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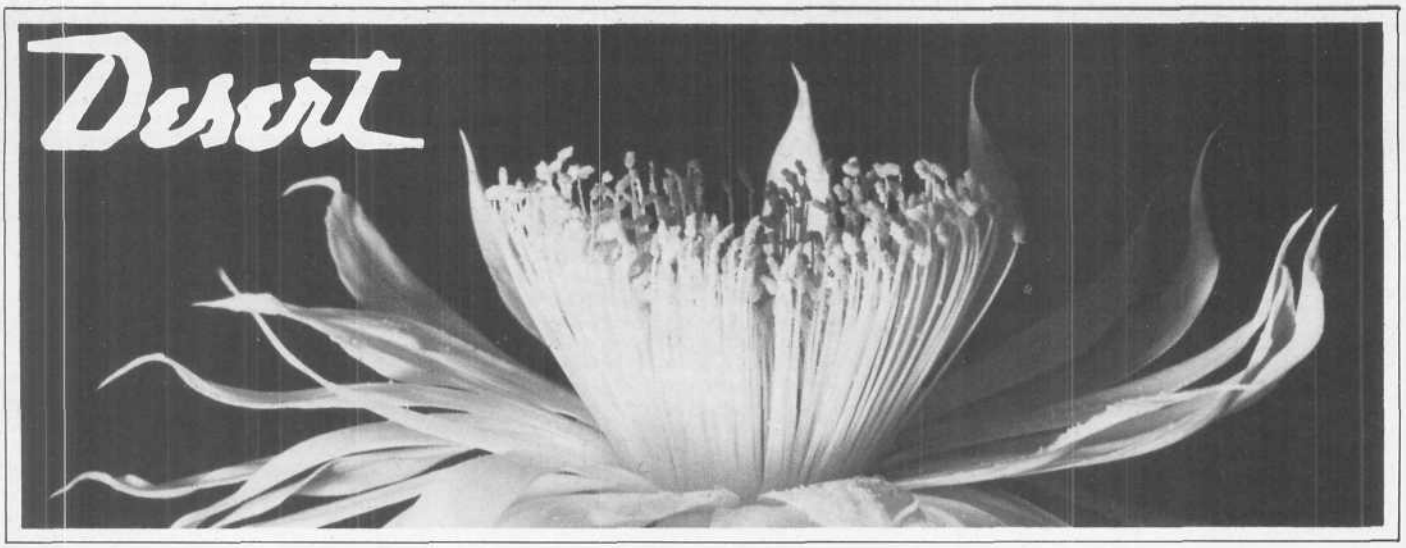


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Volume 43
Number 3

The desert will blossom with flowers.
Yes, there will be an abundance of flowers and singing and joy!
—Isaiah 35:1,2

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The Cover:
April showers bring an abundance of wildflowers to the desert. Our cover photo is a poppy spread near Mt. Graham, Arizona. Photo by David Muench.

5 SAN FELIPE, Shrimp Capitol of Baja
Donald MacDonald
10 THE CAVE PAINTINGS OF BAJA
Luisa Porter-Klink
14 HAPPINESS IS A WARM CLAM
Mary Eileen Twyman
18 ARCOSANTI: The People
Gary E. Squier
22 CORNUCOPIA, An Oregon Ghost
Billie Durfee
26 CACTUS: Barbed, Bristly, and Beautiful
William and Nancy Harrison
27 THE CACTUS CITY CLARION
Edited by Mary E. Twyman
28 Desert ROCKHOUND
Rick Mitchell
30 HILLTOP, A Disappearing Ghost
Don Bufkin
32 DESERT CALENDAR
36 REAP THE WILD FRUIT
Wayne P. Armstrong
40 HOW OLD IS CALIFORNIA MAN?
Herman W. Ronnenberg
43 SELDOM SEEN SLIM
Drawn by Arnold Roth
45 A GALLERY OF DESERT WILDFLOWERS
48 WHAT'S COOKING ON THE DESERT?
Stella Hughes
52 PHOTO CONTEST WINNERS
53 PYRAMID OF METATES
Ruth Fitch
54 LUCIEN BONAPARTE MAXWELL, Land Owner
Ernie Maxwell

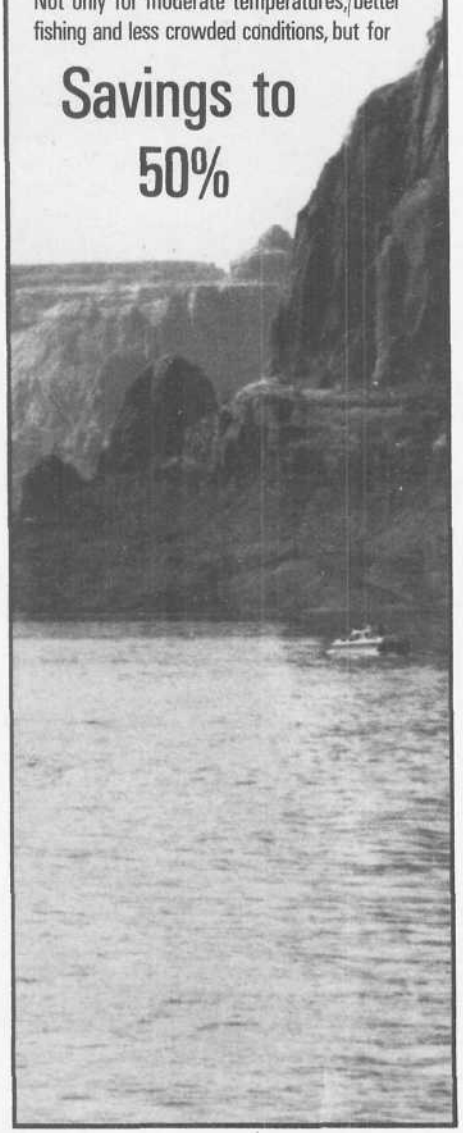
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OUR READERS WRITE

NAMED AFTER DATE TOWN

Dear Desert Magazine: Thank you! In your March 1980 issue you put an article about dates. Well you mentioned Valerie Jean Date Shop in Thermal (Calif.). Well my name is Valerie Jean Ostberg. I was named after that town. At least it was a town 22 years ago. My dad was on a hunting trip and when he saw this town he told his friend he was going to name his first girl Valerie Jean. So here I am. I'm 12½ years old.

Valerie Jean Ostberg

Pasadena, Calif.

THE GREAT LAND GRAB

An article about the late William F. Keys and his fight to keep his land in Joshua Tree would be interesting. I had the pleasure of knowing him. He had some mining claims next to ours in the Granite Mountain range. While laying out our claims we discovered Adams Well which we had looked for several times. It is a work of art the way it was built. It is 53-feet deep and perfectly cribbed all the way.

Joe Nemie

Lodi, Calif.

THOMAS L. "PEGLEG" SMITH IS BACK

About 1914 a Mexican employed by a Fresno (Calif.) dentist as a rose gardener was traveling from the Colorado River to the town of Mojave, being careful to avoid certain authorities because he was in this country illegally. En route he came across a hill and a small box-shaped butte in a crater-like valley. The interesting thing about this hill was that our Mexican friend found that scattered along its base were large, round, black-coated nuggets.

The dentist employer, whom the Mexican gave a map to the find, didn't look for the gold but gave the map to a lady chiropractor called "Dr. Susan." The latter had Ken Marquise look for the crater as she was physically unable to venture into the desert on foot.

In 1955, the same year Dr. Susan died, a rockhound sat down on the side of a hill for a late morning rest and that hill was the same one the Mexican gardener had found 40 years before. This fortunate man revealed the story of his discovery of the black gold to *Desert* Magazine beginning in 1965.

However this black gold deposit is not the one found by Thomas L. "Pegleg" Smith (1801-1866) as that site involved *three* buttes.

Jerry Connelly

Arcadia, Calif.

There are many stories as to the origin of Pegleg's black nuggets and of finds having been mistaken for it. Many of these stories, in turn, have been printed in Desert *Magazine. We do know that there were at least three "Pegleg" Smiths, all prospectors of about the same era and all missing one leg. We further know that one of the Smiths answering this description died in a San Francisco flophouse of alcoholism in the late 1860s. And, too, we agree with Mr. Connelly that the "rockhound who rested on the hillside" matches what we know of the man who sent black nuggets to us under the signature "T.M.W.F.P.L.G." [stands for The Man Who Found Pegleg's Gold]. Lastly, the various Pegleg stories are inconclusive as to the exact number of buttes at the site.*

In any case, the purpose of Mr. Connelly's letter was an offer to buy a nugget from us at $700 an ounce, a fair price on January 1, 1980 when he wrote his letter. Our collection is not for sale but if any of our readers have some of the mysterious nuggets and they wish to sell one, they may contact Mr. Connelly by writing him in care of this magazine. Ed.

ANYONE KNOW "DAD" EDSON?

For some years I've intended to write *Desert* to see if anyone can give me information on a man named "Dad" Edson. Or perhaps it was "Old Dad" Edson. He was a friend of my father and mother in the very early 1920s. Don't know where they met him. My father was a drifter then. Dad Edson lived in Cajon Pass. I seem to recall a stone house—was just a little boy then. I also can recall a great white mustache and white hair. He was reputedly Indian fighter, scout, buffalo hunter, and wagon train guide. Also, he had spent years prospecting the Mojave, or so I remember. Still have a nice portrait picture of him. Can anyone help? I'm cynical enough to wonder if maybe he wasn't a big windbag and I'd like to find out differently.

Lt. Col. Thomas M. Conrow (Ret.)

Santa Rosa, CA

WANTS MORE MAPS

I enjoy your magazine and look forward each month to armchair exploration trips. But there is one thing I would like for you to do. I try to locate on my inadequate maps the places you are describing. Could you make a drawing of the location within the state, showing some well-known point of reference? My maps show the main highways only.

Dorothy Brotherton

Springfield, Ore.

No sooner requested than done. This issue contains three maps and we'll continue to use them whenever we think you might not find the place we're writing about. Ed.

A LETTER TO SUBSCRIBERS

We've been fighting the battle of inflation here at *Desert* Magazine and frankly, we're losing. The supplies we use in our typesetting machines, for example, went up 40 to 60 percent as of Feb. 1, 1980, due to comparable increases in the silver and petroleum used as ingredients in these materials. We're sorry but effective with all subscriptions that expire with our June, 1980 issue, we're forced to raise our renewal rates to $10 for one year or $19 for two years. Three-year subscriptions will be discontinued. So, PLEASE RENEW OR EXTEND YOUR PRESENT SUBSCRIPTION NOW TO BEAT THE PRICE RISE. And it's a good time to think about sending *Desert* to the home of a friend. Gift subscriptions will go up with the June issue, too.

Regretfully,

The Publishers of

Desert Magazine



SAN FELIPE
Shrimp Capitol of Baja

by Donald MacDonald
Photos by Gary E. Squier



Previous page: Old boats of San Felipe's fishing fleet never die, they just silently await repairs and a lunar tide to float them back to sea again

Left: There was a circus the day we visited San Felipe and guess who was the most popular man in town?



Unlike Canada, our equally accessible neighbor to the north, Mexico and particularly its border cities like Tijuana and Juarez have been plagued with a mostly undeserved reputation for seedy shops, voracious street merchants, commercialized poverty, and night spots that will strip the unwary of everything they possess. The warnings you hear back home say don't drive at night, padlock your car battery and for weak-willed men, dream not of Spanish Eyes for they may leave you with a souvenir.

The fact is you're likely to encounter the same problems at about an equal magnitude on Broadway or 42nd Street in New York, on Hollywood near Vine in Los Angeles or around North Beach near Chinatown in San Francisco. The tawdry legends, for that's what they are, generally stem from incidents stirred by the so-called victim. Vultures everywhere gather at the first scent of fear.

I have stopped off at Tijuana on my way into Baja countless times and have never locked the car. Just once in Mexicali a set of road lights was neatly removed during the night and the next morning, the motel manager paid me my own estimate of their value in cash; and with profuse apologies.

There are shops in both of these cities, many of them, that offer exquisite arts and crafts, with dignity, and at fair prices. At other places, modest fronts hide the hand-manufacture of some of the most tasteful furniture and beautifully carved doors to be found anywhere. And I've always eaten well as my wallet and my precautions with the water have allowed.

So fear not that you'll be violated on your way to San Felipe, a fishing town of 5,000 inhabitants and on some weekends, 1,700 visitors, that sits placidly on Baja California Norte's east coast some 130 miles from Mexicali on paved M-5. Or it is almost equidistant from Ensenada on newly paved M-3 (formerly BCN-16). Our map shows how to get back and forth through Mexicali which presents difficulty only where the city route circles twice around massive monuments.

The drive from Mexicali is especially stimulating for much of its length. On the left, shortly after leaving Mexicali, you'll see the basin of the once mighty Colorado River. You'll be reminded of the semi-tropical deltas in our own southern states and fishing camps, such as Rio Hardy, abound.

Just south of Rio Hardy, the road traverses for what seems like an eternity, but is really only 10 miles, a salt flat that is sometimes filled on both sides with trapped tidal waters. Out on that flat and seen by only a few who have braved the treacherous clay in Jeeps is the wreckage of a confused ship, left there when a storm-fed tide receded as suddenly as it arose.

You leave the flat to enter a lunar landscape of brilliantly colored foothills, barren of all vegetation and seemingly useless to man. They perhaps aren't for vehicle tracks disappear into them at intervals.

Approaching San Felipe, you'll pass a series of *playas*, public and private, of which my favorite is Playa Encanto. For $2.00 a day at any of them, you can park, camp, and eat under a canopy of palm







Top left: Americans may sometimes cringe at what they see as poverty but these modest homes are happy and clean, inside and out.
Left: The new Ecolohotel at Playa de San Felipe is the first stage in a determined effort to turn a sleepy fishing village into a second Cabo San Lucas.
Above: Cactus, Christmas decorations, and a traffic light share the same corner at the terminus of M-5 and San Felipe's main street.

fronds, watching the half-mile tides ebb and flow. There are showers and flush toilets at Encanto and at a few of the others, and there are also clams and unusual shells, some of them rare and valuable.

The latest Auto Club of Southern California guidebook to Baja California says: "San Felipe tends to attract a somewhat unruly brand of tourist and annoyances caused by motorcycles, dune buggies, and loud parties are quite common." I say that is a judgement reached by a few days' non-typical exposure while the writer was researching the guidebook. Or else it stems from complaints by members of the type who are offended by the presence of *any* motorcycle or dune buggy.

Granted, San Felipe can be a fiesty little town, particularly when the Baja 500 or Baja 1000 off-road races are in progress. The late Ma Arnold, proprietess of Arnold's Hotel & Restaurant, which probably wouldn't warrant the Club's sign of approval, was beloved by these racers for her hospitality and personal warmth. But most of the two-wheeled vehicles in San Felipe throughout the rest of the year are mopeds piloted by *gringo* residents from one of the many trailer villages skirting the town. The dune buggy is likely to be locally owned and home-made, to provide towing service on the beach which the Auto Club does not.

There is peace and silence to be had in San Felipe. Those qualities have existed since the early 1800s when the little port, sheltered at its north end by 950-foot-high Punta San Felipe, was used by ships supplying the Baja mission chain. These qualities were also what attracted Fortunato Valencia Armenta, a fisherman from Guaymas on the mainland, to these shores. Fortunato was a boy of maybe 12 years when he first came in 1924. He came with five others who were older to fish and found that the harbor already "belonged" to one Juan Romero who watched over it from his *campo* at Punta Estrella 10 miles to the south. There were also two canoes and a boat at Campo Uno, a place that is no longer on the maps.

By 1926 Fortunato had his own boat, a motorized skiff he named *"Vecenta"* with which he towed three canoes. He settled in San Felipe along with three other families that were already there and today, he is referred to as *Don* Fortunato because he is San Felipe's oldest living settler.

He told us that there were no stores then but in that year the first car, a Dodge, came down from Mexicali with supplies to sell. Most all cars in Baja then were Dodges because Pancho Villa had approved of them for his army. They were recommended to Pancho, in turn, by his enemy,





Photo by George Service

Opposite top: The brown pelican, "endangered" in polluted U.S. coastal waters, thrives on the teeming fish in San Felipe Bay.

Opposite bottom: The desert and the coastal hills near San Felipe wear gorgeous colorations in the late afternoon sun.

General John "Black Jack" Pershing who had replaced his horses with them. The first *turistas* came in 1926, also in a Dodge.

By the next year, Fortunato said, there were trucks serving the town, taking three days for they made the road as they went. Among the necessities they brought were gallon jugs of tequila in about a one to one ratio with jugs of water. Water was San Felipe's problem. Lack of it defeated Col. Steven Cantu, a former governor of Baja who fought against Villa and who later mined silver 30 miles to the south. Col. Cantu died poor, said Fortunato. But the cars and trucks kept coming for fish and would trade clothes and food. By 1927 San Felipe had a mayor, a man named Valladelite if Fortunato's memory serves him, and also its first policeman. There were maybe 100 residents.

Even as late as 1967, everyone had to go with pails on a stick to a well near what is now the Motel El Cortez. There were no pipes until the next year, and there is no sewer yet. Electricity came in 1963 and the dial phones just this last year.

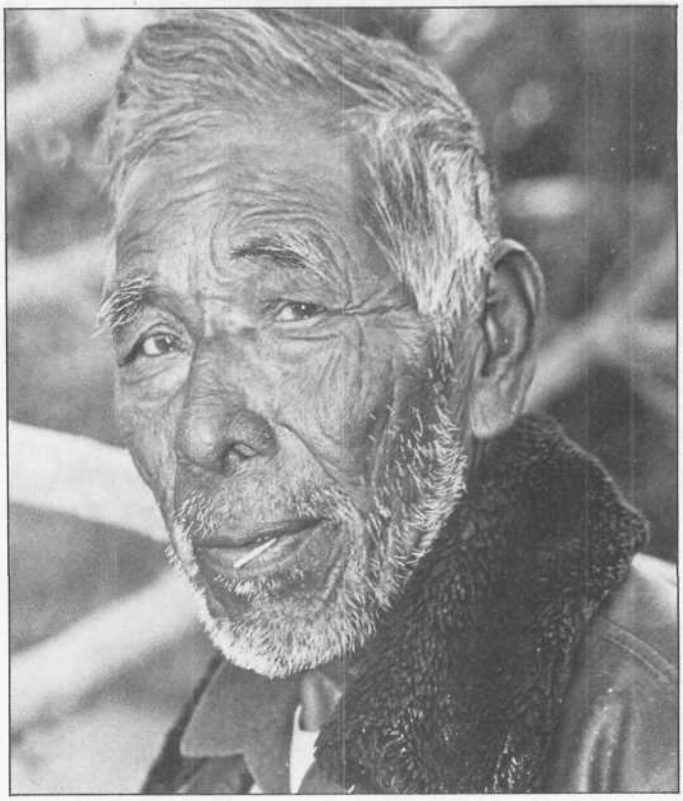
Mexicans left to themselves seldom exploit their beaches. San Felipe's first motel, the Riviera, was built where it still stands on a hillock several thousand feet away from the high tide line. It was and is twice that far away when the 20-foot tides are out. The builders of the much newer El Cortez catered to Americans so it is right on the beach.

I like the El Cortez. You sent a deposit to their postal box in Calexico in the days before the phone and they always had a room awaiting me. The showers work sometimes and sometimes they don't, as it is with the air conditioners, but the beer is always cold and the people are friendly. This year they rebuilt their restaurant and the food is good but not as good as at El Toro II on the highway just outside of town.

San Felipe is a place for fat shrimp measuring four inches long if straightened and the El Toro II sautes them in garlic butter. Have steaks if you want. They're bought at Safeway in El Centro and are pretty good but me, I alternate between the shrimp and the Clam Man's clams.

The 1st day of September in 1967 brought disaster to San Felipe. A vagrant hurricane that had circled back from its harmless route out across the Pacific nearly wiped out the center of town. The street along which it was the worst is now officially named 1st of September St. but townspeople call it *La Bondogo* which means disaster.

Actually it was not so bad in some respects. Nobody was killed though Sr. Jiminez, the theater owner, nearly drowned, a fact we found out when we tried to borrow some old pictures from him. The government sent in money to rebuild the houses and so did the citizens of Hayward, California, who



Fortunato Valencia Armenta, San Felipe's oldest living settler, today ekes out a meager ship's captain pension by guarding anchored fishing boats.

adopted San Felipe as their sister city. Most of the "loud parties" noted by the Auto Club, incidentally, are staged by Haywardians who visit San Felipe every chance they get.

Don Fortunato remembers the hurricane. He says it was good for everyone. All the trash in the riverbeds came back to roost and had to be cleaned up. And he says in the eight days without light there was love and many new children came.

South of the existing structures there is development of which Don Fortunato approves because he hopes someday his town will be like Cabo San Lucas. There is a luxury hotel at the Playa del San Felipe out by the new airport. Lots are being sold for between $2,400 and $30,000, and an elaborate club house has been started.

The Sea of Cortez is gentle and warm at San Felipe and so is the climate from November through April. Summers, though, are hot, so hot that one needs sandals to walk the sands, but I like it then. About midnight when the sands cool, you lay on the beach and hear the generators of the shrimp boats out in the bay. Above you the stars will be brighter and there will be more of them than any place else you've ever been. And in the water the fish will flash irridescence from the new street lighting behind.

It is a place where I'd like to live someday, not all the time but whenever possible. It is a place where neatly scrubbed people ask very little but your respect for their way of life. I must differ with Don Fortunato. I hope that new hotel is the last one to be built and that once all of the lots around it are sold, that ambition will once again lie still in San Felipe.



THE CAVE PAINTINGS OF BAJA

by Luisa Porter-Klink
photos from the files of Desert *magazine*

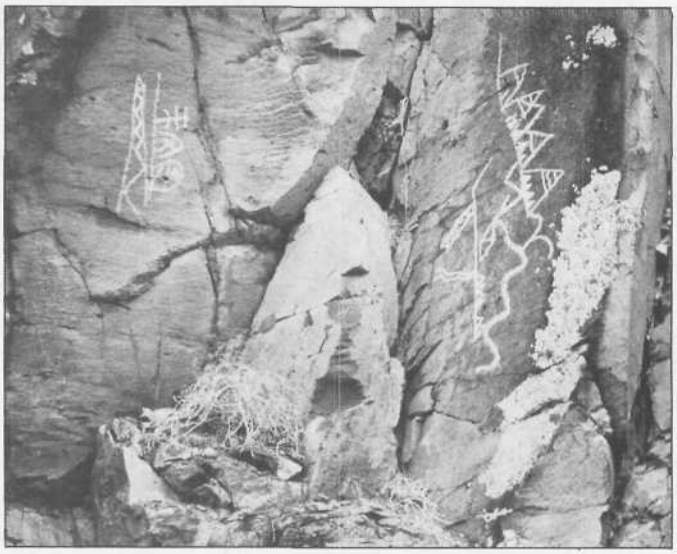


While Europe lay in the Dark Ages and America's discovery loomed hundred of years in the future, an Indian man climbed on a scaffold made of palm trunks and decorated the walls and ceiling of his tribal meeting place with colorful stylized shapes depicting the inhabitants of his little corner of the earth: men, the mule deer, mountain lions, whales, fish, and bobcats. His canvas was one of the many caves pockmarking the Sierra de San Francisco in the central peninsula of Baja California.

