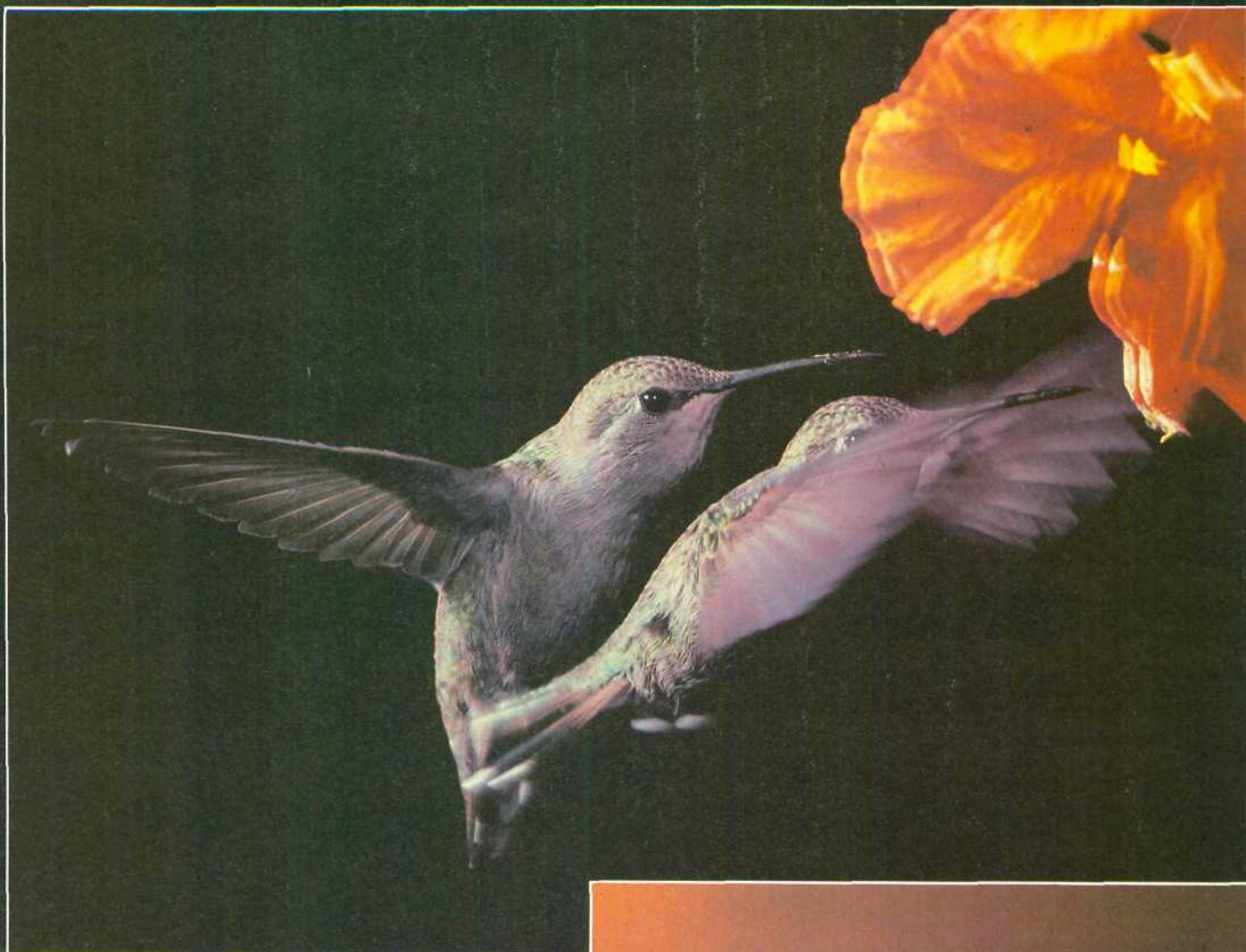
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by **NORMA LEE BROWNING**  
Photographs by **RUSSELL OGG**

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The hummers on this and the preceding page are all Costa's, the male being the more colorful. Flower (top photo) serves as tasty decoy disguising feeder. Below, Pushy and Twinky await Mama Hummer and feeding at age two weeks. At right is proof positive that hummers shouldn't be able to fly.





impossible. I know because the man happens to be my husband, Russell Ogg, who was a well-known professional photographer until he lost his eyesight as a result of diabetic retinopathy.

He has now become known as "The Hummingbird Man," which is also the title of a television documentary film on the miracle the hummingbirds brought into our lives.

Our world changed the day the first little red-headed hummer came to our house. He buzzed us, danced and dangled in shimmering sparklets right in front of our noses, impudently *chic-chicing* which in hummingbird linguistics is, "Hey, look me over."

My husband then was almost totally blind. He couldn't have seen a pelican right in front of his nose. He couldn't even see me. We were sitting on the front patio of our little Palm Springs, California, hacienda, dejected, depressed, at our lowest ebb.

There is a legend that hummingbirds have a magic spell and bring good luck to those who need it, that they have an uncanny extrasensory perception and affinity for people who are afflicted in one way or another — those who are ill, injured, handicapped; or in an emotional crisis.

Hummingbirds can't fly, say aerodynamics experts. Structurally they're not built to fly; it's anatomically impossible. It says so in the books and there are diagrams to prove it. But the hummingbirds don't read the books and nobody told them they can't fly, so they do. And more spectacularly than any other bird. They're the aerial acrobats of the bird world.

My husband can't see, either, according to his medical history. He's legally blind and therefore he has something in common with the hummingbirds: both are doing what the experts say is impossible to do.

