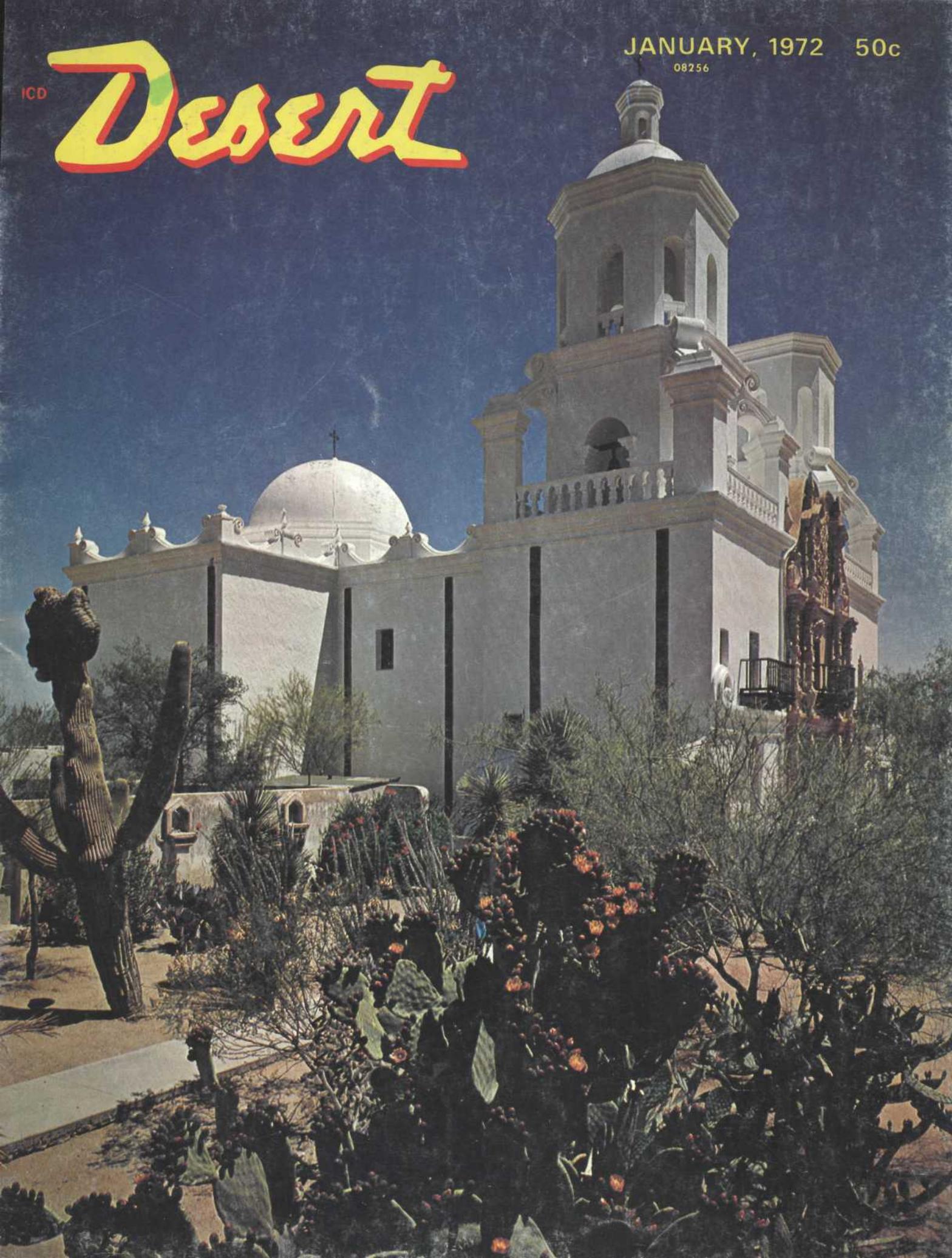


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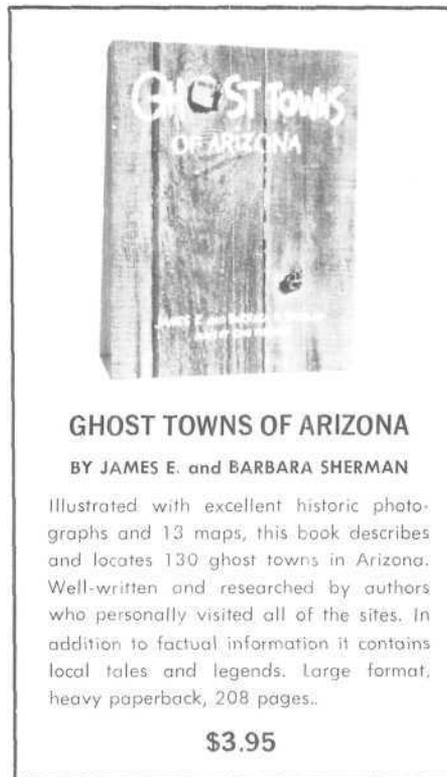
GOLDEN MIRAGES by Philip A. Bailey. Out-of-print for more than 20 years, this was a collector's item. A valuable book for lost mines and buried treasure buffs, it is beautifully written and gives first-hand interviews with old-timers long since passed away. Excellent for research and fascinating for arm-chair readers. Hardcover, illustrated, 353 pages, \$9.95.

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THE WEEKEND GOLD MINER by A. H. Ryan. An electronic physicist "bitten by the gold bug," the author has written a concise and informative book for amateur prospectors telling where and how gold is found and how it is separated and tested, all based on his own practical experience. Paperback, 40 pages, \$1.50.

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LOST MINES & BURIED TREASURES ALONG THE OLD FRONTIER by John D. Mitchell. The second of Mitchell's books on lost mines which was out-of-print for many years is available again. Many of these appeared in *DESERT* Magazine years ago and these issues are no longer available. New readers will want to read these. Contains the original map first published with the book and one pinpointing the areas of lost mines. Mitchell's personal research and investigation has gone into the book. Hardcover, 240 pages, \$7.50.

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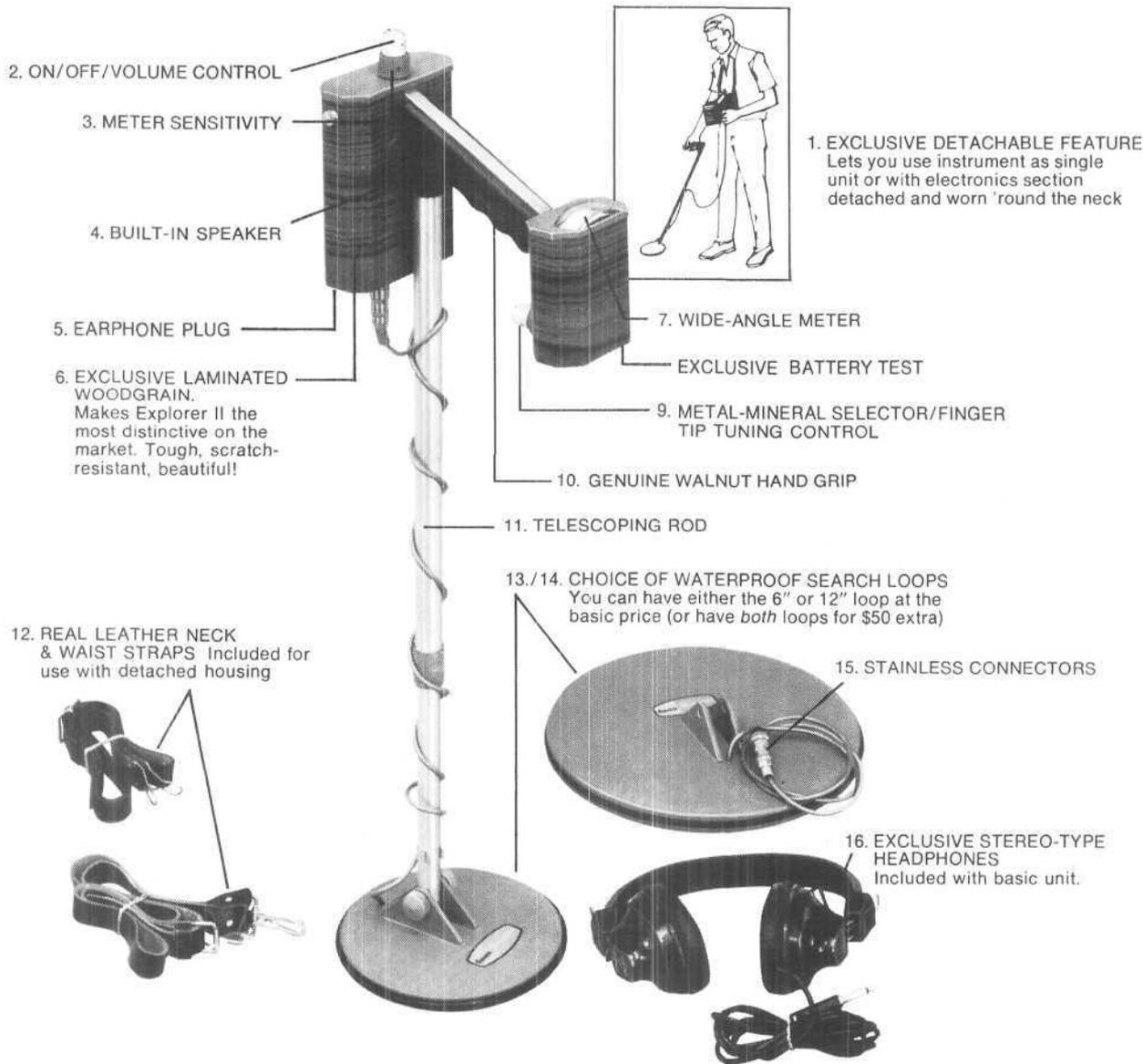
LOST MINES OF THE GREAT SOUTHWEST by John D. Mitchell. The first of Mitchell's lost mine books is now available after having been out of print for years. Reproduced from the original copy and containing 54 articles based on accounts from people Mitchell interviewed. He spent his entire adult life investigating reports and legends of lost mines and treasures of the Southwest. Hardcover, illustrated, 175 pages, \$7.50.

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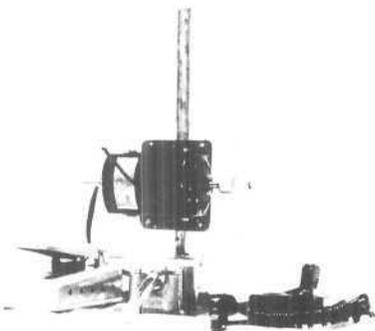
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SEND FOR NEW CATALOG #9



A Peek in the Publisher's Poke

THIS ISSUE concentrates on one of the most interesting portions of the Southwest, southeastern Arizona. Generating from "The Queen of the Desert" Tucson, the area abounds with recreational facilities of every type intermingled with an array of ghost camps and towns, historic forts that played an important part in the "winning" of the West and old missions of the Jesuit days. Truly an area that cannot be covered in one issue. It is our hope that each January we can devote extended editorial coverage on the numerous points of interest to the readers.

While on the subject of Arizona, it appears that one of the most publicized areas, the Superstition Mountains, more specifically the Superstition Wilderness Area, is about to be closed by the U.S. Forest Service to mineral entry. In other words, prospecting for the legendary Lost Dutchman gold mine would be banned. It is the same old story that continues to repeat itself in the West. The wide open spaces attract everyone and when the masses move in, the wide open spaces disappear. The area has become a battleground for conservationists, developers, horsemen, cyclists, nature lovers and, of course, treasure hunters.

All the battles have not been with words. Since 1900 some 40 persons have died from thirst, accidents and gunfights between fueling prospectors. It is the fear of more violence that is prodding the Foresters in their new management plan. They want to halt prospecting altogether in the western half of the 125,000-acre wilderness. Access would be limited to 80 persons at any one time. Daily occupancy for the entire wilderness area would be limited to 300 people. A hearing is scheduled soon which just could create a minor battleground of its own.

Meanwhile, back in California, battle lines are being drawn pro and con regarding the article "Can California Deserts Survive" which appeared in the November issue of DESERT Magazine. The Letters to the Editor page contains some of the mail we have received on this subject. It is hoped that all concerned parties will put their thoughts in writing with the assurance that all correspondence will be forwarded to the Bureau of Land Management for analysis and evaluation.

The West has its share of vandals as is noted in this column from time to time, but a clipping from the East reports an act that is hard to comprehend. The Lions Club in Portland, Maine, constructed a "braille trail" in a suburban park. The trail was a nature path for blind persons, with a wire guide cable and braille plaques to describe the area.

Then vandals slashed the cables and completely defaced the plaques. Fortunately the damage was discovered immediately and the trail closed since a blind person touching the scarred cable and plaques would have cut his hands severely.

How depraved can some people become!

WILLIAM KNYVETT, PUBLISHER
JACK PEPPER, EDITOR

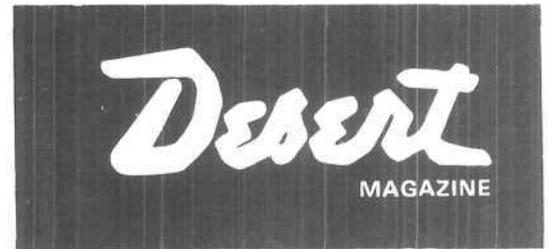
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Volume 35, Number 1 JANUARY, 1972

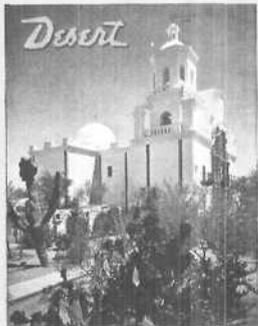
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THE COVER:

Called the "White Dove of the Desert" the most photographed sight in Tucson is the Mission San Xavier del Bac which was started in 1783 and took 14 years to complete. It is one of the most beautiful missions remaining today from the colorful era of the Spanish Jesuits and conquistadores. Ray Manley, Tucson, Arizona, captures the color in his cover photograph.

ELTA SHIVELY, *Executive Secretary*

MARVEL BARRETT, *Circulation Manager*

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by Jack Pepper

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NEVADA

By
the Editors
of *Sunset Books*



Few states offer the variety of attractions the traveler can find in Nevada. The Silver State is known for its legal gambling, but it also offers much more than the neon lights of Las Vegas and Reno.

Ghost towns, old and new mining camps, scenic mountains, vast deserts, cattle country and hunting and fishing are only a few of the many attractions.

The new *Sunset Travel Guide to Nevada* thoroughly explores this region, taking you beyond the usual tourist picture of slot machines and casinos. Whatever kind of travel experience you prefer — bright city lights or lonely ghost towns, luxurious resorts or wilderness areas, alpine lakes or dramatic desert—this guide will help you discover Nevada.

The book divides the state into four sections: Reno, the Comstock and Lake Tahoe; Northern Nevada and the Humboldt Trail; the Central Region's Open Country; and Las Vegas and the Southern Corner. Well illustrated with photographs and maps. Large 8 x 11 format, heavy paperback, 80 pages, \$1.95.

ARIZONA

Photos by
Ray Manley



A native of Arizona and one of the West's outstanding photographers, Ray Manley has selected 44 of his color photos to present a pictorial view of the Grand Canyon State.

Manley first gained recognition for his presentations in *Arizona Highways* and has since expanded his activities to the point of having assignments nearly everywhere in the world. His first love, however, remains in Arizona which he has covered since 1947.

Photographs include subjects such as the Grand Canyon, Canyon de Chelly, Navajoland, Apacheland, historic sites, and closeups of the people of Arizona. An excellent gift to send to the folks back East to show them the color of the West. Large format, heavy paperback with a beautiful four-color map of Arizona. \$1.50.

GHOSTS AND GHOST TOWNS

By
W. J. "Jack" Way



The author has compiled an easily read and factual guide to 26 ghost towns and 10 historical sites in southeastern Arizona which are not found on the standard state highway maps.

The portion of Arizona he describes is one of the earliest sections of America known to white man. From the time the first Spanish explorers entered the territory in 1540 until the late 1800s there has been extensive mining activity in the area.

Spanish conquistadores, marauding Indians, old-time prospectors, cowboys and stage coach robbers have all left their mark and possible valuables in the region he describes. It's a vast country with hidden wealth waiting for the modern-day prospector and treasure hunter.

But, as the author states, "protect the past for those to follow and preserve a little of our American heritage—Happy Haunting!"

Illustrated with photographs and detailed maps. Paperback designed to fit in your glove compartment or in your hip pocket while exploring. Fifty-six pages, \$1.50.

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Fiesta of Gems and Minerals

by Bill Knyvett

ONE OF the largest and most comprehensive shows in the world, the Tucson Gem and Mineral Show this year will host an internationally known collector and research mineralogist.

Dr. Pierre Bariand, curator of the nearly 200-year-old mineral collections of the University of Paris (Sorbonne) will be the special guest lecturer-exhibitor for the "Fiesta of Gems and Minerals" to be held February 11 through 13 in the newly completed Tucson Community Center.

Thousands of visitors from throughout the United States and from foreign countries will attend the show which will have on display hundreds of the finest mineral and precious stone specimens in the world.

Included in the 18th annual show will be mineral exhibits, non-competitive exhibits, selected dealers of mineral and gem materials, lapidary equipment and supplies, jewelry, educational exhibits, demonstrations, lectures and swap tables.

In addition to being professionally produced by experts, the show offers another attraction for collectors who can make valuable field trips while in the area. Tucson lies in the middle of the rich Rocky Mountain mineral belt which extends from Prescott, Arizona, through the Tucson mining area and down into Mexico for approximately 200 miles.

Dr. Bariand will present a lecture, illustrated with a motion picture, on the French School of Mines and the Natural History Museum with its 50,000 specimens and the select Sorbonne collection of 10,000 specimens.