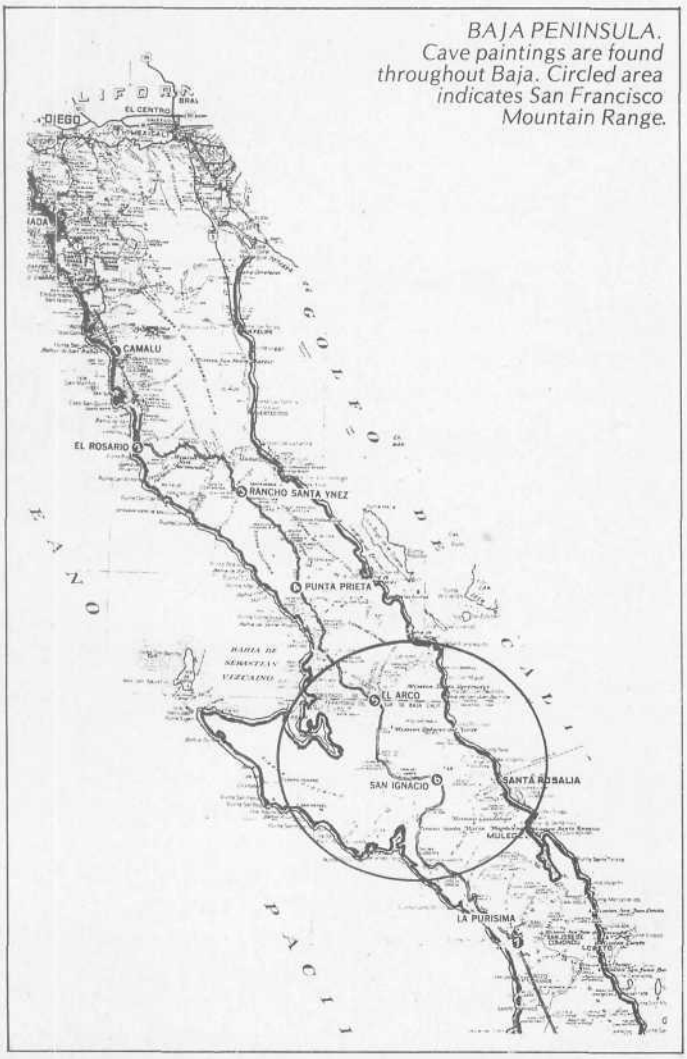
This process was repeated many times among the numerous caves and overhanging rocks that lay near the Indians' principal thoroughfares. these pre-Columbians were a nomadic people moving back and forth endlessly in search of food. Fresh hunting grounds, seasonal harvest of certain plants and seeds, these were the matters occupying most of the painters' waking hours in an arid inhospitable environment, leaving little spare time for the manufacture of enduring artifacts which might further explain their lifestyle and history.

The existence of these cave paintings was brought to the attention of the general public through mystery author Erle Stanley Gardner's ''discovery'' of the caves by an elaborate expedition using helicopters. The account published in **Life** Magazine





Some of the photos on these pages show cave paintings discovered by Erle Stanley Gardner on his 1964 expedition to Baja with staff members of Desert *Magazine. Other pictures show pictographs to be found in the area near Conception Bay. The figures in the paintings, all red and black, are huge, giving rise to legends that they were created by a race of giants.*



BAJA PENINSULA. Cave paintings are found throughout Baja. Circled area indicates San Francisco Mountain Range.

with a full color spread was later detailed by Gardner and published in book form. It was a tale of high adventure in forbidding terrain, produced by a well-known writer with a following in the millions. If the caves in question had already been known to the outside world for two and a half centuries, this fact did little to detract from the interest generated by Gardner.

Painted caves were known since the early 1700s to Jesuit missionaries whose travels about the peninsula between mission outposts took them past the caverns. Most of the paintings were clearly visible from the old trails, large figures in red, black, and ochre in sharp contrast to the gray rock or sandstone backdrop.

Naturally the priests asked their neophytes about the origin of this rupestric art, some of which already appeared ancient. The contemporary Cochimis assured them that this was not the work of their ancestors, but had been produced by a race of giants, now extinct, who had inhabited these mountains and deserts long ago. They claimed that the giant people had engaged in a war that decimated their numbers to an extent that the earliest Cochimi arrivals had been able to finish off those that remained in Baja, since cave painting and other customs were not to their liking.

Padre Miguel Del Barco, one of the Jesuits expelled by order of the Spanish King in 1769, later wrote concerning the caves from a place of retirement in Bologna, Italy. Others to write of visits to the painted caves were the Dutch physician and amateur anthropologist, Ten Kate, in 1883, and a French chemist, Leon Diguet, who worked for the copper mining company in Santa Rosalia for three years.

Remote ranches are scattered throughout the

mountains. These ranch families have known of the cave paintings for generations, passing them daily in the business of herding goats or visiting a neighboring rancho.

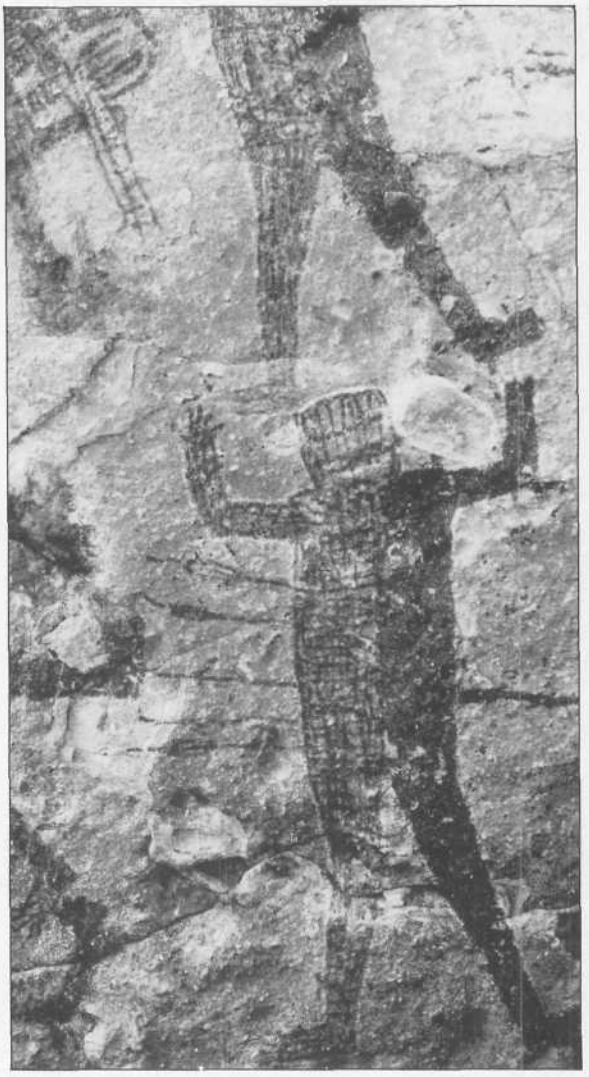
Throughout the history of the area, the legend of giant artists persists. Harry Crosby, well-known Baja writer whose book "The Cave Paintings of Baja California" (Copley Press, 1975) deals quite thoroughly with rumors of giants, points out that the occasional discovery of the skeletal remains of tall individuals can hardly account for paintings on surfaces 15 or 20 feet beyond reach of normal men. Instead, Crosby reasons that each cave with rupestric painting is located near a natural spring or oasis with a stand of palms. The trees could have provided material for ladders, which might then be bound with animal sinews for reinforcement.

Perhaps, in my study of Baja California lore, I had always relied too heavily on translations of the missionaries' accounts of the utter lack of any cultural achievement by the Baja California aboriginies, forgetting that the Jesuits were certainly products of their era and vocation. At that time, science was in its very early stages and the church was authority in all things both spiritual and temporal. The padres who baptized Indian converts and built enduring stone structures and carved roads out of the rocky landscape were also men fired with the fanaticism which led many to seek martyrdom in the wilderness.

If all they encountered was not Christian and Catholic, it had to be remolded or cast out. This concept apparently applied to many facts of the Indians' lives, including the dialect they spoke, as no dictionary was compiled of their language. The Indians' lack of clothing scandalized the priests' sense of decency and they were taught to cover themselves. Their native celebrations were suspect as immoral and in honor of heaven-knew-what pagan deities. In short, while the padres loved the "gentiles" as they repeatedly called them, for their immortal souls, they were frequently depicted as the lowest form of human life. I offer these ideas only to demonstrate that the Cochimi people may have had reason to keep some tribal secrets from their new spiritual mentors. Perhaps they knew more of the contemporary usage of the painted caves than they cared to reveal, fearing destruction of something that was still a part of their tribal heritage.

The Cochimi was represented by the missionary and later historians as leading a very unstructured life, although the natural restrictions imposed by a nomadic life governed the gathering of food, limitation of family size through sometimes inhumane and crude means, and forced reliance upon the native guama or witch doctor for health and spiritual matters.

Recorded knowledge of the mid-peninsular Indians includes the use of paints. While women wore little aprons with a curtain of reeds in front and a back panel of anumal hide, the men went naked but



painted their bodies with the same red, black, and ochre tones of the cave paintings. They also had a form of music, dissonant to the European ear, produced by a blowing upon a flute-like instrument and accompanied by singing and chanting during their celebrations. That they used a substance called "coyote tobacco" as a stimulant, as well as toloache, the datura plant, was reported by Homer Aschmann in his book, "The Central Desert of Baja California." Missionary reports fail to mention this. If the Indians kept their use of ritual stimulants from the priests, it would seem possible that they had ancestral knowledge of the painted caves which they also refused to reveal.

The cave paintings remain a gigantic work of prehistorical murals but have strangely received but a small share of scientific study. The paints used were made from ground colored rock, with animal fat or plant gum employed as a bonding agent. Inorganic substances, such as rock, can't be carbon-dated. To obtain paint in sufficient quantity for carbon-dating the bonding agent would require destruction of large portions of the murals. The one





attempt at carbon-dating placed the age of the painting tested at around 500 years. However, the murals are in layers, one scene superimposed over another, and in varying stages of preservation.

Mr. Crosby points out in his investigation that there is evidence in one of the Baja caves of the artist depicting a solar event which took place in 1054, and which was recorded similarly by Indians in Arizona, when the great Crab Nebula appeared in a supernova explosion.

It would seem probable to theorize that the cave painting extended over a period of several centuries. Perhaps the most recent cave paintings were made shortly before the beginning of the mission era, or the practice ended as a result of mission influence.

Although the San Francisco Sierra is a long way from the route of the average tourist in his vacation trip down the Transpeninsular Mexican Highway 1, many visitors have braved the forbidding terrain on muleback with the help of ranchers who act as guides. Motel owner Oscar Fisher of San Ignacio has guided many visitors to painted cave country. Additionally, there are painted caves located nearer the highway in the Mulege region, and at least one small cave as far north as Santa Inez and Catavina, just one kilometer from the paved highway in a boulder strewn country of spectacular desert plant life.

Perhaps the questions raised about cave paintings and the people who made them will someday be answered by experts, when and if an extensive investigation is launched. Meanwhile, the reality is the awesome beauty of these murals, a mysterious legacy of primitive art from the prehistoric inhabitants of Baja California.



Pasqual Cruz Guerrero, the Clam Man of San Felipe, saw a need and set out to fill it. Five dollars will get you as many cherrystones as you can eat, tip and tax included.

HAPPINESS IS A WARM CLAM

by Mary Eileen Twyman
photos by Gary E. Squier

Drive down to San Felipe in Baja California, Mexico, and ask where to find Pasqual Cruz Guerrero, and most of the locals would say they didn't know him. Ask about the Clam Man, and they smile, sometimes even laugh. But they don't laugh too long. The laughter quickly changes to an expresson of somewhat baffled amazement. For this town clown of theirs has put San Felipe on the map. Pasqual is known in a surprising number of places around the world as the Clam Man.

George Tejada, a long time resident of San Felipe, won a trip to the United States not too long ago and said he saw people wearing Clam Man tee-shirts in several large eastern cities.

Another San Felipean said the Clam Man is teased a lot because "he gives people the chance to tease him." That thought lingered as bits and pieces about the Clam Man began to accumulate in my notebook. For example, his one-liners: "The Clam Man is back!—Don't forget the Clam Man!—Happiness is a warm clam!—My clams make you horney (*sic*)!" Or, Pasqual walking around town with a whalebone cane, lying down on any sidewalk, anywhere, and resting whenever tired.

The man is indeed a showman, a super salesman of both clams and himself. That combination of instinct and nerve that risks being laughed at, anything to get his product sold.

Our first meeting with Pasqual was on an early afternoon in the last week of December. His "world famous restaurant" is a simple, even crude, wooden shelter; a ceiling supported by four-by-fours, framing desert horizon walls colored either night or day. Pasqual says: "If Lord will help, will put building; but everyone wants the same." Encircled by an ocotillo fence, decorated with an old fish net, whalebones, and sand dollars, I hope he keeps it the same too.

He is situated right on Mexico 5 just outside of town. And the first thing you see to identify Pasqual's place of business is an old, no longer running, gray pick-up truck parked in front, with "MY CLAMS MAKE YOU HORNEY" painted on the doors in large white letters.

Huge sun-bleached whale bones mark the entry. The decomposed humpback whale had washed up on the beach 10 years ago, so decayed that only Pasqual's kids would help him strip the meat from the bones. But it was an investment in their future. The bones are for sale and he still has a seemingly inexhaustible supply.

Pasqual, though not too tall, gives the impression of being very strong with hands weathered by time and toil, silvering hair and beard, and dark, direct eyes that equal his fellow townspeople's in reflecting amazement when one speaks with him of his fame. He can accept it, but he certainly didn't expect it.

In talking with him we found a serious, intent, and kindly man. There is depth that belies his self-created buffoon image.

He was born in Guanaiuhato on the mainland in 1912, into a family of farmers and the oldest of three boys and two girls. His father was a lieutenant with Pancho Villa, and having many enemies, moved his family to Illinois when Pasqual was eight.

His father worked for the railroad, and then went on to assembling typewriters for Underwood. They lived on a rented farm outside Chicago and Pasqual attended Door School, Horton and Harrington Streets, in Chicago, through the fifth grade.

During the Great Depression President Hoover provided free tickets and food for the trip for anyone wanting to go home. So Pasqual and his family returned to Mexico.

The father continued working for Underwood in Mexico City, then opened his own typewriter business. The Clam Man spoke quietly, warmly of his father: "We lived well because Daddy knew how to work."

Pasqual knows how to work too. At 18 he started farming for a small rancher, raising wheat and corn, plowing behind oxen.

He says he "looked for dollars here



Pasqual's collection of whale bones is the only decoration in his dirt-floored, open-air "restaurant." Clams are served family-style.

and there," even tried to go to the United States, but because of "so much hassle with papers, this and that," he gave up. But in 1964, "found my dollar in San Felipe."

Pasqual and his wife, Marcelina, have 13 children. That's "because of a lot of clams and no TV," claims Pasqual. The oldest is 40 and the youngest is 12. His seven daughters and four of his sons are "now, all over the world." The two youngest sons are living at home. He and Marcelina have "13 or 14 grandchildren," and three great grandchildren.

Their first place in San Felipe was on the beach near the breakwater. "Me and my kids built the house." Tourists would come to him, asking him where to go and where they could get clams. "None thought maybe that's the way to do it, but it is." So came the beginning of a success story, spawned from the same stuff most success stories are from—recognition of a need and meeting it.

His kids dig clams for him when the tide is out. When they first began they could dig three or four gunny sacks on one tide at nearby beaches. Now, one tide brings only half of a sack, and the best beaches are 20 miles from San Felipe.

He uses cherrystone clams most often, and sometimes butter clams. Customers recently have been requesting mussels. He says "they're good, but don't taste real good like clams." Pasqual will fix smoked mackerel when asked for (or rather, Marcelina will, as she does the cooking) and claims mackerel is "good *ceviche* (raw) with lots of lemon."

Pasqual serves his clams barbecued, steamed, fried or chowdered. Some customers, though not very many, will try them raw, but hardly ever until he talks them into it.

He remembers the champion—"a guy not too big, not too small," who ate 15 dozen clams. And the occasion when he served "30 guys." They brought a guitar and a harmonica and "had a good time."

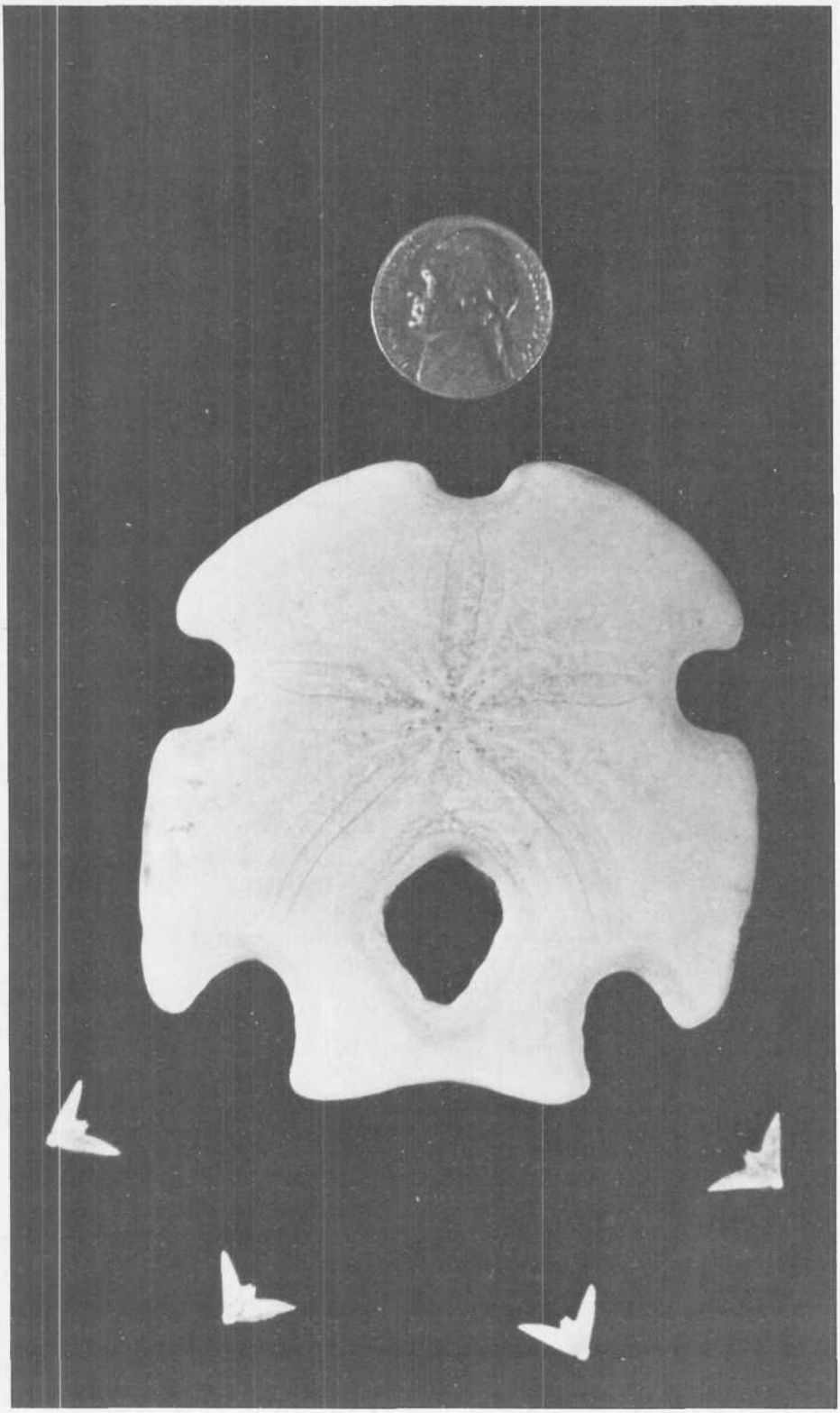
He will serve coffee but asks anyone wanting beer to bring it. He'll take a beer if you offer him one, but he'll set it down unopened for he doesn't drink.

We sampled the Clam Man's barbecued clams that evening. He sat with us as he does with everyone while we ate by lantern light, encouraging us to dip them in butter, tobasco or lemon, or just eat them plain. They were delicious and they were plenty, about 30 cherrystone to a serving.

Except for saying he is a Christian, we found him reluctant to dwell on the source of a very evident inner part of Pasqual, a wisdom and peace that one finds in a person only every once in a while. It's the knowing that you are speaking with a person, have touched someone, whose being is in rhythm with who he is, where he is, where he has been, and where he's going. Maybe it doesn't need to be discussed beyond that, because it's just there, one of the many facets of, maybe even the reason for, the Clam Man enigma—the reason why people "don't forget the Clam Man."

We caught a glimpse of it that afternoon when he shared his poem with us, written several years ago with the help of another person, and then as he always does when reading the poem, breaking open a sand dollar to show us the perfect doves hidden within. And, we saw it again when we were leaving San Felipe, ready to wave to him as we passed. We didn't because he wouldn't have seen us. He was kneeling in prayer.

Yes, the Clam Man, so named by the kids of San Felipe, "gives people a chance to tease him" But the world is forcing his own countrymen to look at him again. His people are learning to laugh with him, not at him.



An American friend who wishes to remain anonymous helped Pasqual compose his "Legend of the Sand Dollar." There are actually five of the remarkable little doves to be found when you break open a dried specimen of this echinoderm which is peculiar to the warm waters of the Sea of Cortez

THE LEGEND OF THE SAND DOLLAR

There's a pretty little legend
That I would like to tell,
Of the birth and death of Jesus
Found in this lovely shell.

If you examine it closely
You'll see that you find here
Four nail holes and a fifth
Made by a Roman's spear.

On one side the Easter Lily
Its center is a star
That appeared unto the shepherds
And led them from afar.

The Christmas poinsettia,
Etched in the other side,
Reminds us of His birthday
Our Happy Christmastide.

Now break the center open
And here you will release
The five white doves awaiting
To spread Good Will and Peace.

This simple little symbol
Christ left for you and me
To help us spread His Gospel
Through all eternity.

Pasqual Cruz Guerrero

ARCOSANTI: *The People*

Story and Photos by Gary E. Squier

Last month in "Arcosanti, The Shape of Things to Come," we told you what and where Arcosanti is, who started it, when, and why. The place, the idea, the goals, and the realities of this building site 70 miles north of Phoenix on I-17 were described and in part evaluated. What was omitted was the people. The workers at the site, those who chose Arcosanti as their home, who are they? Why are they there? How do they see this unusual place in which they live and work, and finally, what's in it for them? **Desert** Magazine would like you to meet them:

Ralph Kretz, age 41 from Philadelphia, was an engineer in Seattle before coming to Arcosanti. "I came here looking for a change, call it male menopause, but after my first workshop here in 1975 I saw the potential. This is no Bandaid approach to solving present urban problems, but it is a serious attempt by like-minded people to build an alternative way to live together. This past summer I worked like a dog, but the rewards were great. We built more than we had anticipated and the entertainment that comes here is superb. I have no plans to leave."

Al Cowan, on sabattical leave from Cal State University, Los Angeles where he is the campus minister, is currently doing public relations work with former workshop participants. "I came here because I think Paolo Soleri is the only person offering an alternative to the city as we know it. Cities are going to be a part of the future. That's a fact. The foundations of western civilization are Athens, Rome, Paris, and London. During their golden eras they were in the business of human growth. Today our cities are not functioning anywhere near their potential.

"Here at Arcosanti spiritual growth is a dividend, it comes as a gift. People are desperate for signs of hope, some hint that the future is attainable. We try to remind people that there are some things each of us can do. Not enough people are working on the future. Most of us are historians. I want to build bridges to the future while I'm here."

Beth Corwin was a ceramics instructor at Cheyenne Community College in Wyoming before coming to Arcosanti. "I came here for the work. Ceramics production is completely new to me. I've been here for 18 months and some days I want to stay forever, some days I want to leave. Being here is like being anywhere. You have to work out your troubles with your neighbors here just like anywhere else, except here it's a little easier because we know we're part of something bigger than us."

Sally Dinwoodie works in the ceramics apse with Beth. She was teaching at Grand Valley State College in Michigan before coming to Arcosanti in 1975. "I'm here because this is the most beautiful place I've ever been. It's perfect for murals. All these bare walls are a muralist's dream."