Ophthalmologists and ornithologists alike are puzzled that a man who is not supposed to be able to see well enough to take pictures of people is taking photographs of birds that are not supposed to fly.

Moreover, hummingbirds are the most difficult of all birds to photograph, not only because of their tiny size and darting quickness but because of their flashing

iridescent colors as well; now you see them, now you don't, and you're lucky if you catch the hummingbird's brilliance on film, even if you see the hummingbird. The odds against a photographer catching a hummingbird in flight are thirty to one — and that's for photographers with not only 20-20 vision but really formidable eyesight. It says so in the bird books. Like the hummers, my husband had not read the bird books, he didn't know the odds against him, nobody told him he couldn't do it, so he did, and still does — with results as incredible as the aerial acrobatics of the hummingbirds.

With about one to two percent visual acuity, he has beaten the odds, scoring fourteen out of every fifteen tries with an ingenious "Seeing Eye" bird-shooter that he invented himself, with his knowledge of photography and electronics, and which was contrived to con the hummingbirds into taking their own pictures. When they fly in front of the camera lens, they hit a light beam that trips the shutter.

The story of how it all started with our first little red-headed hummer is told in our book, *He Saw A Hummingbird*.<sup>\*</sup> Since then our hummingbird horizons have broadened, our ornithological gap has narrowed, our lives have been enriched and resurrected by the most people-oriented of all birds.

Strangely, hummingbirds have been following my husband every single day for four years, ever since our first little "good luck" hummer came. They often turn up unexpectedly in places where they have not been seen before and sometimes under the most extraordinary circumstances, defying all the rules of the books as though deliberately guiding the Hummingbird Man from the world of the sightless to seeing and incidentally, adding enormously to our initially scanty knowledge of hummingbirds.

Most amazing was our experience with a mother Costa's and two baby hummers, Pushy and Twinky, who didn't do much of anything right, according to established hummingbird protocol.

For example, the mother hummer

built her nest in the wrong spot (but right for us), the wrong geographical location, the wrong breeding season and the wrong clime and climate for a Costa's — Palm Springs in June, 117 degrees in the shade. Costa's are supposed to be up in the San Jacinto Mountains by then or heading toward Arizona's Ramsey Canyon.

Also, the baby hummers made their solo flights two days ahead of schedule, and did not fly off with the greatest of ease the moment they left the nest, as most experts say they do. They had a lot of coaching and calisthenics lessons from Mama, as well as a surprising amount of constant and tender loving care which they supposedly don't get, according to the books.

We watched the Mama Costa's build her nest not in a treetop but in the scallop of a hanging rope planter on the patio of a friend's house a few blocks from us — almost at eye level, smack in front of a picture window, and within three feet of the front door, the better for people-watching. We kept a daily bird-log on the whole birth and survival process of Pushy and Twinky, from incubation to maturity, until they were *three weeks* out of the nest. Mama hummer was still stabbing her long needle-beak down their throats, feeding them regurgitated nectar and insects, and Pushy was lapping up sugarwater from my forefinger in front of the camera lens.

Hummers lay two white eggs, two days apart, and about the size of an elongated pea. We watched the eggs hatch into wriggling brown balls that look like grubby worms at first, with tiny, up-pointed beaks like thorns. They soon grew into fledgling birds. We named the first-born Pushy because of his more aggressive behavior and the other Twinky because she was always blinking her eyelids. It's almost impossible even for experts to distinguish the species and sex of young hummers. We only guessed, but correctly we learned later, as we watched them grow to maturity.

After several days of fluttering and flexing his wings on the rim of the nest, with Mama hovering over him, Pushy made his solo flight when he was nineteen days old at 7:15 a.m. Five hours later he was back. He tried to get into the nest but couldn't because Mama and Twinky were in it. He buzzed around it, then made

<sup>\*</sup>E.P. Dutton, N.Y., 1978. \$8.95

an unexpected landing on the rim of another rope scallop about a foot above the nest. He hung there teetering back and forth, then lost his footing and slid into the scallop and just stayed there while Mama and Twinky swiveled their necks, looking up at him, startled and squawking.

Mother hummer zoomed to the rescue, beating her wings, spreading her tail, jabbing him and chittering furiously, obviously trying to get him out of the scallop. He had a ready-made nest, his own bachelor pad. He refused to budge. Meanwhile Twinky, who still couldn't fly, was straining to get out of the nest and see what was going on up there; and also screeching madly for Mama.

*There is a legend that  
Hummingbirds have a  
magic spell and bring  
good luck to those who  
need it.*

We watched this hilarious hummingbird scenario for most of the day, with Mama zipping off to get food and whirring between the nest and the upper story to feed them and teach them to fly. She couldn't get Pushy out of his bachelor pad; he spent the night there. Mama and Twinky slept in the nest below. Next morning about an hour before noon, Twinky flew the nest, but returned every fifteen minutes or so, timidly trying her wings. Mama and Pushy, now out of his scallop-nest, were always close by in the bougainvillea bushes. By evening all three had deserted the nest but took up residence in a hedge of oleanders on the shady side of the house, remaining there for another 21 days.

During this time we made frequent daily bird-checks between 5 a.m. and 8 p.m. We watched the baby hummers playing together, learning to fly, sitting next to each other on the same twig for their feedings. Pushy was very solicitous of his

baby sister, and Mama hummer was totally devoted to both of them, never out of hearing distance of her birdlings' faint (barely audible to human ears), hungry, high-pitched squeaks. She always came when they called. She didn't mind our watching the feedings.