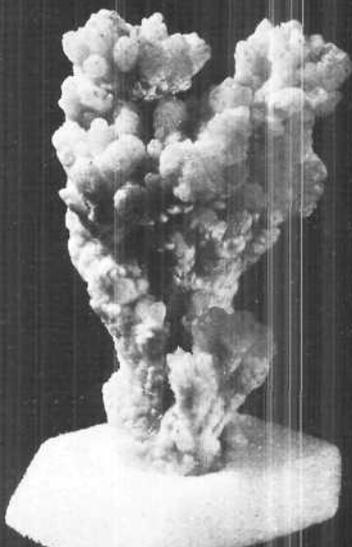
He will also display minerals from Iran which has a geology and mineralogy similar to the American Southwest. Included are minerals such as brilliant red wulfenite, orpiment, calendonite, lavendulane, murdochite, hydrozincite and aurichalcite. Large lazurite (lapis-lazuli) crystals in matrix from Afghanistan will also be displayed by Dr. Bariand, along with suites of rare and brilliantly colored uranium minerals which he personally collected from the Mouana mine, Republic of Gabon, Africa.

The Tucson Gem and Mineral Society was organized in 1946 by a small group of "eager rockhounds." Today it has a membership of 250, plus junior members. The aim of the society is to encourage interest in Earth Sciences.

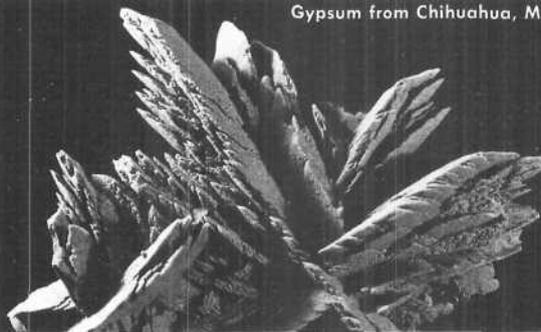
It awards an annual scholarship to an advanced student in the Department of Geosciences, University of Arizona; donates prizes for the annual Southern Arizona Regional Science Fair; yearly donates a number of mineral specimens to the University of Arizona Mineralogical Museum.

Admission to the "Fiesta of Gems and Minerals" is \$1.00 for adults and free for children under 14 accompanied by an adult. There are no camping facilities on the grounds and it is suggested reservations be made early for both motels and campgrounds.

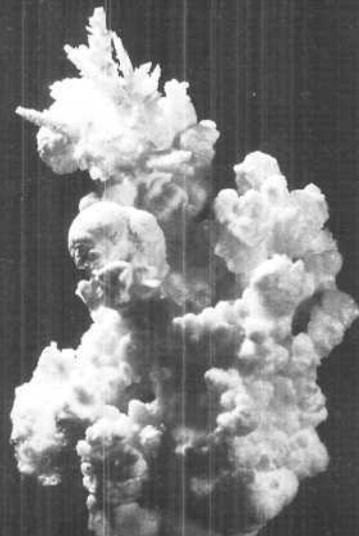
Calcite from Chihuahua, Mexico



Gypsum from Chihuahua, Mexico



Calcite from Pioche, Nevada



All specimens from collection of Bill and Milly Schupp, Tucson, Arizona

Quartz from Madagascar



So Long, Charleston

by Ernie Cowan



AS I STEPPED from my jeep on the banks of Arizona's San Pedro River, I noticed a black object in the sand. It was a beautiful Indian arrowhead made from obsidian.

Strange I would find this Indian relic in a place that was once a busy white man's town, filled with life. But the town is all but gone, and the traces of the white man have all but vanished. Perhaps it was appropriate that I should find this symbol of the land left behind by the original residents of this wilderness.

I was at the ruins of Charleston, located in Arizona's southeasternmost county, Cochise. I had come to say goodbye to this fading ghost town that will soon be lost forever.

In its heyday, Charleston was a thriving place serving as the business center and residential district for the silver mills just across the river. Millville, as the mill site was, called had been founded first, but it wasn't long before Charleston soon sprang up in the flats on the opposite banks of the San Pedro.

Ed Scheiffelin, the man who made the great Tombstone silver strike, was indirectly responsible for the creation of

Adobe walls of crumbling building (opposite page) are photographed by Jim Huie, Escondido, California. Mr. and Mrs. Tom Terry, Tucson, Arizona (below) examine remains of a grave marker. Old photograph of Charleston about 1885 (left) is from files of Arizona Pioneers Historical Society.



six towns along the San Pedro River. These towns would serve as mill locations to process ore from mines in the district.

Charleston was to be the first of these mill towns when in 1878 Scheffelin made arrangements for construction of a stamp mill to process the Tombstone ore. The nearest water to drive the mills was eight miles from Tombstone to this point on the San Pedro. Flow from the river was used to power the huge stamps that would crush the ore from Tombstone.

In 1879 a post office was established at Charleston and during the 1880s the town grew to more than 400. There was the usual assortment of saloons, hotels, general stores and restaurants, a school, church, blacksmith, physician and meat market.

Charleston was officially surveyed on February 1, 1879. Amos W. Stowe, to become a future merchant of Tombstone, claimed 160 acres on the flat across from the mills for the purpose of agriculture and grazing.

Why the town was named Charleston is a fact not apparent in any historic records. Stowe was a generous man and leased lots for a three-year period to anyone who was interested in residing in the town. He charged nothing for the leases.

According to the *Arizona Citizen*, there were about 40 buildings in Charleston by May of 1879. Most were adobe. The town had 26 blocks and had been surveyed with each block having 16 lots. The north-south streets were 80 feet wide and those running east-west were 50 feet wide.

An interesting historic fact of Charleston was how and where timber was acquired for construction of the mills and the town buildings.

According to historic accounts in the *Arizona Citizen*, a sawmill was constructed in the Huachuca Mountains. Richard Gird, a partner with Ed Scheffelin in the mills, purchased a complete sawmill and had it shipped from San Francisco by ship around the tip of Baja California and up the Colorado River to Yuma. From Yuma the equipment was transported by wagon to the Huachuca Mountains and assembled. When completed, the sawmill was 12 miles from Charleston and milling operations began on January 14, 1879.

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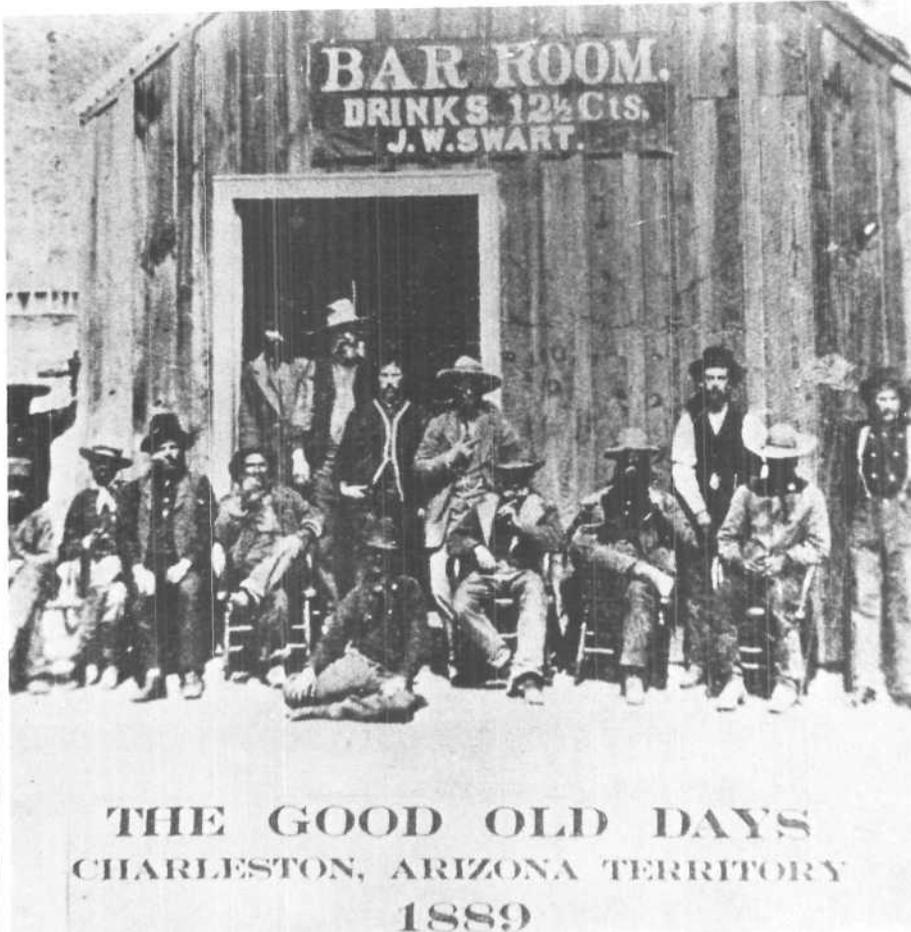
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THE GOOD OLD DAYS CHARLESTON, ARIZONA TERRITORY 1889

Historic photograph of early-day rousers is from collection of the Arizona Pioneers Historical Society.

Today very little is left of Charleston. A few adobe walls stand rounded and ragged against the elements. To visit the ruins, drive the blacktop Charleston Road from Sierra Vista or Tombstone to the railroad tracks beside the San Pedro River. From here you can walk down stream about a half-mile to an overpass. The river is shallow and safe at this point and you must cross to reach the ruins. Before crossing, the ruins of the old mills can be seen on the hill to the northeast.

To really enjoy Charleston you will have to come prepared to let your mind wander. There is little left to tell of the life of this town, but careful examination can turn up small bits of the past for a fertile mind to ponder.

We sat on a dirt pile beside a crumbling adobe wall to enjoy our lunch. Here we found bits of decorative dishware—perhaps abandoned by the owner when she left to seek life somewhere else. Broken bottles, stained deep purple by thousands of days in the sun, litter the ground.

Like any town based on a single economy, Charleston lived and died with mining. When the mines of Tombstone flooded and operations stopped, Charleston quickly faded from the scene. On October 24, 1888, the post office was dis-

continued. After most residents moved out, Mexican squatters took up residence until nature reclaimed the land. Charleston's final blow was during World War II when soldiers from nearby Fort Huachuca used the town as a battle ground to train for war.

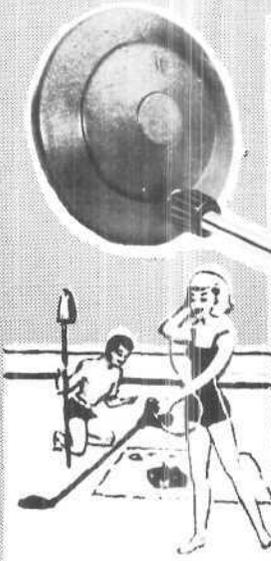
Charleston's history was colorful. It was reputed to be the hangout for many of the Southwest's badmen, including the Clantons, Johnny Ringo, Curly Bill, Johnny-Behind-The-Deuce, and others.

But violence that seemed to thrive in so many western towns was not a serious problem in Charleston. Perhaps it was because Charleston was a work town. With the mills just across the river and the sole economy of the town, there was little to attract much of the trouble common to places like Tombstone.

I had come to say goodbye to Charleston. Now that Charleston has nearly been reclaimed by nature, man again is going to step in and alter the scheme of things.

The Central Arizona Water Project has received Congressional approval and soon a dam will be built on the San Pedro River, down stream from Charleston. In a few years the rising waters behind the new dam will flood what little is left. So long, Charleston! □

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CANNONS OF FORT TEJON

by Chuck Richards

CANNON SMOKE swirled around me—acrid and choking. I coughed and rubbed at my burning eyes. The blasting roar of the cannon was barely echoing out of my head when out of the drifting smoke strode a Yankee lieutenant who planted his blue-uniformed bulk squarely in front of me.

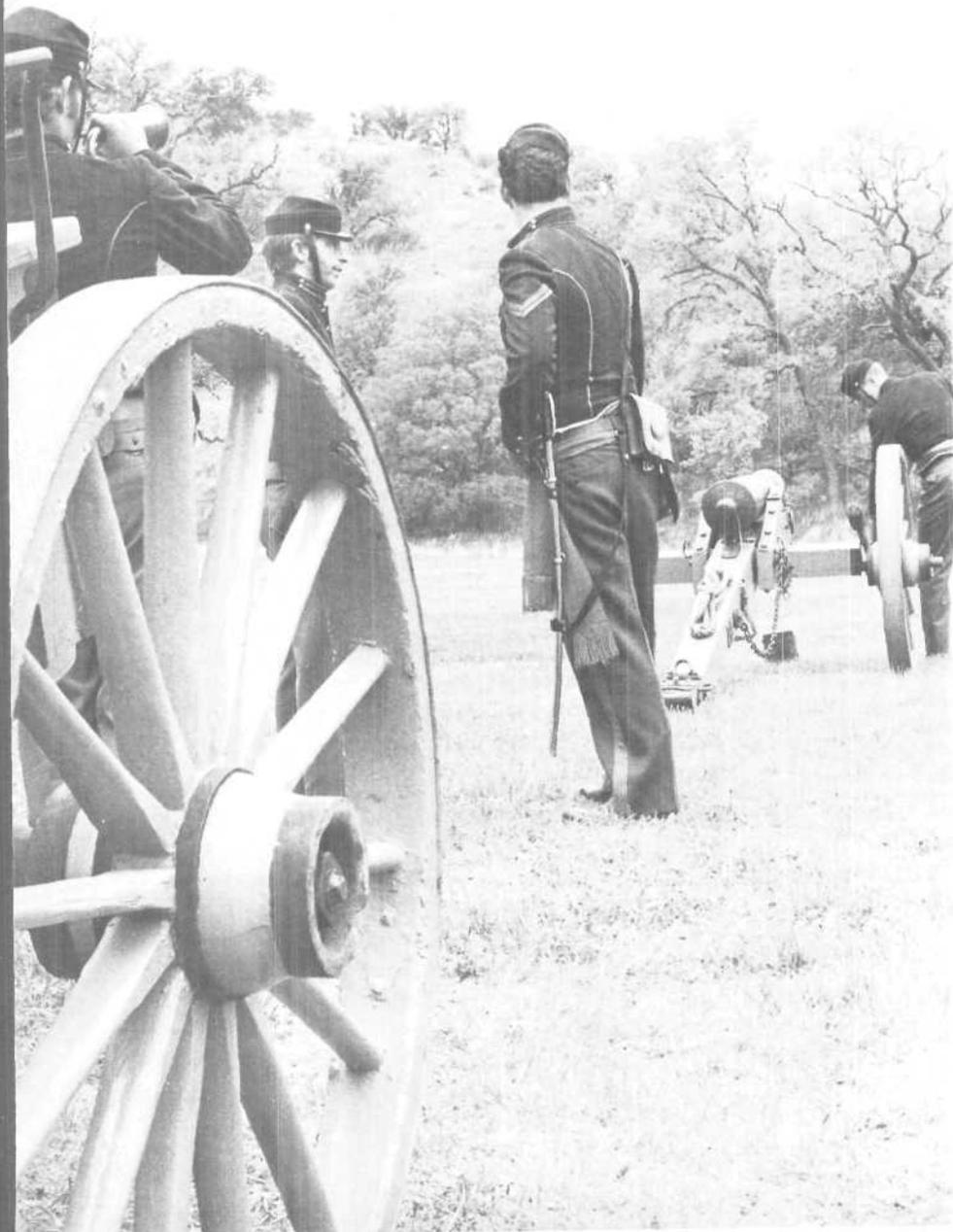
"I've been noticing that belt buckle of yours, son!" he shouted, jabbing a calloused finger towards my waist. I didn't have to look down to understand what he meant. "CSA" it was stamped—short for Confederate States of America. One heck of a time to show off my genealogy. I took a step back and looked for a way out.

"Well hold on a minute now," he ordered, his hand fingering the hammer on his .44 caliber army revolver. "I just figured that since the Rebel ranks are a little sparse today, maybe you'd like to help out and . . ."

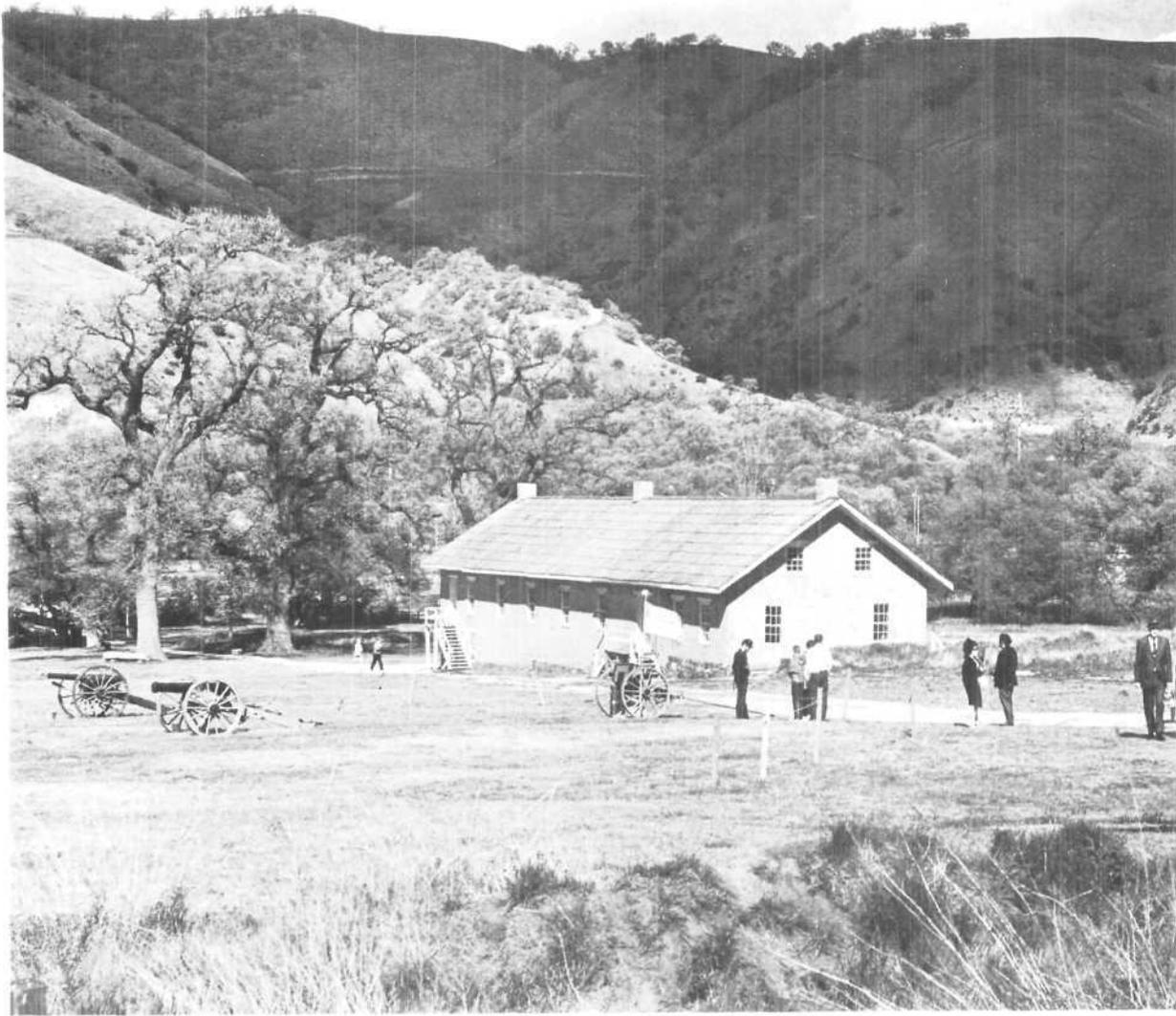
"Sorry, Sarge," I cut him off while verbally demoting him, "but I'm just passing through. Besides I don't reckon I'd be much good anyway. I'm allergic to fear." I took a quick sidestep, passed through the other spectators and disappeared around the side of the officers' quarters.