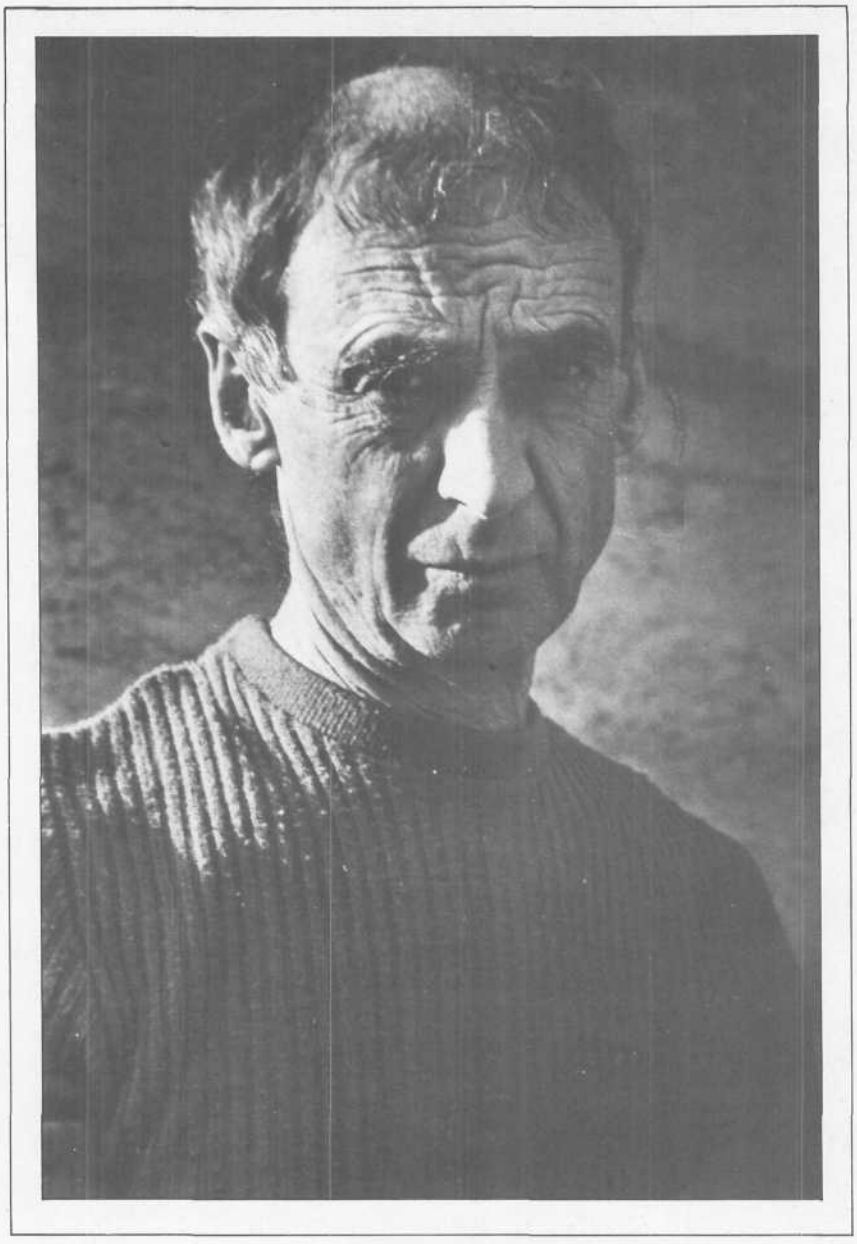
Randy Hunt, head welder, librarian, and editor of Arcosanti's newsletter, was in one of the first workshops in 1971. "I had a pool business in Los Angeles before coming here permanently in 1975. I didn't have a college education but living here has been a university experience. I can't overstate how valuable this time has been to me. The work is gratifying, the people are stimulating, we eat four wonderful meals a day, and the buildings here make you think you're living in a habitable sculpture."

Sarah Barker-Braun, 54, from Eureka, California, runs a cottage industry making life-sized soft dolls with a trasparent midsection. She sells these to planned-parenthood groups, health clinics, and hospitals as visual aids for education. She came to Arcosanti because "I like to be where the soul is nourished. Here you can put your ideas into concrete and your hands, too.

Jim Colbert, 21, a student from New York is at Arcosanti because "It **will** be an alternative. Soleri's ideas about the city **will** happen. There **will** be an arcology. This isn't one, but it's the seed. Some of these seeds will flower and spread and eventually there will be a really modern city, one that helps give meaning to the lives of its inhabitants."

Melanie Husband, age 4, came to Arcosanti because "my mommy brought me here. She's in the kitchen working, and I'm gonna help at the visitors center."

Marietta Strano and her family came to Arcosanti from Philadelphia. "I come from a frugal working-



Paolo Soleri, Director of Arcosanti

class family. The concepts of that background are not in conflict with the value system or ethics of an arcology. We came here to live up to those concepts. I believe we can improve the quality of life." Marietta works in the visitors center, helps organize the fall festival, and has started Arcosanti's Theater for Children which will soon tour the West.

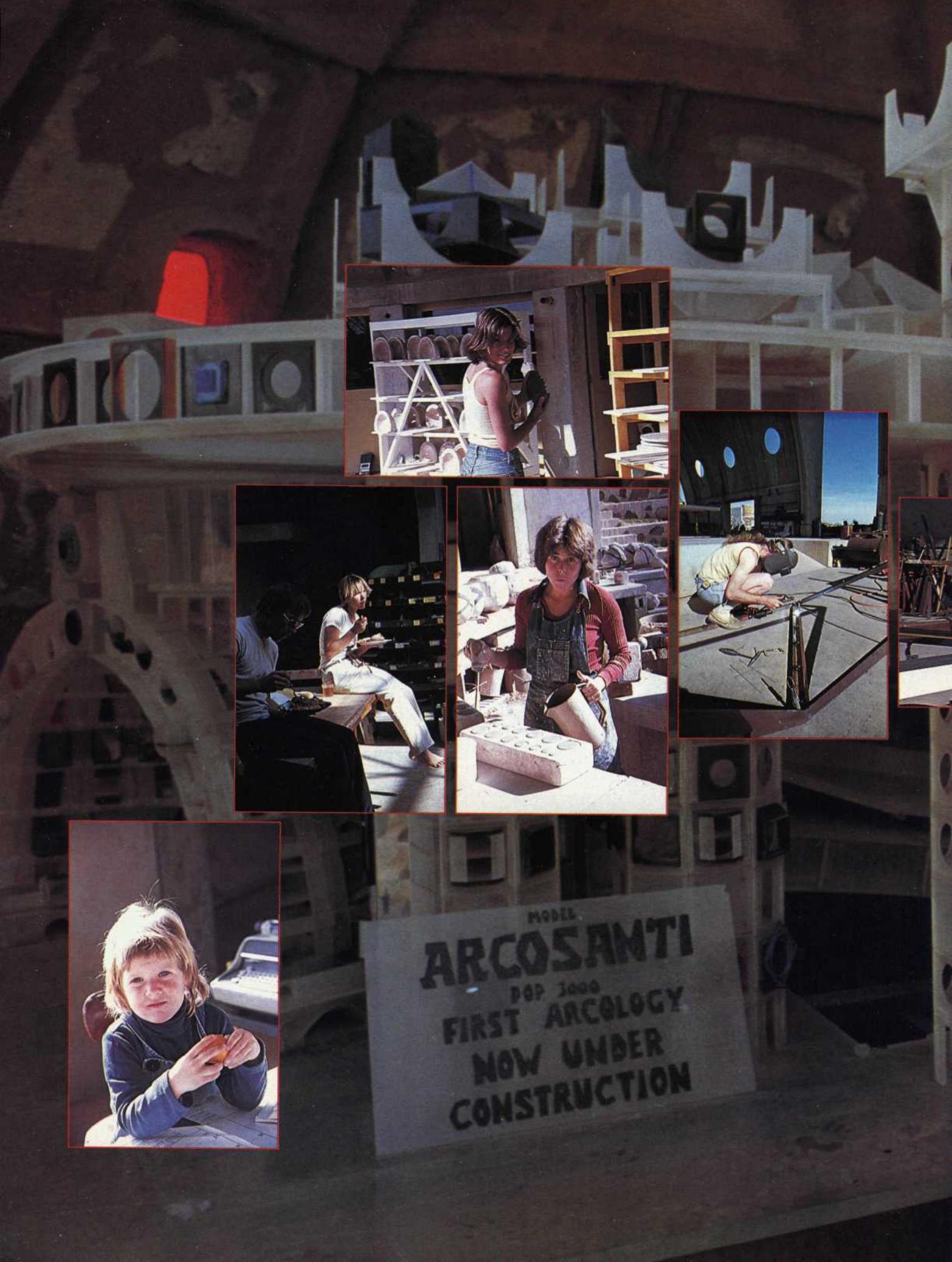
One of the criticisms of Arcosanti in general and Paolo Soleri in particular is that he is exploiting the idealist. Marietta answers that by saying, "Baloney. Each of us selected ourselves. We came for many different reasons, but Paolo is not dangling us on strings. I don't know a puppet here. We work here and believe in what we do."

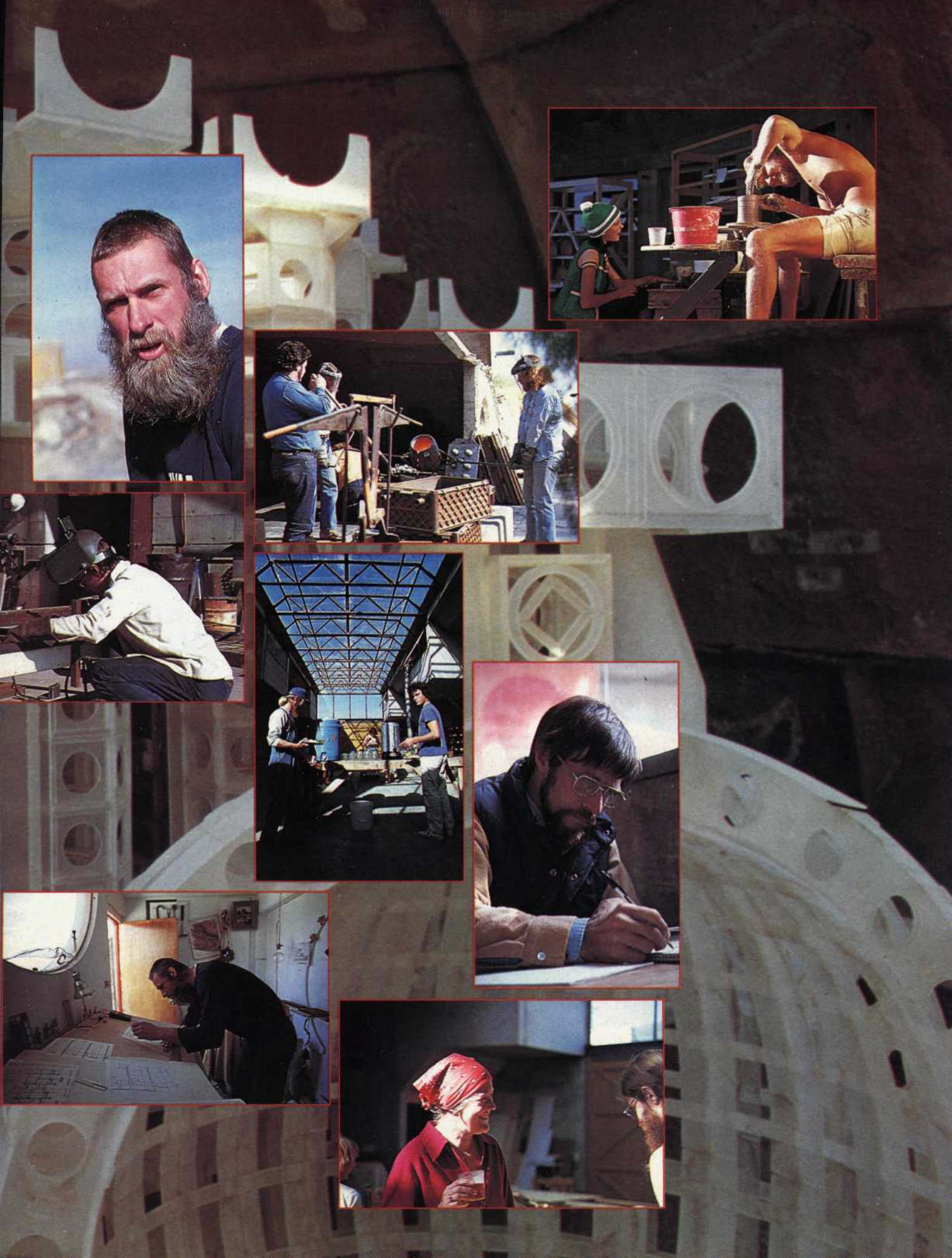
So there you have it. Some of the people of Arcosanti, and only a few, have said why they were there and what that means to them. Space does not allow the complete story of each of these people to be told. Good or bad or somewhere in between, you will undoubtedly judge Arcosanti and its people for yourself.

Just before I left for home Jim Colbert said, "I'm sure it's hard to write about Arcosanti if you haven't been to one of the workshops, because visiting here and taking the tour and reading the stuff we give you is different than living here. You have to experience it to **know** it. Most writers write about what they know, don't they?

You're right, Jim. I'll take you up on that challenge, maybe this summer.

Pictured on the next two pages are some of the people of Arcosanti, imposed over an early model of the desert city in Arizona. Technology and the needs of people have modified many of the early designs.


MODEL
ARCOSANTI
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FIRST ARCOLOGY
NOW UNDER
CONSTRUCTION





This building on Cornucopia's Main St. was once a combination candy store and post office. Entrances were usually on the second floor to allow access after massive snowfalls, opposite page.



CORNUCOPIA, *or How Oregon's Horn of Plenty Went Dry*

Story and Photos by Billie Durfee

Ghost town and gold mine buffs are probably the only people who have ever hear of Cornucopia, whether it be the town or mine. Yet the latter was once the sixth largest gold producer in the United States, and it was named after another earlier Cornucopia over in Nevada.

To find them both, the mine and the town, start at Baker on I-80N in northeast Oregon. From Baker follow Oregon State Highway 86 east to Halfway, a place so-named because its post office was halfway between the two hamlets of Cornucopia and Pine. The first post office was moved and the present one is much closer to Pine but despite this change, the original name survived. Turn north at Halfway and drive 11 miles along Pine Creek up 7,000 feet into Wallowa National Forest. The road is paved the first six miles and graded gravel the rest.

From October through May, snow in Cornucopia can reach a settled depth of 10 feet, so perhaps the difficult winters explain why the town never really "boomed" even though, for years, the mine yielded large quantities of gold. At its peak only 350 miners and their families called Cornucopia home.

Nothing is known of any one person finding the first nugget and running down the mountain to Halfway yelling "Gold!" However, an early Oregon Historical Society Quarterly stated that gold mining began here around 1880 and that silver, copper, and lead were also mined at that time.

By 1884, the Union Companion Mine was the largest on these slopes. And in the surrounding area were other companies bearing more exotic names such as The Red Jacket, The Queen of the West, and The Wild Irishman.

The Union Companion was taken over by the Cornucopia Mining Company in 1895 and, gradually, additional claims were acquired. Eventually the group included 87 gold mines.

Mining here was successful from the beginning. Records show that by 1889 the entire district had produced $74,000 worth of gold and by 1903, more than $1,000,000 had been taken out. One newspaper estimated the entire total (up to the mines' abandonment in 1941) at $12,000,000 while another source believed it to have been between $20-30,000,000. The ore from 'Copia, as the mine and town were affectionately called, "was so full of gold that nuggets could be shaken from it."

How did the miners live some 7,000 feet high and snowed in for most of the winter? According to a vintage periodical of 1885, the town had only one frame house; other buildings were either log cabins or tents. But it soon added five saloons, a general store, a combination barber shop and post office, a butcher shop, and a candy store. Old pictures show a white three-story hotel, but of this nothing has survived. The Baker *Democrat Herald* believes it burned down in the same fire which destroyed the schoolhouse and several other buildings.

Today, in fact, very little remains. When you drive into town on Main Street, the old two-story candy store stands on the right, sagging, but more or less vertical. Next to it the barber shop and post office building is a heap of



Above: A tattered curtain hangs limply in the window of a one-room cabin that showed signs of recent occupancy.

Opposite page: Cornucopia's structures are well-preserved by ghost town standards. This one was a bachelor miner's cabin.

weathered boards, completely horizontal. Ten feet of settled snow is the equivalent of 30 feet, freshly fallen, and it can be heavy.

Another two-story frame structure sits further down the road on the left. It was a home which, like the candy store, was built with porches and doors on the second floor for easy entrance when the snow level passed the first floor.

The home, in much better condition than the candy store, has a sign in front of it proclaiming: "Private Property. Please preserve this historical site in honor of a great man. Thank you and God Bless. The Family and Friends of Chris Schneider."

The town was platted into 25-by 75-foot lots which look very small in comparison to the vastness of the mountainside. Several one room cabins still stand and a few show signs of relatively recent occupancy. Campers? Hikers? Fishermen trying Pine Creek? One site bears evidence of a carefully planted garden edged with the white rock which the townfolk used everywhere to mark the lots.

The Cornucopia Mine is two miles higher than the town. The old tin administration buildings and the ball-mill have been taken down. The entry to the mine itself has been blasted closed.

Inside is a 36-mile maze of tunnels still complete with rails and ore cars. The Coulter Tunnel alone is over a mile and a quarter long and once ran directly into the mill. At the other end was a "restaurant" built by the company to cut down on time off the job.

Adverse economic conditions brought on by World War II made all mining less profitable and Cornucopia was no exception. One Friday in 1941 the Cornucopia Mining Company closed. The company had announced the coming closure months before but no one had believed it. However, within 24 hours a mass exodus began. Seven days later only Chris Schneider remained.

Chris had begun his mining career at the age of 12 by sharpening drills. By the time the mine closed he had worked there over 40 years. He was 56 by then and a skilled metalsmith. He had even been mayor of Cornucopia 10 times. But this was just the beginning of Cornucopia and Chris Schneider.

In 1957, at 72, a newspaper interview reported that he and his wife were still there. Each winter he regularly skiied five miles down the mountain to Carson for groceries and mail. Chris was next interviewed in 1961. The mine had been closed 20 years, but the Schneiders still spent their summers in the old mining town. In the winter, they lived in Carson. So Chris, now 76, regularly skiied up the five miles to shovel snow off sagging Cornucopia roofs. A 1972 newspaper ar-



ticle didn't mention skiing, but did quote him as saying: "Nobody cares. Won't be much left here in another year." He was still taking care of "his" town and mine.

The Baker *Democrat Herald* reporter told me that Chris died two years ago. Certainly he was Cornucopia's most faithful citizen.

It is interesting that last July the other four people we saw looking around Cornucopia were employed by RFI, a forest industry group from Albany, Oregon. They have bought the mine and a good bit of land, including some town sites, from the Pittsburgh firm which, in turn, had bought it at a bankruptcy sale in 1962 for $70,000. The new owners have permission from the Forestry Service to log their acreage.

But why was one of the group a geologist with a map of the mine tunnels? Will the next few months see the Coulter Tunnel opened and those vintage ore cars replaced? Gold is around $850 an ounce now. After all, those famed gold nuggets didn't just disappear when the final whistle blew on that black Friday, October 31, 1941 at 4 p.m.

I found out why. As of November 7, 1979, there's a group working the tailings at Cornucopia and local news reports have it that the tunnel will be opened by the time you read this. The whole of Grant and Baker Counties, in fact, are experiencing a mini-gold rush.

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BARBED BRISTLY And BEAUTIFUL

by C. William and Nancy M. Harrison

There is something almost primordial in the fiercely barbed and bastioned beauty of cactus. It is a kind of Spartan beauty, thorny, forbidding, and sternly unyielding in its aloof and self-effacing defiance, which warns you beyond question with its bristling array of prickles and prongs that at all times it is to be handled with prudence and respect, and even then only at your peril.

Although they are generally thought of as belonging exclusively to hot, sun-parched deserts, cactuses are to be found growing naturally from the tundra of Canada's far north to the storm-chilled barrens of the Straits of Magellan. As a matter of fact, cactuses are found almost everywhere in the Western Hemisphere, where, incidentally, it is believed that at some dim period in our earth's prehistory they probably evolved to meet the demands of their changing environment from plants somewhat akin to today's begonias and violets.

Highly adaptable, and toughened by time, cactuses thrive on gale-swept mountaintops and in tropical jungles, along sandy seashores and among the rocks and rubble of remote islands, on windy plains as well as in the parched wastelands of sun-seared deserts.

Considered by botanists to be one of the youngest of the earth's plant families, there are something like 1,200 different species of cactuses native to North America. About 300 were originally found only in the United States. Approximately 100 of these aboriginal species, which range in size from seldom-noticed pigmy pincushions to giant saguaros towering 50 feet or more and weighing up to 10 tons, are native only to the high and low deserts of the Southwest.

It is not until you become unheedfully careless that you are reminded, swiftly and painfully, how inexorably effective are the needle-tipped defenses of these unique touch-me-not plants which are so much a part of the harsh but always fascinating western deserts.

Even so, uncompromisingly hostile as these thorns and curbed barbs may appear to the unfortunate passerby who comes in contat with them, they are far more than merely the defensive armament of perniciously antisocial plants. Instead, they are as vital to the survival of the species as chlorophyll, which enables a cactus to manufacture its own food through the eternal miracle of photosynthesis. They are as necessary to its health, growth, and fertility, as the intricate network of tough little roots which anchor it in the sand.

Just as cactuses come in countless shapes, colors, and sizes, their thorns are equally varied—long or short, straight or curved, super-honed hooks designed for snagging and penetrating deeply, bristles that attack in agonizing numbers, or barb-tipped hairs so spitefully tiny that often they can be seen only through a magnifying lens.

Although thorns and spines help protect cactuses from various plant-devouring animals, they also serve other purposes equally important to survival in their stringent environment. Tiny as they are, they reduce the drying effect of wind, thus helping minimize the loss of moisture hoarded within the plant. It is estimated that in some species, such as the pincushion and barrel cactuses, thorns prevent overheating by serving as a built-in lathhouse that provides a measure of shade for as much as one-quarter of the plant's exposed surface.

Most plants have leaves which release excess water vapor into the air, an action which creates an enormous suction which lifts new supplies of water upward from their roots. Some botanists believe that thorns may be the secret riddle of how giant cactuses are able to lift water into their lofty arms.

The theory is based on the fact that plants tend to build up an electrical charge which is greater than that of the encompassing earth or air, a charge which results from free ions in the water that is circulating within the plants.

Some botanists argue that, bizarre as it may seem, the thorns of giant cactuses may possibly function somewhat like reverse lightning rods, that by discharging the built-up electricity from their tips the thorns create a sort of pumping mechanism which, along with capillary action, lifts water through the body and arms of the cactus.

Thorns and prickles help propagate new generations of cactuses in ways other than merely presenting a spiny barricade around seeds and seedlings. One variety of cholla has been known and feared as the so-called "jumping cholla" because its dangling clusters of wickedly barbed joints seem to have an almost diabolical ability to anchor themselves into flesh or pantlegs at even the slightest touch. Once removed and tossed aside by the unfortunate victim, the hitchhiking joints are quick to take root in the soil, amking use of the moisture and nutrients stored within them until their own support systems become established.

So formidable and threatening are the thorns of cactuses that one of the Jesuits who traveled the southwestern deserts of early times described them in his journals as "the curse of the Lord, laid upon the earth after the fall of Adam." He recorded that the number of thorns on a section of organpipe cactus no larger than the span of his hand totalled "no less than 1,680," and further estimated that "a single shrub carries more than a million thorns."

But the good padre's interest in cactuses was not limited solely to theological impressions and scientific computations. He revealed a more practical turn of mind when he remarked that, without ever needing resharpening or repointing, a thorn would serve many years as an efficient and durable toothpick.

(Continued on page 34.)

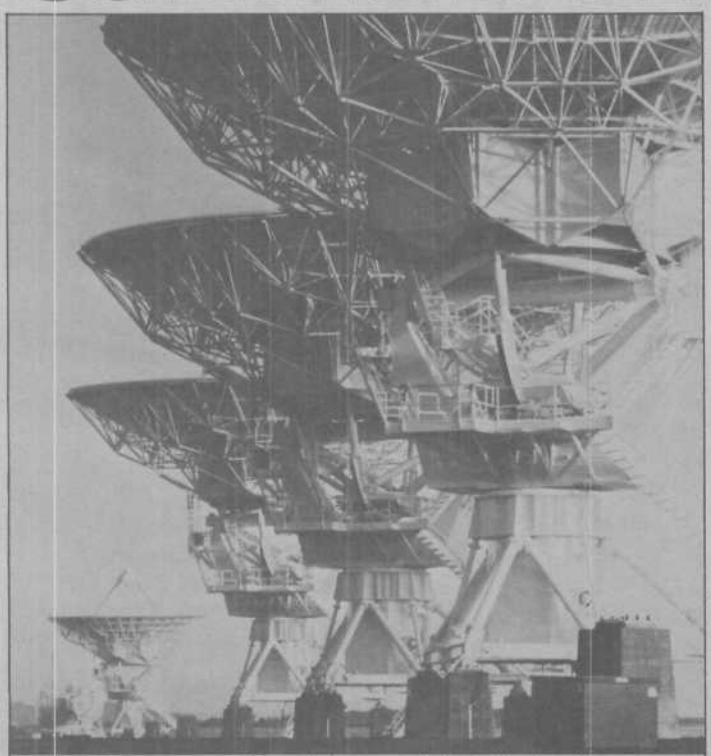
The CACTUS CITY

Vol. 1, No. 3
April, 1980

CLARION

"The nosiest newspaper in the West."