We talked and sang to them in our own version of hummingbirdese, which they seemed to recognize and enjoy. Pushy became tame enough to let me stroke his throat, and Mama once flew up and started feeding him in mid-stroke. He would come when we called, ate sugarwater from my fingers and lips and for a while we had a sugarwater date with him each day at 8:20 a.m., on the dot. On some days I couldn't sight him immediately but he would appear out of nowhere exactly on schedule, not a minute early or late, to have his picture taken during his first venture in the world of sugarwater-tasting.

We didn't put up a feeder, knowing it would attract other hummingbirds. Instead, we always had a bottle of sugarwater with us, and a few drops on my finger or lips would lure Pushy into posing wherever we wanted him for his self-portrait "sittings" — or hoverings. We were more interested in learning what mother and baby hummers do when left to their own resources in free flight, and they do it quite splendidly.

Pushy soon grew the little feathered gorget (greatly protruding neck feathers) and crown of shimmering amethyst-purple that confirmed his species — the Costa's (*Calypte costae*) — and as soon as Twinky, the timid one, was weaned from her mother, on the 21st day out of the nest, they all took off, vanished, whoosh! And their departure strangely coincided with ours. We had leased a house in La Jolla for the summer. On the morning we left we went over to the oleander bushes to say goodbye, after arranging for a baby-bird-sitter, and they were gone, as though they knew. We searched and waited but they didn't come back.


No sooner had we unpacked our bags in La Jolla than we heard the familiar sounds of a squeaky rusty hinge from the orange tree in the garden. It was an Anna's (*Calypte anna*), exactly like our first little Redbird. We put up a feeder, improvised from a Perrier bottle

wrapped in twine and painted with red fingernail polish; he buzzed over, began sipping, and stayed with us all summer.

In the conundrums of the hummingbird world, who can unpuzzle facts from fantasy? Why was a little red-throated, red-headed hummer waiting for us in the orange tree? Why did a pair of baby hummers hang around for three weeks at a house where hummingbirds had never been seen before?

Our house is always open to the hummingbirds; they fly in and out of our open doors and windows. One evening at dinnertime a hummer flew in, looked us over and then perched on the curved horn of a gazelle — an African primitive art piece — on our rafters. He spent the night there. Humans rarely see hummers sleeping; they go into a state of torpor to conserve energy. At midnight we got a ladder, climbed up and placed a wine glass filled with sugarwater on one side of him, a small jug of honeysuckle on the other, and shot pictures with popping flash-bulbs as he slept. At 6 a.m. he was still sleeping. At seven he aroused, ruffled his feathers, made a fast take-off around the room and landed back at the wine glass. He whizzed back and forth between us and his sugarwater and our indoor plants and finally, an hour and a half later, flew out again to one of the wind chimes on our patio.

So okay, if it's a good luck bird, we said skeptically, he's supposed to bring us good luck. At noon our telephone rang. I listened incredibly as a woman's voice said she had heard about the Hummingbird Man and asked if she and her husband could stop by and see his pictures. By mid-afternoon our bank balance had increased by approximately \$1,000 with the sale of two "Seeing Eye" self-portraits — to a couple we had never met before and haven't seen since. It was our largest sale. Was it only coincidence? Or was it the magic of a hummingbird who invited himself to be an overnight guest in our house?

Meanwhile the most mystifying of all hummingbird imponderables is a miracle that defies medical explanation: My husband can see better today than he could four years ago when the first little red hummer came. 



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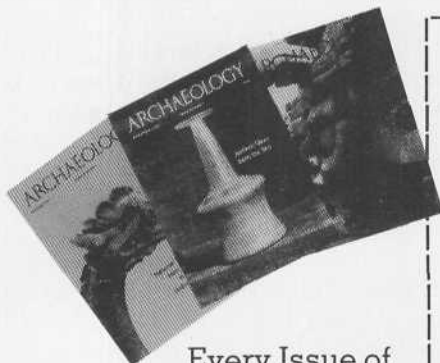
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Edward Abbey and *HIS* Arches

# DESERT SOLITAIRE\*

a critique by

DON MACDONALD

**P**ROFESSIONAL athletic teams, home towns everywhere and the American desert share a common cross. Each tends to be considered the personal possession, to be embraced, by anyone with roots therein, real or imagined.

We can, for example, live in Maine and through no more tenuous a connection than our television set, glue ourselves to the fortunes, say, of the San Diego Chargers. "Hey, wow, look at Muncie go. He's my boy!" we scream, as though we actually owned a piece of the action.

In a sense you do for you've become a Charger fan. And you'd probably welcome the fellowship of like-minded other fans, just as you would conversation with strangers from your home town. The bond is shared interest. It would be unthinkable to suggest that no one sit in the Charger's stadium but you.

Possessiveness of teams and home towns is healthy and open; the more "owners" the better. And so too with the desert. Not so, though, with any part Edward Abbey set boots upon in his book, *Desert Solitaire*. Each square foot became *his*, and any intruders, then or thereafter, were unwelcome. How dared they, those flabby tourists scattering their Kleenex on the cacti! Only the elite, the few Abbeys abroad in the world, may enter.

Abbey writes of the time, starting in 1958, when he was a seasonal ranger in the U.S. National Park Service, assigned to the newly created Arches National Monument in southeast Utah. It was he who greeted you, the flabby tourist, as you arrived at what was and is *your*, not his, new park and then, sometimes, brightened your evening with a campfire lecture on the attractions.