Here at Fort Tejon State Park, just off of Interstate 5 south of Bakersfield, California's own private Civil War is staged. Once a month, the placid parade ground erupts with all the realism—smoke, blasting cannon, cracking muskets, charging lines—of those long-ago battles. Where once the Army's mustachioed First Dragoons were quartered, and the hump-backed members of the Camel Corps were penned, the serenity of the surrounding mountains is shattered by the booming cannons of California's reactivated "Battery A."

On the third Sunday of each month, except December, January and February, the blue-jacketed volunteers of Battery A take over the Fort from 10:30 A.M. until 3:30 P.M. Down the dusty road roll the cannons and caissons with sabers and equipment jingling and clanging in the morning air. Wheeling around at the parade ground in front of the Fort's adobe buildings, the Boys-in-Blue plant their battle flags and ram home the first charges of the day. The air is soon filled with the crack of their muskets and the blasts of the cannon. The white haze of



Standing before a caisson, a bugler (opposite page) sounds "charge" as others man a 6-pound Napoleon Cannon. View of Fort Tejon (right) as it appears today. Photos by the author.



the black powder smoke drifts upward and the battle is on.

The original Battery A (First California Volunteer Light Artillery) was the state's sole contribution to the Union artillery cause in the Civil War. Since the rather small outfit was so far removed from its home state and replacements, Battery A suffered the ignominious fate of being absorbed by a Pennsylvania battery for the last three years of the war.

Four years ago, through the efforts of Colonel John Hood (USAF Ret.), John Eckerd and Richard Hobbs, Battery A was reborn. Along with other Civil War buffs, they researched the musty past of the old battery. Working from original Army blueprints, they constructed a field gun, started work on their uniforms and began assembling the side arms, equipment and other paraphernalia of the period.

Through the cooperation of the State Park Department, Battery A found a home at Fort Tejon. (The original battery actually had no connection with the Fort.) During their Sunday programs, the members utilize their own cannon as well as

two others belonging to the State Park. With all three blasting away, and accompanied by the cracking of small arms fire, you don't need much action to picture yourself on Henry House Hill at the Battle of Manassas.

By contrast, Fort Tejon's history is one of tranquillity. Where the Army's usual procedure was to establish frontier forts to protect the settlers from the Indians, Fort Tejon had an opposite function. It was established to protect the Indians on nearby San Sebastian Reservation from the land-hungry white men. The Fort was started in 1854 and lingered a decade until it was abandoned in 1864—a result of the budget cuts brought on by the Civil War. The shaggy dragoons stationed there had little to do but ride scouting missions and wait out their time at this lonely outpost. They explored the Owens Valley, made frequent trips south to Los Angeles, guarded the Indians, chased a few bandits and amused themselves by giving concerts and dances.

Highlighting the Fort's tenure was the establishment of the U.S. Camel Corps in 1857. Brought from North

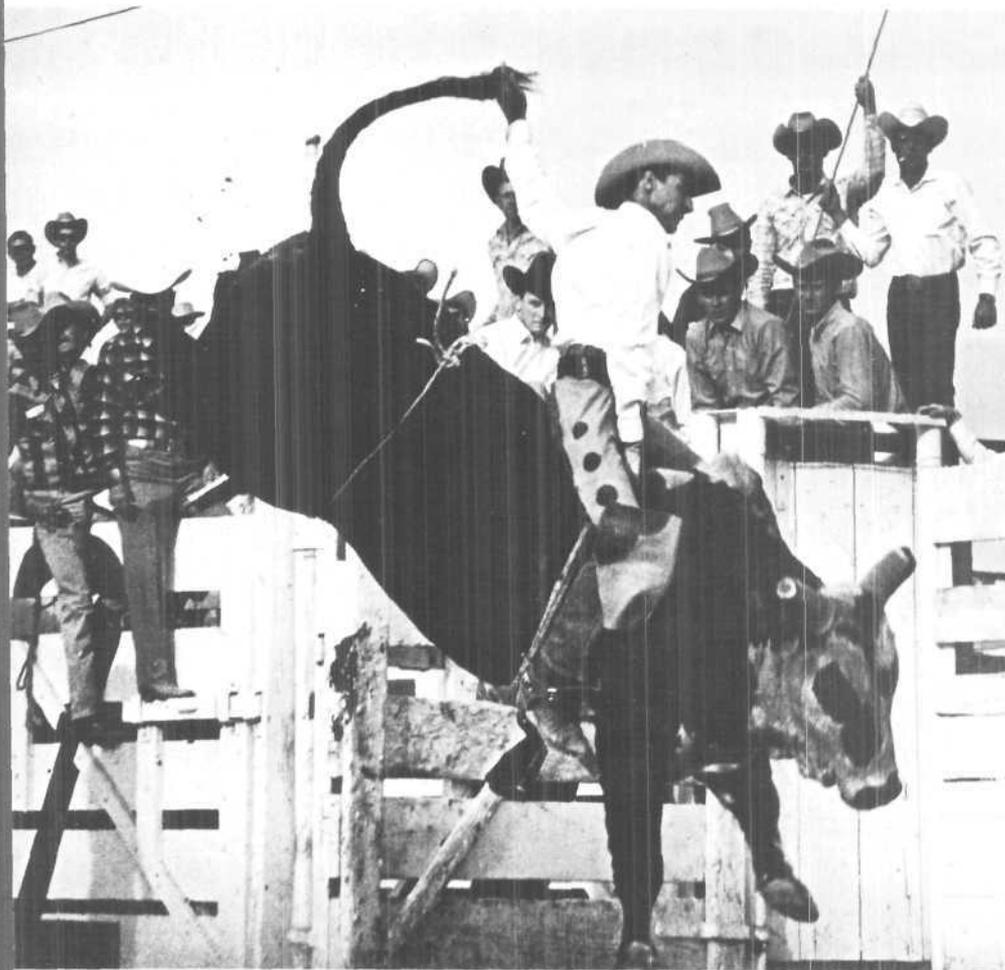
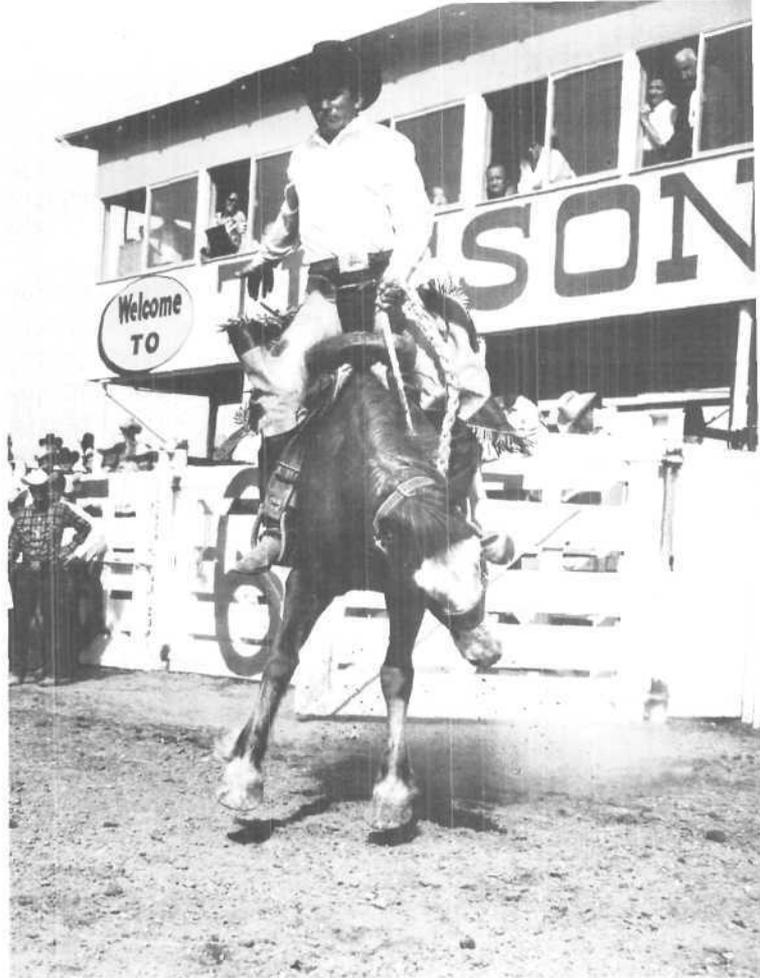
Africa and Turkey, the dromedaries were used to haul supplies in the desert areas of the Southwest. For four years, Fort Tejon played host to a multiplying herd of these rapidly breeding "ships of the desert." But they didn't catch on. The officers didn't like the camel smell, the men didn't like working with them, and the horses fell into a raving fit at the mere sight of one.

In 1861 the Tejon camels were transferred to a larger herd at Camp Drumm (now within Los Angeles). Then, with the tightening of the war budget in 1864, the camels were ordered sold or turned loose to wander in the desert and into American folklore.

Today, partially restored, Fort Tejon is open seven days a week—admission is 25¢ for those over 18. For more information on the third-Sunday action of Battery A, phone 805-248-6692. No overnight camping is available at the park, but ample picnic facilities are located under the shady oaks just across the trickling stream at the entrance. To get here, take the Fort Tejon State Park off-ramp just above Lebec, California. □

La Fiesta de los Vaqueros

by Jack Sheppard



AMONG THE many events held in Tucson, Arizona during the month of February, one of the most exciting is the four-day "La Fiesta de Los Vaqueros" during which the entire community returns to the days of the Old West.

This year will mark the 47th year of the annual event which features the nation's top rodeo professionals plus the country's longest un-mechanized parade which is filmed by national television networks each year.

The Tucson rodeo and western events rank with those staged at Calgary, Cheyenne, Salinas and Denver, all of which are a modern-day version of the original rodeos which started after the Civil War.

This year the "La Fiesta de Los Vaqueros" will be held February 24 through February 27.

When the Texans came home after the war they found their longhorn herds had multiplied unchecked. With southern markets glutted, they started driving their cattle to the north and west. The trail drivers were tough men and independent who lived in the saddle and slept under the open sky. They drove cattle through drought and dust and blizzards, across the wildest country man has pioneered.

When they did hit a trail town, they

The nation's top cowboys earn more money in a minute than most men do in a month. Photos courtesy Tucson Chamber of Commerce.

would blow off steam with a binge of a few days and then hit the trail again. But trail towns were few and far between so for recreation they created an amusement of their own.

When hands from different outfits met along the trail or at roundup time, they challenged each other to riding broncs or roping longhorn steers, often betting their entire month's wages. The prize money was placed in a cowboy's hat with winner take all.

With the advent of railroads and cattle being shipped by freight to the stockyards, the trail hands days were numbered. In their place came towns, bankers, merchants and the resultant civic celebrations—such as the Fourth of July.

Enterprising entrepreneurs invited the cowboys to stage their competitive events in town—the first ones were on the main streets. Later they built grandstands and charged entrance fees to spectators. This was the start of the modern-day rodeo which today is kept alive by public spirited citizens of the West such as those in Tucson. As explained in their Chamber of Commerce annual program, the modern-day rodeo contestant is as independent and proud as his ancestors who rode the plains.

"What draws rational men to the contest where the rules are stacked against the man in favor of the animal? The money perhaps. The competing cowboy can win more in a minute than most men earn in a month. But, he can be killed or crippled for life—and he knows it.

"Why does he do it? He competes partly from boastfulness, partly on a bet and partly from sheer bravery. He chooses

rodeo because he's willing to ride against the odds as long as he can ride in freedom.

"The cowboy's herds today are whizzed down super-highways in big trucks. His cattle are calmed down by tranquilizers and branded in chutes. He may ride the range in a pickup truck and turn on television at night like everybody else.

"But in the arena he's still a cowboy. There you will find him, with sound horse under him, a stout rope in his hand, riding the last frontier—the frontier of rodeo." □

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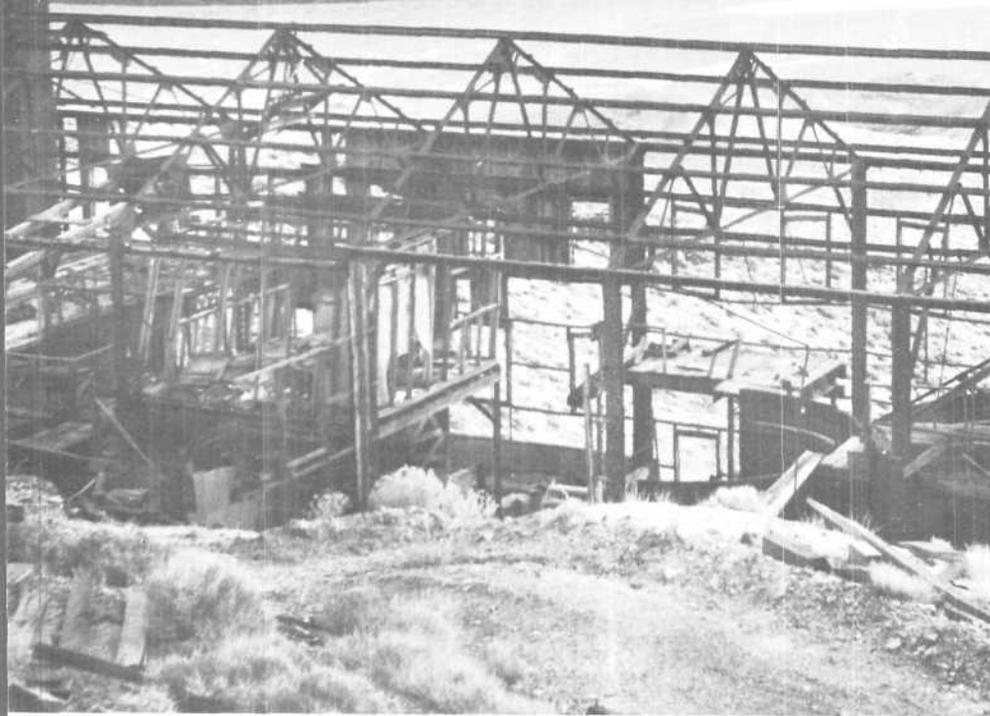


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The salt-encrusted Clayton Valley and Volcano (left) as seen from the Mary Mine. Ruins of Mary Mine company building (below) which once was kitchen, mess hall and "bosses quarters."



BLAIR'S BYGONE DAYS

by Mary Frances Strong

WHEN THE newly-organized Pittsburgh Silver Peak Mining Company took over the operations of the Nevada Drinkwater and Mary Mines in 1906 many changes were scheduled to occur.

Immediate plans included the building of a large stamp mill at Silver Peak and a railroad to run from the mill to a junction with the Tonopah-Goldfield Line—twenty miles north.

Even in the early days, spectators were able to obtain advance news of such developments by devious ways and land prices at Silver Peak soared out of sight. The Mining Company promptly

Photos
by
Jerry Strong



lands" jutted skyward from the lake and seemed to be floating upon a white sea. The view was quite outstanding and certainly "different."

Seated in the comfortable home of Mr. and Mrs. Harvey Humphrey in Silver Peak, I talked with the late Mrs. Anna "Baba" Shirley who had seen the rise and fall of Blair. "It was such a nice town," she remarked. "We had a church, both grammar and high schools, drug-stores, hotels, bank, newspaper, saloons and many other businesses. My father ran the livery stable and hauled heavy freight to the Mary Mine."

"Blair had a very active social life," Mrs. Shirley continued. "There were many dances, parties for any special occasions, gambling, and whist playing. It was a family town with many of the men working in the mines."

Blair's population rose to nearly 2,000 by 1910, while at nearby Silver Peak the count was down to five. A 120-stamp mill, the largest in Nevada, had been built on a hill above town. It operated around the clock to process the low-grade ores.

The mines were high on the steep ridges of the Silver Peak Range—2,200 feet above—almost "straight up" from the mill. Ore was fed to the mill by an ingenious system which had included the diggings of a 3,800-foot tunnel to connect the Mary and Drinkwater Mines. Ore cars delivered their cargo, via the tunnel, to a crusher at the Mary where it was reduced in size and then transported over a 14,000-foot tramway to the mill.

"This is from some of the ore in the Mary Mine," Mrs. Shirley said as she showed me her wedding ring. "It is made from gold my husband obtained from pannings." A look of sadness came into her eyes as she continued, "The Mary was a bad mine and many men died. Death from the dust (silicous) was rapid, sometimes in just three months, but, more often, three to five years. It was very bad. I lost two sons and three brothers to that old Mine."