SCIENTISTS PROBE QUASARS



Giant antennae listen for quasars in New Mexico desert.

What appear to be alien mushrooms sprouting on the Plains of San Augustine, 52 miles west of Socorro, New Mexico, are actually giant ears which may someday reveal how the universe was created.

These 82-foot diameter metallic monsters are part of a 25-antennae contingent currently forming the Very Large Array (VLA), the most powerful and sensitive radio telescope in existence.

As you drive in from the Magdalena Mountains, the VLA looks nothing like any popular notion of a telescope. The big gleaming white antennae can be seen miles away. The 213-ton, 94-foot-high dishes are grouped along a 38-mile configuration of railroad tracks to monitor the hiss of quasars, the most powerful emitters of radio signals in the universe. The price tag for this information is over $78 million.

The National Radio Astronomy Observatory, operated by the consortium of Associated Universities, Inc., for the National Science Foundation, supervises the whole operation. Also on the 3,500 acres of ranch land used for the project is a two-story control building, with a cafeteria and dormitory for visiting star gazers. The project is scheduled for completion in January 1981. VLA officials like to think that their facility will do for radio astronomy what Galileo's telescope did for optical study of the heavens. Or possibly, it could trigger an Ecological Inquisition.

Mark C. Blazek

UTAH MINER SAYS FEDS TO BREAK HIM

The sign over the door of his modest home reads: "You are now in Utah—set your watch back 20 years."

Harold Stewart, 59, prefers to live in the past. When he thinks of the present he literally trembles with fury. "I'm one of the silent majority that's damn tired of being silent," he says. "I'm just aching for a revolution."

Stewart's revolution is the Sagebrush Rebellion, a loose populist movement of Westerners who want to ride the federal government out of their lives.

A steelworker who turned to prospecting, Stewart has staked 6,000 mining claims on federal land in southern Utah. He owns two "Cats," two chain drills and a wagon drill with which he works some of his claims. Other claims are leased to Exxon and other companies, and bring in an irregular but sufficient income to support a wife and five children.

In the old days, it was pretty easy. He'd look at a federal geological map, pick a spot that seemed favorable, search the records in the county courthouse

(Continued on page 28.)

CHP TO AID HANDICAPPED

The California Highway Patrol is recommending a plan which should make it easier for handicapped persons to get assistance when their vehicles are disabled on freeways.

Traffic Officer T.J. Comer (Santa Ana area) suggested that handicapped persons hang the standard DMV parking placard on the left-hand exterior mirror when they need help.

"The idea is simple, but it should expedite assistance," Commissioner Glen Craig said.

The blue placard with white lettering is provided to handicapped operators by DMV. By drilling two holes in the top side and attaching twine, the 4-inch by 12-inch card can be hung over the mirror.

"The disabled vehicle will then be easy to identify and passing CHP officers will know that a handicapped person needs help. Even if the officer is on an accident call or other priority, it should be possible to advise dispatch that a handicapped person needs help," Craig said.

The HERALD
Calipatria, California

Notice: The **CLARION** needs part-time reporters who know mining and prospecting in their communities.
Send letter of application and samples to Mary E. Twyman, Editor, Cactus City **CLARION**, P.O. Box 1318, Palm Desert, Calif. 92261. No phone calls please. We are an equal opportunity employer. Not much for anyone, regardless of race, color or creed.

GOLD PRICES BRING "RUSH" TO TRINITY COUNTY, CALIF.

The soaring price of gold has prompted a mini-rush for mining claims in Trinity County, California.

About 1,200 mining claims are on the county's books and a total of 394 new claims has been filed this year. A total of 261 claims was filed last year.

As a result of the renewed interest in gold, the county announced that it was hiring a mining claims analyst, at $664 per month, under the federal (CETA) Comprehensive Employment Training Act. He will keep track of claims filed in the county for tax purposes as well as prepare maps to reduce conflicts over claims jumping.

Surpervisor Ralph Modine said claim jumping has become a problem in the area because of "frenzied activity due to the gold price."

Richard Sharp, assistant tax assessor, said: "We want to set up a more elaborate system to catalogue mines. Right now we have vague descriptions of claims that often overlap so two people may have the same claim."

Mining claims contain 20 acres each and are established by a person placing corner markings on the ground. Notices also are posted at the site and copies are given to the county recorder and U.S. Bureau of Land Management. Claims are up for grabs if a person fails to file papers stating work has been done on the land during the year.

A $50 per acre value is placed on each claim for taxation purposes by tax assessor Red Wells. The value of buildings or improvements are then added. Taxes for the land range from $10-$30 per claim.

WESTERN PROSPECTOR & MINER
Tombstone, Arizona

SHEEP TAKE TRIP

In a cooperative effort between the Arizona Game and Fish Department and the Bureau of Land Management, 12 desert bighorn sheep were transplanted from the Black Mountains near Kingman to a 700 acre enclosure in the Virgin Mountains on the Arizona Strip.

The animals were taken to establish a new herd of desert bighorn sheep in the Virgin Mountains, which have a suitable habitat but no resident population of bighorns.

Helicopters were used to locate and dart the animals with a tranquilizer under the direction of Regional Game Specialist Jim DeVos. Game and Fish personnel secured the animals in a transport net and blindfolded them for the trip to the base camp.

The sheep were then examined by veterinarian Dr. Bob Blaze of Texas and parisitologist Tom Bunch of Utah. Blood and fecal samples were taken and the general condition of each animal as well as sex and age were determined. The animals were then given a bath in a solution to rid them of external parasites, measured for scientific recordings, and given the transquilizer antidote.

A total of three rams and nine ewes were taken to the enclosure. The release site was constructed by BLM along with two water sources, and will support the animals through the lambing season next spring.

After the lambs have grown to a reasonable size, and the health of the sheep has been determined to be satisfactory, they will be turned out of the enclosure to roam free in the Black Mountain area.

The DESERT STAR
Needles, California

Utah Miner... (cont'd)

and, if no one had staked it, he'd pay his five bucks to the county clerk and go up and plant his four-by-fours in the earth.

"Before," he says, "you could locate a claim and mine it and if you made anything, it was yours,"

"Before" means before the federal government, embodied in the Bureau of Land Management, began to enforce new regulations requiring bonding, reclamation, and the registering of all claims with the federal government.

"Those gosh-darn crazy ecologists!" Stewart fumes. "We miners make a little rat-hole you can get a wheelbarrow into. We don't move any hillsides. Now the government's come up with these new rules. Who's going to lend a miner $200,000 for a bond? You can't even borrow enough for a quart of wine."

Because of the 1976 Federal Land Policy and Management Act requiring registration of claims, Stewart says: "I'm going to lose thousands of claims because I haven't got the money to file with the government. It would cost me $30,000 to record my claims—$5 each. I'll be broke after this year. I'll have to go on welfare."

WESTERN PROSPECTOR & MINER
Tombstone, Arizona

WHISKEY SPRINGS BURIED BY MASSIVE ROCK SLIDE

Sometime during late October or early November of 1979, Whiskey Springs, a much visited area of Capitol Reef National Monument in southern Utah disappeared under tons of falling rock.

Rangers Derek Hambly and Richard Newgren investigated reports of the slide and found an area completely changed from the serene, vegetated little box canyon that once existed near the famed Hickman Natural Bridge.

A massive piece of Navajo sandstone cliff 400 feet high, 300 feet across, and as much as 30 feet thick had crashed into the canyon, spreading to block more than 250 yards of ancient streambed.

Trees 30 feet tall had disappeared and the spring itself was buried under an estimated 30 to 40 feet of rubble. Small trickles of dirt and stone still fell indicating that the slide was very unstable and that boulders twice the size of a three-bedroom house could still roll further into the canyon.

Everywhere, there was dust. Dust covered trees and rocks far up the cliffs on both canyon walls, and dust had settled on rocks as far away as one-quarter mile.

The pink, newly exposed cliff also appeared unstable and fractured rock, still clinging to the sheer face, could fall at any time.

Whiskey Springs was known to early pioneers in the area and it is rumored that it might have been used as a place to set up a liquor still which was safe from government agents. Hikers use the area often as a campsite, favoring it because of the coolness of the danyon during hot summer days.

Recently, a small snail was found in this area which is far removed from any populations of the same animal known elsewhere. How it got there is unknown and the mystery is now buried with the spring.

As rains wash at the debris, and openings appear through the fallen materials, Whiskey Spring may flow again. But it will take thousands of years of erosion before this little canyon will be the attraction that it once was.

Iron County RECORD
Cedar City, Utah

Desert ROCKHOUND

by James R. Mitchell

Collecting Sites Update: The Opal Hill fire agate mine west of Palo Verde, California, is once again open to fee collecting. The rates did not change from last year and are $10 per couple (per day), $40 a week, and $60 a month. A great deal of top quality material has been extracted from this claim, and the supply seems unending. For more information, contact Helen Madden, Opal Hill Mine, P.O. Box 232, Palo Verde, CA 92266.

The Lindberg agate and nodule claims are still open to collectors, also for a small fee. Stop at the Lindberg Agate Shop in Deming, New Mexico, for directions to the two digging sites. An unbelievable variety of some of the finest plume, moss, and multi-colored agate in the southwest comes from the "Big Diggins" claim, and outstanding nodules can be found at the nodule beds about 20 miles further south. A 15 cents-a-pound fee is charged for what you take, and you must pay at the agate shop in Deming. Samples of available material can be seen at the shop.

Continued on page 32.]

THE LIVING DESERT RESERVE

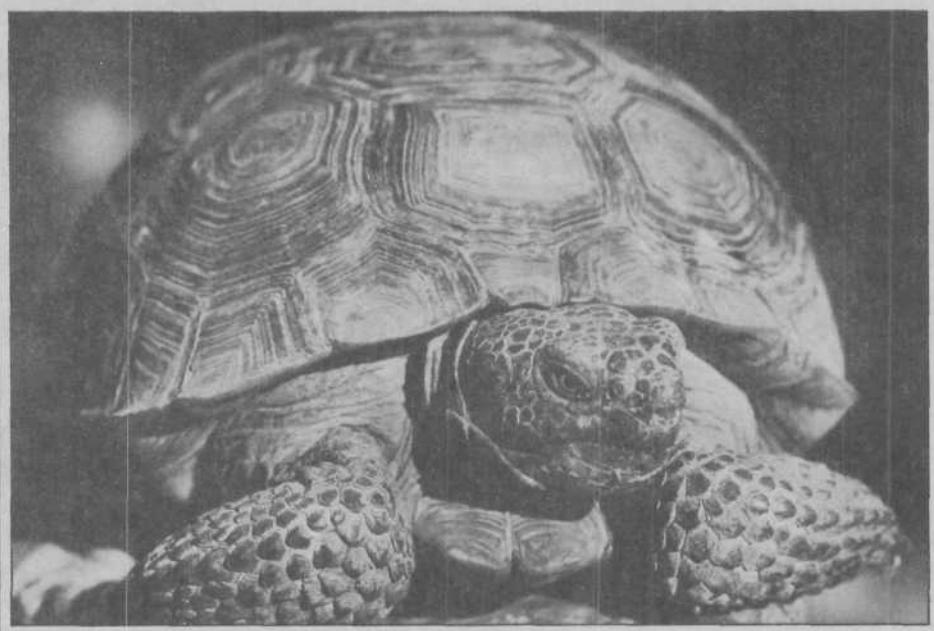
by
Karen Sausman, Director
Living Desert Reserve

March is the month at the Living Desert Reserve for home gardeners and tortoise enthusiasts. The Reserve's second annual plant sale on Saturday, March 22nd at 9 a.m. will feature southwestern desert cacti, succulents, and other drought-tolerant plants for residential landscape use. On the first two weekends in March, California Turtle and Tortoise Society members will be on the grounds with live specimens, educational displays, and gift items.

When water conservation is an issue, as it is everywhere in the desert, native plants are a logical alternative to imported varieties. There is a wide selection of trees, shrubs, and ground covers that thrive in sandy soils and arid climate and that can compete with any lilac or peony for ornamental beauty. Some natives already enjoy "nursery status." Smoke Tree, encilia, yuccas, and ceanothus are among the desert plant life commonly used in gardens. But a wide array of plants is getting more and more attention from Western gardeners because they combine the desirable qualities of low maintenance and ease of cultivation with ornamental value. Some of these will be for sale March 22nd.

The Living Desert Reserve uses native desert plants exclusively in its own landscaping. The botanical gardens contain cacti, succulents, and shrubs from outside the Coachella Valley—from the Mojave Desert, Baja, and Arizona—so that visitors may see how our desert vegetation differs from that of other areas. Even though they are all desert plants, subtle climatic differences can spell failure for non-native species. The Joshua Tree, for example, generally does not blossom on the Reserve although the hillsides of Joshua Tree National Monument, just 20 miles away, are covered with white-spiked Joshua Trees every spring. These plants need snowy winters to bloom and the Mojave Desert is high enough to have plentiful snows. (Ours did blossom last year, after our February snowfall.)

There are some desert imports that do thrive here, such as Mojave sage, covered with small blue flower clusters from April to October, and the highly fragrant, white-flowering Mexican Elderberry. Survivors such as these will also be available at the plant sale.



The tortoise, beloved of children and adults alike, along with its turtle relatives, is the special concern of the California Turtle and Tortoise Society. Members of the Orange County and Westchester chapters are visiting the Reserve on March 1 and 2 and the San Diego chapter on March 8 and 9 to promote conservation and education. A mural display prepared by the Society will be on exhibit in McCallum Hall throughout March.

While all tortoises are technically turtles, all turtles are not tortoises. The distinction is based on their habitats and consequent structural differences. Generally, tortoises are land-dwelling creatures with squat, scale-covered, elephantine legs terminating in sharp claws. Turtles, commonly, are water-dwellers with flippers, swim paddles or webbed digits. Both have the characteristic shell, fused plates of bone with a cover of hard, etched shields.

The desert tortoise is a shy, deliberate, persistent creature whose chief activities are sleeping, basking in the sun, digging, eating, and traveling. Its heavy shell, which accounts for its ponderous movement, is also its protection from the heat of the sun and from predators. The shell is practically waterproof and keeps evaporation to an absolute minimum. Underneath the shell are water storage sacs that may provide moisture under conditions of extreme drought. Otherwise, the tortoise obtains water through its vegetable diet of grasses and annual plants.

By withdrawing its head and legs into its shell, frequently with a hiss, the tortoise is largely invulnerable to attack from coyotes, badgers and bobcats. He is not safe from man, however, who finds him irresistable. Tortoise populations have been decimated by curious humans who pick them up and carry them home to backyard gardens where they are subject to infectious disease.

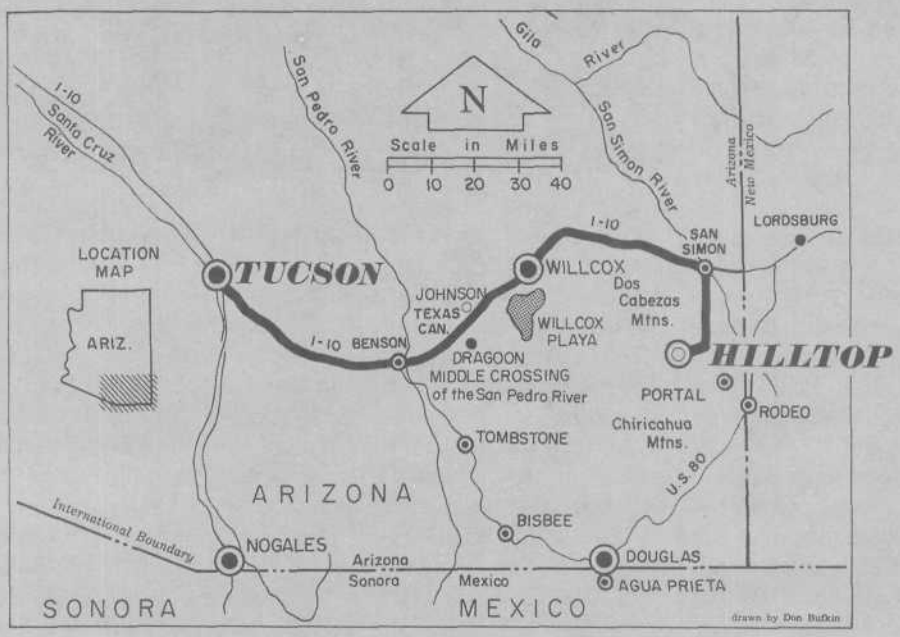
Every year the Living Desert Reserve is given dozens of tortoises. These are escapees from backyards, unwanted offspring or pets whose young owners have lost interest in them. Often they arrive with shells which an uninformed owner has painted or in which he has punched holes. A tortoise's shell is extremely sensitive and such defacement endangers his health.

The desert tortoise is a protected species, which means it is illegal to collect him in the wild. Captive-born animals or those found before the law was enacted seven years ago are legal pets, but must be registered. Fish and Game authorities send owners a small "license tag" to affix under the shell.

Turtle and tortoise-related ceramics, stationery, and jewelry will be for sale at the weekend shows at the Living Desert Reserve, 47-900 Portola Ave., Palm Desert. The Reserve is open daily from 9 a.m. to 5 p.m. For further information, telephone (714) 346-5694.

HILLTOP
A Disappearing Ghost

Story and Photos by Don Bufkin



Arizona has 500-1,000 ghost towns, depending upon the specific definition you accept. Therefore, there is ample opportunity for visiting these sites even in the confined geographic area of Arizona south of the Gila River. However, most Arizona ghost towns exist today only in the dusty files of long-gone newspapers, the memories of old-time residents, postal records, old maps or other documentary sources. The Arizona ghost town that can still boast a collection of abandoned but still standing structures is rare.

One such ghost town that still offers visible memories is Hilltop. To reach it from Tucson, proceed east along I-10 past the middle crossing of the San Pedro River at Benson, then farther east through rock-studded Texas Canyon, passing by the sites of the early towns of Dragoon, Johnson, and Russellville. Approaching the Willcox Playa, that unusual basin in the center of Sulphur Springs Valley, you'll sometimes see that seasonal rains have covered the surface with a rare sheet of standing water. The Playa is normally an expanse of dry and flat clay covering some 60 miles of the valley floor.

You leave I-10 at San Simon and drive south down the dirt road that leads eventually to Portal. Turning off to the west, follow the Whitetail Creek road past several ranches until the road turns sharply to the north and park your car. A final half-mile walk up a steep and partially washed-out old roadway and you are in Hilltop. The old ghost town from its high perch on the mountainside still retains a magnificent view across the San Simon Valley to the mountains in New Mexico on the far eastern horizon. But little else remains of the former community other than the ruins of a few buildings, some rusting mining machinery, and a memory of its active years.

The history of the Chirichua region is complex. A number of former mining communities once briefly flourished. Among them were historically notable towns such as Galeyville, Paradise, Eagle City, Pittsburg, Copper City, and, of course, Hilltop. The latter, near the crest of the Chiricahua Mountains directly east of the Chiricahua National Monument, lived longer than the total of

most of these communities and thus was the most important. The Chiricahua high country stretches from Apache Pass on the northwest, near its union with the Dos Cabezas Mountains, to the southeast near Portal. Along this spine lie numerous mineral discoveries, some rich and profitable, and many of only temporary excitement.

The original strikes at Hilltop were made by Jack Dunn in the early 1880s. Then Frank and John Hands acquired the property in the 1890s. Hands Pass through the Chiricahua Mountains, a mile-and-one-half west of Hilltop, commemorates the contributions of the brothers to the early development of the area.

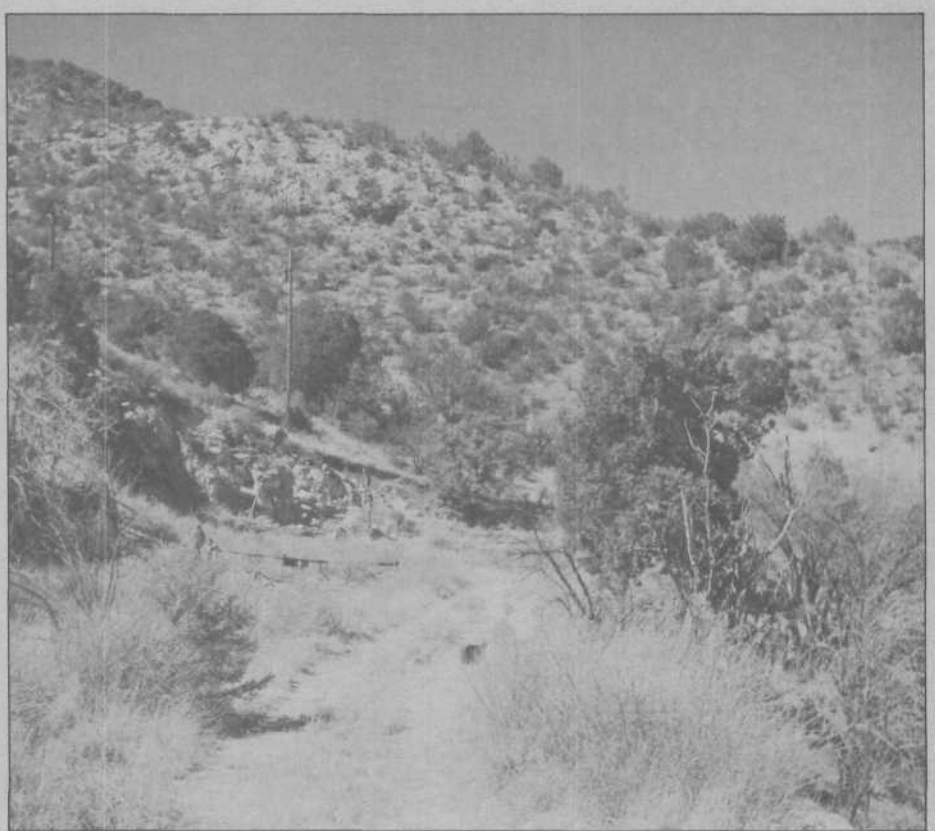
The first strike at Hilltop was located high on the west side of the main ridge and the initial settlement was established near the mine. This settlement was first known as Ayers Camp and had a small smelter as part of the early operation. But fluctuations in the price of silver affected the fortunes of the young mining camp. The property was purchased for a reported $52,500 by a group from Kansas City and operated under the name of the Hilltop Metals Mining Company beginning in 1913. In 1917 a long tunnel through the mountain to the northeast was completed and a new and larger mining camp was established at its eastern portal. Originally referred to as East Camp, the community became Hilltop. The mining company bought a new Cole six-cylinder automobile as the prime means of transportation to the railroad point at San Simon, just west of the Arizona-New Mexico state line.

As with all mining camps, the day eventually arrived when the ore was no longer profitable and the mines were abandoned. Town residents left for the next boom camp, often leaving behind all but their easily transportable possessions. Hilltop shared the fate of thousands of other mining camps in the West when it began its rapid decline. The last years of operation were carried on by a wildcat group called the Keystone Mine.

Hilltop had an active post office from January, 1920, until it was discontinued in June, 1945, although its early years of development and productivity dated from the 1880s. Considering that Hilltop still had a post office and presumably some residents as late as 1945, it is difficult to imagine that the former community could have deteriorated so quickly but your visits will verify that fact.



The remains of the roofed ore chutes at Hilltop still stand high on the hillside near the northeast portal of the tunnel through the Chiricahua Mountains.



There is hardly anything left of the homes and stores that once lined Hilltop's main street. There were 100 residents here as late as 1930.

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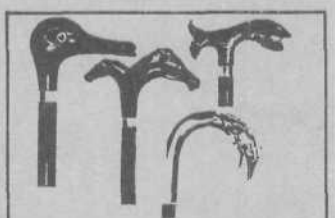
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DESERT CALENDAR

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

February 15-March 15; Art Exhibit, "Situational Imagery," exhibit of contemporary photographers. Univ. Cal. Irvine, Fine Arts Gallery. Tues-Sat, noon to 5 p.m. Furthur info: (714)833-6648.

February 29-March 9: Imperial Valley Gem and Mineral Society's Midwinter fair at Imperial, California. Mon-Thurs, 4-10 p.m., Fri, Noon-10 p.m., Sat & Sun 10-10. Admission.

March 13-16: Deming, New Mexico; Annual Rockhound Round-up, Southwest New Mexico State Fair ground, Deming, NM. Info: John Buech, P.O. Box 1287, Deming, NM 88030.