I reincarnated and then fought an almost personal dislike for Ed Abbey before I was halfway through my second, more mature, reading of his now 23-year-old book. It was not my disagreement but the way he, Ed Abbey, comes across. Such as one should raft Glen Canyon before the dam filled it not for sheer pleasure but to be the equal of Major John Wesley Powell. If you can't be first by accident of birth, be the 14,466th in the guest register at Rainbow Bridge and lay claim to uniqueness.

Or, more simply and revealingly, bounce a luckily aimed rock off the head of a rabbit, killing it; then, rather than feeling guilt, or sorrow for the animal, think and say it was right and necessary. And such thoughts were not reserved for lesser creatures. Abbey on occasion wrote of wishing death for his few companions, each in turn for reasons no more compelling than they were they.

Then, of course, there were the tourists who persisted in contaminating Abbey's Arches by just their presence, their sheer gall in showing up. There was the man from Cleveland who said to Abbey the ranger, "This would be good country if only you had some water." Inane or otherwise, the taxpayer from Cleveland was Abbey's employer, but ponder his reply: "If we had water here, this country would not be what it is. It would be like Ohio, wet and humid and hydrological, all covered with cabbage farms and golf courses." Sarcasm backed by a badge is cowardly.

In fact, Abbey seems to dislike practically everyone he meets, including the dead. Helping to carry out the corpse of a lost hiker, he asks: "Each man's death diminishes me? Not necessarily. Given this man's age, the inevitability and suitability of his death, and the essential nature of life on earth, there is in each of us the unspeakable conviction that we are well rid of him." Abbey spoke for the other stretcher bearers without consulting them.

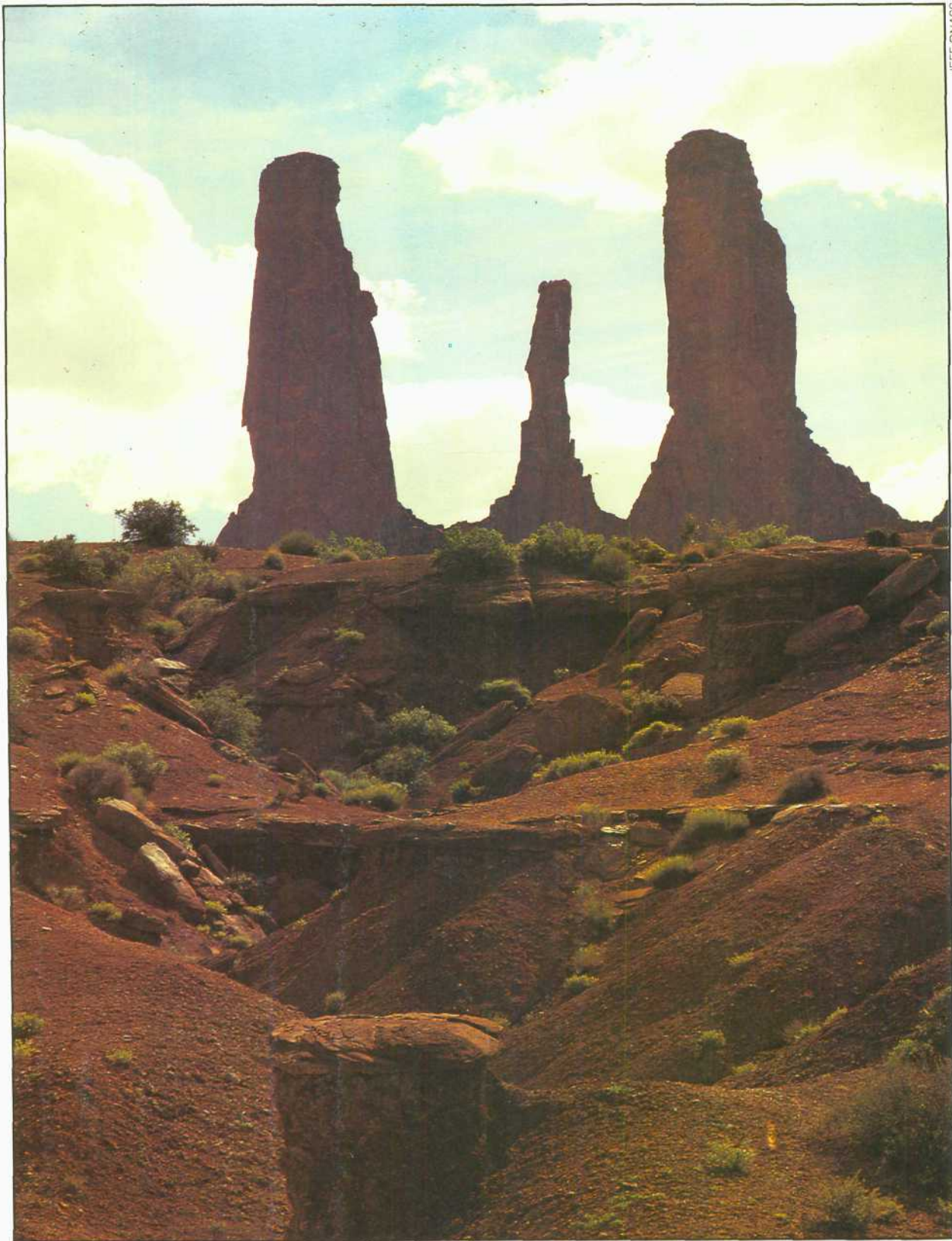
*Desert Solitaire* is indeed set down "... in a close-knit style of power and beauty" as its jacket claims. And I'll buy Abbey as a "rebel and an eloquent loner." It is not, however, "a celebration of the beauty of living in a harsh and hostile land." Rather, it's the inner thoughts of a harsh and hostile individual staking out sole claim to a beautiful land.