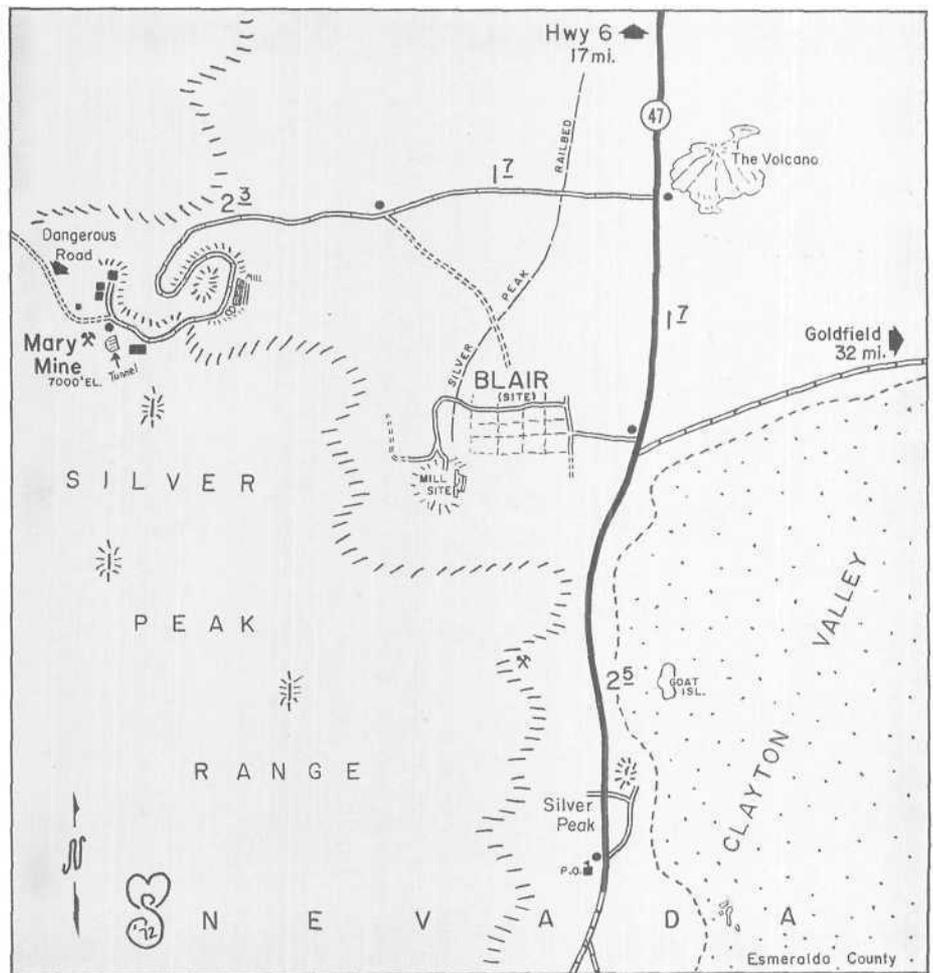
In 1915, after nine years of production that had yielded about \$7,000,000, the ore reserves were believed to have been worked out and mining ceased. The mill

Continued on Page 36

changed its plans and secretly surveyed a townsite two miles north. As a result—the town of Blair was born.

The Silver Peak Railroad was completed in October 1906 and the first train arrived carrying a load of lumber.

Most mining towns "just grewed," but not Blair. "She will be built to last forever," announced her boosters. Streets were laid out in an orderly manner and a sewer system eliminated the need for outhouses. Due to the gentle rise of the land toward the Silver Peak Mountains, every lot had a panoramic view of Clayton Valley and the large, salt-encrusted dry lake covering its floor. Two "is-



*Color photograph of the
"Draperies Chamber" in
Colossal Cave is by Ray Manley,
Tucson, Arizona.*

TREASURES OF COLOSSAL CAVE

by Walter and Phyllis Leonard

ALTHOUGH ARIZONA'S Colossal Cave doesn't have an obedient rock door that opens and shuts on command, you still feel a bit like Ali Baba discovering hidden treasure!

The wrought iron gate at the mouth of the cave clangs shut as you start down the steps into the honey-combed labyrinth below. There is mystery and excitement in these strange surroundings, and you wouldn't be at all surprised to find those 40 thieves from the Arabian Nights just around the corner!

The treasures of this particular cave take many forms. For instance, smoke-blackened ceilings near the entrance give mute testimony to warmth and security offered by the cavern to prehistoric man. Shelter from weather and enemies was precious to animals making homes within the benevolent jaws of Colossal Cave. Local Indians probably followed their

primitive ancestors' example and cashed in now and then on the protection and relative comfort of hidden nooks and crannies.

More in line with Ali Baba's type of riches are caches of bandit loot reputed to be hidden in the mountain's many unexplored passageways. Somewhere in the 39 mile-long maze may be fortunes in gold and silver that were bloodily come by, hastily hidden and then lost forever!

A dramatic robbery in 1884 involved four outlaws who relieved the Southern Pacific Railroad of \$62,000 in gold coin. Then they galloped across the desert, hotly pursued by sheriff and posse.

Leaving their horses outside amid an exchange of gunfire, the criminals fled into Colossal Cave. Unknown to the sheriff, who laid siege to the entrance, they traveled right on through the fantastic fairyland, escaping from an exit on

the other side of the mountain.

Three robbers were subsequently killed, and the fourth went to Yuma's prison for almost 20 years. When released, he went back to Colossal Cave and, like the \$62,000, disappeared. Did he remember where it was and how to get out? Or had the years dimmed his memory and reflexes? Only the cave knows.

A modern Ali Baba won't have any doubt about his El Dorado, however. The riches of beauty and fascination begin when he steps through the gate. It's all very well to know the cave is "located in the Escabrosa Limestone of Mississippian origin 300 million years old" and that its formations were formed by tributaries of an underground river that wore away at the limestone and left stone embroidery for their epitaphs. But the visual delight of ever-changing sculptures seems more important and the effort



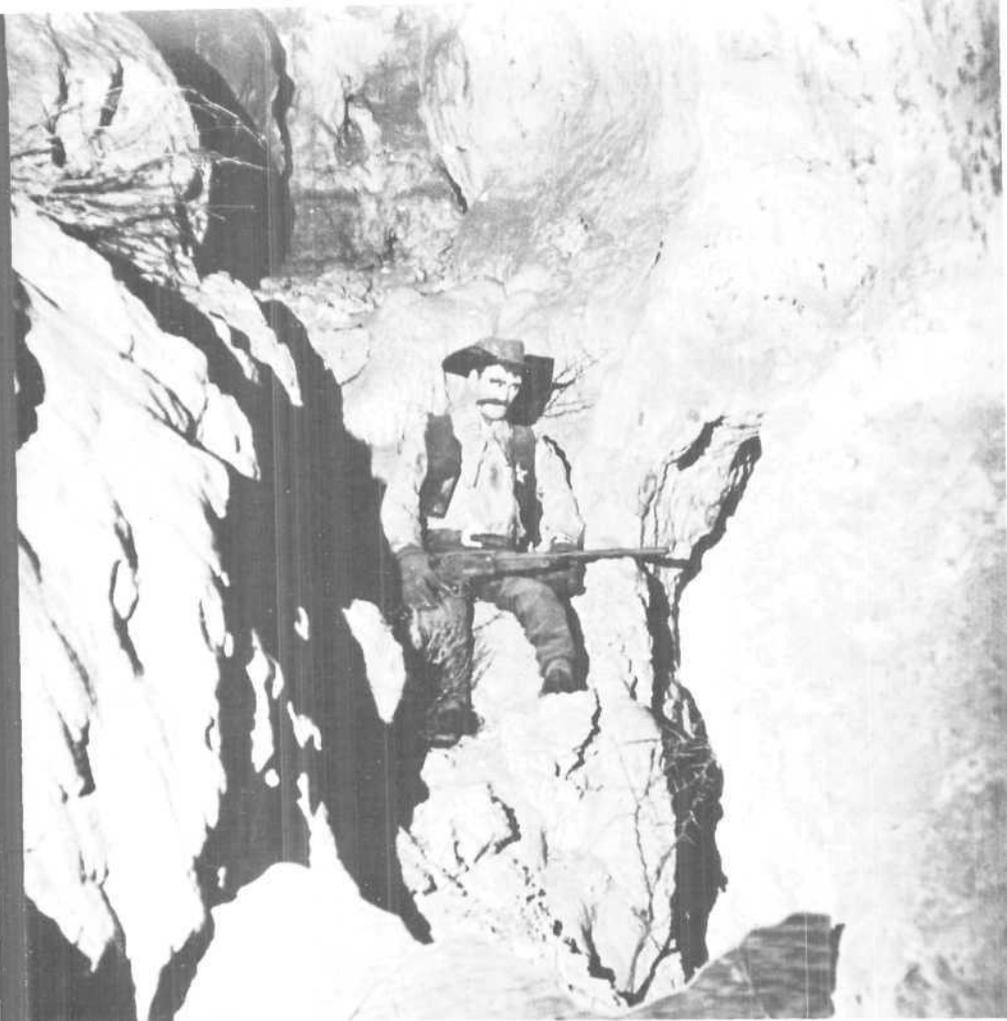
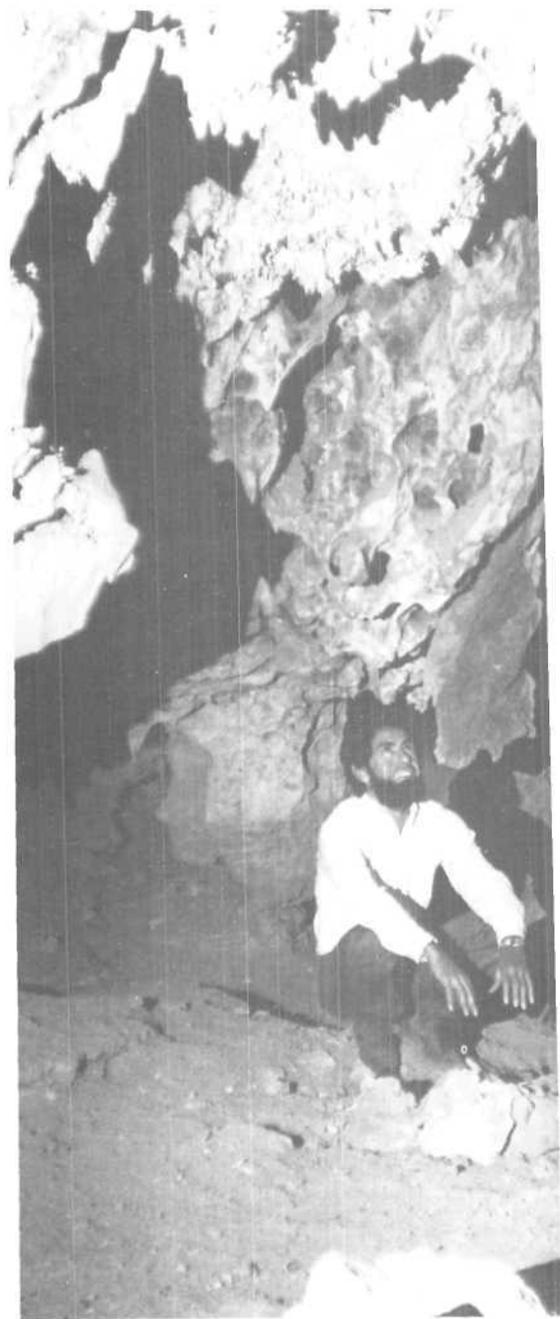


Tableau of "sberiff" waiting to catch the train robbers (left) is one of many such displays in Colossal Cave. Underground river bed (below) provides resting place to study formations. Photos by Walter Leonard.



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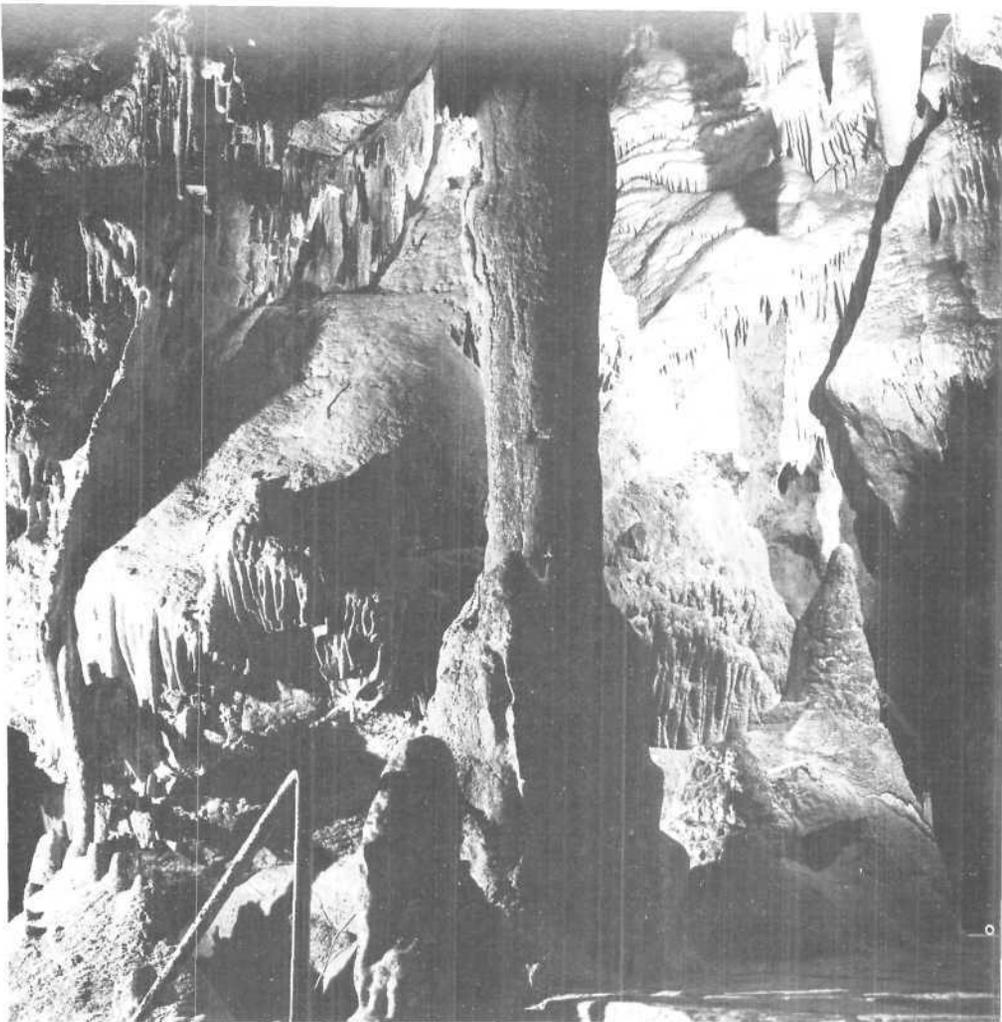
Stalactites (remember "c" for ceiling) and stalagmites (remember "g" for ground) as well as other formations create the Frozen Waterfall, Kingdom of the Elves, Drapery Room, Madonna, Praying Nuns, El Diablo and others. But they could be frozen icicles, melted frosting, dinosaur bones, pipe organs, tree trunks or chunks of candy. A surprising effect results from closely back-lighted rocks. They become translucent like heavy, taffy-colored china held up to the sun.

More than 2,000 light bulbs illuminate flagstone paths meandering through half a mile of chambers and corridors. During the 1930s the Civilian Conservation Corps spent three and one-half years of labor and the government spent half a million dollars making it safe, comfortable and easy for all ages to tour Colossal Cave. There are handrails, guardrails and broad steps. The pleasant year-round temperature of 72 degrees is real underground shirt-sleeve weather.

No plant or animal life exists in the subterranean wonderland. This is because Colossal Cave is possibly the driest one in the world, and it's a safe bet it's the only one that gets vacuumed!

When visitors peer down endless tunnels and into bottomless holes, they should know that the cave has never swallowed a single tourist! For example, Guide Joe Valdez has shepherded 275,000 people through 12,000 tours

The Crystal Room is a graphic example of both stalactites and stalagmites in the subterranean wonderland which once was an underground river. Photo by Ray Manley Tucson, Arizona.



ed at "the thousand natural beauties and and grotesque figures" and "spacious chambers full of the tomb's cold grandeur and death's dread mystery!" With all due respect for her bravery, her melodrama gives modern readers, especially desert dwellers, a good chuckle when she states "the atmosphere was like a scorpion's breath, caused by deposits of bat excrement!" (In any event, although migrating bats do drop by Colossal Cave, there is absolutely no odor. They avoid lighted areas and should be of no concern to anyone.)

So if you're "treasure hunting in the near future, drive 22 miles from Tucson via U.S. 80 to the Vail cutoff or take East Broadway to the Spanish Trail and follow the signs. All roads are paved.

Colossal Cave displays its riches from 8 A.M. to 6 P.M. weekdays and 8 A.M. to 7 P.M. on Sundays and holidays. There's also a well-stocked, cordially staffed souvenir shop. Guided tours costing \$1.50 for adults and 75¢ for young people last approximately 45 minutes.

