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Calendar of Events

Los Angeles County Fair at Pomona, Sept. 16 through Oct. 2; Julian Apple Days, Oct. 8-9; San Diego County Rock Hound Gemboree at Scottish Rite Masonic Memorial Temple, 1895 Camino Del Rio, San Diego, 15-16; Tombstone, Arizona's Helldorado Days, 21-23. Semi-annual staging of the largest collection of hand weaponry from the olden days to the present, Yuma, Arizona. Check with Chamber of Commerce for dates. National speed trials by individual racers and car manufacturers at the Bonneville Salt Flats, Utah, entire month of October. Pullman Campers, Inc. Outing, Grade Valley, Las Padres National Forest, 17 miles S. W. of Lake of the Woods, off U. S. 99, Oct. 29 & 30.

EDITOR'S NOTE: Some dates are subject to change. If you plan a trip to attend a specific event, we suggest checking first with the local Chamber of Commerce.

EVENTS DEADLINE: Information relative to forthcoming events in the West must be received **TWO MONTHS** prior to the event. Address envelopes to Events Editor, Desert Magazine, Palm Desert, California 92260.

JACK PEPPER, *Publisher*

Elta Shively
Executive Secretary

Al Merryman
Staff Artist

CHORAL PEPPER, *Editor*

Rose Holly
Circulation

Marvel Barrett
Business

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New Books for Desert Readers

DESERT PLANTS AND PEOPLE

By Sam Hicks

DESERT readers have been anticipating this book, as much of the material was included in the author's column, *Desert Dispensary*, which ran for two years in the magazine. Now, together with a wealth of fresh material, it has all been pulled together to produce the only hardcover and authentic book of its kind.

Not even pretending to be a botanist, Mr. Hicks sets forth in layman's language the fascinating lore of natural herbs and shrubs used for healing, foods, beverages, medicinal remedies, and utilitarian purposes as described to him by the primitive peoples of the Southwest.

For years Sam Hicks has managed the Erle Stanley Gardner ranch and has traveled with the famous author and adventurer into back country areas. Naturally gregarious and with an especial rapport for people who live close to the land, Mr. Hicks has had many opportunities to sit around campfires and visit in their native habitats with the people about whom he writes. This reviewer has personally witnessed their great affection for him and their willingness to share with him the mysterious wonders of their race and lore.

In a foreword to the book, Erle Stanley Gardner writes, "I think this is an important book." Those who read it will agree. Well-illustrated with photographs, 75 pages of text, \$5.95.

THE YOSEMITE STORY

By Harriet E. Huntington

Along with a technical description of the geological history of the Sierra Nevada with special reference to the Yosemite Valley and National Park, this excellent, large-format volume presents the reader with an exciting travelogue that will fill him with awe for the region's natural magnificence. Beautifully illustrated with black and white photos, the book is slanted toward young adults, but all will enjoy it, especially those who have vacationed, or intend to visit Yosemite. Hardcover, 96 pages, \$3.50.

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VISITING AMERICAN CAVES

By Howard Sloan and Russell Gurnee

Endorsed by the National Speleological Society, this is a travel book of caves. Including practical information such as locations, directions, descriptions, history, hours and seasons open, rates, and facilities for camping and dining nearby, the book covers the entire United States and is highly recommended for those who can't pass by a cave.

In addition to the above, there is a glossary of cave terms and a complete picture and word description of all types of caves: limestone, sea caves, gypsum caves, ice caves, lava caves and information about stalactites, stalagmites, cave pearls and a lot of other exciting things that happen underground. Hardcover, 246 pages, \$4.95.

THE COLORFUL BUTTERFIELD OVERLAND STAGE

Painting by Marjorie Reed

Text by Richard Pourade

"Remember, boys, nothing on God's earth must stop the United States mail," John Butterfield told his drivers when he started the Butterfield Overland Stage in 1858. And during the five dramatic years the stages sped night and day to and from San Francisco and St. Louis, nothing did—despite Indian attacks, roving bands of killer-bandits, rugged mountains and wind swept deserts where water was more valuable than gold.