But however I feel, the book must necessarily be read sometime by everyone seeking to clarify their thoughts on land usage. It gives stark-naked exposure to the raw selfishness of the eco-freak. And you'll be guided rather than bothered, I suspect, by the insults of this banal fringe.

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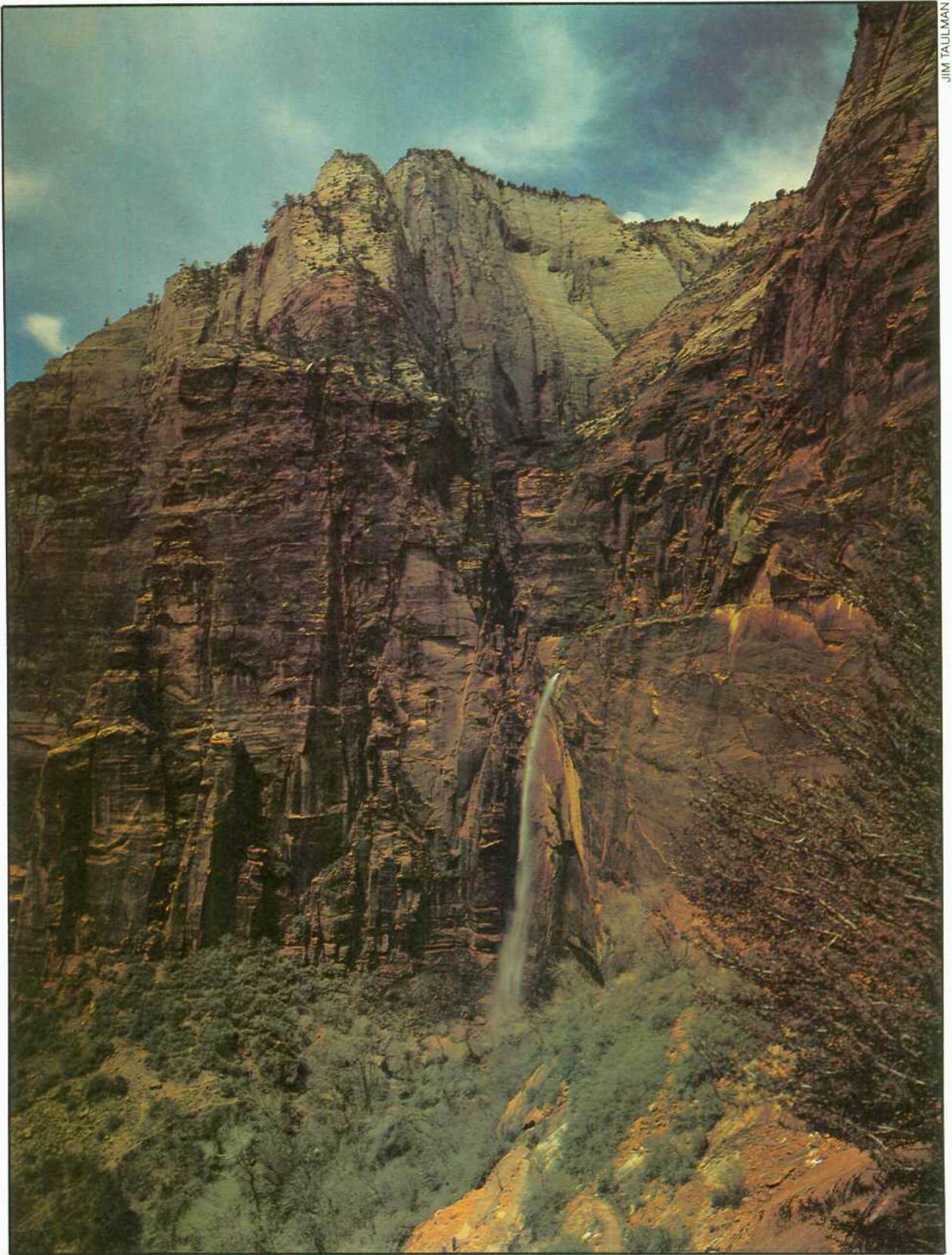
\*McGraw-Hill Book Company, New York, 1968; Ballantine Books Edition, New York, 1971, 7th Printing 1979; \$2.50





*"By noon the clouds are forming around the horizon and in the afternoon, predictable as sunrise and sunset, they gather in massed formation, colliding in jags of lightning and thunderous artillery, and pile higher and higher toward the summit of the sky in vaporish mountains, dazzling under the sunset."*






JIM TAULMAN

*"So much for the stars. Why, a man could lose his mind in those incomprehensible distances. Is there intelligent life on other worlds? Ask rather, is there intelligent life on earth? There are mysteries enough right here in America, in Utah, in the canyons."*