March 15-16: Sequoia Mineral Society Gem Roundup, Dinuba Memorial Bldg., Dinuba, CA. Sat: 10-9 p.m., Sun: 10-5 p.m. Contact Jeffrey Linn, 5370 S. Columbia, Reedley, CA 93654. (209) 638-1361.

March 15-16: Silvery Colorado River Rock Club's River Gemboree. Junior High School, Hancock Road, Holiday Shores, Bullhead City, AZ. Sat: 10-6 p.m., Sun: 10-5 p.m. Contact Gus Miller, Box 2666, Rieviera, AZ 86442.

March 16: Annual Desert Gardens Walk of the Anza-Borrego Committee will meet at 11 a.m. at Blair Valley. Walks will be led by State Park rangers. Blair Valley is a few miles south of Scissors Crossing (Highway 78) on Hwy S-2 south of Earthquake Valley. Plenty of parking. Restrooms. Suggest good walking shoes, sun-shade hat, lunch, and water. Info: (714) 767-5311.

March 15-16: Monterey Bay Mineral Society of Salinas' 33rd Annual Gem and Mineral Show, Masonic Temple, 48 San Joaquin St., Salinas, CA. Sat: 10-9, Sun: 10-5. Donation 50 cents. Under 12 Free. Info: Floyd Watkins, 411 La Mesa Dr., Salinas, CA 93901.

March 22-April 1: 33rd Annual Orange Belt Mineralogical Society Show, Orange Show Grounds. 689 S. E St., San Bernardino, CA 92408. Demonstrations and workshops.

March 23-April 30: 30th Annual Tucson Festival. For daily schedule of events write: Tucson Festival Society, 8 West Paseo Redondo, Tucson, AZ 85705. (602) 622-6911.

March 28-30: Stamp Expo '80/South at Anaheim Convention Center. For Info: Stamp Expo, 6253 Hollywood Blvd., Hollywood, CA 90028. (213) 469-1193.

April 13: Murrieta Fire Dept. 33rd Annual Old Fashion Pit Bar-B-Q, 11:30-4:30, Murrieta Fire Station. For Info: (714) 677-5511.

April 19-20: Rail Festival '80, Orange Empire Railway Museum, Perris, CA. for Info: Jim Walker (213) 240-9130.

Desert ROCKHOUND

[*Continued from page 28.*]

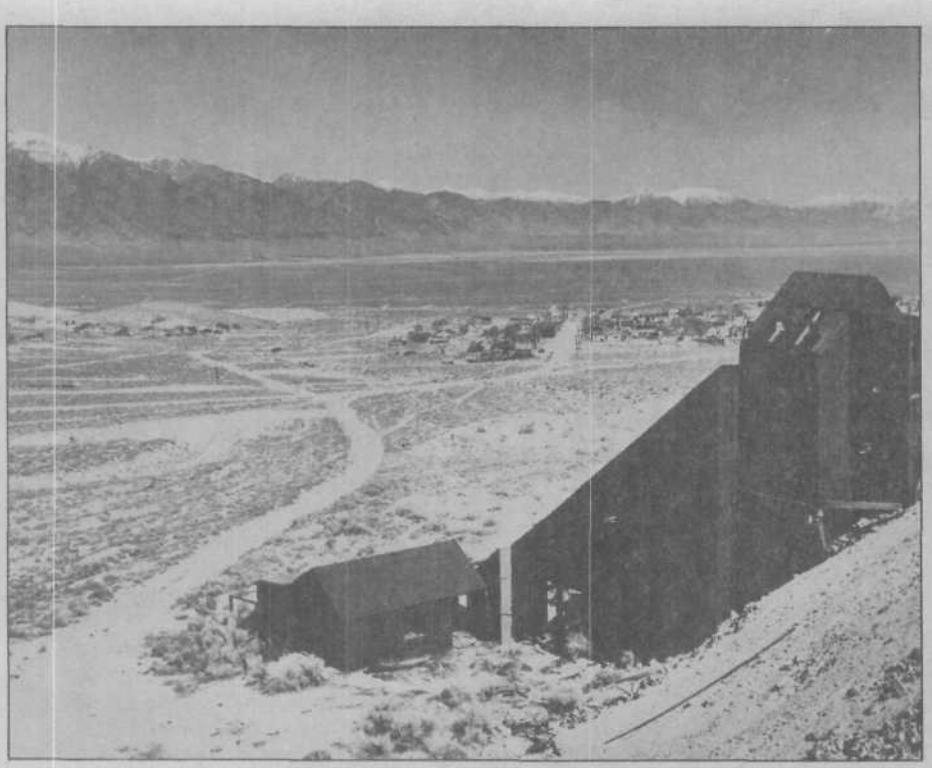
Collecting at the old ghost town of Lake Valley, New Mexico, is no longer allowed. The town is closed to visitors, and the caretaker informed me that there is no collecting on the dumps. There is some very nice agate a few miles north of town and some fossils in the nearby limestone canyon which can still be collected, but as is the case for most mines nowadays with the price of precious metals going up, owners are becoming more and more protective of their claims.

Helpful Information: An interesting booklet discussing the history of the Kofa Game Range, including rockhound information, may be obtained by writing the Refuge Manager, Kofa Game Range, P.O. Box 1032, Yuma, AZ 85254. For the most part, the information is not encouraging. The famous fire agate diggings, as well as crystal and agate areas, are closed to any type of rockhounding except for picking samples off the ground.

Gold Hunting: With the price of gold soaring, many rockhounds are taking gold pans and sluice boxes with them on their trips. If you get into more advanced gold seeking such as dredging, however, be sure to check with the state division of mines. In California, the Department of Fish and Game must issue you a permit to use a dredge of any size. In Arizona, no permit is required for a small dredge. If prospecting in a National Forest, you must apply with the district ranger in the area you wish to pursue your hobby. A "Notice of Intent to Conduct a Mining Operation" must be approved. Such information as the size of the dredge, where you plan to operate, and what you are looking for are needed in this application. The quest for gold is now a profitable venture. Just be sure that you do not trespass on another person's claim and that you are aware of the regulations governing the area you choose to try your luck.

Tumbling Technique: A few weeks ago, I was tumbling some obsidian and had misplaced the plastic pellets used to prevent chipping of this fragile material. A fellow rockhound suggest using molasses to thicken the water. It worked very well. There were no chips and the material polished as well as ever.

Caution: The desert is a desolate place. Winter nights often get below freezing, and after a rain the roads can be unpassable, even with four-wheel drive. Be prepared and your trips will be enjoyable as well as productive.



Round Mountain, Nevada, as it looked in 1961 when the mines were idle.

MINING BOOM COMES TO CENTRAL NEVADA *Open Pit Mining Operations Revive Smokey Valley*

MANHATTAN, Nye County. A century ago, this central Nevada town was swarming with miners and noisy with the commotion that goes with boom time at the site of a new gold discovery. Though a good many slow years have passed since the high grade Manhattan ores gave out, the town is roaring again.

And once again, gold is the reason why a lot of people have come to the slopes of the Toiyabe Mountains where the high desert winters are bitter and even sunny fall days have a bite.

In the pinyon forests around Manhattan, there is much evidence of fresh workings. From time to time, teeth-rattling explosions toss mountains of rock and dirt high into the air. Lumbering yellow machines snorting black diesel smoke root out the loosened gold and silver ore in great bites.

The men and machinery work for Houston Oil and Minerals Co., a big mining concern which has reopened the old camp. Mining and exploration firms, stimulated by rapidly climbing prices and a general feeling that the country is headed for a minerals crisis that will rival the energy crisis, have been pouring a tremendous amount of effort into the search for various minerals.

No one has certain knowledge how long the boom will last. Prices are not expected to dip substantially anytime soon, but they could, and towns like Manhattan could go back to sleep until the next renaissance. In the meantime, the old towns seem to be wide awake and suffering for it, but also enjoying it.

Living quarters are hard to find. Old houses that used to have leaky roofs and no occupants have been patched up and put back into service, while mobile homes have been planted everywhere that space and utility hookups will permit among old buildings and lots piled high with rusting machinery from earlier mining eras.

At the same time Round Mountain and Manhattan have been visited with a refreshing atmosphere of good spirits and prosperity. They are places where people laugh easily and with gusto.

Reese River *REVEILLE*
Tonopah, Nevada

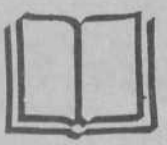
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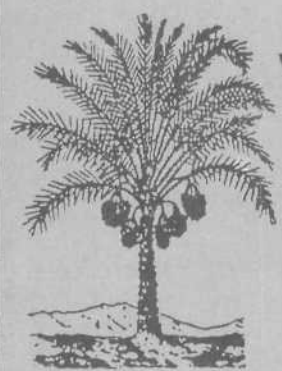
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HISTORIC PLACES NOMINATED

Two archaeological sites in Iron and Sevier counties have been listed in the National Register of Historic Places, according to Utah State Historical Society.

Long Flat in Iron County and the Aspen-Cloud rock shelters in Sevier County were listed because of their scientific and archaeological significance, explained Bruce Hawkins, the Society's preservation archaeologist who researched the sites for their nomination.

Long Flat is a large quarry site consisting of four major outcroppings of cryptocrystalline chert. It is located in the Dixie National Forest.

"Blade and scraper forms present at the site indicate that it was also used for butchering activities by groups ranging from Archaic to Ethnohistoric," Hawkins explained.

Three major areas of significance were determined for Long Flat: the area covered is significantly large; it is one of a limited number of recorded archaeological sites at such a high altitude (10,000 to 10,200 feet); and, the site would lend itself well to the development of a research design for quarry sources in the area.

The Aspen-Cloud rock shelters are located on the north wall of Saleratus Creek Canyon in the Fishlake National Forest in Sevier County.

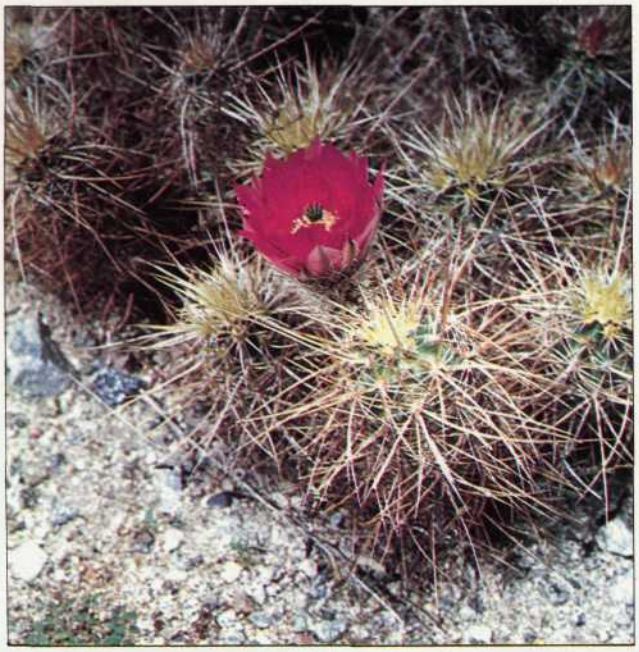
"The two rock shelters are habitation sites thought to be occupied by Fremont peoples due to the presence of Fremont ceramics," said Hawkins. "But analysis of C-14 samples and other factors indicate that the rock shelters may have been previously occupied by Archaic peoples," he added.

Because of the possibility of two or more cultures having occupied them, the shelters are very valuable in the study of culture interchange between the inhabitants. Soil and pollen samples found in the shelters may also prove useful in reconstructing different environment encountered by the inhabitants of the shelters, Hawkins said.

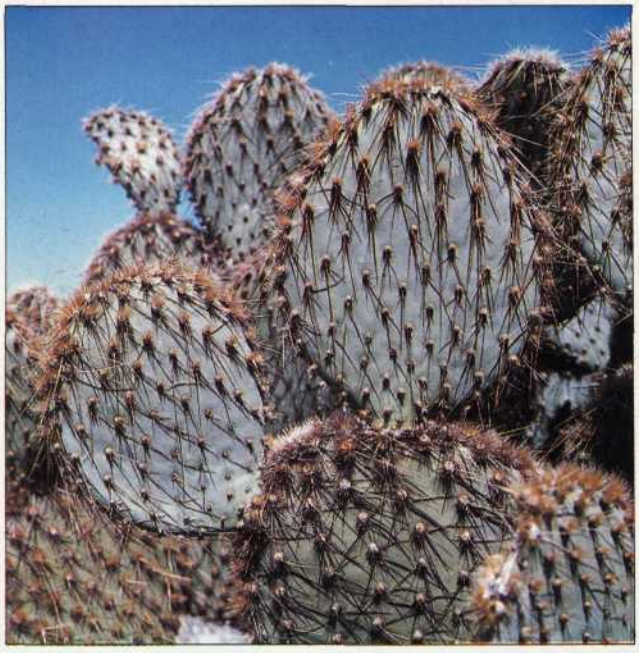
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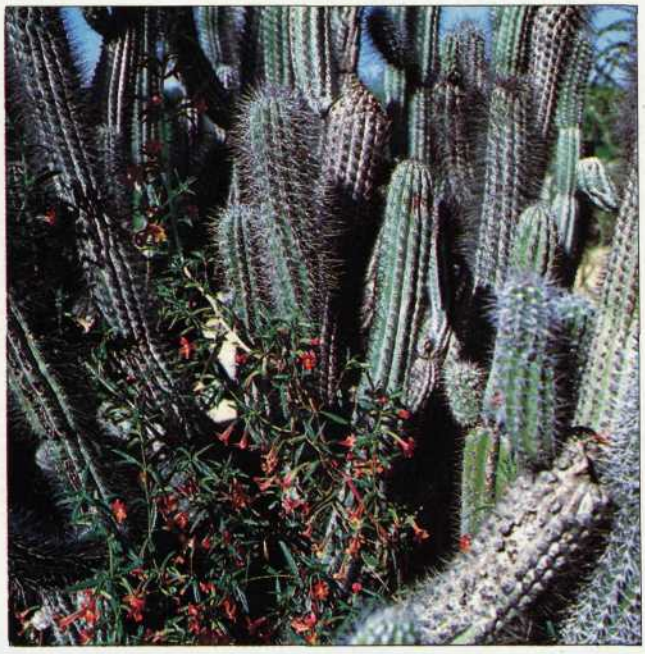
BARBED, BRISTLY, AND BEAUTIFUL

Photos by William and Nancy Harrison









Clockwise from above left: Hedgehog Cactus, found throughout the southwest, is often called "calico cactus" because of its many-colored spines; Barrel Cactus. No, you can't get water from a barrel cactus. The moisture stored in it is highly mineralized and unpalatible; Prickly Pear. Named for its edible, but spine-covered fruit; and Organ Pipe Cactus. This species enters the U.S. only in the far southwestern corner of Arizona.



The bright red fruits and shiny green leaves of the hollyleaf cherry (Prunus ilicifolia) create one of our most attractive shrubs.

REAP THE WILD FRUIT

Story and Photos by Wayne P. Armstrong

The southwestern desert regions of the United States contain an enormous diversity of plant life, many of which produce unique and bizarre seed pods. And a surprising number of plants have seed pods that are masterfully engineered for seed dispersal, primarily by hitchhiking. Interestingly, many desert natives are closely related to common cultivated plants and produce fruits and nuts that are remarkably similar in appearance to those we buy at the supermarket.

The Rose Family, for example, is a very large and economically important group containing numerous edible fruits and handsome ornamentals. One of the larger and more familiar genera is *Prunis* which includes fruits with a hard stone or pit such as the apricot, peach, nectarine, almond, and cherry along with desert versions of these. The natives are generally shrubby with much smaller fruits, some of which are edible. The leaves are poisonous in many of these species because they contain hydrocyanic (prussic) acid. Also, crushed leaves will emit the odor of bitter almonds, indicating the presence of cyanide. The native "stone-fruits" in the desert and mountains of Southern California include desert peach, desert almond, desert apricot, western choke cherry, and hollyleaf cherry. In spring these shrubs are attractive with a profusion of white blossoms, and several species, such as hollyleaf cherry, produce clusters of brilliant red fruits in the fall.

Mountain mahogany (Cercocarpus or "tailfruit") is a very common member of the Rose Family found on desert foothills and in canyons, and one species extends to the subalpine zone at 10,000 feet elevation. On steep cliffs and precipitous slopes of the San Gabriel Mountains, mountain mahogany may be shaped by the wind as though someone had pruned it with electric shears. It is one of the hardest and heaviest woods, nearly as dense as desert ironwood (*Olneya tesota*). A dried block dropped into water will sink like a piece of lead. Mountain mahogony, like desert ironwood, makes a marvelous fuel, burning for hours and giving off intense heat before it combusts completely into fine white ashes. The distaffs of Navajo looms are commonly made from mountain mahogany because the wood never splinters and actually becomes smoother with use, thus allowing various fibers to be spun without snagging. Because of its amazing hardness, it has even been used for Navajo dice!

One of the largest families of flowering plants on earth is the Legume or Pea Family. An incredible number of desert shrubs belong to this enormous family including catclaw acacia, fairy duster (*Calliandra*), mesquite, desert cassia, palo verde, indigo bush, smoke tree, desert ironwood, and the beautiful western redbud on the desert slopes of the Laguna Mountains. Numerous colorful wildflowers also belong to the Legume Family, such as lupines, locoweeds, lotus, alfalfa, and clover. Most of these species produce the typical legume or pea pod. The pods of several species such as mesquite are produced in abundance and were an important food for several tribes of southwestern Indians. In fact, mesquite was so important in the culture of southwest Indians that some tribes named seasons of the year in relation to the flowering and development of pods.

Although most legume fruits look like a typical bean pod, there are some unusual variations in size and form. For example, the pods of the screw-bean mesquite (*Prosopis pubescens*) are coiled into a neat spiral cylinder. The long pendent pods of desert willow (*Chilopsis linearis*) look like a legume, but actually it belongs to the Bignonia Family along with Catalpa, Jacaranda, and cape honeysuckle. Unlike the weak-limbed true willows (*Salix*), the wood of desert willow is very stiff and was highly prized by local Indians for making bows. Bow Willow Canyon in the Anza-Borrego Desert is apparently named after this graceful desert shrub.

Some of the most interesting, delicious, and massive fruits in the world belong to the Gourd or Melon Family. These include pumpkins, watermelons, cucumbers, chayote, vegetable sponge (*Luffa*), and numerous colorful varieties of squash and melons. According to the *Guinness Book of World Records*, the largest pumpkin was nine feet in circumferance and weighed 378 pounds, the largest squash weighed 513 pounds, and a record-breaking gourd was nearly seven feet long! A sprawling, fast-growing vine with striped, greenish, pumpkin-like fruits that later turn yellow is found in the Anza-Borrego Desert. This is coyote melon, also called desert gourd or calabazilla (*Cucurbita palmata*). The fruit is quite fibrous and unpalatable inside, but ground seeds were apparently eaten in moderation by certain Indians, and the dried gourds were used as rattles in Navajo dances. The moist gourds are also sought after by various animals, including ground squirrels and coyotes.

Scientists are experimenting with hybrid buffalo gourds as a food crop in the vast Middle East deserts, hoping that the seeds may someday become a vital source of protein-rich oil in parched lands. The trailing branches can be propagated readily and the plant resprouts each year, thus eliminating the problem of buying fresh hybrid seed each year. The massive root may extend as deep as 15 feet in search of water.

The Olive Family is represented in our southwest deserts by several species of ash trees, usually confined to canyons and streams, and by a spiny little shrub called twinfruit (*Menodora spinescens*). We also have an interesting shrub with blue-black olive-like fruits which is appropriately named desert olive (*Forestiera neomexicana*). Desert olive has a very large and scattered distribution from the deserts and bordering mountain ranges of California to Colorado and Texas. During fall in Owens Valley, the leaves change to a brilliant gold which rivals the spectacular color display of the willows, water birch, and cottonwoods.

The Walnut Family includes several hardwood trees which produce some of the world's most delicious nuts. Well-known members of this family are the English and black walnuts, pecan, hickory, and butternut. Several members of the Walnut Family are native to the western states, one of the most interesting being a shrubby walnut that grows in the arid plains and desert foothills of southeastern New Mexico and western Texas. What makes this walnut so unique is that its nut is about the size of a garden pea or a marble. Inside the thick shell is a

tiny, meaty seed composed of two halves or cotyledons, just like the larger black walnuts. It is appropriately named little walnut (*Juglans microcarpa*) and is scattered along the Pecos River and its tributaries. Indians harvested these small sweet nuts.

One of the best known of our western wild nuts is the acorn. There are at least a dozen different kinds of native oaks in Southern California, mostly in the mountains and coastal valleys. Scrub oak is associated with pinyon pines and junipers in the high desert, and the larger canyon live oaks are occasionally found in shady desert canyons. The ground meal from acorns was an important food for several Indian tribes. Hollowed out boulders (bedrock mortars), where Indians ground up acorns with a rock pestle, can be found throughout the southwest, generally in mountainous areas surrounded by oak woodlands. Large, fleshy, reddish "oak apples" often appear on the branches of desert scrub oak. The oak apple is actually a mass of swollen plant tissue called a gall. A small wasp, commonly referred to as a gallfly (*Andricus*), lays its eggs inside the plant stem which subsequently enlarges into the tumor-like gall. The immature wasp larvae feed upon the fleshy plant tissue inside and at maturity, bore out of the gall through tiny holes. Obviously, oak apples are not edible.



The Nightshade or Tomato Family contains many species with a variety of fruit types, from fleshy berries to dry seed capsules. However, some members of this family are extremely poisonous. One of the most striking in the California desert is Jimson weed (*Datura meteloides*), or perhaps more correctly named *D. inoxia*, a sprawling malodorous plant of roadsides and dry riverbeds with large, white , trumpet-shaped flowers. The flowers open in the evening and sometimes close by noon the next day, though I've observed exceptions to the schedule. Each flower gives rise to an oval, green, spiny fruit which later turns brown and splits open, releasing the seeds. In fact, another common name that appropriately describes the ripe, green fruit is "thorn apple." The stems, leaves, roots, and seeds contain several highly toxic and hallucinogenic alkaloids which have been used in both folk medicine and modern clinical drugs. The ceremonial puberty dances of several Indian tribes included drinking an infusion of Jimson weed by young boys preparing to enter manhood.

California bay trees, a dark evergreen with very aromatic leaves, are scattered throughout the mountains of California to Oregon, where they are locally called "Oregon myrtle." Near Myrtle Point in southern Oregon these specimens are beautiful spreading trees with huge trunks and limbs. The hard, fine-grained wood with very beautiful grain takes a high polish and is made into all sorts of objects, from bowls to furniture. The bay tree belongs to the mostly tropical Laurel Family along with avocado, cinnamon, camphor, and the famous European laurel or sweet bay. The ripe fruits resemble miniature avocados in appearance and the leaves are excellent for cooking, though just a little stronger than the European bay leaves.

Any discussion of hitchhiking desert fruits would be incomplete without mentioning the sprawling unicorn plants or devil's claws (*Desert*, Feb '80), and a common low desert shrub with stiff, thorny branches called krameria or ratany (*Krameria grayi*). The fruits of krameria are covered with slender spines that are barbed at the tips, like miniature grappling hooks.

The curio industry has made good use of several hitchhiking desert seed pods. You can buy cockleburs in a nest labeled "porcupine eggs." You can also buy the amazing two-pronged pods of the unicorn plant painted like strange little

Above: Mountain mahogany [Cercocarpus), *one of the hardest and heaviest of desert woods and a common shrub of high slopes and canyons has a delicate, feathery fruit.*

Right: The peculiar fruit of krameria (Krameria grayi) *are covered with slender spines that are barbed at the tip. The pink flowers come late in the spring.*



birds, or fully clothed in a leisure suit. These gift ideas are really quite clever and reasonably priced, compared to a buffalo chip sprayed gold for $25.00!

Another very effective and ingenious method of seed dispersal is floating through the air. Milkweed pods contain numerous flattened seeds, each with a tuft of fine, silky hairs. The seeds become airborne with the slightest gust of wind, and the tuft of hairs works like a miniature parachute, carrying the seeds gently over the desert landscape. There are several species of milkweed, but one of the most interesting is a very tall, shrubby variety found occasionally in rocky areas of the Colorado Desert. It is often called giant milkweed (*Asclepias albicans*), and consists of clumps of leafless, whitish stems up to six or seven feet tall. From a distance it almost looks like an ocotillo. According to the eminent authority on desert plants, Dr. Edmund C. Jaeger, the strong, pliable stems were used as whips by early prospectors traveling with donkeys. As the name milkweed suggests, a white, milky latex exudes copiously from the cut stems and leaves.