Marjorie Reed, noted as a painter of scenes of the stage coach days in California, spent several years researching and tracing the route of the Butterfield Stage from San Francisco to Ft. Yuma on the Colorado River, the worst stretch of the Butterfield Trail. It took 150



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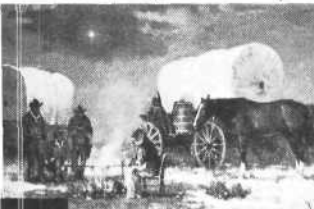
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T549 "...born this day, a Savior..."—May the Peace and Joy of Christmas be with you all the Year—by Thomas L. Lewis



T652 "...old days, old times, old friends"—Christmas Greetings and Best Wishes for the Year—by Clayton Nicles



T553 Roadrunning Santa—Merry Christmas and Happy New Year—by Charles Lee, Navajo



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T657 Ridin' in to a Warm Welcome—Inside is a descriptive 20 line verse by S. Omar Barker, plus greeting—by John Hampton



T561 "...fair and open face of Heaven..."—May happiness be yours at Christmas and in the New Year—by Wayne Lowdermilk



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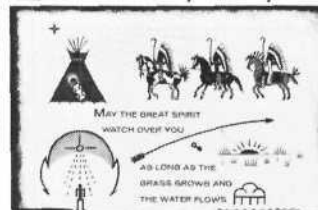
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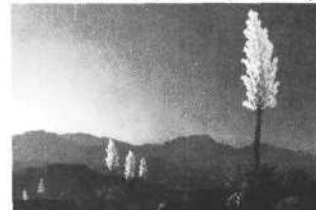
T569 May the Great Spirit watch over you, etc.—Merry Christmas and Happy New Year—by Brummett EchoHawk, Pawnee



T672 Silent Night—May the Peace and Happiness of the Christmas Season abide with you all the Year—by Art FitzSimmons



T674 Sleighbells in the Sky—Merry Christmas and Happy New Year—by Bernard P. Thomas



T675 Candles on the Desert Altar—May the Peace and Joy of Christmas be with you all the Year—by John Hilton



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"The Colorful Butterfield Stage" reproduces 20 stage coach paintings by Marjorie Reed Creese, world famous painter of horses and stage coaches. Text is by Richard F. Pourade, Editor-Emeritus of the San Diego Union and author of five volumes on the history of the San Diego area. He has personally traveled much of the route and brings vividly to life the story of the Butterfield Stage line and its starring role in one of the most dramatic chapters in the westward expansion of the United States. First Printing: August, 1966.

\$6.75 (plus 27 cents tax for California residents.)

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ERNIE PYLE'S SOUTHWEST, illustrated by Bob Bates with annotation by Ed Ainsworth. A collection of more than 50 columns by the late Ernie Pyle.

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HERE IS NEVADA

By Effie Mona Mack and
Byrd Wall Sawyer

Nevada is truly a land of contrasts. Not only geological and physical but also of moods and views. To some it is the Broadway of Las Vegas and Reno, to others the only state where gambling is a legal privilege—these are the publicized attractions. But Nevada is also a state of unlimited opportunities for those who believe in their individual abilities and destinies. Although the seventh largest state in the Union, it is one of the least populated states. Of its 70,273,280 acres, only 8,742,452 are privately owned.

Admitted to the Union in 1864 as The Silver State, Nevada poured millions into the North which contributed toward its victory in the Civil War. The history of Nevada is more fascinating than any fiction. Today's tourists who are not blinded by Las Vegas and Reno can spend weeks exploring its ghost towns, mines and scenic attractions, and then only scratch the surface.

At long last a complete picture of Nevada has been written and compiled by two authors who have lived all their lives in Nevada and know it from north to south. Although *Here is Nevada* is a school text book, it is fascinating reading and the only publication that completely covers Nevada from its first settler to the present day. The 8 x 11 hardcover, 310-page volume contains hundreds of black and white and color photographs of early and modern Nevada. The appendix includes a list of every worthwhile book written about Nevada. The only way to really know Nevada is to have lived there 50 years or else own "Here Is Nevada." **\$12.50.**

NAVAHO NEIGHBORS

By Franc Johnson Newcomb

Although this reviewer gets a little tired of books on the Navahos because there is so little new to write about them, Mrs. Newcomb has even surpassed her other books with this one. Writing about personal dealings with the Navahos who lived near and traded at the Blue Mesa trading post operated by her husband, she tells her fascinating stories with a directness lacking among many writers of Indian tales.

One chapter is about Hosteen Beal and his E.S.P. This gentleman, a medicine man, demonstrated his talent for tracing lost articles and people so consistently that even skeptics became believers. Before retiring, he earned a government reward for tracing an escaped criminal by means of his unusual powers. He died at age 104!

Having come to the reservation as a teacher in 1912, Mrs. Newcomb spent more than 30 years of her life there. Navahos of all ages trusted and befriended her during this time, sharing tribal secrets with-held from other white people. In this book she writes of a lost gold mine on the reservation, of how an Indian lady unloaded a fat husband by covering the entrance to her hogan with two planks and leaving a space too slight for him to enter, and a number of other incidents which altogether make an unforgettable book. Hardcover, 236 pages, \$5.95.