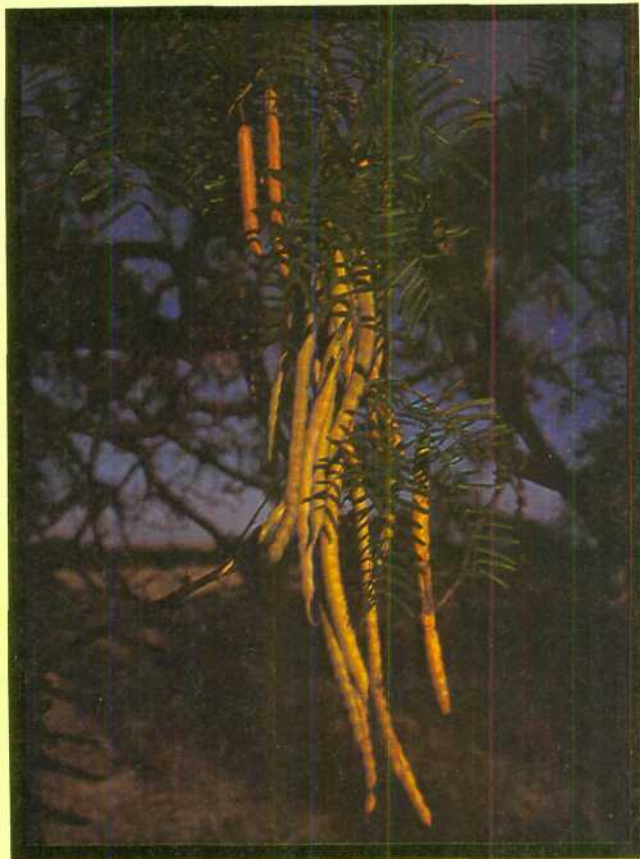




"... life is not crowded upon life as in other places but scattered abroad in spareness and simplicity, with a generous gift of space for each herb and bush and tree, each stem of grass, so that the living organism stands out bold and brave and vivid against the lifeless sand and barren rock." 



Mesquite bean (below) grows four to nine inches long, is bitter while green, palatable when vermillion. Wood was used by padres and settlers for construction, the Tumacácori Mission (bottom left) being an example. Even scrub mesquite (right) was prized for its bean crop.





# THE MESQUITE

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## Wonder Tree Of The Southwest

**C**OWBOYS CURSE its thorns and swear at its impenetrable brush. Ranchers grub, bulldoze, or spray it with planes to eradicate it. Yet, others equate it with manna from their God, claiming every portion of this much maligned tree has its use, ranging from medicine and candy to bread and beer, even cattle feed equal to alfalfa hay.

The survival of many an expedition over the arid southwest depended on the mesquite bean for food, and its roots for fuel. As a medicine, it served as the local pharmacy to the Native American. More than a century ago Capt. Randolph Marcy reported it as the greatest discovery in the west since gold was found in California.

A leguminous tree, the mesquite comes from the genus *Prosopis*. Of its 35 species, *Prosopis glandulosa* is the mesquite of the American southwest. The ancient Aztecs knew it as *mezquiti*. Pronounced "mezkeet" — often "muskeet" in Texas — it has also been known as western honey locust, honey or velvet mesquite, algaroba tree, and Texas ironwood.

The primary tree of the southwestern deserts, the mesquite is at home throughout much of Mexico, Arizona, New Mexico, Texas, western Oklahoma, southern California, southern Nevada, southwestern Utah, and in recent years has crept into southern Kansas and western Louisiana.

Often the mesquite appears as a shrub with the mass of its wood growing below ground as large, creeping roots. Settlers' camps were pitched near it with seemingly no timber or fuel of any kind visible for miles, for the frontiersman knew that with spade and ax he could dig for wood, and with a yoke of oxen, pull out pieces fifteen to twenty feet long.

Not only do mesquite roots grow down — as much as 175 feet — they grow out laterally, reaching as far as fifty feet. The southwest is "a hell of a country," frontiersmen used to say, "where a man has to dig for wood and climb for water," meaning digging for mesquite roots and climbing canyons to headsprings. But on rich bottomlands the mesquite can grow forty-feet high, with an undivided trunk two feet in diameter and seven- to ten-feet high before forking.

The tree has a peculiar charm of its own. Thickets of mesquites in bloom have often been mistaken for vast peach orchards. In Mexico it was long planted as a shade tree. On the campus of Hardin-Simmons University in Abilene, Texas, tall, wide-spreading mesquites grace the landscape. In fact mesquites probably furnish ninety percent of Abilene's shade, as is true in many west Texas towns.

Its foliage has long served as an almanac to farmers. "The mesquite knows," old-timers will tell you. It knows when winter is over and there is no longer danger of frost. "When the mesquite begins to bud, it's time to put out tomato plants," is a Texas folk saying. "Plant cotton when the mesquite leafs," is another.

Its deciduous leaflets, no longer than two inches, are adapted to arid

regions. Its early foliage is an emerald-green that gradually deepens its hue as the season progresses before turning yellow in the fall. Late to generate its leaves, they remain equally late in the fall or into winter months. When grass is scarce, cattle will eat around the tree, reaching as high as their tongues will stretch.