Don't miss this uniquely beautiful place—after all it isn't everyone who can say "Open Sesame!" to exciting adventure in Arizona! □

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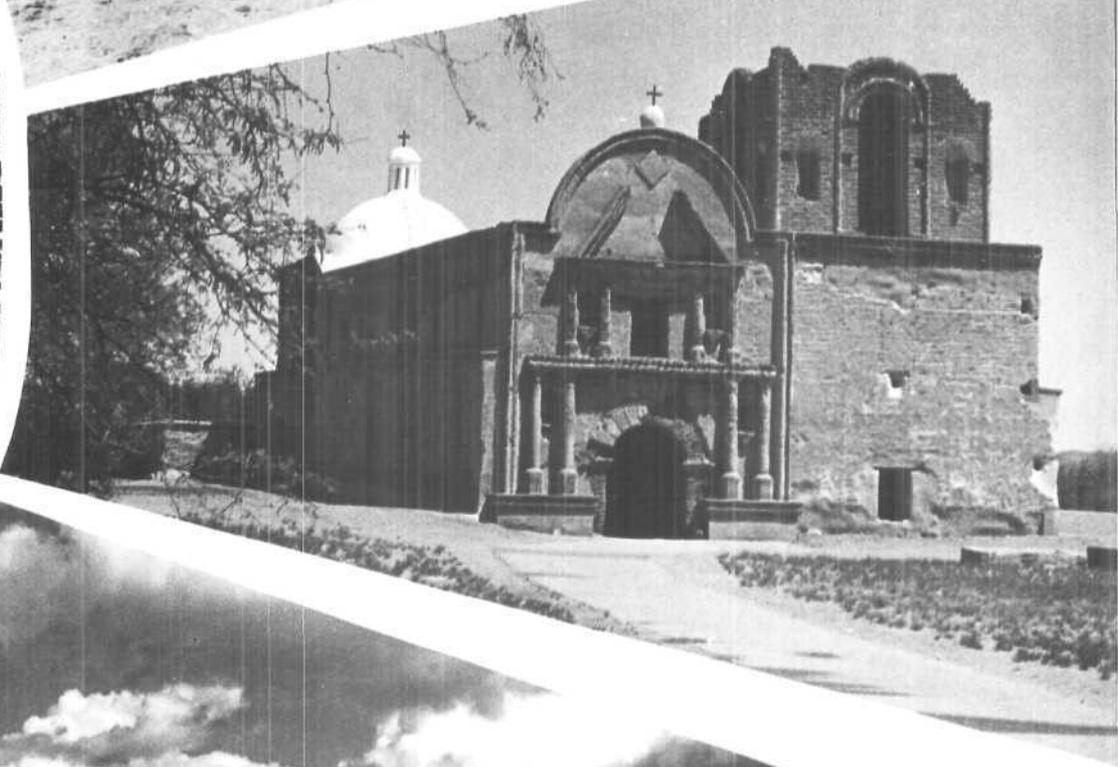
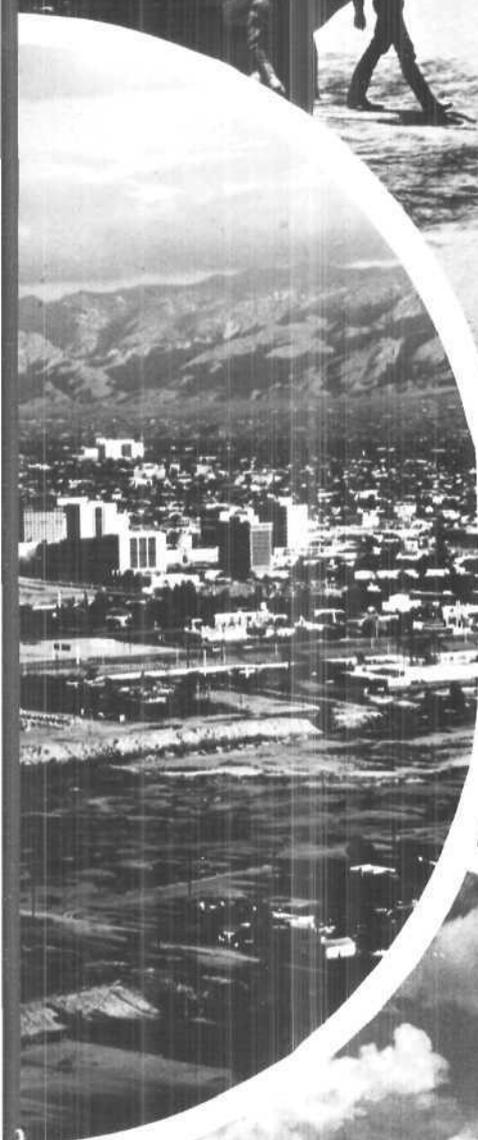
It's a lot different from the tour taken in 1878 by an intrepid female from Ohio. She crawled on all fours through narrow wall fissures to reach the various chambers. By the light of candles she marvel-

TUCSON- NOGALES- TOMBSTONE TOUR

by Jack Pepper

Photo by Gerald Shipley





NESTLED IN the Sonoran Desert at the foot of the Santa Catalina Mountains and shadowed by historic Sentinel peak, is a modern community whose cultures span a period of 1,500 years and whose government has flourished under the flags of four nations.

Tucson, Arizona was once nicknamed "The Old Pueblo", but today it has a population of nearly 350,000 of which more than a quarter of a million have become residents in the past 15 years.

Despite this tremendous growth with its resultant industry and modern-day economy, Tucson has not forgotten its prehistoric past and has retained the charm, mystery and culture of the Old Southwest.

It is also at the apex of a travel and recreation triangle which encompasses some of the most spectacular scenery in the West, including old Spanish missions, ghost towns, national and state parks, recreational areas, operative copper mines, Old Mexico and Tombstone—"the town too tough to die."

It is called the "T.N.T. Tour", meaning Tucson, Nogales and Tombstone. The passenger-car trip can be made in one day

or a week, depending upon how long you want to stay at the hundreds of points of interest along the way.

Before going on the triangle tour, however, it is suggested you spend at least one or two days in Tucson and do the "Circle Drive" which covers the major modern and historical points of interest within the city. A detailed map of this drive, plus other informative brochures are available at the Chamber of Commerce, 420 West Congress Street.

While in the Chamber of Commerce you will also be supplied with literature presenting the modern side of the community's ledger. First they will tell you about the newly completed \$17.6 million Community Center and Exhibition Hall, location of which is a graphic example of how they blend the old with the new. The Center is within easy walking distance of the well-preserved buildings of "Old Tucson" including the home of the Old Adobe Patio and Restaurant and gift shops built in 1868.

Unlike many cities which have torn down and discarded their older buildings and customs in a pell-mell race to "keep the pace," Tucson is proud of and has pre-



served its Indian and Spanish heritage.

It has dog racing, is the spring training camp for the Cleveland Indians, hosts the annual \$100,000 Tucson Open Golf Classic, military bases, a symphony orchestra, art forum, opera workshop, legitimate theaters, more than a dozen art galleries and features some of the finest cuisine in the world, plus industry, schools, homes, *ad infinitum*.

Located in the surrounding rolling hills and colorful desert country are more than two dozen ranch resorts which offer modern conveniences combined with the casual Western style living. In addition to swimming pools and tennis courts and planned activities, they feature cookouts, trail rides, and Western roundups in keeping with the "Old West."

Many of the ranches also feature bird watching, such as Howard Miller's Wild Horse Ranch Club which has more than 200 species within two miles of the ranch, plus a variety of nature trails

The Spanish word *amigos* means "friends" and in honor of their Spanish heritage and as a goodwill gesture toward their Mexican neighbors, Tucson merchants say "Welcome Amigos." The tourist-oriented Mexican community of Nogales is 66 miles south of Tucson and is reached on one leg of the T.N.T. tour through verdant ranch country of the Santa Cruz Valley.

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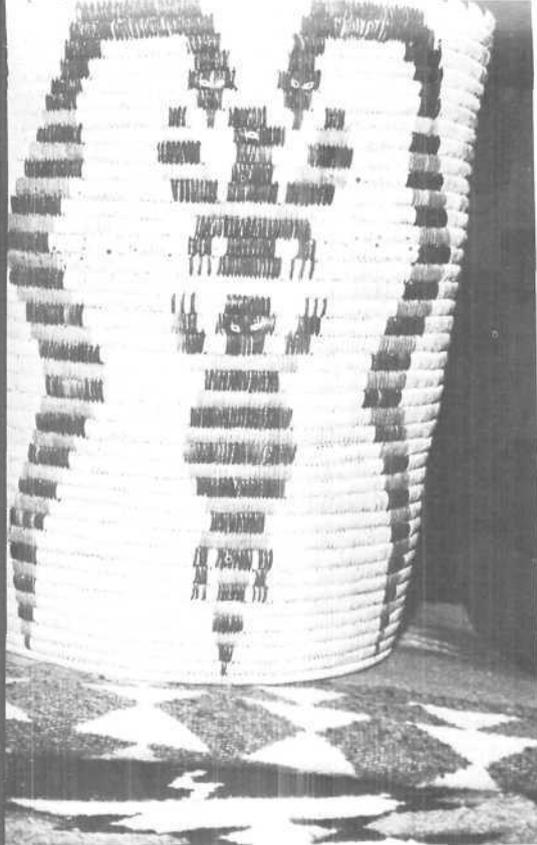
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These two beautiful baskets are typical of the fine work of the Papago Indians. Baskets and other crafts may be purchased on the Papago Reservation.

Valley, however, were neither Indians, Spaniards or Anglo-Americans. They were prehistoric people who hunted animals such as the tapir and mammoth 1,500 years ago when the valley was probably semi-tropic. Evidence of this primitive man is on display in the Arizona State Museum at the University of Arizona at Tucson.

The next residents were Pima and Papago Indians whose descendants still live and farm in the areas near those of their ancestors. Although the first white man believed to travel up the Santa Cruz Valley was Fray Marcos de Niza, an Italian missionary in the service of Spain, in 1539, it was well over a century later (about 1691) that the first missions were established by the intrepid Jesuit missionary, Father Eusebio Francisco Kino. Among the valley missions he founded were Quebavi, Tumacacori and San Xavier del Bac. The latter is one of the most famous Jesuit missions and is featured on this month's cover.

In 1776, the same year the Colonies were revolting against England, the Spanish established a *presidio* (garrison) in the area of what is today Tucson. The Spanish flag was last seen when the Mexicans established their independence and, in turn, their flag was removed when the United States purchased the territory under the Gadsden Purchase of 1853.

Old Glory was temporarily removed

for one year in 1861 when Tucson was occupied by the Confederacy. Today the country is firmly under the control of the United States government—and the polyglot citizens of Tucson.

Evidence of this blending of the old and the new cultures is apparent when you take the Circle Drive through Tucson. Before starting the tour, it is suggested you drive up historic Sentinel Peak which offers a spectacular view of the community below.

Once used by both Indians and white men as a lookout point, it is currently called "A" Mountain because of the giant letter "A" which is restored each year by students of the University of Arizona—the white man's hieroglyphic.

As designated in the Circle Tour, the first stop should be the University of Arizona campus whose green lawns, flower gardens, pine and palm trees create a cool oasis for the more than 25,000 students (many from foreign countries) who attend the many UA colleges.

Always open to the public, the campus facilities for visitors provide historic, archeological, ethnic and sociological background so you can have a greater understanding of the Tucson area. Included are the Mineral Museum, Arizona State Museum, University Library, Museum of Art, Steward Observatory and the Solar Energy Laboratory.

For rockhounds, the Mineral Museum, located in the College of Mines geology building, houses one of the world's finest collections of rock and mineral specimens. (See article on Tucson's "Fiesta of Gems" in this issue.) The Arizona State Museum features Southwestern Indian culture and crafts and shows how the University developed the science of dating prehistoric sites through the study of tree rings.

Adjacent to the University of Arizona is the building housing the Arizona Pioneers' Historical Society which was founded in 1884 and today is the official state historical society for Arizona. In addition to the museum, it has the largest collection of books and research material on the entire West with more than 35,000 volumes and maps. Other projects of the Society in-

Continued on Page 34

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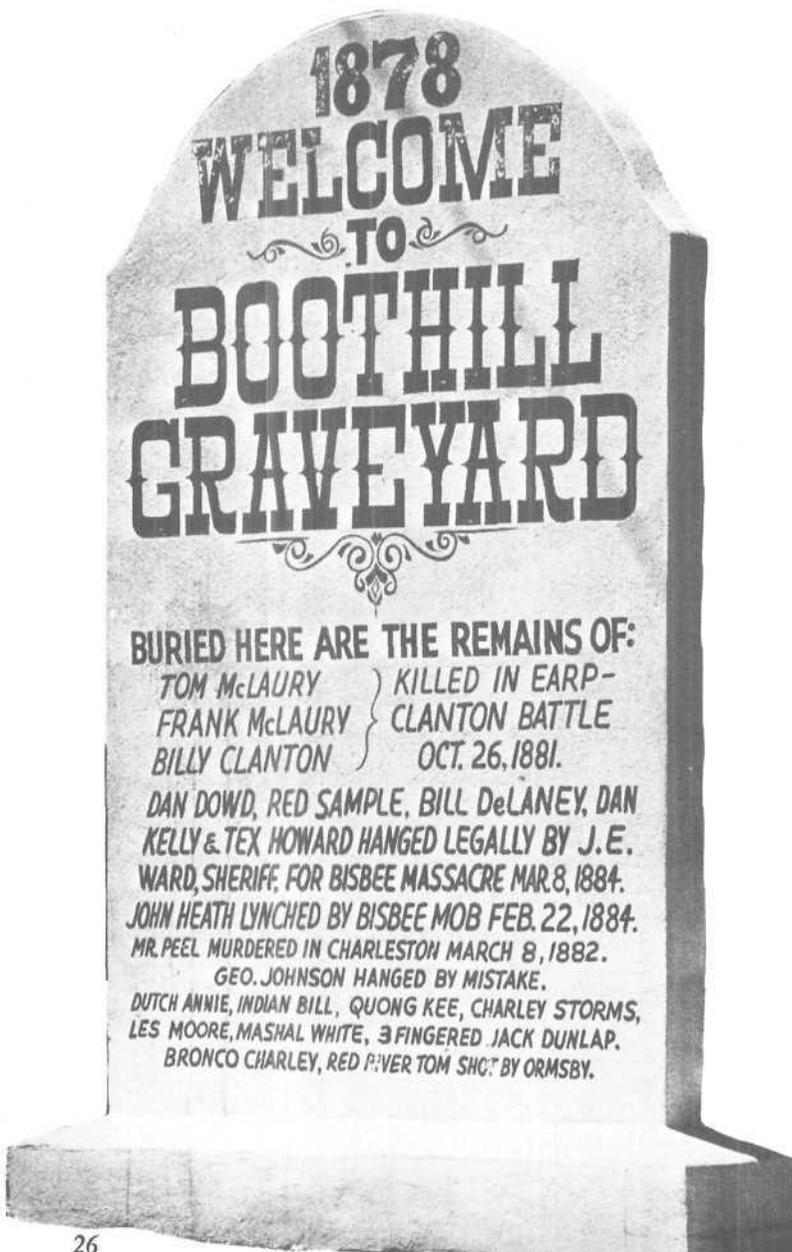
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TIMELESS TOMBSTONE

by Ernie Cowan



TOMBSTONE, ARIZONA, "the town too tough to die!" That often-used phrase may be just as true today as it was in the past when the community lived, nearly died, but survived many times to become a focus of western history.

Monument at entrance to Boothill honors some of the leading citizens of Tombstone. Photo by Joe Swan, San Jose, California. Color photo of infamous O.K. Corral on opposite page is by the author, Ernie Cowan, Escondido, California.

In 1877 the Arizona Territory was part of a great wilderness ruled by Apache Indians who roamed the vast land around islands of civilization known as army forts. It was then prospector Ed Schieffelin waved farewell to soldier-friends at newly established Camp Huachuca and set out to make his strike. The soldiers warned him he shouldn't be going alone. If he did, the only thing he was likely to find would be his tombstone.

Schieffelin found silver and, remembering the words of the soldiers, named his claim the "Tombstone." His find was to open the flood gates and soon other strikes followed with mines like the Lucky Cuss, Mountain Maid, Good-enough and the Tough Nut.

The new strike brought hordes of miners and in 1878 a town was laid out. It was named Tombstone, a name that would live in history as one of the wildest of the west.

Tombstone soon built up and tents were replaced by wooden shacks and adobe buildings. Saloons and brothels were many. Churches and jails were few. There were reportedly more than 150 licensed liquor establishments.



O.K. CORRAL

O.K.
CORRAL

La

O.K. CORRAL LEGEND

Timeless Tombstone

Tombstone earned the reputation as "the town too tough to die" after repeated calamities struck the town. There were gunfights, fires, an earthquake, floods and depression. But each time the town was built again. Today Tombstone has about 1,200 residents. At its peak there were more than 15,000 living in this boom town.

The tourist is the ruler today and roams the many miles of wilderness as the Apache once did. He explores the streets of Tombstone, seeking a glimpse of the past by reliving the famous gunfight of OK Corral, or mentally shaking hands with Wyatt Earp, sharing a drink with Doc Holliday, or even out-drawing Johnny Ringo.

It is the tourist and his dollar that keeps Tombstone alive. Like many of the old mining towns, Tombstone clings to life only because of a colorful past that all want to see. But things may soon change. There is a bright economic light on the horizon, one that could shake the ghosts from the dusty corners of this historic town and pump new life and new money into the economy.

They say to find out what is happening in a small town, the best person to ask is the local newspaper editor. Tombstone's newspaper is the famous *Tombstone Epitaph*, itself an historic keystone of the Southwest.

Editor Wayne Winters greeted us with reluctance when we introduced ourselves.

"You'll have to ask your questeions while I work," he said. "You know how it is on a weekly newspaper at deadline."

After a few minutes of questions, and some questions from him, he invited us into his office.

"Sorry I was a little standoffish," he said, "But we get all kinds of folks in here posing as all kinds of things. Now that I know you are on the level, what can I do for you?"

The *Tombstone Epitaph* is published today in a building built in 1880 as a mining exchange hall. It then became a dance hall before becoming home of the *Epitaph*.

Tombstone had at least 10 newspapers in its colorful history, but only the *Epi-*



taph survived. Now it serves as the weekly voice of the community, laced with current news for the residents and bits of historic highlights to excite the visitor. The *Epitaph* is the oldest continuously published newspaper in Arizona today.

Tombstone enjoys two main tourist seasons. Warm winters bring many from the cold eastern states, and mild summers at Tombstone's 4,500-foot elevation attract families with children.

Winters said about 80 percent of Tombstone's economy is based on tourism, but recent events affecting the silver market could mean a revival of mining as an important economic factor.

In November, 1970, the Federal Government officially quit the silver business. The government's break with silver came with the Treasury Department's final sale of the metal on the private market. Public silver prices are no longer controlled by the government, but are now subject to the simple laws of supply and demand.

At first, speculation was that silver

In the early days the Bird Cage Theater (above) was one of the most plush spots in the Southwest. Tombstone's fire station (right) serves the same purpose today as it did when founded in 1880. Photos by author.

prices would shoot to \$7.00 or \$8.00 an ounce. Under government control the price had been \$1.60 an ounce.

But Winters—himself a miner—and others who know mining feel that a more realistic figure for silver in the next year or so will be \$2.00 to \$3.00 an ounce.

"We couldn't operate mines at \$1.60 an ounce," Winters said. "But at \$2.00 or more we can begin to operate at a profit."

Recent discoveries of new ore deposits of copper, silver and gold have also brightened that glow on the horizon.