PEOPLE OF MEXICO

By Joseph W. F. Stoppelman

Although a great many books have been written on the history, government and past and present culture of Mexico there are few books written about the people of Mexico. A Netherlands newspaper correspondent who became a United States citizen in 1946, Stoppelman has traveled extensively in Mexico and in his book attempts to show Mexicans from all walks of life as individuals rather than the photographic objects of United States tourists. In addition he discusses the plight of the Indians and impoverished economic advancement of Mexico. Hardcover, 69 photographs, 211 pages. \$6.95.

INYO 1866-1966

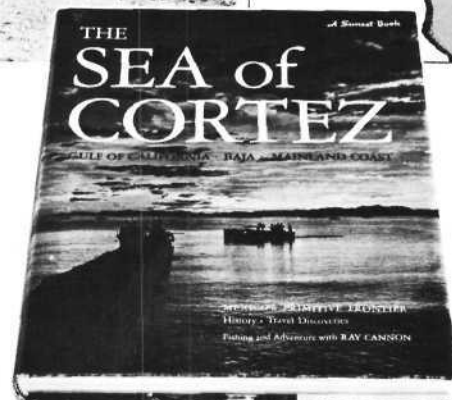
To celebrate California Inyo County's centennial anniversary, its Board of Supervisors have produced one of the most interesting and attractive books of this



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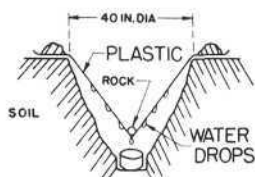
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By Lesley Byrd Simpson

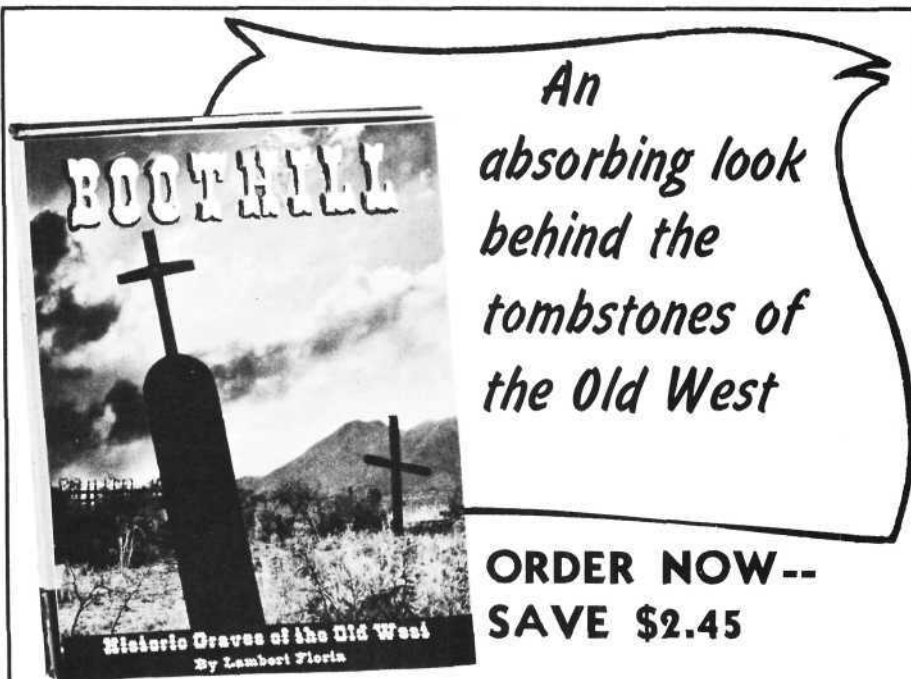
Originally published 25 years ago, this book concerned with the cultural history of Mexico has become a classic in its field. Since that time, however, the author had accumulated such a mountain of notes with additional information that at this time he felt forced to rewrite the book in its entirety for this revised edition. Covered are bloody conquests and revolutions, culprits and heroes, art, religion, customs, institutions, topography and climate cultural conflicts and, finally, Mexico's emergence into today's bewildering world—all presented with warmth by a writer in love with Mexico and its history. Hardcover, 389 pages, \$7.50.

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Professor Hollon traces the evolution of the Great American Desert from early myths to the double realization that the desert is permanent and man's adaptation to it is not impossible. Water, he finds, is the key to man's use of the desert and he covers well the constant search for it, including public works now being undertaken. Much of the book is concerned with the desert as it is today and the good professor has discovered that most of the people of it are newcomers who see the region as one to be developed, rather than as one to be depreciated, and that it can be conquered!