One of the best natural stuffing materials is the silky floss from the pods of the tropical kapok tree. Kapok has been an important filling for pillows, life preservers, and many other items. During World War II shortages, the silky floss of milkweed pods was exploited as a substitute for kapok. Milkweed floss is one of the lightest natural materials known, is exceedingly buoyant, and is an outstanding insulator.

Jojoba (pronounced *ho-ho-ba*) is a valuable, economically important native shrub and is now being extensively cultivated throughout the southwest. Besides being edible, the seeds contain a high quality oil that is one of the best natural lubricants known. A number of important and useful products can be manufactured from jojoba oil including several types of lubricating oils, waxes and polishes, candles, cosmetic lotions and creams, and pharmaceuticals. One of the reasons for the outstanding viscous properties of jojoba "oil," even under very high temperatures, is that it is chemically a liquid wax and not a true oil. Most natural waxes such as earwax, beeswax, and the coating on apples are solids. Since jojoba "oil" is very similar in chemical properties and quality to sperm whale oil, its more extensive cultivation and use could eliminate the needless slaughter of these endangered mammals.

There are numerous additional fruits and seed pods in the desert with commercial potential including the woody cones of pinyon pines and the fleshy cones of junipers, sweet pulpy fruits of California fan palms, large green pods of desert yuccas and agaves, cherry-like fruits of the rare western hackberry, fleshy fruits of the prickly-pear and saguaro cactuses, and the fleshy pink berries of mesquite mistletoe. All of these natural fruits were utilized in one way or another by Indian tribes and provide a valuable source of nourishment and moisture for numerous desert animals from tiny insects to reptiles, birds, and mammals.

One of the truly beautiful experiences in nature is to observe the amazing variety of living creatures around you. The myriad ways that plants have packaged their future offspring in seed-bearing fruits and pods is astonishing. Each year they produce all their fascinating little fruits and seed pods, ultimately perpetuating their own kind for generations to come. The lives and very existence of many native animals are dependent upon these seeds and fruits of the desert and at one time, so were human cultures. So, it is not improbable that someday, a hungry and energy-short world may once again turn to the desert for sustenance.





Above: The large, trumpet-shaped flowers of the toxic Jimson-weed [Datura inoxia) *stage a striking show at roadsides and on dry riverbeds.*

Left: The fremontia or flannel bush with its characteristic fuzzy seed capsules is one of the few members of the Chocolate Family native to the desert.

HOW OLD IS CALIFORNIA MAN?

Story and Photos by Herman W. Ronnenberg



As recently as 15 years ago very few archaeologists believed that Indians had entered the New World before 10,000 B.C.; most still clung to the earlier estimates of 5000 to 8000 B.C. Since then though, a startling series of discoveries in the Southern California desert and coastal regions has definitely established man's presence a minimum of 50,000 years ago.

The first suggestion of such great age by a noted scholar was made by Dr. L.S.B. Leaky about the "Calico Site" in the Mojave desert of San Bernardino County. He visited the site in 1963 and, while noncommittal as to its age, was enthused enough to aid in securing National Geographic Society funding for a dig headed by county archaeologist Rush D. Simpson. The work she has directed continues to this day and has been called "a model of archaeological procedure." Dr. Leaky visited the site twice yearly and by 1969 was speaking of it as being over 50,000 and maybe *over 100,000 years old.*

The Calico Site, about 20 miles beyond Barstow as you drive toward Las Vegas, is just a few miles north of I-15. A highway department sign points you toward the base of some dry foothills overlooking the lower Mojave Basin and, of course, don't confuse this exit with that serving the Calico "ghost town" a few miles back. During the last ice age this basin was full of water, forming Lake Mannix. The highest shoreline of the lake remained until drained as the result of the Mojave River cutting out Afton Canyon, also in ancient times. Visitors are welcome Wednesday through Sunday to watch the archaelogists work.

The first evidence of ancient man in the form of tools was found there in the gravels above the 12-20,000,000-year-old Barstow Formation clays in a now abandoned Bentonite mine still visible from the main site. Roofs were constructed near the old mining operation preliminary to the first excavations. Beside protecting the pits, these roofs aid in making accurate depth measurements on artifacts.

The major criticism of all crude ancient artifacts is always the same, that they were not man-made but merely resulted from natural events such as freezing, tumbling down stream beds, etc. When these criticisms arose about the tools recovered in the first pit, other test pits were opened at random places on this large alluvial fan. The results showed that the artifacts did not occur everywhere although the same natural forces should have been at work at other points. The stone tools were confined only to particular areas.

In 1967, Dr. Leaky requested a second major pit, called Master Pit II. This one has yielded the best evidence so far of early man at the site in the form of debitage or flakes from tool-making found at 212 inches as well as over 3,000 other artifacts. Many burins (small scrapers), scrapers, and hand axes uncovered show use-wear patterns on the edges when examined under a microscope. Critics of the site have scrupulously avoided comment on the wear patterns.

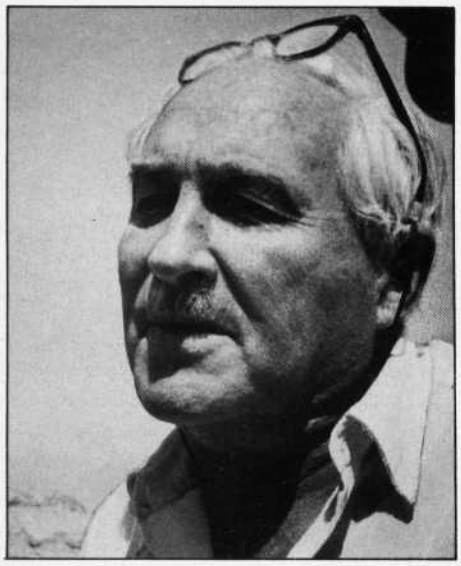
At 279 inches a hearth or fire circle was found. An analysis made at Prague, Czechoslovakia, of one of the stones showed it had been heated to 400 degrees Centigrade at the inner end, six times hotter than at the end away from the ancient fire it helped to contain. No forest fire could have done that to a stone!

Calico is essentially an ancient workshop. Ms. Simpson speculates that early men made tools there for a day or two at a time and then went back to their permanent camp on the shores of Lake Mannix. Some archaeologists have criticized the lack of evidence about life ways at the site. True, there are no kitchens,



Opposite page: Nearly complete human skeleton uncovered in the Yuha Desert of Imperial County [Calif.] by an Imperial Valley College archaeology class dated back 22,000 years.
Left: Coroner who by law was called when Yuha man was found suspected foul play but in fact, the skull was squashed and fragmented by pressure from the earth and rock above it.

Below left: The late Dr. L. S. B. Leaky won fame with his wife, Mary, for discovering the Kenya man who is estimated to be a million-plus years old. Leaky, hesitantly at first, verified the ages of both the Yuha skeleton and evidence of man found at the Calico Site near Barstow.



dwelling sites or their related artifacts present, but Calico is simply not that type of a site.

Calico is unquestionably a difficult site to understand; the complex geology involved makes the arguments over its age and authenticity obscure to the layman. However, in October 1971, a discovery in the Yuha Desert of Imperial County, just north of Mexico, yielded the most convincing kind of proof for the presence of early man.

A field archaeology class from Imperial Valley College under the direction of Erlinda Burton excavated a small cairn (rock mound) found by Morlin Childers of El Centro, California. The site was within 40 feet of a desert road which has been in continual use since World War II. The cairn appeared very little different than the thousands of natural rock piles that abound in that area. After the rocks were removed, a trench was dug across the area to a depth of about three feet without yielding any significant material. The ground was extremely hard, being impregnated with caliche, a rock-like calcium deposit. In mid-afternoon, a second trench perpendicular to the first was started. Within three inches of the surface, bone material was found.

As digging progressed, an almost whole skeleton was uncovered. From the bottom of the rib cage up, it was in good condition and some bones of the lower extremeities were present. Unfortunately, the hips had not been preserved. This was probably because the soil was more acidic at that particular spot. Though not apparent at first, the bones were found to be covered with a coating of caliche which is a natural preservative. Further analysis also showed that the legs had been severed at the knee and the feet laid on the chest when the body was buried. Also the skull was depressed in a way that indicated the individual died violently.

Various datings of the material surrounding the bone have placed the age at about 22,000 B.P. (before the present). Other studies have indicated the individual was a young adult male. *Human presence in the New World at least 22,000 years ago had been indisputably established.*

Emma Lou Davis, a San Diego based archaeologist, is making important discoveries at sites in the China Lake area of the California desert. She believes there is evidence there of rapid climatic change in ancient times and of man's ability to flourish during such changes. The site is on a former military bombing range and has escaped "collecting" by amateurs that plague most sites.

Much of the work there is on tool assemblages and the relationship between different tools in the same "toolbox." It is hoped that this work will fill the gaps in our knowledge of tools and the length of time tool-makers have been present. Although exact datings of the site have not been made, Ms. Davis has written this about the site's significance: "Perhaps the rather gaudy pictures of 'Clovis Mammoth Hunters' have obscured subtler relationships and greater time spans in New World prehistory." China Lake holds great promise.

In 1974, still more exciting news of human antiquity came out of San Diego. Back between 1920 and 1935, several human fossils were discovered on the hills and cliffs overlooking the Pacific Ocean. Their age was estimated at 7500 B.P. before modern dating methods had been developed and then the bones were deposited in San Diego's Museum of Man and rarely mentioned again.

Their fame jumped in 1974 though, when Dr. Jeffrey Bada used his new Amino Acid Racimization method of dating bone on them. One skull, known as Del Mar Man after its place of discovery, was found to be 48,000 years old—the oldest human remains ever found in the Americas! Some of the original discovery sites for these bones, oddly enough now within the boundaries of the University of California near La Jolla, have been destroyed by time, but most of the cliff site is still available for study.

Amino Acid Racimization has gone through the same arduous process of winning acceptance as a valid technique that all new dating methods must go through. In one test, a fragment of bone from the Baldwin Hills area, known as "Los Angeles Man," was dated at 26,000 B.P. which is close to the radiocarbon date of 23,600 B.P.

Another bone fragment from near Del Mar has been dated at 44,000 B.P. by Amino Acid dating. This is certainly evidence of consistency in Dr. Bada's results.



The first day of the Yuha dig in October 1971, proved discouraging. Author Ronnenberg [white hat] is on right, instructor Erlinda Burton stands next to him. The others are unidentified students in Burton's class.

Even before Amino Acid Racimization was developed as a dating technique, there was a great deal of highly controversial evidence for early man in San Diego. Dr. George Carter, even prior to his 1957 book, *Pleistocene Man at San Diego,* had been arguing for an age of 100,000 years for canyon terrace sites in the area known as Texas Street. Carter was bitterly attacked for his opinions then. However, continuing work on the site has shown that the soil in the area is of interglacial age, and carbon dating of charcoal from the site has proven it to be too old to yield a carbon 14 reading, indicating an age of 40,000 years or more.

The stone tools from Texas Street are nearly duplicates of those from Calico. It seems much more likely that the people in the two areas made similar tools rather than that natural forces fashioned similar geofacts.

Late in 1977, work in San Diego by archaeologists from the University of Calgary yielded artifacts that have been dated at 70,000 to 100,000 years old. Accounts of the dig say there is little question that the geological formation that yielded the artifacts is that old. This site is near Carter's famous Texas Street location and, if it is confirmed, will help to reinforce Carter's claims.

North of San Diego another pleistocene (ice age) site is becoming famous. There are a series of islands off the California coast known as the Channel Islands. In 1977, Dr. C. Rainer Berger of UCLA culminated 15 years of work on one of these islands with his announcement that he had found convincing evidence of a 40,000-year-old mammoth kill. Both burned remains of Dwarf Mammoth and definitely man-made tools have been found on Santa Rosa Island, along with deep vee-shaped burned areas. The charcoal is so old no dateable Carbon 14 remains. Dr. Berger sees these artifacts as evidence of a prehistoric barbecue of gargantuan size.

Still another recent find of extreme age is from the Yuha Desert area again and may prove to be the most important of all. On the first school day of September 1976 a tropical storm of unprecedented force hit the Imperial Valley. Half the town of Ocotillo which is within 10 miles of the Yuha Basin was washed away and highway bridges were snapped like toothpicks by the rushing water. The only beneficial outcome of this flood may be anthropological.

In the Yuha Basin, storm waters cut large new water channels and greatly enlarged existing ones. On the side of a cliff under 80 feet of sediment Morlin Childers, discoverer of Yuha Man, found over 80 stone tools and two pieces of bone. Childers says he had often found tools and bones at the bottom of the wash there but was never able to determine if they had fallen from the top of the cliff or from some lower point on the side. The erosion from the storm made the geological layers in the cliff stand out like layers of a cake and these new finds were made in place. The site has been studied by Imperial Valley College archaeologist Jay von Werlhof and over 20 visiting specialists. According to von Werlhof, work is proceeding and they are certain the site preceeds the latest or "Wisconsin" glaciation. The bone originally found which was thought to be human was in fact animal, but the importance of the site is only slightly dimmed.

If the earliest Americans entered the continent via the Bearing Strait, as they surely must have, then why are the oldest finds being made in Southern California, 3,000 miles away? More traces of truly ancient man may yet be found in the far North, but there is a good explanation for California being the source of the most ancient sites.

When it was presumed that the first arrivals in America came during the last ice age, an ice-free corridor in the intermontane region of the West was presumed to be the oldest migration route. While this may indeed have been the route for people arriving then, earlier immigrants who came between ice ages or during a previous ice age, when the Pacific Ocean was significantly lower, may have used another route. A trail along the western edge of the continental shelf from Siberia to Southern California has been suggested. Southern California may have been the first major point on the migration route where the ancient hunters turned inland or east on their journey.

In earlier glaciations, ice was piled deep on the northern lands and the Pacific Ocean was hundreds of feet below its present level. Thus, this earlier route would now be under water not many miles off the western coast of the continent. Santa Rosa's mammoth hunters and their prey could have walked to the mainland then.

Near Santa Barbara various ancient artifacts have been recovered from the ocean floor and dated, based on the estimated sea level in 9000 B.C. This is just the first of a great deal of underwater work that remains to be done.

The whole key to ice age archaeological sites is water! Glaciers, melt water, low seal level, and heavy rainfall in unglaciated areas, all are significant. The mighty rivers of that era filled lakes, cut canyons, and built terraces and beaches. Paleo-man found good hunting, good fishing, and abundant sources of vegetable foods, wood, and stone near these water sources. Early man made little, lived simply, and moved often but his camps, tools, and less often his bones can be found near the areas he once roamed so that we can learn about him. And fortunately the dry nature of the desert in the years since that time of abundant water has helped to preserve these precious artifacts.


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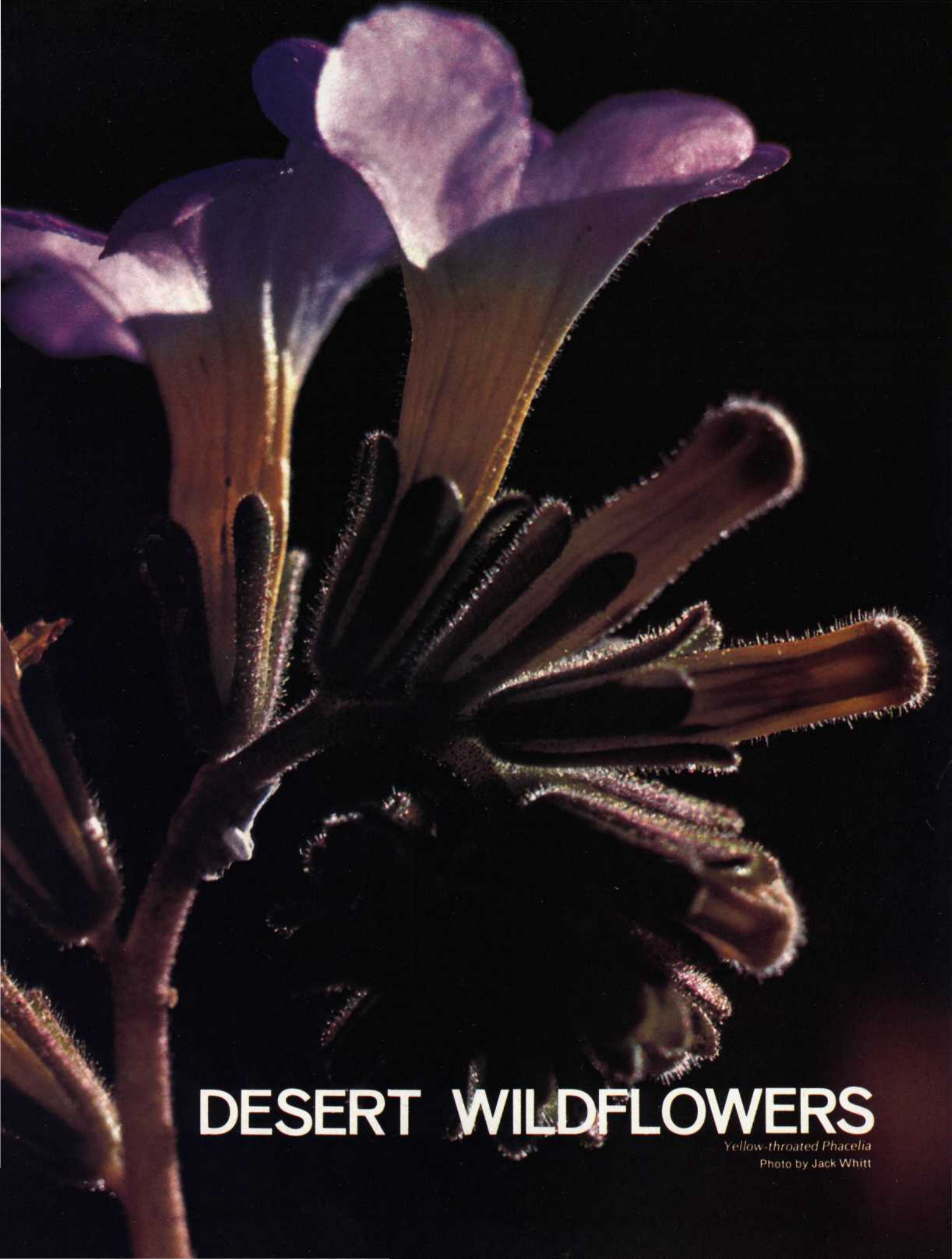
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DESERT WILDFLOWERS

Yellow-throated Phacelia

Photo by Jack Whitt

The desert—a vast desolate empty wasteland? While it may appear that way in the heat of summer, the desert in spring, covered with wild flowers of every shape and hue, is far from lifeless. Our southwestern deserts are home to over a thousand species of native plants. Spend some time this spring getting to know some of them. That means taking a walk because many of the flowers are so small and delicate, they would never be noticed from a moving vehicle. Indeed, you may have to get down on your belly to really appreciate some of the more petite varieties.

Karen Sausman



Photo by Jeff Gnass



Photo by Lynn M. Stone

Clockwise from above: Golden Poppies, Apricot Mallow, Evening Primrose, Mohave Rose, and a close up of a Wild Rose.

Photo by Evan Mills



Photo by Jeff Gnass



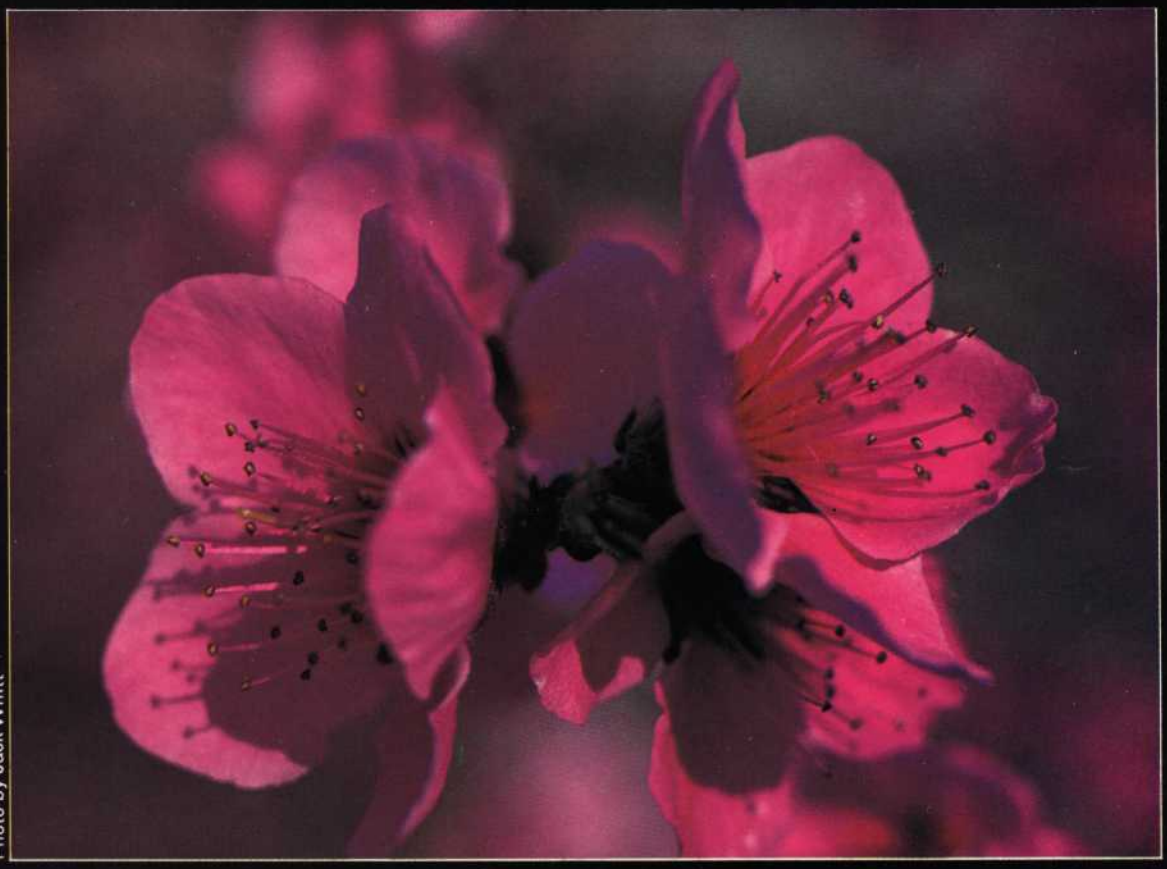
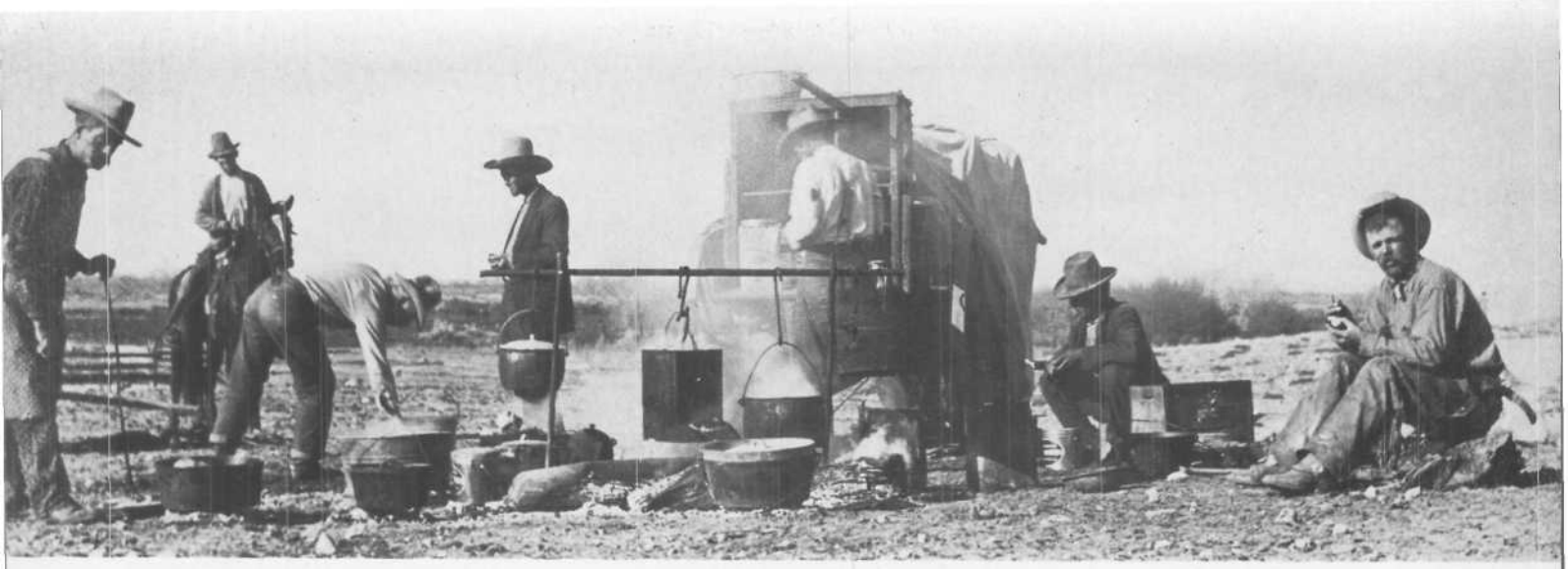


Photo by Jack Whitt



What's Cookin' on the Desert?

by STELLA HUGHES

Chicken isn't just for Sunday anymore. There was a time, during the Great Depression years, when chicken was available to us only when we got sick (or it did). In slightly better times chicken was party fare, served on special occasions such as when the preacher came to dinner, for family reunions, church suppers or wedding feasts.