As a result of these finds and the predicted price hikes, a new 500-ton silver mill is under construction southwest of Tombstone.

These new mining operations could reopen an industry that made Tombstone what it is. More than \$30 million in silver and gold were pulled from the earth at Tombstone during a short seven-year period of active mining.

The problem that ended mining in Tombstone first appeared in 1881 when water began seeping into the Sulphuret workings at a level of about 500 feet. Few paid any attention to the matter. A year later, however, water began flowing into the other mines of the district and large volume pumps had to be installed

to keep the water down so mining could continue.

Fire, the plague of the western town, struck a fatal blow in May, 1886. The largest pumpworks, those of the Grand Central Mine, were ablaze and there was no chance to save it. The fire drastically cut the pumping capacity and soon water was again rising in the maze of underground tunnels. Mining had to be abandoned.

According to accounts in the *Tombstone Epitaph*, thousands soon departed to seek their fortune in other places. Although fire had destroyed much before, the people of Tombstone had always managed to rebuild because the main source of economy—mining—was still in operation.

In 1881 and again a year later, fires raced through the town, almost destroying it. A barrel of whiskey exploded at the Arcade Saloon in 1881 and started a fire that destroyed over 70 stores, restaurants and saloons. The estimated loss was nearly \$200,000.

It was this same year the famous gunfight of OK Corral occurred. This 30-second blazing gun battle between Wyatt Earp, his two brothers, Doc Holliday and the Clanton gang is a major part of western lore.

Since history is such a big part of Tombstone's makeup, efforts are also being pushed by some residents to bring more tourist dollars into the community. But this is a much more controversial issue than mining.

Last year, the city proposed that all utility lines be moved underground along Tombstone's main street, known as Allen Street. Purpose of the project was to restore the street to its original condition and make it historically accurate. The overhead web of telephone and power lines makes it difficult to capture the town's historic flavor in photographs.

Cost of the project, according to the *Epitaph*, was \$60,000 with the property owners along Allen Street paying the cost of hooking up to the underground lines.

The town split over the issue. Some of the community's retired people didn't want to spend money on such a project. Others wanted to spend the money and even go farther by closing Allen Street to traffic and turning it back into a dirt street. Special products are now available to seal a dirt street so it looks like dirt, but is durable like blacktop.

Harold Love, President of Historic Tombstone Adventures, a Detroit based group formed to preserve and restore many of the town's landmarks, launched a drive to help finance the Allen Street project.

Love negotiated with the Jim Beam Company for a special commemorative bottle to be made. Each bottle sold would bring 50 cents to the community. It is anticipated that about \$24,000 could be

Continued on Page 37



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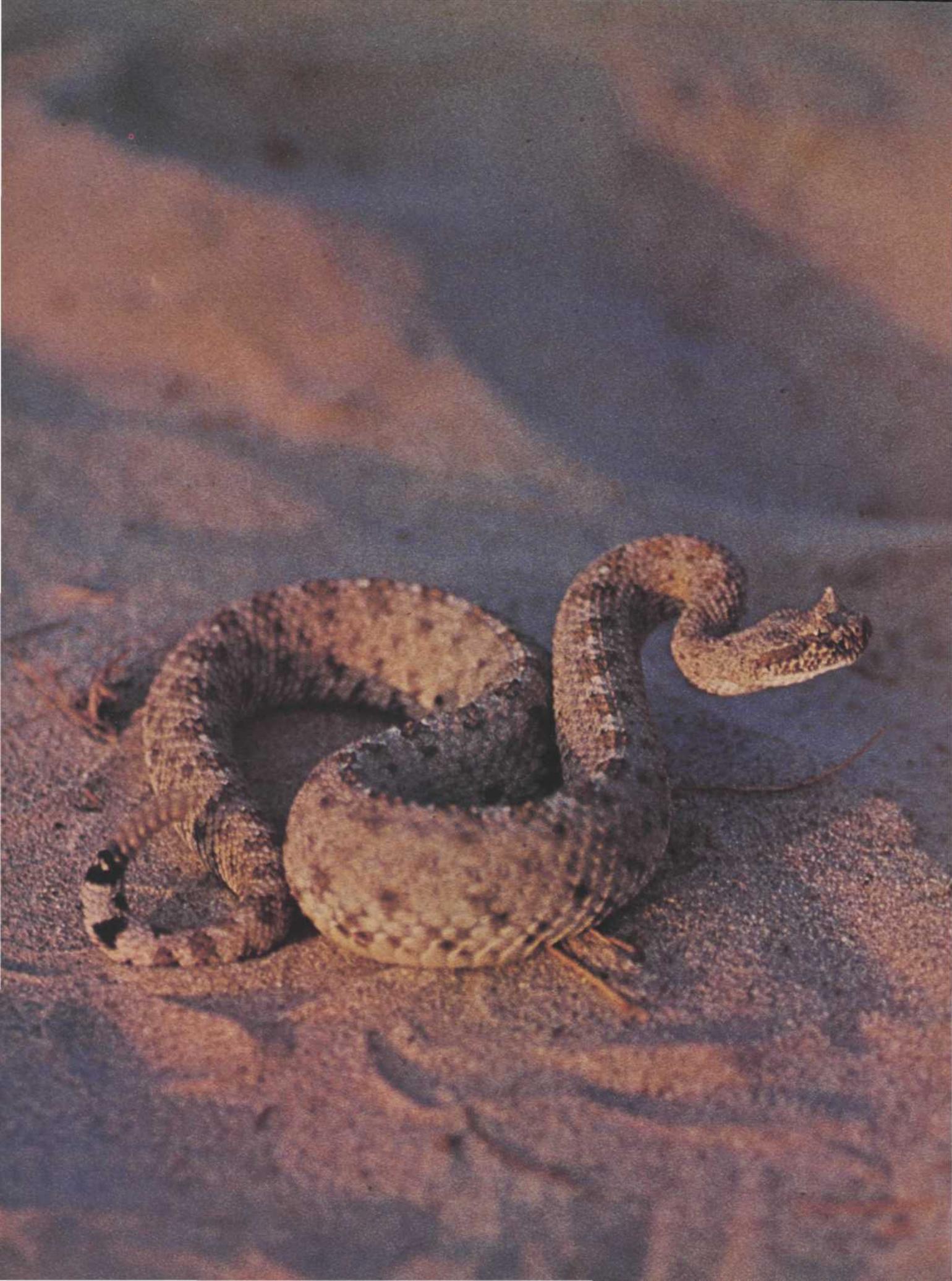
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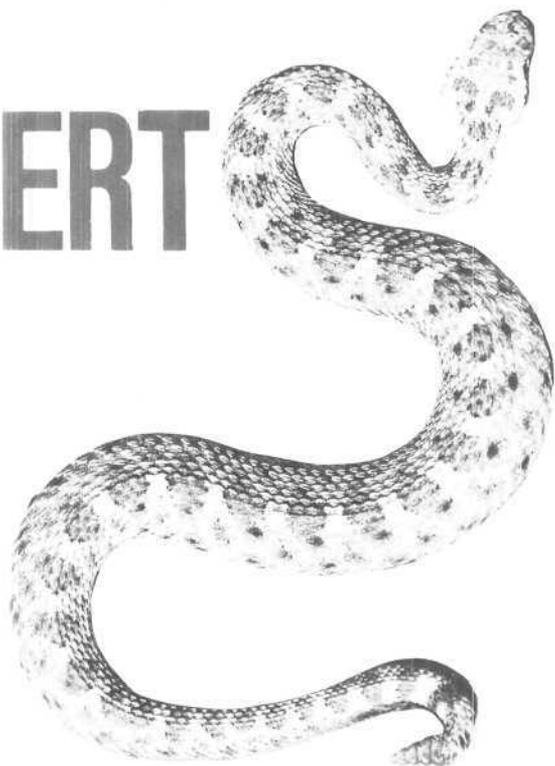


WYATT EARP

500 East Allen Street, Tombstone, Arizona



DESERT



SIDEWINDER

by K. L. Boynton

© 1971

Color photo by George Service and Jim Davis

ODDBALL AMONG rattlesnakes, the stout little sidewinder with his rough scales and bizarre horned head is at home in the sandiest of deserts. Should the region also be dotted with wind-piled hummocks, scattered bush and mesquite with maybe a sandy wash or two thrown in, conditions would be about perfect from his point of view. Lizards that make the best eating are plentiful here, and small rodents in abundance who not only provide variation in the menu, but supply cool underground holes for a fellow to coil up in during the worst heat of the day.

Who cares if it is 4,500 feet up in Nevada's high desert or 250 feet below sea level in Death Valley? It is all one to sidewinders. Gracing the scene in much of the Mojave and Colorado deserts, they are not always restricted to the sandy sections, residing at times where the soil is baked hard and stony, but where softer going is not far away.

The sidewinder is a night operator, prowling the desert in search of prey. Like his brother rattlesnakes, and his cousins the copperheads and water moccasins, he is a pit viper, so called because of a deep pit between his eye and nostril on each side of his head. Located in this pit is a very

intricate sensory organ that picks up news of prey whereabouts, and enables him to zero in on target even in the pitch dark.

First discovered by Zoologist Lynn in 1931, this pit organ has puzzled many a scientist since. Exactly how does it work? For awhile it was thought that air vibrations set it going. Then it was shown that heat somehow affects it; air temperature for instance. But it took the teams of Bullock and Cowles and later Bullock and Diecke to set investigations on the right track.

It seems that the pit organs are particularly sensitive to radiation in the longer infrared wave lengths. This means the receptors in these organs respond instantly to the black body radiation from mammals or birds which is the natural heat emitted from their bodies. So high powered and accurate is this pit organ device, the snake can detect the presence of a tiny pocket mouse up to several feet away.

But the biologists are still not satisfied they have all of the answers. The more they look at the very complicated geometrical pattern of the nerve setup in the pit organ—with its fan-like form, myriads of branches and fine endings

—the more they think something else is going on here. Do these infrared receptors act as photo-chemical sense organs too?

While much pondering is going on in this lab and that lab, the sidewinder is dining well in his desert home, tucking away a pocket mouse or a small kangaroo rat, locating even his favorite cold blooded lizards with ease. About one good meal a week is sufficient, and so powerful are his stomach juices that every bit of prey is digested except the hair and feathers.

The coming of day finds him taking his ease. Until it gets too hot, he usually rests coiled up in a neat bowl-like depression in the top of a sandy hummock. He scoops this out with a sidewise movement of his coils, thus gradually lowering himself until the top of his back is even with the surface. This is a kind of semi-burial, since only the outer coil that did the work is under the sand—quite a contrast to the custom of his African cousin, the sand viper, who makes life interesting for Arabs in the Sahara by burying himself completely.

The sidewinder can't stand overheating, dying within 10 or 15 minutes if exposed without any protec-

tion to the direct heat of summer sun. So as the day grows warmer he makes himself at home in some mammal's burrow. Zoologist Oliver's tests showed that here the snake can maintain a constant and comfortable body temperature between 88 and 90 degrees by first exposing varying amounts of his body at the mouth of the burrow and finally moving in deeper as the day's heat becomes more intense.

The sidewinder is very active even when the air temperature is as cold as 50 degrees. Those living in the higher Mojave with its shorter growing season must work in such temperatures avoided by the lower Colorado desert sidewinders. Nor does

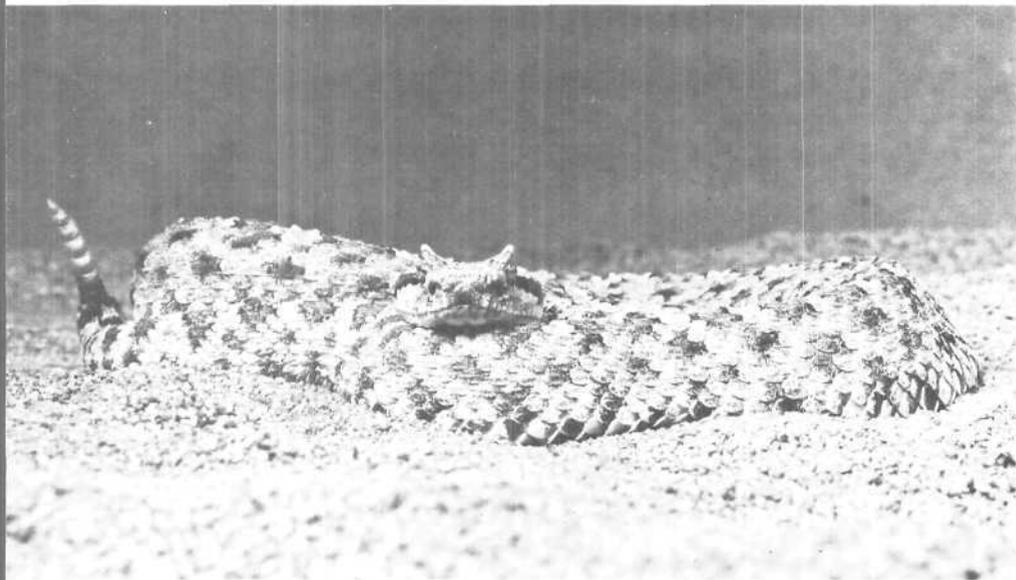
flow along with effortless grace, progressing sidewise and with surprising speed. What he is actually doing is throwing out his head for an anchor, laying down his body and throwing out his head again. Never fully outstretched along any of his tracks, he may be touching at least two of them at once. Timed to the mini-split second, the portion of his body between the tracks is off the ground when his head is touching its next anchorage; his tail tip is just leaving. This sequence, repeated over and over again, produces his characteristically beautiful flowing motion. His sidewinding can be done to the right or left.

Zoologist Mosauer, who did so

and unstable ground. In making his wide sweeping loops he is more likely to hit even the slightest irregularities which help brace and give him purchase as he goes. The method is also a good one for keeping himself off the hot sand as his body touches it only at intervals. In this respect the African desert viper **Bitis** has further capitalized on sidewinding, jumping completely off the ground from track to track when he is under heat stress.

Nicknamed for his method of locomotion, the sidewinder also bears the name of "horned rattler" because of the strange decorations on his head. These are actually scales located over each eye, and like everything else about this queer little snake, a puzzlement to zoologists. Granting that they add distinction to him, and are no doubt considered attractive in sidewinder circles, what good are they? Rattlesnake-expert Klauber did a lot of thinking and his conclusions eliminated what the horns did not do. Since the sidewinder is so consistently nocturnal and avoids too much direct sunlight, they did not seem to act to radiate the heat, or as umbrellas for his eyes. Also, since this fellow does not burrow, they did not seem to be needed as eye protectors from the sand. But what did they do?

The team of Cohen and Myres stumbled upon what well might be the logical answer only a few months ago while working on an entirely different problem in sidewinders. Interested in water-loss in these snakes, they had installed one in a glass tube for safe viewing, and they noticed that as it moved forward, any pressure on the horns caused these scales to fold down over its eyes. Excited, they investigated further and found that the part of the horn scale that attaches it to the snake's head actually works as a hinge and that the scale itself when folded downwards, fits perfectly over the eye. At the slightest pressure the eyeball itself sinks into its socket so that once the horn scale is in place over it, the snake's head is smooth and streamlined in front. With these facts before them, Cohen and Myres suggest that maybe the horns func-



"Horns" on the sidewinder are actually scales which protect the rattler's eyes. Photo by Jack Turner, Palm Desert, California.

a chilly night with high winds and whirling sand debris deter them.

Out for dinner, a sidewinder may travel 1,000 feet in a night, and the unique marks made by his strange sidewise locomotion are left in the sand to tell the story. His trail is a series of short and separate lines, lying parallel to each other. Each line is about the length of the snake itself, and each shows a hook-shaped depression at one end.

The usual snake style of traveling is a sinuous motion in the direction of its head-tail axis. But the sidewinder, true to his name, moves in a direction almost perpendicular to his head-tail axis. With his body in loose S-shaped curves he seems to

much to clear up the mechanics of sidewinding, was naturally interested in speed tests. He found that a prowling snake goes along at about 0.3 mph. When wishing to get over the ground fast, he can make up to 2 mph, and maybe 3 mph in short lunges. Now this is very good, since rattlesnakes by and large are rather sluggish, particularly when compared to a red racer, for instance. This noted speedster can only do about 6 mph when pushed to it.

Sidewinding is exceedingly useful in getting about on shifting sand. Moving so that his body lies almost at right angles to his direction of travel, the sidewinder secures the best static contact with this loose

tion as eyelids to protect the snakes as they pass through rodent burrows entangled with such obstructions as creosote roots, rocks and gravel that could scratch and damage their eyes.

These zoologists then took a look at the old world vipers to see if they had anything similar and found that indeed the desert adder **Bitis** has a smaller horn which deflects over each eye, and that an Iranian desert viper and another puff adder variation also had series of scales that served them the same way. All of these are desert dwellers, but none

NEW GILA MONSTER DATA

Dr. Merritt S. Keasey, III, Curator of Small Animals at the Arizona-Sonoran Desert Museum, in commenting on K. L. Boynton's article on the Gila Monster (See Desert, Nov. 1971) has kindly supplied new reproduction figures for this lizard, based on his observations and a report from the San Diego Zoo.

He writes that gila monsters usually lay only 5 or 6 eggs, and that the only authentic record of hatching that he knows of took an incubation period of 124-130 days. The three young were all approximately 6 inches long.

Much remains to be learned about gila monsters. Observing them living under nearly natural conditions at the Museum affords a daily opportunity for securing first hand information on these most interesting reptiles, so difficult to study in the field.

is a sand burrower. All frequent rodent burrows and rock crevices in sandy areas. Also of interest is the fact that the "eyelash" viper of Central America's tropics likewise has flap-like scales that fold over his eyes. They may serve the same purpose as he forces his way through the tangled tree foliage where he lives, the obstruction he encounters there being analogous to root-lined burrows through which the sidewinder travels.

The sidewinder is also the excep-

tion among rattlesnakes in that the females are larger than the males, exceeding them by more than 10 percent in length. (Among the other species, the male is usually 15 percent larger.) The Colorado desert sidewinders average about 2½ feet long for adult females, 2 feet for the males, with the offspring measuring about 7½ inches at birth. Dwellers in the higher Mojave desert with its shorter growing season are smaller, the females here usually being just under 2 feet long, and the males only about 1¾ feet and the offspring checking in at only some 6 inches. The youngsters are born alive in batches of 6 to 10, and shift for themselves from the start, already possessing the standard rattlesnake fang and poison equipment for meal capturing and self-defense.