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With Eyes Wide Open

by Jim Martin

A TIME HONORED adage decrees that Justice is blind. The allegation is not intended as adverse criticism of our court system, but as an assurance that in the eyes of the law, all men are considered to be innocent until proven otherwise. Yet it takes but a single glance at the facade of the Storey County Courthouse in historic Virginia City, Nevada to dispell thoughts of Justice as being unseeing.

Mounted conspicuously above the main entrance to the stately public edifice



is a statue of the Goddess of Justice. The traditional scales hang suspended from her upraised left hand, a keen edged sword is grasped firmly in her right. But in contrast to her sisters of jurisprudence who wear blindfolds, this lady of the law faces the world with eyes wide open.

Just why her sculptor decided to omit the customary eye covering is a cause for speculation. Possibly the explanation can be found in a study of the history of the courts in old Nevada. Perhaps, after observing the situation first hand, the designer decided that Justice needed all the assistance she could get in view of the odds against her.

Law and order followed an informal pattern in the remote West when Nevada was first designated a Territory. Court action was of the same mettle. Some of the appointed magistrates were men of highly questionable merit; judges in name only. The decisions rendered from

the bench were often of the same caliber.

Disputes over mining claims were the major cause of litigation in the courts of the Virginia Territory. Evidence reveals that the judges were frequently as short of cash as they were of honor, integrity, and legal knowledge. Perjury, the bribery of juries and witnesses, and the sale of favorable rulings were common practices. Prices of mining stocks recurrently rose and fell in accordance with decisions from the bench.

Capital punishment was rare; homicides accepted as a matter of course. Anyone actually taken into custody for a killing normally suffered little inconvenience. Thanks to sympathetic jury members, silver tongued lawyers, pre-arranged trial postponements, and witnesses who failed to appear, cases were either dismissed or the accused was acquitted.

The comical aura which characterized court life in the First Judicial District of the Territory was reflected in the actions of Sheriff William H. Howard, who was apparently a court jester in every sense of the word. Whether in silent protest to the actions from the bench, or simply in keeping with the occasion, the sheriff is reported to have followed a pattern which won him fame as a humorist.

At one time Sheriff Howard picked the fattest men he could locate as jurors. For an entire week the jury box bulged and the courtroom rang with laughter. The next jury, tried and true, was summoned from the thinnest men in the county. Barristers for both the plaintiff and defendant were well nigh driven crazy trying to gain the jury's attention when Sheriff Howard seated a panel composed entirely of cross-eyed men.

So far out of alignment were the wheels of Justice in the courts of Nevada it is reported that the bailiff of the Territorial Supreme Court once opened a session with the following proclamation:

"The Honorable Supreme Court of the Territory of Nevada is now in session. God help the people of the Territory of Nevada."

With such conditions prevailing, it is readily understandable how the designer might have elected to lend a hand to Lady Justice by leaving off her blindfold. □

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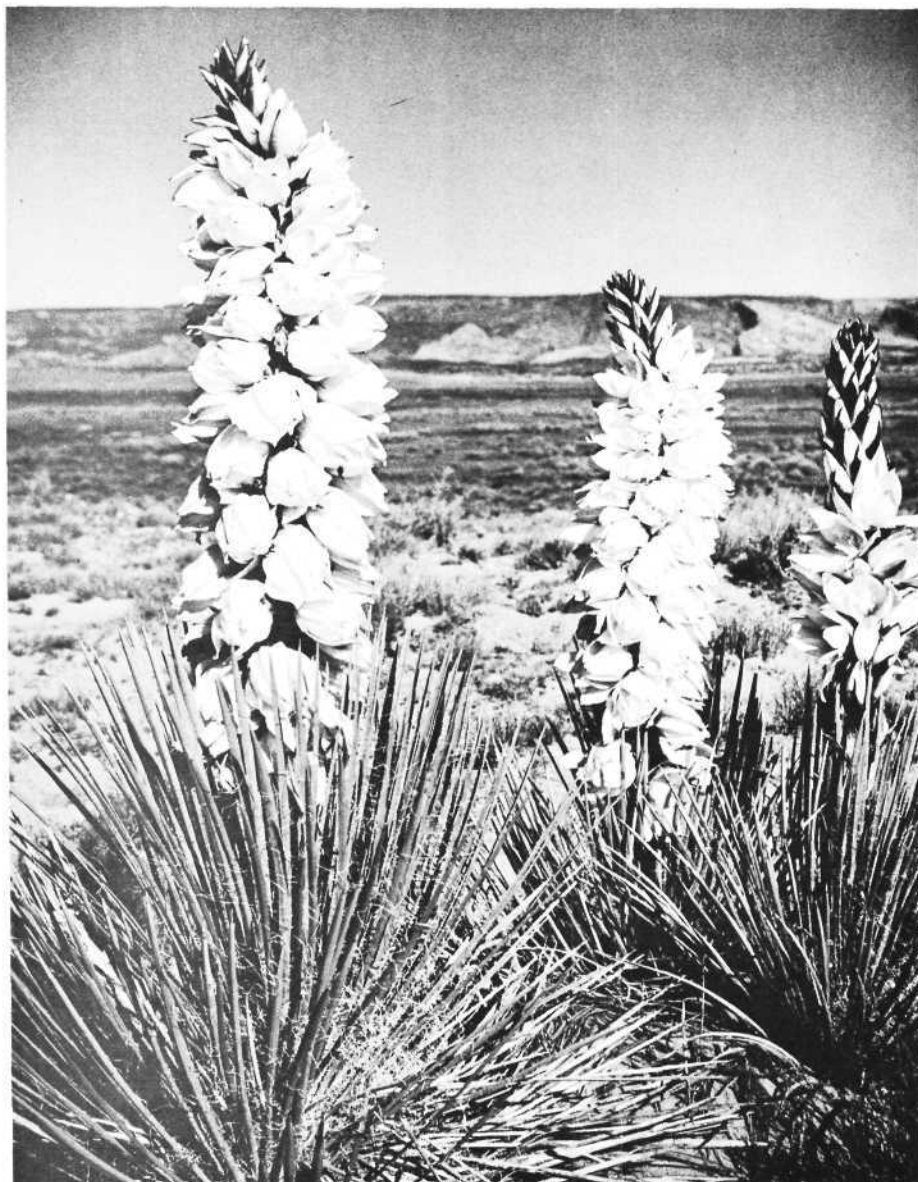