Times have changed. Chicken is now considered everyday fare and it's a bargain, inflation having affected it somewhat less than other meats. Plump fryers, during seasons of peak production, sell in supermarkets for as low as 59 cents a pound. But how long this will last is anybody's guess, so enjoy while you can!

Our good Mexican neighbors call their poultry *aves de corral,* meaning fenced or "yard" birds. *Pollo* (pronounced *poyo*] plays a big part in the life of Spanish-speaking Americans in the Southwest, and any household with as much as a few square inches of backyard can manage to raise a number of broilers each spring, plus laying hens that produce enough eggs to feed the family and enable the housewife to sell a few to less fortunate neighbors.

Some biased and ignorant zoning commissioners bar chicken raising, even on a very small scale, in urban housing developments. Just why is beyond me. A few yardbirds aren't *near* as big a nuisance as the countless pooches that are allowed to roam at large, overturning garbage cans and visiting the neighbors' manicured lawns, leaving "signs" that scorch grass and shrubs.

Then, just think of the lovely music these city dwellers miss, come 3 a.m. when the crowing cocks join in close harmony. Nor will they hear the contented cluck of happy hens as they scratch in the soft earth, or their shrill cackle which says "we're-paying-our-way" after they have laid their precious egg.

We no longer have to wait until the summer months for cockerels to reach frying size, for plump broilers are available in markets the year 'round. Fat stewing hens provide meat and stock for a variety of dishes any time of the year for chicken sandwiches, in which you use the nicest sliceable pieces of dark and white meat, and then leftovers and small pieces for soups, or creamed, or in chicken croquettes. Mature hens, when stuffed with your favorite dressing and roasted, provide good eating.

I have a good friend, Elaine Hawkins, who makes the best derned chicken enchilada casserole in the entire Southwest, bar none! It's a prize winner when served piping hot, be it a late poker party, bachelor dinner, or even a baby shower. This chicken casserole is a lifesaver when prepared ahead and frozen for emergencies, the kind that arise about once a week, give or take a day or so.

Elaine's Chicken Enchiladas

2 large fryers
2 dozen corn tortillas
4 cans cream of chicken soup (you can substitute with 2 cans of mushroom soup)
1 carton sour cream (12 oz.)
2 cans chopped green chiles (7 oz.)
2 cups chicken broth
1 pound longhorn cheese

This makes a great big 'un. Boil whole chickens or cut into pieces in large sauce pan with water to cover. Season with diced onion, garlic, celery, and salt and pepper. Cook until very tender and allow to cool. Pick all meat from bones and shred into small pieces. If done the day before, store in refrigerator. Fry the corn tortillas, one at a time, by briefly dipping them in hot fat until they are limp. Grate the cheese and place small amounts of cheese and chicken on tortillas, roll them, and place in baking dish. When all tortillas are filled, cover with the soup, green chiles, broth, and sour cream. If there is leftover cheese or chicken, add to casserole. Bake in medium hot oven for 20 to 25 minutes. This won't serve near as many people as you think! They keep coming back for seconds. And thirds.

Barbecued Chicken

A slow fire is desirable when barbecuing chicken. If using charcoal, wait until the coals look ash-gray by day, and have a red glow after dark. No flames! Don't start cooking too soon. You may have flare-ups caused by fat drippings, so keep a clothes sprinkler handy filled with water and spray only enough water to douse the flames. Don't soak the coals.

A wood fire takes longer to build and burn down to a bed of coals. If you are going into the desert where hardwoods may be scarce, it's a good idea to obtain good hardwood before you leave home. Oak or mesquite is best and where available, hickory, maple, walnut or pecan. Remember, larger pieces of wood take longer to produce a bed of coals. The dream wood for broiling chicken or anything else is "shelly" oak. This is dead oak that has rotted in the center, brittle enough to be broken into pieces not much larger than the hand. A fire made from shelly oak beats charcoal a thousand ways to one, imparting a delicious woodsy flavor to grilled meats.

Use either halved broilers or cut-up pieces. Allow three-quarter to one pound for each serving. Brush the pieces well with oil for even browning and to hold

the seasonings. Sprinkle with salt and pepper. Dust generously with paprika to give a fine, rosy finish. Place chicken pieces on grill with bony side down because the bones act as heat conductors and hurry the cooking. Baste with sauce at the very last.

Sauce For Barbecued Chicken

1 can tomatoe sauce (8 oz.)
½ cup water
¼ cup molasses
2 tablespoons margarine
2 tablespoons vinegar
2 tablespoons minced onion
1 tablespoon Worcestershire sauce
2 teaspoons dry mustard
1 teaspoon salt
¼ teaspoon pepper
¼ teaspoon chili powder

Place all ingredients in saucepan and simmer for 15 minutes. After chicken has been broiling over *slow* coals for about 25 minutes, turn, broil 20 minutes. Brush with sauce, and continue broiling, turning occasionally and basting with sauce until chicken pieces are tender.

This same recipe for barbecued chicken can be oven-fried. Just preheat oven to 425 F, place seasoned chicken into shallow baking dish with oil, and bake uncovered 30 minutes. Turn chicken and bake 15 to 20 minutes longer. Baste with sauce and continue baking until tender. Oven-baked barbecue chicken seldom takes longer than one hour.

Southern Fried Chicken

Take two broiler-fryer chickens (2½ to 3 lbs. each) cut up.

1 cup buttermilk
1½ cups all-purpose flour
2 tablespoons onion powder
4 teaspoons salt
¼ teaspoon pepper
2 cups shortening

Put chicken pieces into a large bowl and pour buttermilk over the chicken and turn to coat each piece. Marinate in the refrigerator for about one hour.

Combine dry ingredients in a bowl. Place half the flour mixture in a paper bag. Drain half the chicken and place one piece at a time in the bag; shake until well coated. Place remaining flour in the bag; repeat with second chicken.

Prepare two heavy cast-iron skillets or Dutch ovens by melting one cup of shortening in each over medium-high heat. Add chicken pieces and cook until lightly browned without cover, turn, and brown on other side. Reduce heat to medium-low, cover skillets, and cook about 30 minutes, turning chicken several times. Remove covers and at medium-high heat cook about five more minutes to crisp chicken. Remove from skillets and drain on paper towels. Serves eight.


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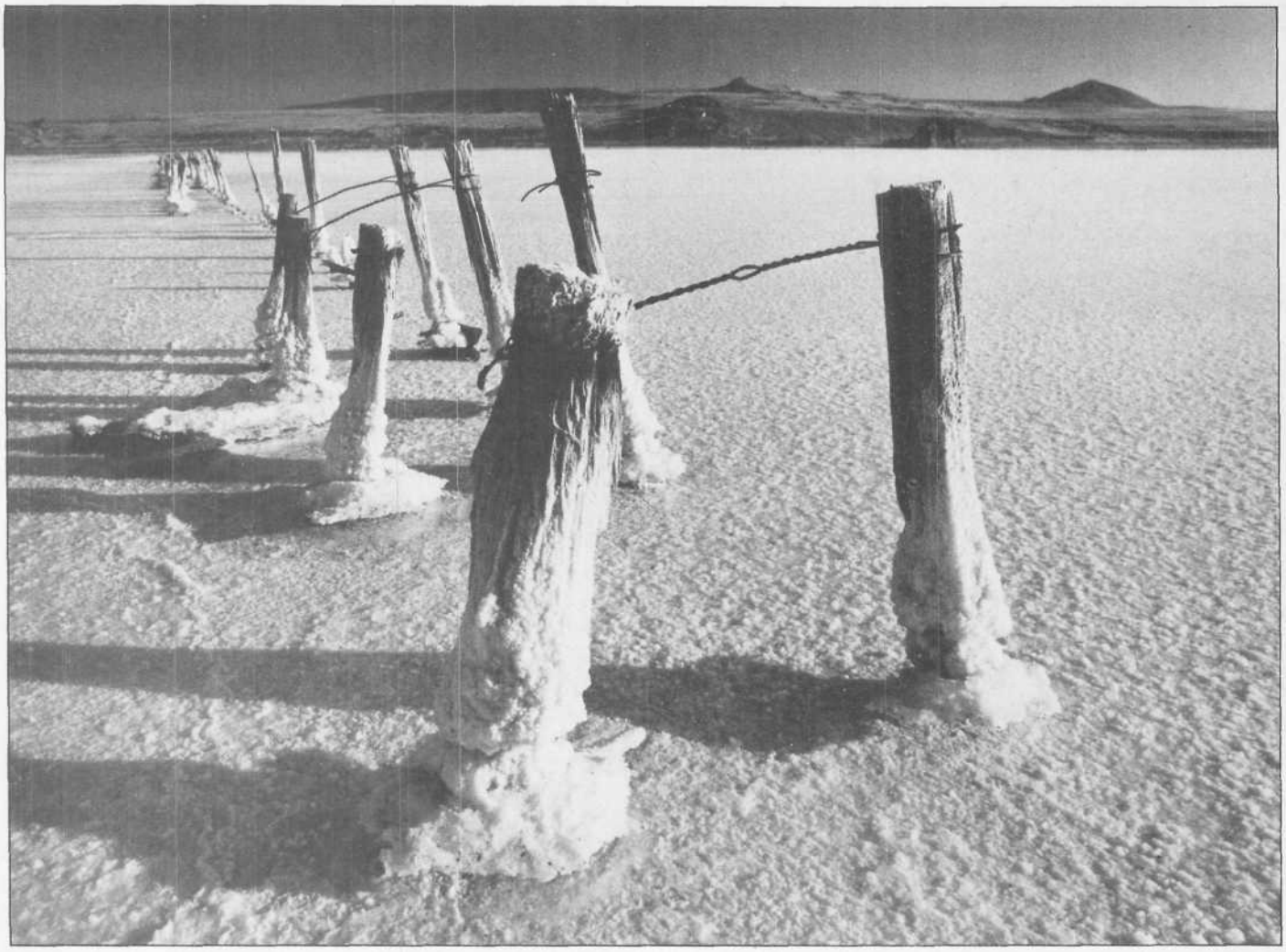
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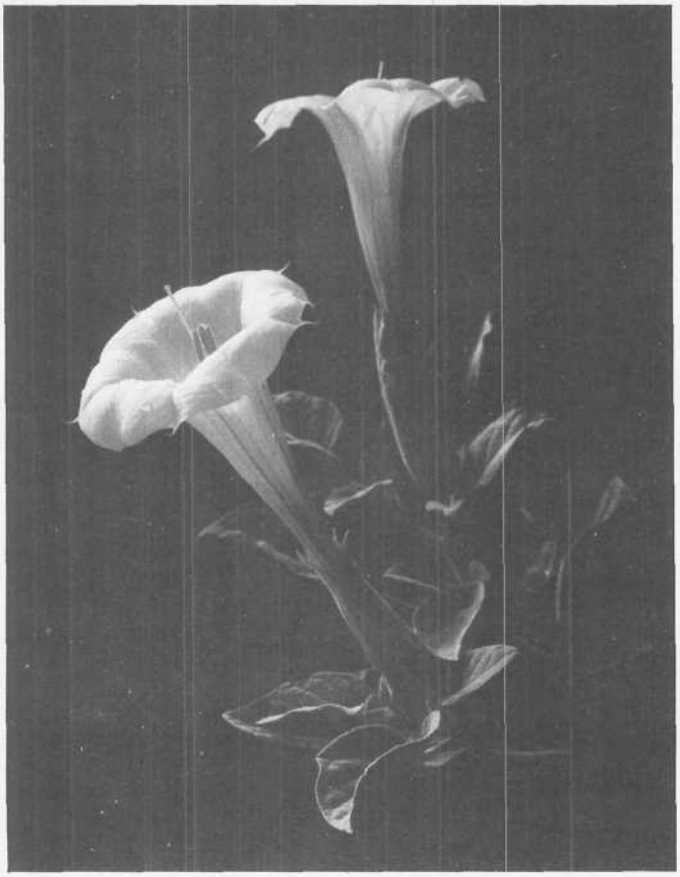


PHOTO CONTEST

David Parsons of Ogden, Utah, is this month's winner of *Desert Magazine's* Black and White Photo Contest. His photograph, "Sunrise on Salt Flats" is of the remains of a salt production plant on the shores of the Great Salt Lake. David used Kodak Pan-X film at 1/60 second at f-16 in his Minolta XE-7 with a red filter on his 50 mm lens.

Because the photos submitted have been particularly good, *Desert* is publishing two photographs this month. Honorable mention goes to Mildred Hooper of Peoria, Arizona, for her "Sacred Datura," shot in the early morning on the bluffs of the Agua Fria River south of Phoenix. Mildred used Kodak Plus-X film at 1/125 sec. at f-8 in her Hasselbladt using an 80 mm lens.

Congratulations to you both. Keep them coming.

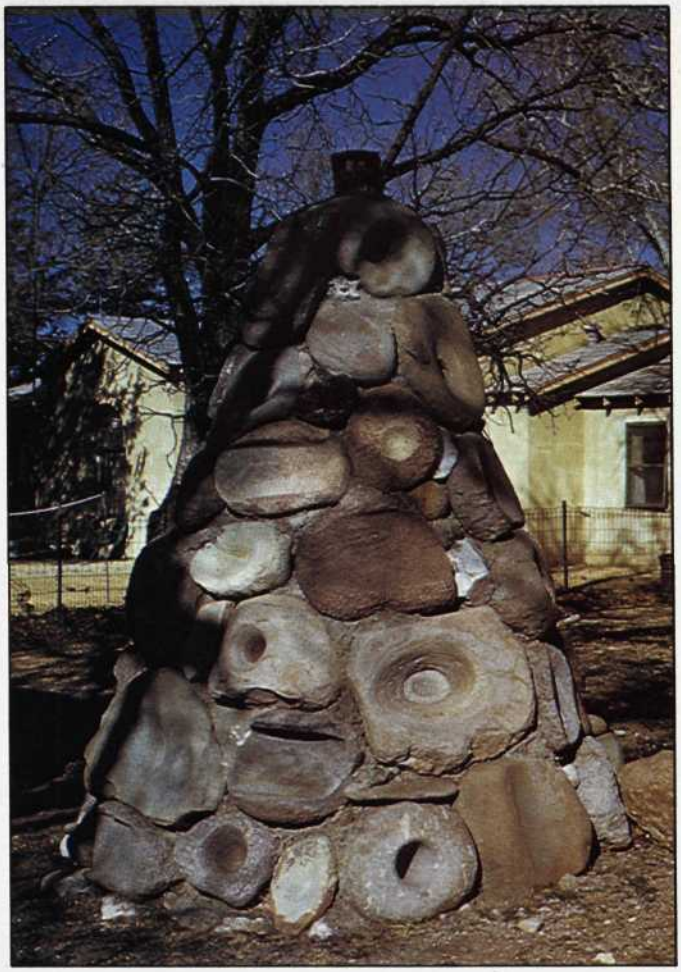
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1. Prints must be B&W, 8X10, on glossy paper.
2. All entries in *Desert Magazine* office by first of each month.
3. Prints will be returned if SASE is enclosed.
4. Contest open to amateur and professional photographers. *Desert Magazine* requires first publication rights.
5. Judges are from *Desert's* editorial staff, and awards are made after the close of each contest month.
6. Each photograph submitted must be labelled (subject, time of day, place, shutter speed, film, aperture, and camera).

Address entries to Photo Editor, *Desert Magazine*, P.O. Box 1318, Palm Desert, CA 92261. And good shooting.

PYRAMID OF METATES

Story and Photo by Ruth Fitch



The four-sided pyramid of *metates* pictured here was constructed on a ranch near the foothills of the Chiricahua Mountains of Arizona in the immense flat desert area of Sulphur Springs Valley.

A *metate* is a "flat stone used for grinding corn," states the Spanish dictionary about this Indian implement. But it is much more than a proletarian tool; it symbolizes beauty, utility, hard work, and initiative in these many colored, different textured and fine-hewn rock surfaces.

A squaw might search for a likely rock in a creek bed or desert and then sculpture it by actual use. At the same time she also shapes the *mano* to fit her hand.

The *metate* could be shaped like a trough or a round hole (this requiring a pestle-shaped rock), or just a flat surface with a raised rim left along two sides. *Mano* means "hand," the name of course deriving from the shaping process.

Many varieties of rocks were used, ranging from rough, honeycombed lava to hard, sleek-surfaced porphyry or granite and sometimes, unclassified tumbled creek stones. *Manos* were made of the same materials, probably easier to form as smaller, water-worn rocks were more common. Probably no effort was made to match *mano* rock to *metate* stone as wigwam wives were not fanatics about conformity in cookware.

Dry .shelled *maiz* (corn), mesquite beans, acorns, and berries could be ground into fine meal or bran using *mano* and *metate* with skillful wielding by the Indian women and girls. A hazard to Indian teeth, though, were the tiny rock particles, worn away from friction and pounding, that were consumed with the ground products.

These instruments and other stone articles used by Indian tribes have been found on the surface, while other specimens have been covered with earth and stones together with clay utensils, beads, and weapons in long-buried villages, indicating a wide-time span of usage.

Many of the surface implements and vessels were broken in half or chipped and disfigured. Some suppose a squaw's housekeeping items were broken at her death; more likely, vandals broke them without reason. Also, many stones break through years of exposure to freezing and thawing.

Anthropologists reason that when a village moved it might have been impractical to transport heavy tools, or perhaps lack of time by pressure from invading enemies precluded taking them along.

In many porphyry ledges cropped out on the deserts and foothills where a tribe set up permanent villages, the women wore deep holes in the red rock for grinding grains. Some are found near the now dry Sulphur Springs near Patagonia, Arizona, and are called "gossip hills," locally. People presume the squaws congregated to grind foods and visit on these promontories overlooking the fresh water and their cultivated fields.

The builders of this pyramid were fortunate to find so many beautiful and perfectly preserved implements on their ranch. Unfortunately, however, it has been reported that the ranch house burned recently and that the collection of *metates* was torn down and the stones taken, but at least their memory has been preserved on this page.

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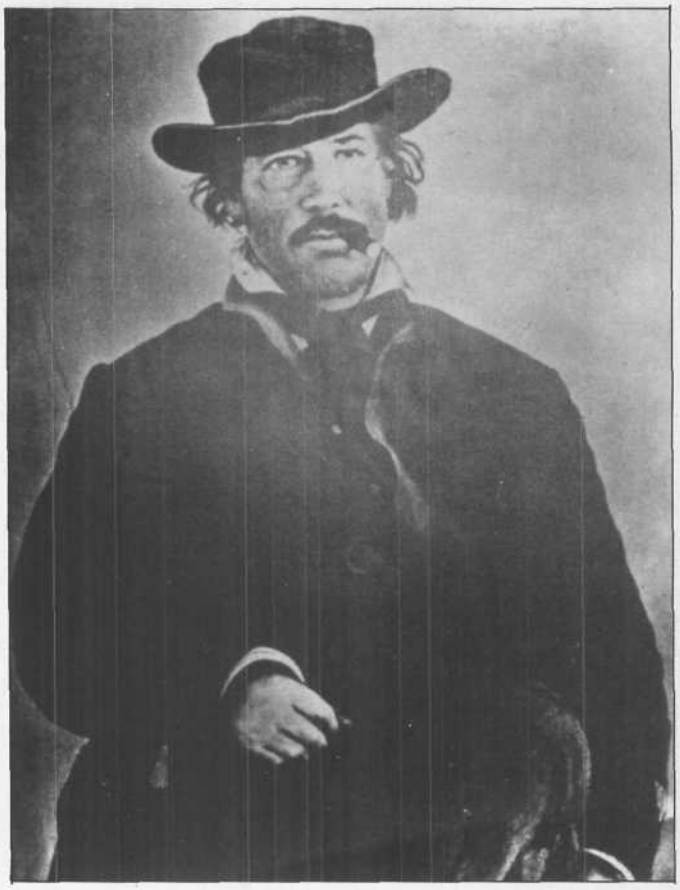


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LUCIEN BONAPARTE MAXWELL

Land Owner Extraordinary

Story and Photos by Ernie Maxwell



The man who is known to have been the owner of the largest single parcel of U.S. real estate remains almost totally annonymous. In New Mexico, where his impact was once immense, Lucien Bonaparte Maxwell is far less famous than such lesser lights as Kit Carson and Billy the Kid.

Some of the reason may be that he was primarily a mountain man who wrote down very little information about himself. Although he could speak English, French, Spanish, and six Indian dialects, only scraps of positive evidence exist today about Maxwell as a person. These bits say he was a crack shot, sloppy dresser, reckless, loved gambling with friends, and was prone to cover any terrain at a full gallop.

Despite little evidence of his existence, Maxwell is identified in various accounts as trapper, guide, hunter, Indian fighter, Indian agent, military supplier, trader, merchant, banker, judge, cattle baron, progressive farmer, businessman of note, and friend of Americans, Mexicans, and Indians. He died July 25, 1875, at his home in Fort Sumner, New Mexico, weary of litigations and prosperity.

What is more visible is reference to the Maxwell Land Grant, a piece of territory that once covered 1,714,764.93 acres of northern New Mexico and southern Colorado. Maxwell had owned it all, although it is doubtful whether he realized how much he possessed until after Congress ratified the original Mexican grant and legalities touched off a series of controversies.

Born in Kaskaskia, Illinois, on September 14, 1818, the man who was to become known as the "Duke of Cimarron" spent his early years in comfortable if not luxurious surroundings. His mother was a member of the Menard family, prominent in the early history of Illinois. The Menard home in Kaskaskia was famous for its hospitality and a reproduction of it was displayed at the 1890 Chicago World Fair.

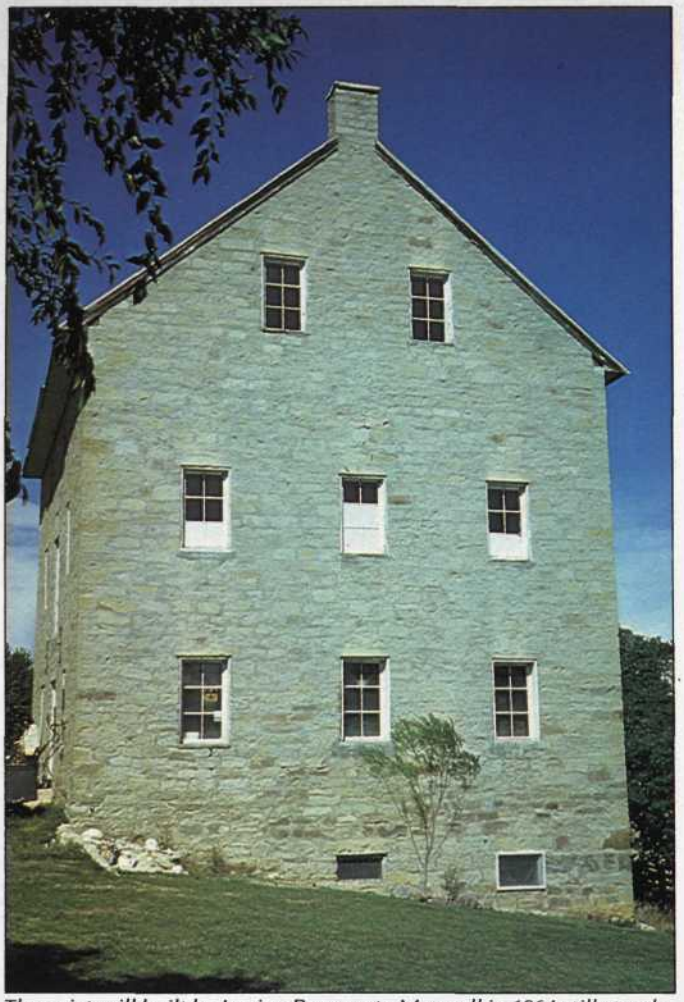
Maxwell's father, Hugh, was born in Dublin, son of a British soldier stationed in Ireland. He emigrated to America but died in a hunting accident when Lucien was 15. The latter then abandoned his studies for the Jesuit priesthood and joined the American Fur Company.