This setup consists of a pair of long hollow teeth or fangs with an opening at the tip from which poison is forced forward from glands located on each side of the snake's head. The system works like a hypodermic needle, injecting the poison deeply into the wound. The fangs are located on movable bones and so folded backward into the mouth when the jaws are closed. Reserve fangs are arranged in orderly rows behind the functional ones so that when one is broken a replacement moves into position.

The sidewinder has a smaller rattle in proportion to his body size than other rattlesnakes, but uses it the same way to warn enemies that could cause him injury. The first button is in place when he arrives in the world, but this is lost with the first shedding of his skin a day or week later. He then gets a single rattle for each shedding so that when a year old he may have 3 or so rattles (some rattler species have up to 6). The rattles are made of horn-like material that is exuded onto a matrix of tissue just prior to the shedding of the old skin. They get worn or lost off as time goes on so the number of rattles is not a good tally of the snake's age.

Strange in appearance and action, the sidewinder has been the subject of many a tall tale, and has achieved a reputation of having the worst dis-

position of all rattlesnakes. Klauber, well acquainted over the years with many individuals of all species of rattlesnakes, set the record straight. He reported that a sidewinder is about average for a rattlesnake in disposition and no more pugnacious than the others. This is mighty faint praise but the best he could do for him.

Nobody, of course, should try to get pally with a sidewinder. Like all rattlers, he is highly dangerous and thoroughly unpredictable. He is liable to be around where and when he is least expected, and may not feel like advertising the fact by rattling. He can climb and he can swim. And his idea at the moment of what average disposition is may not jibe with the scientific interpretation. The sidewinder is not the cuss he has been made out to be, but he is no dispenser of sweetness and light. Small, he's got plenty of deadly venom, and is not adverse to using it if the circumstances warrant. This desert citizen is one to watch out for and avoid. □

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T.N.T. TOUR

Continued from Page 25

clude the preservation and administration of historical sites.

There are many fine art galleries in the Tucson environs. Probably the most famous is Ted DeGrazia's Gallery of the Sun, in the foothills of the Santa Catalina Mountains. Adjoining the gallery of this famous artist is the Mexican mission he constructed in memory of Father Kino and dedicated to the Virgin of Guadalupe.

Two interesting museums in the vicinity of Tucson are the Fort Lowell Museum and Stan's Museum Village. Fort Lowell was built to combat the then marauding and elusive Apache Indians. The fort had a checkered and controversial existence as shown in its present-day museum. Stan's Museum is a collection of everything ranging from opium pipes to rare dolls to a weird assortment of guns and other articles of mayhem.

One of the most unusual and unique "living" museums in the United States is the Arizona-Sonora Desert Museum, in the foothills of Tucson Mountain Park. Growing plants, trees, cacti and live animals and birds native to the Arizona-Sonoran desert are in their natural surroundings.

Here can be seen bears, prairie dogs, antelope, coatis, snakes, ants, worms and rodents—all living in their independent

worlds. Aviaries contain 77 species of Western birds and, for the children, there is a petting ground where they can handle harmless desert tortoises. More than 200,000 visitors go through the "living desert" each year.

For the younger set and the young at heart, Arizona's newest industry, movie and television production, is developing a tremendous business in their movie-set western town, Old Tucson. Here, some 60-odd movies have been filmed and was the setting for the famed television series, "Bonanza." It is on the same road as the Arizona-Sonoran Desert Museum and provides the family with a delightful double-header.

First stop on the T.N.T. Tour is the Mission San Xavier del Bac, often called the "White Dove of the Desert." The northern-most mission established by Father Kino in 1629, the present building was started in 1783 and took 14 years to complete. It has been in continual use since its inception and masses are still held every day for the Papago Indians of the San Xavier Reservation. Visitors are welcome and are taken on a tour of this beautiful mission by Franciscan Brothers. The mission is only nine miles from Tucson on Mission Road. From San Xavier go east a few miles and turn south on U.S. 89 toward Nogales, Mexico, through the scenic Santa Cruz Valley.

Traveling south toward the Mexican border and the picturesque historic Span-

ish presidio of Tubac you will pass through Sahuarita and on the east see one of the largest retirement communities in the nation. Green Valley was opened in 1964 and within its 2,900 acres is an 18-hole golf course and a complete complex of homes and recreational facilities.

Just south of Green Valley a paved road leads to Madera Canyon in the pine-covered Santa Rita Mountains. This is a summer resort for Tucsonans and also provides facilities for campers—with hiking trails into the mountains.

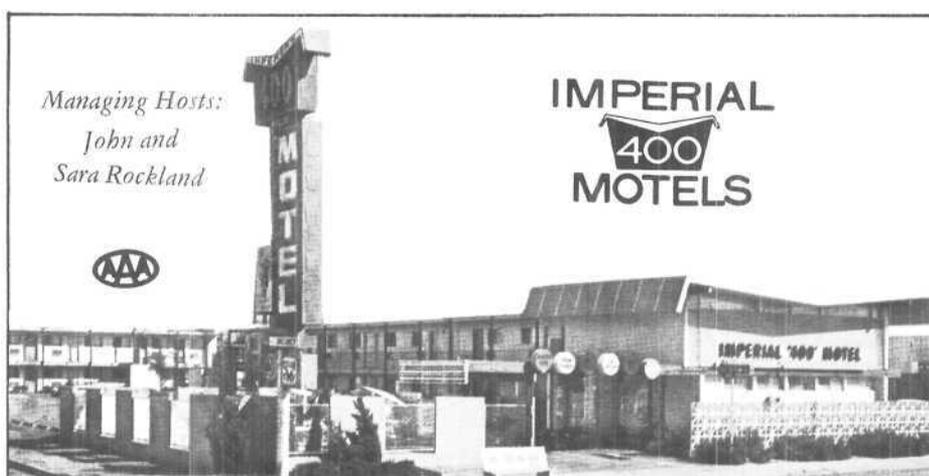
Madera Canyon is considered one of the fine birding areas of the world; nearly 240 different species have been recorded in the Canyon and the surrounding Santa Rita Mountains. Many of the bird pictures you see in bird books were taken in the area.

Continuing on U.S. 89 and 45 miles south is the Tubac Presidio State Historic Park. For 175 years, Tubac was a fort for both Spanish and American soldiers in their war with the Apache Indians. Built in 1752, it is the oldest inhabited European settlement in Arizona. Today it is surrounded by quaint shops, studios, art galleries and restaurants. Each February it features area artists in its Festival of Arts Show.

Three miles south of Tubac is the Tumacacori National Monument whose ruins are a graphic example of early Spanish architecture. The original mission, the first to be established by Father Kino, was built a few miles away. Fortune hunters—looking for the alleged buried treasures of the Jesuits—have destroyed most of the original walls. Today it is protected by the National Park Service which maintains a museum depicting the historic past of Tumacacori.

Pena Blanca Lake (white rock in Spanish) is 55 miles south of Tucson. From U.S. 89 take State Route 289 for 10 miles to the lake. Located in the Coronado National Forest at an elevation of 4,000 feet, it is a year-round attraction with a lodge, restaurant and boating facilities. Three camp grounds with tables, fireplaces, restrooms, and water are available for campers and house trailers. There is a 14-day stay limit. Fee is \$1.00 per day per car or the Golden Eagle Passport. For information write Box 770, Nogales, Arizona or call 1-287-2020.

As we move southward, a few scant miles from the border lies another interesting development. Rio Rico, a complete



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This old stone jail marks the site of Fort Crittenden, near Patagonia. Established in 1867, the fort was abandoned six years later.



Photo by Gerald Shipley

resort complex welcomes the traveler from every walk of life. From its clubhouse and inn overlooking the entire valley, to its recreational vehicle park snuggled near the river with access to stables and fishing, your every need has been anticipated by the management.

The Pete Kitchen Museum and Kino Chapel is just five miles north of Nogales on a side road one-fourth of a mile from the highway. Although small, it depicts the dramatic story of a pioneer who fought a lone battle with the Apache Indians to keep his homestead. He was the only single white man to defeat the Apache renegades.

Nogales, Mexico combines a modern Mexican city and the atmosphere of "Old Mexico" with mariachi musicians playing native instruments and singing Mexican songs. Tourists can take advantage of the "free port" with many items duty-free. Some of the world's greatest matadors appear every Sunday during the bullfights. International gates are open 24 hours and no tourist permit is required up to 72 hours.

Returning from Nogales on the T.N.T. Tour, turn right off of U.S. 89 onto State 82 to Patagonia and stop long enough to visit the Stradling Museum of the Horse where you will see a display of horse items collected from throughout the world.

Campers who want to stay in the Patagonia region will find the privately owned Patagonia Lake and recreational area an ideal spot. Look for the sign and a road on your left a few miles before Patagonia.

The area around Patagonia to the east is a veritable treasure of ghost towns and old mining camps. The most noted being Mowry, Harshaw, Duquesne and Charleston, which is featured in this issue on page 8.

From Patagonia, continue to Sonoita and the intersection of U.S. 80. This quiet little corner will soon become the hub of a 32,000-acre development which will turn the rolling grasslands into a verdant valley community complete with golfing, riding and other recreational facilities.

From Sonoita it is a leisurely drive to the historic town of Tombstone, made

famous for its much-told-tale of the Battle of O.K. Corral. (See article on page 27). After visiting Tombstone return on U.S. 80 to Interstate 10 and complete the triangle tour to Tucson with a side trip to Colossal Cave (See article, page 18) and the Saguaro National Monument.

As one visitor said recently after touring Tucson and taking the T.N.T. Tour, "Man! That trip was really a blast!" □



ROCKHOUND GUIDE and GHOST TOWN MAP

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Calendar of Western Events

JANUARY 15, BARBED WIRE SHOW, Burroughs High School, Ridgecrest, Calif. Sponsored by the California Barbed Wire Assn. Exhibits of barbed wire and associated items. Write Ellwyn Carlson, 1046 N. San Carlos St., Porterville, Calif. 93257.

JANUARY 17, PHOTO COMPETITION DEADLINE for 27th Chicago International Exhibition of Nature Photography. Entry fee: \$1.25, plus postage, for either 4 slides or 4 prints. For information write to Miss Anne Rotsko, 1222 S. 51st Crt., Cicero, Ill. 60650.

FEBRUARY 11-13, TUCSON GEM AND MINERAL SHOW, Exhibition Hall of new Community Center, Congress and Main Sts., Tucson, Arizona. Dealer spaces filled. Hours: Feb. 11, 9:00 a.m.—9:00 p.m.; Feb. 12, 10:00 a.m.—9:00 p.m.; Feb. 13, 10:00 a.m.—6:00 p.m. Information: Joe Kreps, 1402 W. Ajo Way, #271, Tucson, Arizona 85713. See article in this issue.

FEBRUARY 12 & 13, PENINSULA BOTTLE COLLECTORS 3rd annual antique bottle show and sale, San Mateo County Fairgrounds. Write P. O. Box 886, Belmont, Calif. 94002.

FEBRUARY 12-13, FIESTA OF GEMS, Community Center, 2197 Chase Drive, Rancho Cordova, Calif. Free admission. Gem and mineral displays, dealers, snack bar, grab bags, prizes, working and teaching displays. Ample parking, picnic tables.

FEBRUARY 17-19, WESTERN WORLD OF GEMS, sponsored by the Scottsdale Rock Club, Scottsdale, Arizona. Free parking and admission. Write Frank Birtciel, 6338 East Osborn Rd., Scottsdale, Arizona 85251.

FEBRUARY 18-21, SECOND ANNUAL GEM, ROCK AND HOBBY SHOW, at Palo Verde Improvement Association on Clark Way, Palo Verde, 20 miles southwest of Blythe on Highway 78. Tailgaters, food, field trips. Information: P.V.I.A., Box 95, Palo Verde, Calif. 92266.

FEBRUARY 19 & 20, SAN FERNANDO VALLEY GEM & MINERAL SHOW sponsored by six clubs in the area. Special exhibits, donation prizes, dealers. Write C. L. Osburn, 5052 Campo Rd., Woodland Hills, CA 91364.

FEBRUARY 24-27, LA FIESTA DE LOS VAQUEROS, 45th Annual Tucson Rodeo and Parade, Tucson, Arizona. See article in this issue re details.

FEBRUARY 26 & 27, THIRD ANNUAL BOTTLE SHOW AND SALE sponsored by the Antique Bottle Club of Orange County, Retail Clerks Union Hall, 8530 Stanton Avenue, Buena Park, Calif. Admission 50 cents, children free. Write Box 10424, Santa Ana, CA 92711.

FEBRUARY 26-27, NATURE'S ARTISTRY, Santa Clara Valley Gem & Mineral Society, at Santa Clara County fairgrounds, 344 Tully Road, San Jose, Calif. Donation of 50c for adults, children under 12 free when accompanied by adult. Earth Science movies and lapidary, rock swap, dealers.

FEBRUARY 27, SIERRA TREASURE HUNTING CLUB'S 4th annual Mother Lode Rally. Family affair for 4WD and back country vehicles around Georgetown, Calif. Write Terry Walker, 4237 Avila Lane, Sacramento, Calif. 95825.

MARCH 3-12, IMPERIAL VALLEY GEM AND MINERAL SOCIETY'S 25th annual show at the California Mid-Winter Fair, Imperial, California.

MARCH 4 & 5, MARCH OF GEMS sponsored by the Los Angeles Lapidary Society, Liberal Arts Masonic Temple, 2244 Westwood Blvd., 32nd annual event. Free parking and admission. Jewelry, rocks, gems, fossils, minerals. Demonstrations and lectures. Guest exhibits. Write Los Angeles Lapidary Society, 2517 Federal Avenue, Los Angeles, California 90064.

MARCH 11 & 12, SPRING PARADE OF GEMS sponsored by the Needles Gem and Mineral Club, High School Gymnasium, Needles, Calif. Admission free. Field trips, door prizes, bottle exhibits. Write Ruth Brooks, P. O. Box 726, Needles, Calif. 92363.

MARCH 25 & 26, A WEEKEND IN GEM-LAND sponsored by the Northrop Recreation Gem and Mineral Club, Northrop Recreation Club House, 12329 South Crenshaw Blvd., Hawthorne, Calif. Free parking and admission. Write Bill Nary, 17210 Spinning Ave., Torrance, Calif. 90504.

MARCH 25 & 26, NINTH ANNUAL BOTTLE SHOW & WORKSHOP, sponsored by Bishop Belles and Beaux Bottle Club, Tri-County Fairgrounds, Bishop, Calif. Write P. O. Box 1475 Bishop, Calif. 93514.

This column is a public service and there is no charge for listing your event or meeting—so take advantage of the space by sending in your announcement. However, we must receive the information at least three months prior to the event. Be certain to furnish complete details.

BLAIR'S BYGONE DAYS

Continued from Page 17

The railroad was abandoned three years later and Blair subsequently declined.

The ruins of Blair lie amid an indescribable amount of assorted debris. Only the partial remains of three concrete buildings mark the site where over 100 once stood. The townsite roads are still etched on the terrain in a neat and orderly fashion. It is easy to identify the locations of the several saloons by the tremendous mounds of broken bottles. Above, on the hill, the massive concrete foundations of the huge mill seem to be



The late Mrs. Anna "Baba" Shirley of Silver Peak, Nevada who saw the rise and fall of Blair.

standing guard over the old ghost town.

The Drinkwater and Mary Mines have fared little better during the last half-century. There have been leasers, to be sure, and the skeleton of a more recently built mill near the Mary creeks and groans in the wind. A two-story company building which housed office, kitchen and mess hall, is in a state beyond repair. The mens' barracks have collapsed and only one house, two cribs and a cabin remain standing on the high and lonely mountainside. A heavy door marks the entrance to the tunnel.

The Mary and Drinkwater Mines are private property. Permission to visit them may be obtained from Jimmy, the owner of the Silver Peak bar.

Hope still runs high in the hearts of men who own or have worked in famous old mines. Maybe, just maybe, pay dirt will again be found in the Mary and Drinkwater. For Blair—the town that was built to last forever—the epitaph has been written. □

TIMELESS TOMBSTONE

Continued from Page 29

raised his way. This would leave \$35,000 for the city to put up for the \$60,000 project.

Last fall the city's 1,231 residents were asked to go to the polls and decide the fate of the Allen Street issue. Some felt the project cost was too high for the benefit, so by a slim margin of 37 votes the proposal was turned down.

Winters said the project is not dead, however. Plans are still being made to restore Allen Street. Money from the sale of the Jim Beam bottles and perhaps federal and state assistance funds may be

available to complete the project. These efforts to improve the town show that Tombstone is still "too tough to die."

This has been a short story of Tombstone. But no reader should be content with his knowledge of Tombstone just from this story. Tombstone is a fascinating place, a town with a thousand stories.

History has been remarkably preserved there, and no story can excite the imagination like actually standing in a dusty corner of OK Corral, or standing on the gallows at the old court house. Visit Tombstone and see for yourself. □

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Tombstone courthouse is now the state park museum and houses displays depicting the early days of the famous town.



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Rambling on Rocks

by
Glenn
and Martha Vargas

SYNTHETIC GEMS: Almost the Real Thing

PRACTICALLY EVERY jewelry store offers fine jewelry set with rubies, sapphires and spinels that were made in the laboratory. These are known as synthetic gems and are not fakes as some seem to think. They are chemically identical to the real thing, and sometimes are really superior in that they do not contain beauty-robbing inclusions so common to natural minerals.

They have one drawback, they are not natural and those of puritan thinking tend to ignore them. In the broad sense, they are a boon to the average person. How else could a person of moderate means own a ruby? Even if he had the money to purchase a natural one, he would have great difficulty finding a gem, and it would undoubtedly be flawed.

The interesting thing is the first synthetics were rubies and were made for jewels for watch movements instead of gems. Previously, watch jewels were made from natural stones, but the job of finding flawless pieces was costly and difficult. A French chemist named Vernueil

perfected a process of melting finely pulverized corundum in such a way that he built up flawless crystals which were called boules.