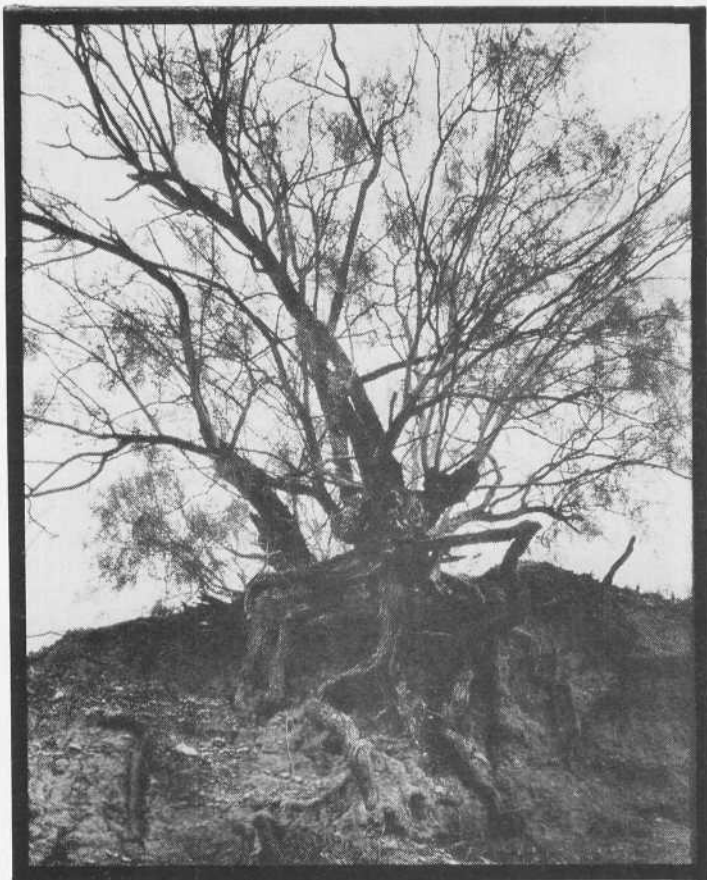
**M**ESQUITE MEANT a water source to such plainsmen as Charles Goodnight, who built a ranching empire. When spying a mesquite, Goodnight was always sure he could find water within five miles. He believed mustangs had scattered the seeds through eating the beans, and he knew mustangs rarely ranged more than five miles from a water hole.

When Texas was first settled, mesquite flats were the pioneers' choice, for they knew mesquite groves meant rich soil. It was long believed that its roots grew to water and the place to sink a well was beside a mesquite. A 1911 study showed that wherever mesquites grew in California's Mojave Desert, the water table was not more than thirty-feet deep.

Texas boasts the largest mesquites in America, found on the lower Rio Grande and the Nueces where many of the trees may exceed 250 years in age. The largest in Texas, in the Santa Ana National Wildlife Refuge near Alamo, is forty-feet tall and has a trunk twelve-and-one-half feet in circumference.

Perhaps the largest living mesquite is "Old Geronimo" in southern Arizona, with a whopping trunk fifteen feet in circumference. It grows in Tumacácori, not far from where Franciscan priests also used

**Much southwest mesquite seems like a shrub, but actually its heavy roots grow down as deep as 175 feet and laterally, as much as fifty.**



mesquite in building Tumacácori Mission in the late 1700s.

Mesquite and ruins in the southwest are to each other as the plains and buffalo grass. Mesquite beams were used 600 years ago in the Casa Grande Pueblo on the Gila River near present-day Coolidge, Arizona. When the Spanish mission that came to be known as the Alamo was built in 1718, mesquite was used in its timbering.

The first cannon used in Mexico's struggle for independence from Spain was from a mesquite. Made in 1810 by the patriot Morelos, he split a log, hollowed it out smoothly, and bound the halves together with green rawhide. In Arizona, the Apache and Navaho made their bows from it.

Mesquite was used in the construction of Fort Richardson in 1867 near Jacksboro, Texas, a town originally named Mesquiteville. In the early 1880s it provided the first paving in San Antonio and Brownsville. Texas pioneers used mesquite for hubs and spokes for wagon wheels, and ribs and knees of small vessels. The headquarters of the sprawling King Ranch was furnished with furniture made from the tree.

Mesquite is a hard, heavy, close-grained wood, and although not strong, is extremely durable. From a

pale-yellow, thin sapwood, its richly colored heartwood varies from dark brown to red and polishes beautifully, making mesquite a cabinetmaker's delight when straight trunks are found. In recent years tiling with mesquite blocks has produced some of the most beautiful floors to be found, and pipe manufacturers have experimented with it in place of briarroot.

**O**LD-TIMERS STILL argue over which lasts longer, mesquite or cedar posts. Mesquite will last longer if cut from mature trees and allowed to season. Mexicans say the time to cut mesquite is when the sap is down, and if cut when the moon is full and the bark is peeled off, worms will not bore the wood.

The mesquite begins to blossom about the middle of May and crops of sweet-scented yellow flowers with greenish-white petals continue until mid-July. The sweet fragrance of the catkinlike flowers draws bees by the millions — long giving mesquite the reputation for being a major source of honey, always a clear amber and delicious quality.

Every part of the tree was utilized by Native Americans of the southwest, but its pods or bean fruit formed the forgotten manna of the

tree, supplying the staple diet of those tribes. The beans form early in June and ripen throughout July and August, turning from green to yellowish-white mottled with red.

The bean can grow four- to nine-inches long and up to a half-inch wide. Each bean contains ten to twenty oblong seeds embedded in a pulp that is bitter while the pod is green, but turning a vermillion hue as it ripens, becomes sweet and palatable to both man and animal.

When ripe they can be eaten while yet hanging on the tree, or boiled, or once dried, ground into flour for cakes, mush, or bread, or even fermented for a mild alcoholic drink. The bean provides protein, carbohydrate and calcium, and four tablespoons of meal yields seventy calories.

Mesquite *atole* is a delicious drink long relished. The whole pods are thrown into boiling water and when cooked, are placed into fresh water, pounded into a pulp, and strained. The result is a pleasant beverage. A variation is to crush the pods first and then boil the flour. The latter recipe can result in a weak beer if allowed to undergo alcoholic fermentation — once a popular drink of the Comanche and Apache Indians.