It wasn't long before the boy became the top trapper for the company, a distinction that sent him westward where he mingled with men like Jim Bridger, LeDeux Roubodoux, and Jim Carson. Maxwell became a companion of Carson's and together the pair served as guide and hunter for several of John C. Fremont's expeditions.

Evidence that Maxwell was highly regarded on the frontier and among the Indians was demonstrated during one of Fremont's expeditions that took a small party up the South Platte River to Fort St. Vrain. The remainder of the party had taken a more northerly route.

Maxwell, Fremont, and three others were caught in the open, deep in Arapahoe Country, by about 300 hostile Indians. The five tried to make a dash for timber to set up a defense, but the river prevented their escape. Halting, the party turned to face the approaching Indians. Maxwell recognized the leader as a friend and shouted in Arapahoe dialect: "You're a fool, damn you! Don't you know me?"

The Indians pulled up their horses and conferred with Maxwell. As a result the five members of Fremont's party were taken to the head chief's teepee for a friendly conference. Maxwell was so well regarded that when the five start-



The grist mill built by Lucien Bonaparte Maxwell in 1864 still stands at Cimarron, New Mexico. Daughter Virginia was secretly married on the third floor against her father's wishes.

ed to leave, one of the Indians handed Maxwell a bundle of dried buffalo meat as a gift.

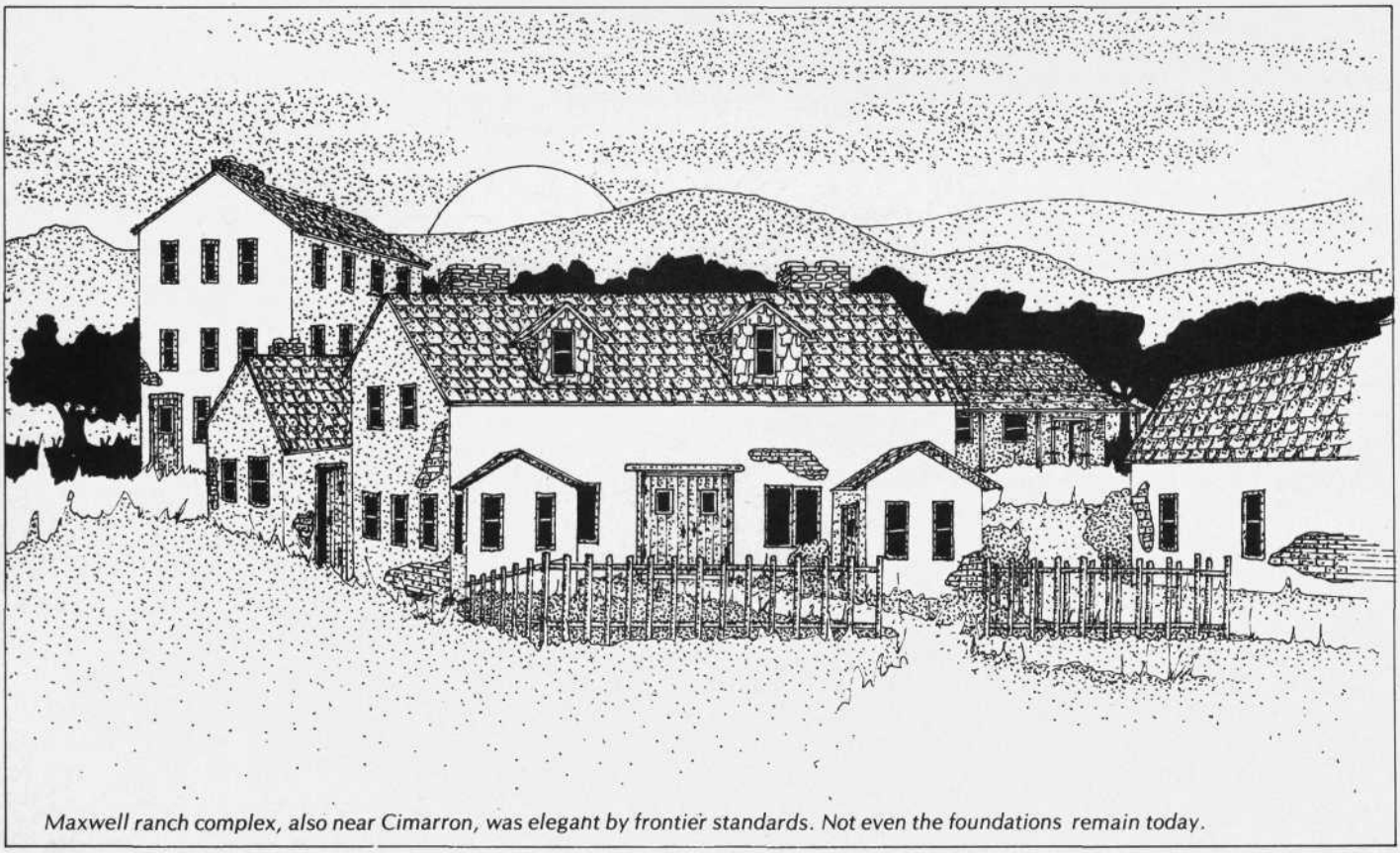
Later, when he settled on the Cimarron River and established the vast Maxwell Ranch operation, protection was provided by friendly Utes and Apaches, despite frequent raids on both Mexican and Anglo-American settlements which encroached upon traditional hunting grounds.

In 1841 Guadalupe Miranda, a citizen of Mexico, and Charles (Carlos) Beaubien, born in eastern Canada, petitioned Mexican Goevernor Manuel Armijo for a land grant, surrounding what is now Cimarron. In their petition they stressed the value of the natural resources and need for "hands who would work and improve them." The lands of New Mexico would be useless to the Department of New Mexico unless reduced to possession and worked, they said.

The petition drew attention to rising crime caused by idleness, and the backward nature of the area. It stated pontifically: "This is the age of progress and the march of the intellect, and they are so rapid that we may expect at a day not too far distant that they will reach us."

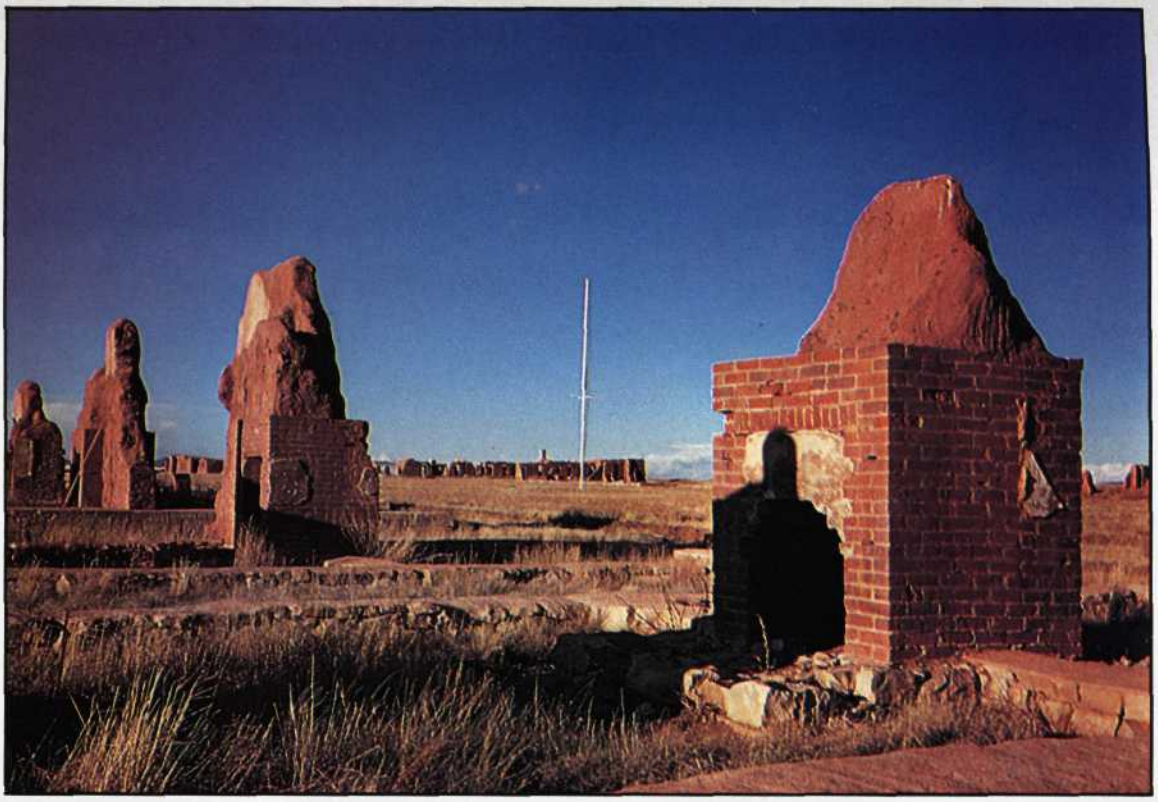
"Idleness, the mother of vice," it went on, "is the cause of the increase of crimes which are daily being committed notwithstanding the severity of laws and their urged executions. The towns are overrun with thieves and murderers. We think it is a difficult task to reform the present generation, accustomed as it is to idleness and hardened in vice."

Governor Armijo acted favorably upon the request, although the boundaries outlined were the kind that would drive a modern surveyor up the wall. The petition described rock markers placed on summits, across valleys, and down a river. There wasn't an inkling among any of the participants as to the size of the grant. At that time Mexican land grants were limited by law to 97,000 acres for each petition.



Maxwell ranch complex, also near Cimarron, was elegant by frontier standards. Not even the foundations remain today.

Illustration by Robert Simpson



Ruins of Fort Union, now a National Monument north of Las Vegas, New Mexico, are not the log structures that Maxwell supplied during his years as a vendor to the troops stationed there. Maxwell's wealth stemmed from this business, not ranching on his 1,700,000 acres.

The Mexican government acquiesced and much later, on June 21, 1860, the U.S. Congress ratified the Miranda and Beaubien grant as presented to it. But when it was discovered that the area covered more than 1,770,000 acres, there was an outcry across the nation. Interior Secretary J. D. Cox, under President Polk, called the transaction a "fraud," but the U.S. Supreme Court upheld the Congress's action as legal and binding.

Lucien Maxwell had walked into the picture as a frontiersman a bit weary of roaming. In Taos he became acquainted with the Beaubien family and fell in love with Luz Beaubien, then 13 years old. The year was 1844 and although Maxwell continued to serve as guide and scout, he was soon to settle in Taos and eventually manage the grant, which led to total ownership for the boss's son-in-law. As a wedding present Beubien had given the young trapper and adventurer from Illinois about 36,000 acres.

Accounts are not in total agreement about Maxwell's role as the "Duke of Cimarron" or as the cattle baron. It is known that about 500 persons lived around the ranch holdings. Some reports say they were treated as peons. Other accounts stress that Maxwell was friendly to Indians and permitted them to live on the land where they had once hunted freely.

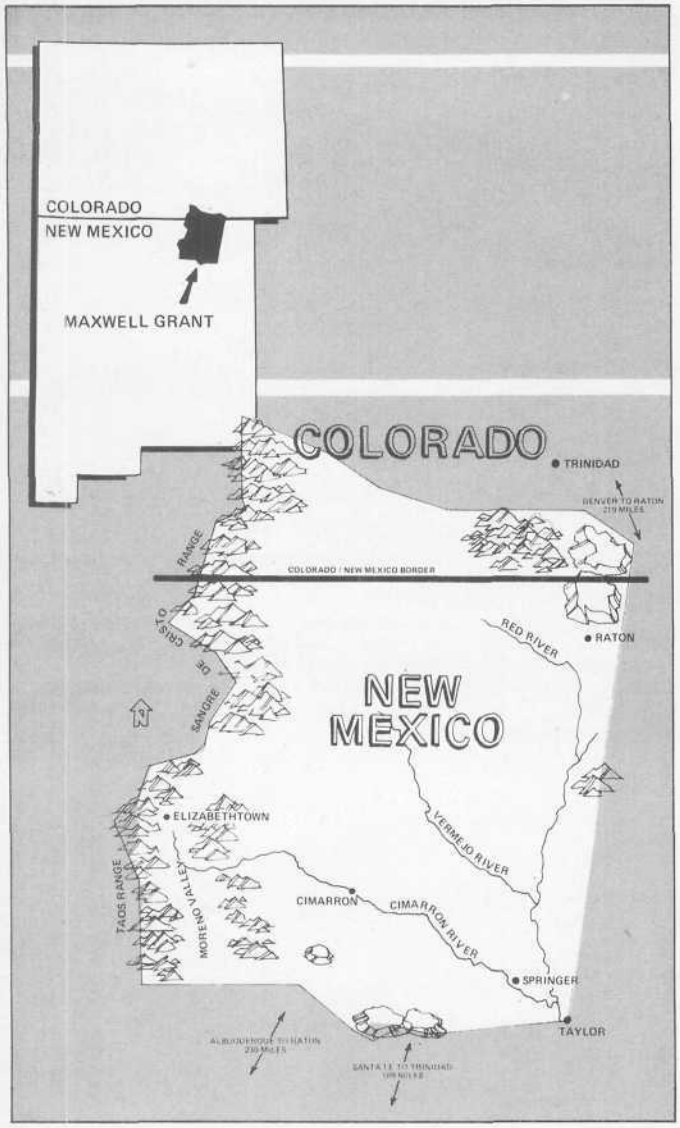
It is known that the large ranch house, covering a modern city block, was modeled somewhat after the Menard mansion where Maxwell had spent some of his early years. Two grand pianos were hauled in from the east over the Santa Fe Trail. By frontier standards it was an elegant complex that attracted Indians, settlers, cowboys, and outlaws. Much later, "Buffalo Bill" Cody organized his Wild West Show at the Maxwell Ranch. The ranch understandably came to be known as the "cowboy center of the West."

Despite the grandeur of his surroundings, Maxwell retained his informal trapper manners. Stocky, 5 feet, 10½-inches tall, fair complexion, blue eyes, and an abundance of curly hair that thinned with the years, he often went about with boots unlaced. Money was kept in a large cowhide trunk without keys. Doors of the ranch house were never locked and after gold was discovered on the Grant, Maxwell's children played with nuggets on the floor as toys.

Descriptions by contemporaries have survived that reveal Maxwell's nature and character. He was described by one as "possessed to an eminent degree of pride of character, strong will, and both morally and physically courageous. He also had his eccentricities."

Someone who knew him later as a landowner had this to say: "He had a disposition to know what was right by everyone, to treat everyone right, his known bravery and manly ways of dealing with everyone gained the respect and confidence of even Indians as well as the white man. But when Maxwell's mind was made up on accomplishing an object there was nothing to prevent him from carrying it out regardless of changes or costs of anything that stood in his way. In fact, no one ever dared to stand in the way of anything he started to accomplish. Maxwell was a forceful personality."

An item in the August, 1913, issue of *Santa Fe Trails* adds this: "An iron frame, iron nerve, a dead shot with a gun, and born leader among men. Nobody registered at Maxwell's. He neither knew or cared who was in his house. There were no locked doors."



On the other hand, some reports describe him as a severe ruler who prospered because of his tie with Beaubien and the fact that the active Santa Fe Trail crossed the Maxwell Grant. Maxwell conducted a flourishing business supplying the military with food, horses, and equipment. At one time there were as many as 40,000 sheep on the ranch.

He and Carson made a couple of livestock drives to California, reaping fortunes from the sale of sheep and cattle. He was the first to recognize cattle raising as an industry. Although he later failed in various investments, Maxwell reaped huge financial rewards during the time Fort Union and the Santa Fe Trail needed livestock and supplies.

He and Luz had nine children. Three died at birth, and only one of the survivors was male. Peter Maxwell did not possess the drive of his father but he went down in history because it was in his house that Billy the Kid was shot by Pat Garrett. The Kid had come for a meal with his girl, Deluvina Maxwell, a Navajo bought from slavery by Lucien Maxwell. She had been captured by Spanish-Americans at the age of nine.

One of the daughters, Virginia, was as headstrong as her father. Maxwell wanted her to marry a wealthy Mexican, but the girl was in love with Capt. A. S. B. Keyes of the U.S. Army. Against her father's wishes she arranged a wedding that took place secretly on he third floor of the grist mill Maxwell had built in 1864. Maxwell was away on business when the ceremony was performed by a Methodist missionary, Rev. Thomas Harwood.

Learning of the event later, Maxwell was furious and threatened Rev. Harwood with everything from a beating to a duel. But he calmed down and gave the young couple a $10,000 wedding present.

As the years passed gold was discovered on the Grant which brought an influx of miners who attempted to stake out claims. By that time Maxwell had acquired all of the 1,770,000 acres. He had also sold parcels, but many of the settlers on his property worked on shares. It was a casual arrangement. When Maxwell needed funds, he collected. There was seldom any trouble unless a robbery was discovered by the landowner. Maxwell could be harsh with those he believed had wronged him but generous in other ways. In gambling with friends at night, he usually returned money to the losers the following morning.

With the migration westward of settlers and the discovery of gold on the Maxwell Grant, controversies broke out everywhere. Newcomers, not realizing that it was privately owned by one who wasn't too certain where the boundaries were, assumed the land was theirs for the claiming. Maxwell by that time was also involved in schemes that began draining his wealth. His investment of $250,000 in the Atlantic and Pacific Railway Company was a total loss for him.

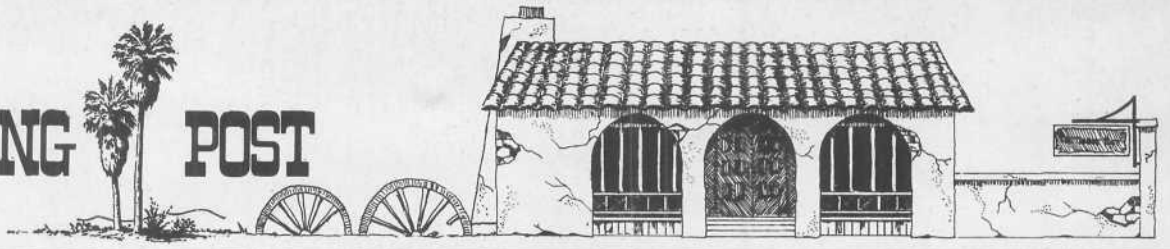
In 1870 he founded the First National Bank of Santa Fe, which issued currency bearing a vignette portrait of Maxwell smoking a cigar. He often signed blank certificates ahead of time so that business could be conducted when he was absent. But banking was not his forte and he sold out. The further he ventured from the outdoors and land, the more he floundered.

In 1869, Maxwell sold almost all of his ranch holdings for a mere $650,000 which was a steal even though he had paid about $3,000 for the entire parcel. Shortly after selling the ranch Maxwell retired to the abandoned army facility at Fort Sumner where he died at the age of 57.

For years he rested in a grave that was virtually unmarked. It was given attention only when the remains of William H. Bonney (Billy the Kid) were buried on the same site. This attracted tourists and led to the placing of a stone marker for Lucien Bonaparte Maxwell.

Maxwell's passing didn't go entirely unnoticed. On July 26, 1875, the Las Vegas (New Mexico) *Gazette* carried this item: "Against Lucien B. Maxwell, no man can say aught, and he died after an active and eventful life, probably without an enemy in the world. Of few words, unassuming and unpretentious, his deeds were the best exponent of the man. He was hospitable, generous and upright, and dispensed large wealth acquired by industry and genius with an open hand to the stranger and the needy."

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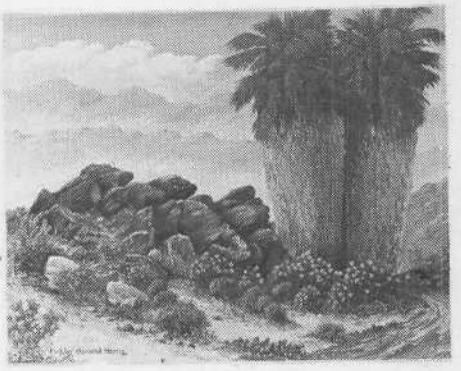
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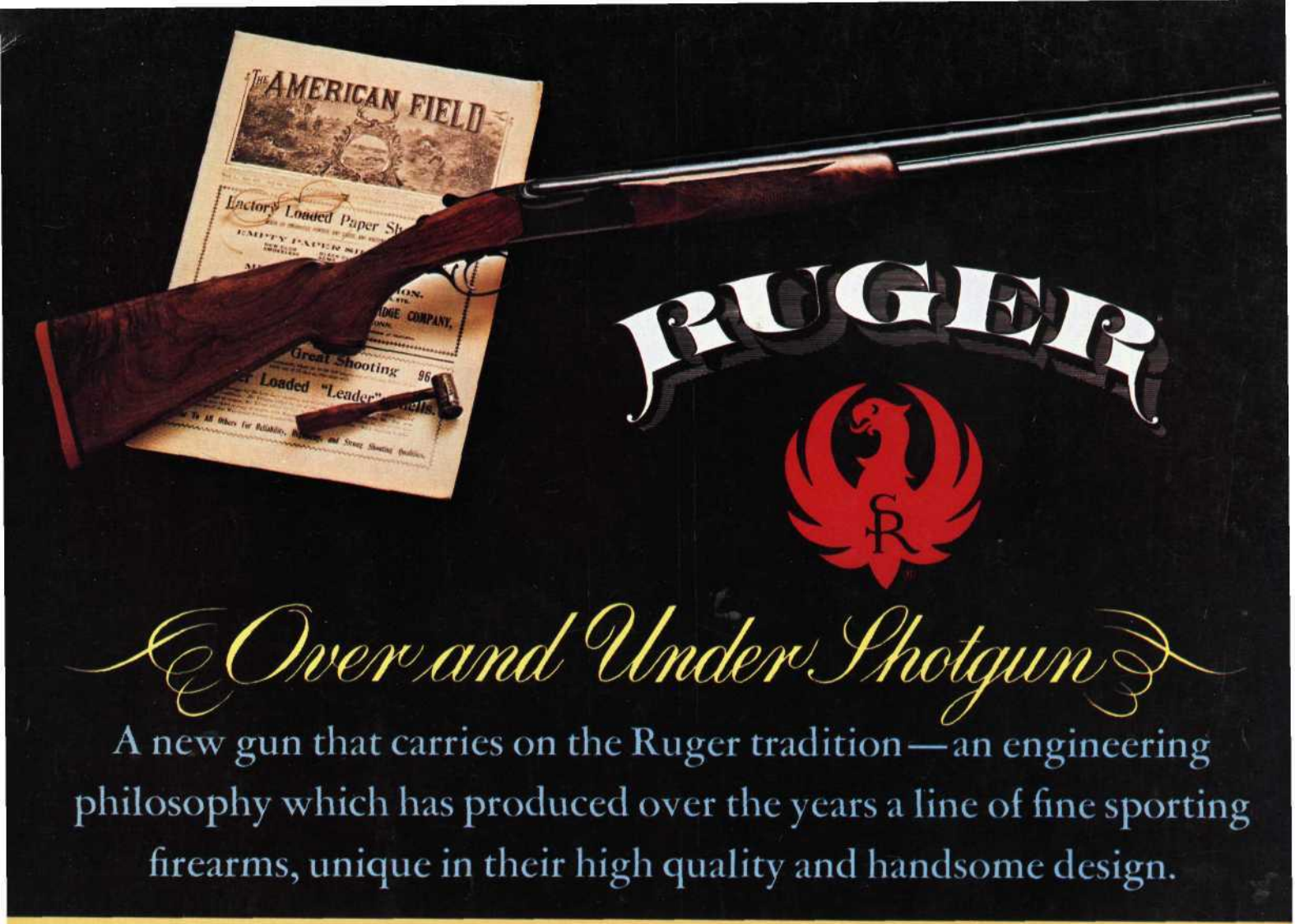
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