Boule is the French word for ball, alluding to the shape of the first pieces. The mineral that makes up ruby and sapphire is corundum. Ruby is the red variety, and sapphire is any other color. These boules of synthetic corundum were the answer to the Swiss watchmakers prayers, and have at least partially accounted for the present day low price of good watches.

After the first flawless synthetic rubies were made, someone thought of cutting them for gems. They were so excellent that Vernueil decided to try to duplicate blue sapphire. Instead, he accidentally synthesized another mineral, spinel. It was not until after a number of tries that he succeeded. These new gems were placed on the market, but they were not joyously accepted by the jewelry trade—nor the amateur for that matter. This did not deter the manufacturer, and further research turned out nearly all the natural colors of both minerals, and some new ones as well.

Other minerals were attempted, and an interesting nearly colorless form of rutile was produced. Rutile is always naturally dark. The new gem was given the name titania, from the element titanium which it contains. This was for some years the "Cinderella" of gems, and a fairly popular diamond substitute. It shows excellent brilliance and greater color dispersion than the diamond, but alas, it is much softer. The vivid rainbow colors that it disperses are so striking that one gemologist referred to it as "squashed up rainbow." It is so soft that it is not suitable for rings, but will do nicely for pendants and earrings, and has good sales as such.

The above gem materials were produced by the use of the furnace devised by Vernueil, and named after him. At about the same time as the introduction of titania, an American, Carrol Chatham, in San Francisco, announced the synthesis of emerald. He does not use the Vernueil furnace, and has not divulged his process, except to say that it is the same as in nature. He has produced perfectly flawless emeralds with identical or superior qualities to the real thing. In a sense, his emeralds are truer synthetics than those made in the furnace, but this

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is a small point to argue. Synthetic emeralds manufactured by others have been recently introduced, but again we are not sure of the process used.

For a few years, not much was done in research for synthetic gems. Instead, investigation was directed toward industrial and space program needs. Many minerals needed by industry in a pure form were synthesized. Quartz was made for use as radio crystals. Many were possibly usable as gems, but were nearly impossible to obtain.

Suddenly we found ourselves watching a new phase of the operation; materials were made that had no natural counterparts. In the strict sense, these are not really synthetics, and a good name for the group has not yet emerged. The first of these was strontium titanate, which produced an almost unbelievable diamond substitute. It lacked most of the objections to titania, but still was soft. The entire output of this was bought up by professional gem cutters and the name fabulite was coined for it. The name is good, for fabulous it is. Other names have since appeared. The control of synthetic emerald and fabulite has been so stringent, that it has been only very recently that either of them were available to the amateur gem cutter.

Recently new ones have appeared, the result of space research. The one getting much attention at the moment is a type of garnet. The element yttrium has been substituted for part of the molecule, making it an entirely new form of garnet and is known as yttrium aluminum garnet, nicknamed YAG. This is the best diamond substitute to date; it has excellent brilliance, good hardness, but lacks the dispersion of diamond. It has gained attention for being used as duplicates for large diamonds so that the owners can

remove the risk of wearing the real gem.

During this period, the General Electric Company announced and marketed synthetic diamond. The entire output was in the form of diamond powder for use as an abrasive. Only recently, however, they have announced the creation of gem quality diamond in sizes to cut half carat gems or larger. They have been very careful to make it definite that the cost of producing gem crystals is far too costly to manufacture them for the market.

Even though we stated above the synthetics are not fakes or imitations, some of them have been used as such. The most notable is an alexandrite-colored corundum. True alexandrite is a form of chrysoberyl that is green in daylight and purple in artificial light. The corundum imitation is blue-green in daylight and purple in artificial light. This is not synthetic alexandrite, as some infer, but instead is a synthetic corundum imitation.

When synthetics first came on the market, we made a rash prediction that these would revolutionize amateur gem cutting. We soon found we were very mistaken, for the amateur preferred natural materials. The pendulum is now swinging in the other direction, but not proving our thinking. Natural gem materials are becoming very scarce, and extremely high priced. Coupled with this are the new synthetics with their many new colors and features, which are an enticing field for the amateur to swing to. Just how far this can go is anybody's guess, but we expect to see many new and marvelous gem materials in the near future. □

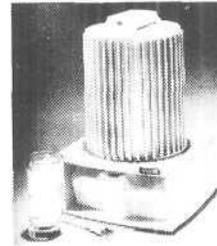
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Letters to the Editor



Letters requesting answers must include stamped self-addressed envelope.

WHERE WE STAND

In the November issue in an article entitled "Can California's Deserts Survive?" we explained the multiple-use plan of the United States Bureau of Land Management to inventory and preserve the 16 million acres of public desert lands of California. We also urged the support of the House of Representatives Bill #9661 which will appropriate \$28,600,000 to implement the B.L.M. plan.

We have received many letters, both pro and con as a result of the article. A few stated readers were pleased that we took a stand on preservation. For the record, Desert Magazine has preached, stressed and advocated protection of all areas of the West for 35 years—ever since the late Randall Henderson founded this publication in El Centro in 1937.

In those days, as one old prospector said, the desert "belongs only to God and us desert rats 'cause nobody else would want it." Times have changed; today, in the prime recreational areas, it seems everyone "wants it." At the same time in hundreds of "dry camp" areas there is plenty of room so campers will not be jammed together — the very thing families are trying to escape in their metropolitan living.

We have been accused by a few of advocating the preservation of the desert areas so the lands would be restricted to the point no back country vehicles or campers would be admitted. The fact we publish a magazine which stimulates people to get out under the open skies refute such charges.

On the other hand, we have been charged that we stimulate, advocate and encourage people to visit the wilderness areas of the West and in doing so we indirectly are contributing to the destruction of our land.

We do encourage people to "go out under the open skies and listen to Nature and all her teachings." We do print provocative articles which we hope will entice families to enjoy the beauties of Nature.

The public lands are the peoples' lands . . . all of the people and not just a few. But, again, in telling our readers about these adventures we constantly tell them to "enjoy and not destroy."

We are inherently against regulations and restrictions. But, as we have said before, the increase in desert recreational use has increased so greatly—conservative figures forecast 7.8 million visitor-use days by 1980 in California deserts alone—we believe certain regulations are necessary to preserve our heritage. An example would be if the City of Los Angeles had no laws or regulations and no one to enforce them.

Desert Magazine firmly believes, however, in the rights of all concerned and not for just a few short-sighted groups who would restrict all use of public lands to foot traffic.

We have constantly stated that it is not the vehicle, be it four-wheel, dune buggy, trail bike or horse, that is doing damage, rather, it is the driver behind the vehicle. Although most back country drivers respect our lands (especially those belonging to organized groups which police their members), there are a minority of reckless drivers who unfortunately are littering and destroying. These people are the ones who are giving the majority a bad repu-

tation and causing local and county restrictions.

We endorse the overall B.L.M. plan. However, we do so as long as they will recognize the rights of all. In this regard we advocate that:

Certain areas be set aside for racing enthusiasts where they can hold their competitive events. We realize this will upset the ecology of those restricted areas. But it is better to limit these activities to certain areas than have these racing drivers running rampant over the entire desert.

Families with back country vehicles (including dune buggies, four-wheel vehicles and trail bikes) be allowed to explore the back country and camp out as long as they clean up their campsites and do not bother other campers. In prime recreational areas where there is a concentration of people, they should stay in the main washes and areas designated by officials so as not to destroy wildlife or native plants.

As is being done today, trails in extremely fragile ecological areas should be established and traffic in these areas limited to hikers only.

The overall rights of outdoor sportsmen should be recognized. And the rights of miners to file claims and mine in areas of potential wealth should be protected as long as they, too, respect the right of others.

It is impossible to please everyone and every group, especially when the basic philosophy is "the greatest good for the greatest number." But compromises can be made and our deserts and mountains of the West can be saved and used for the enjoyment of all if we work together and substitute name calling for constructive cooperation.

The Letters to the Editor Page in this issue is devoted to the views of concerned citizens. We welcome your views and suggestions, all of which will be forwarded to the Bureau of Land Management.

Thanks from B.L.M. . . .

The article "Can California's Deserts Survive" in the November issue is excellent. Your efforts to bring to public attention the serious problems faced in preserving the best features of our deserts will do much to assure success for the growing effort to save these threatened environments.

The values involved are tremendous for Californians and other visitors to the desert today. These values will be beyond calculation in the future. It appears that we have a good chance of success because of the support which is coming from many sources.

J. R. PENNY,
California Director,
U. S. Bureau of Land Management.

We Always Have . . .

I am more than happy to see from your article in the November issue that you have finally come out, strongly, on the side of conservation and protection.

My letter, which you published in your August '71 issue, seems to have struck home to some small measure. Let us hope that the efforts of those interested in preventing complete destruction and devastation can be coordinated and brought to supporting vigorous legislation and its enforcement to that end.

NOEL KIRK,
El Centro, California.

Educate and Motivate the Young . . .

In the November issue you sure gave your readers something to think about with the question "Can California's Deserts Survive?" Walt Disney gave millions of Americans their first view of our wonderland with "The Living Desert." Let's hope the civic groups will see that the picture is shown in their local movie houses soon. Only children who are taught to stop being vandals can save our desert.

CHARLES R. FARRINGTON,
San Bruno, California.

Cites Anza-Borrego . . .

Recently I noticed Desert Magazine on my local newsstand and purchased a copy (Nov. '71). I want to commend you on the interesting format and particularly for your support of H.R. #9661 to save the California deserts for all to enjoy.

A couple of years ago, I spent the most enjoyable vacation of my life exploring regions of the Anza-Borrego Desert State Park. I was appalled at the damage and havoc wreaked by dune buggies and 4WD vehicles. Somehow, these vehicles and their mayhem must be controlled and/or limited to specified areas.

DENNIS W. COCHRAN,
Modesto, California.

Property Owner . . .

I wish to congratulate you on your article in the November Magazine entitled "Can California's Deserts Survive?". I think you have out-

lined in this article the vast destruction which the desert is getting from great numbers of sand buggys, motorcycles, 4-wheel-drive vehicles and so forth by multitudes of people who don't know or care less what they are doing to this vast desert region you speak about.

I happen to be a private owner of about 4,000 acres of desert land on Highway 78, Imperial County. The Bureau of Land Management owns thousands of acres in this particular area, together with many private land owners. In the last year or two particularly, it has been appalling the destruction which people have caused with the use of these vehicles over this beautiful desert region.

I am presently posing my entire property and if I cannot get further cooperation from the Board of Supervisors, Imperial County, Bureau of Land Management and other private owners in the immediate area I will be forced to arrest trespassers and file large damage suits against them in view of protecting my interests.

This is something I do not care to do, but it looks like it may be forced upon me if the Bureau of Land Management is unable to get support from Congress on Bill HR 9661 and support from the County Board of Supervisors who, I believe, could pass an ordinance providing some law enforcement which could help this situation a lot.

I trust that I may see many more articles published which carry the information to the public which your article sets forth in the Desert Magazine.

THEODORE M. JACOBS.
San Diego, California.

Deserts Not Fragile . . .

Several months ago I was asked to do an article on, "The Damage being Done to the California Desert by Four Wheelers." The article was never written, probably because I hate to be put on the defensive and try to justify that which had already happened, and because I have never found anyone, Webster excepted, who can define the word "damage." It would seem everyone has a different meaning for the word. Also, I am not convinced that the four-wheeler is even a contributing factor in, as the newspapers say, "the total destruction of the fragile desert, and its ecosystems."

Anyone that classes the desert as fragile is a very misinformed person. Spend a day on the desert in midsummer with temperatures over 130 degrees, or a day in midwinter, with the temperature at 15 degrees above zero and a 4 mile per hour wind blowing, then tell me the desert is fragile. It takes rugged flora and fauna to withstand these drastic temperature changes. Or pass by an old abandoned homestead where some hearty soul endeavored to push the desert aside, and finally left in defeat. The sand, brush, cactus and wind have, with the exception of a dilapidated shack, almost erased his intrusion.

True, there are fertile fields of alfalfa, milo, cotton and other crops grown on the desert, close to inhabited areas or the mountains where they can be assured of an adequate supply of

water. Also true is the fact there are many scars on the desert, not all of them made by vehicles. Prospectors, in their search for precious minerals, utility companies constructing transmission lines, cattlemen and sheepmen in their search for forage, and the military with training maneuvers, artillery and airfields have also added to the scars. It seems the contention of some to disregard these blights on our environment and concentrate their wrath on those less able to defend themselves. The strong must feed on the weak in order to satisfy their ego. This is the way of life.

Newspapers, magazines, television and bureaucratic agencies have bombarded the general public with such phrases as, "Loving Our Desert To Death," "Total Destruction of the Fragile Desert," "The Troubled Desert," and "Woodstock Desert Style." By now, Mr. and Mrs. John Q. Public are thoroughly convinced that, unless drastic measures are taken immediately, our whole environment will be in jeopardy. They have no idea what the environment consists of or to what degree it is in jeopardy or for that matter just where or what the desert really is. They might, but it is doubtful, know the location of such places as Red Rock Canyon, Stoddard Valley, Cinco, Adelante, Mira Loma and Barstow.

Yet, it is these areas where the concentration of vehicles occurring. These areas are in close proximity to highly populated areas and are the ones that are used the most, but to the Purists and the Public it is the entire 10 million acres of the desert that is suffering. In

reality it is less than one percent of this 10 million acres that is showing the signs of over use. It can safely be said that over 50 percent of the California Desert is still as uninhabited, unused, unwanted and feared as it was in the days of our forefathers when in crossing this desert exclaimed, "From here it is only five feet to hell!"

One can't help but wonder if this hue and cry about the destruction of the desert has an ulterior motive. The motive is *money*. If they can confine vehicle users to a specific area such as Stoddard Valley; if they have a large enough enforcement agency to keep vehicles to these designated areas. A bill has been introduced in Washington D.C. to create such an agency, and if they can make every vehicle register, (a bill is in the State Legislature to do just that) then the state and federal governments have tapped a new source of revenue. Estimates run as high as 40 million dollars for the first year in California alone. So it would seem that once again Mr. and Mrs. John Q. Public has been led down the Garden Path, brainwashed into the idea the whole problem of our "deteriorating environment" can be solved by controlling the use of vehicles on the vast California Desert. As the man said, "The Good Lord has made all the land He is going to." It is up to us to utilize the land for "The Greatest Good for the Greatest Number."

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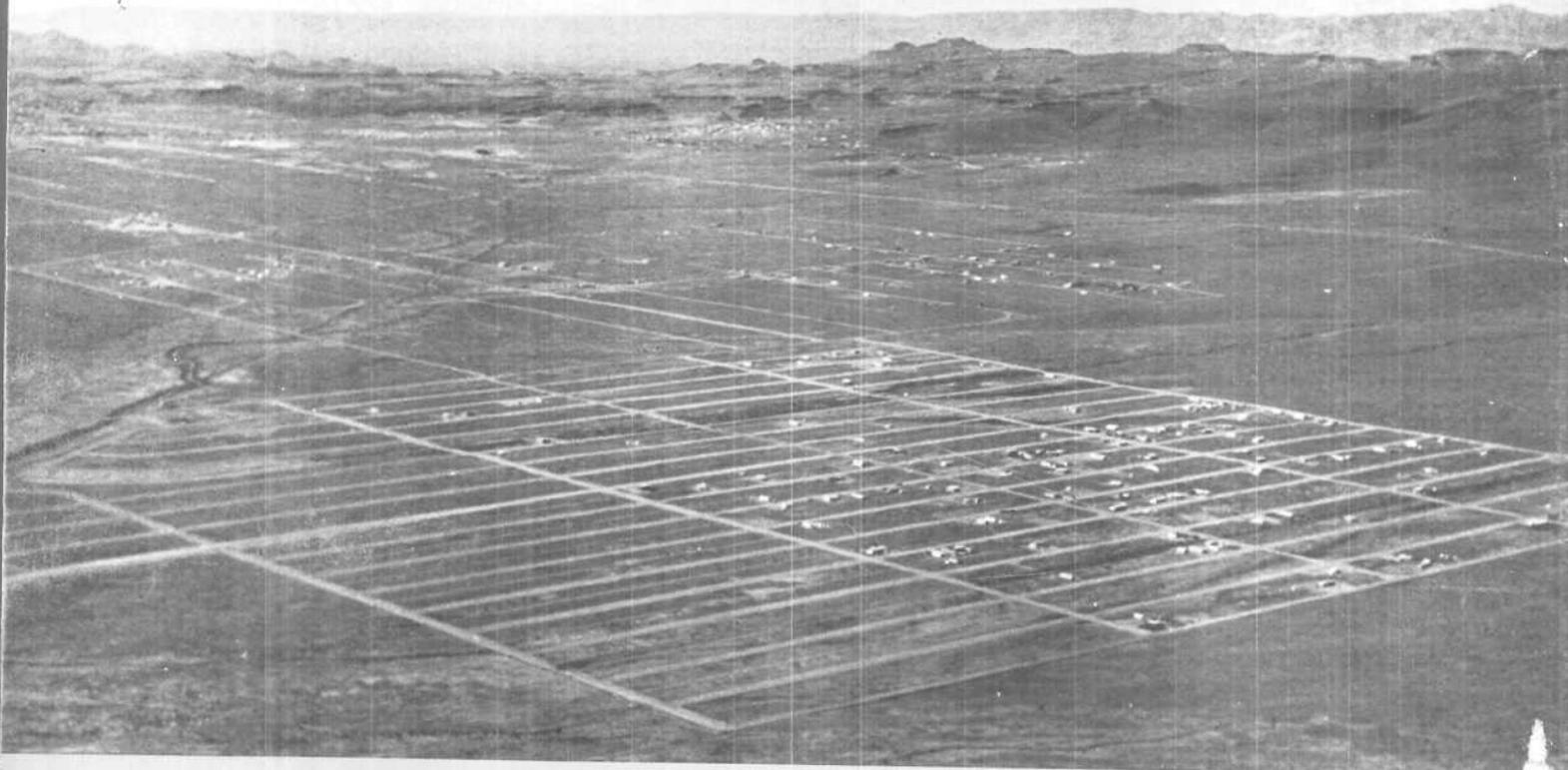
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