The mesquite's gum or sap — along with its leaves, roots and inner bark — long served as the cure-all for ailments, making this tree the local pharmacy for native inhabitants. More than 450 years ago the Aztecs used mesquite leaves as a lotion for sore eyes. At the turn of the century Mexicans still applied this remedy. The Mescalero Apaches ground the leaves to a fine powder, placed it in a thin cloth, and adding water, squeezed the liquid into the eyes. Many believed it cured pink eye. The Comanches used the leaves for a tea to neutralize stomach acidity.

In 1829 French botanist Jean Louis Berlandier observed that the Comanches chewed the leaves to cure toothache, and used its mildly astringent juice for sore eyes. The Yuma Indians applied an infusion of the leaves to relieve venereal disease. Yaqui Indians mashed the leaves into a pulp, mixed it with water and urine, and bound the poultice around the forehead to relieve a headache.

Mexican women tied a handful of mesquite leaves in a cloth and placed



it into a wash pot to boil with their clothes to make them white. Indians of southern California used the leaves as a blue dye to tattoo their faces. Pimas boiled the leaves and used the extract for an emetic, or to induce vomiting.

The Papagos peeled the white inner bark from the mesquite, pounded it into a powdery substance, boiled it with a little salt, and drank it each morning before breakfast when suffering from chronic indigestion. The Pimas used the inner bark as a substitute for rennet, or to curdle milk.

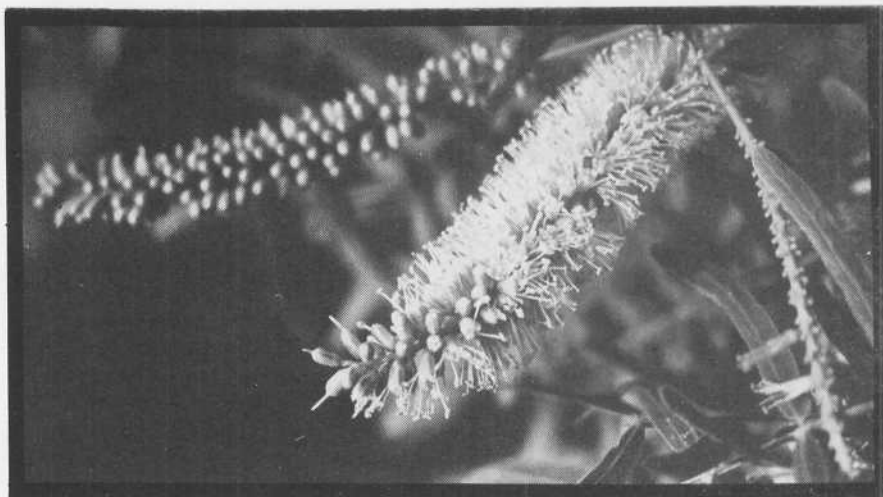
Indian women carefully peeled the bark, then rubbed, pounded, and pulled it until it became soft and pliable when it was fashioned into diapers and skirts. Frontiersmen commonly used the bark for tanning and dyeing. Or, when jaded by a severe case of flux, they concocted a tea made from the mesquite root. Maricopa Indians used the same root tea for a child in umbilical hernia.

Of all the mesquite's attributes, none was praised or sought after as much as the tree's gum or sap — the product that caused Capt. Marcy, the explorer, to announce in his nation's capitol that it was the greatest discovery since gold in California.

From May to September, amber-colored tears of gum exude from the bark or broken limbs of older trees. The yield is increased by making incisions in the trunk. The gum will form slowly in small tears or elongated layers, but even then the yield may not be as much as a pound for the season. Similar to gum arabic, to which it has often been compared, the sap makes excellent mucilage, dissolving easily in three parts water.

In 1872 mesquite was recognized as an agricultural product when some 24,000 pounds of the gum was collected in Texas and used in the preparation of mucilage, gum drop candy and jujube paste. In recent years a gum preparation has been sold as an emollient for inflamed mucous membranes.

**N**OT UNTIL SOME years after the turn of the century did the mesquite turn from a tree of praise and wonder to a menacing growth encroaching the grasslands of the plains and Southwest — “one of the most spectacular biological phenomena of



**Mesquite blossoms with sweet-scented yellow flowers from mid-May to mid-July. It is a major source of honey.**


this country,” writes Donald Peattie in his *Natural History of Western Texas*.

The reasons for the mesquite encroachment are many, but can be summed up in overgrazing of the rangelands, prevention of range fires and eradication of the prairie dog. In the century between 1850 and 1950, mesquite spread from its native habitat of streams, arroyos, bottomlands and desert springs to entangle and cover more than 75 million acres of the southwest.

Research continues. Texas Tech University is experimenting with a harvested mesquite diet for cattle. Possible mesquite products are charcoal, tannins, ethyl alcohol,

acids, sugars, plastics and wall board. Mesquite gum is gaining usage in gumdrops and mucilages, and as a source of uncommon sugars.

Today, many believe that this combination wonder and ravager should not be eradicated from the bottomlands or stream banks where its value for browse and shade and even fence posts and fuel far exceeds the grass that the same land would provide.

Donald Peattie aptly concludes: “Mesquite is something more than a tree; it is almost an elemental force, comparable to fire — too valuable to extinguish completely and too dangerous to trust unwatched.” 

**Modern-day woodworkers have “discovered” mesquite, using it for products as diverse as rolling pins and pipe bowls.**





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