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GEM OF THE DESERT

by Lou Speer



CALL IT what you will—yucca, Spanish dagger, soapweed, or by any other name—the yucca baccate is truly one of the real gems of the West. Though its worth is recognized little today, the aborigine of the American deserts and high plains found this sharp-tipped, ever-green plant of the lily family one of the most valuable plants growing.

His primary interest in the plant, of course, was as a source of food. Seeds and pods of this common plant have been found in the prehistoric ruins of Bee Cave

Canyon, Texas. And we know now these edible fruits, as well as the young flower spikes of most species, made an agreeable addition to the diet of the Indian. Ripe fruits were eaten raw, baked, boiled and broiled. They were also roasted overnight in coals, tasting somewhat like burned squash. Sometimes the rinds were removed, the seed ribbon and the pulp cooked to a paste, dried by itself or mixed with cornmeal, and then stored in patties for winter. Syrup, desserts, cakes or dried fruit were made from the pulp and it was boiled in water and the sweet liquid im-

bibed. Pickles were made from seed pods and leaves were chewed, like tobacco.

The yucca also provided a source for medicine—as an emetic. Modern science says it is an excellent source for vitamin C.

Xtuc, a delicate, strong, lustrous white fiber was an important product of the yucca. In preparing it, Indians threw the leaves into vats of hot water, then boiled and crushed them to remove the non-fibrous tissues. Next, the fibers were placed for four hours in a hot alkaline bath made from ashes and water. From here they were washed, dried, and combed. From this fiber, cords were made for every tying purpose including nets, snares, bow-strings, sandals, sewing. The Little Colorado ruins have even produced cloth made from finely spun yucca cord.

Roots of the yucca baccate yielded two valuable chemicals: tannin and saponin. Tannin was indispensable for tanning hides; saponin produced an all-purpose detergent for washing.

In making soap, Southwest Indians gathered the roots and washed them free from dirt, then pounded them with a stone. Crushed roots were then rubbed directly onto the hair, body or clothing. Sometimes roots were roasted and allowed to stand in water. The Indian did his

washing then in the soapy liquid which remained after the roots were removed.

Jemez Indians, very proud of their long, black hair, washed it in yucca root suds at least once a week. As part of the Oraibi marriage ceremony, mothers of the couple each prepared a large bowl of suds and washed the heads of their respective in-laws. The Hopis used the "soap" to wash the hair of the dead. The Isleta, Zuni and Navajos, too, used yucca in various ceremonies.

Enterprising early man found other uses for the remainder of the plant. Dried flower stalks were turned into fire drills. Thin strips of leaves were used for brushes. Whole leaves were woven into mats, bowls and trays. For use in games, the Indian wrapped dried corn cakes with yucca fibers to make a ball. He even made dolls from the rough plant.

Today, yucca is little valued except as a yard decoration and range food for cattle. But, here again, another facet of this marvelous treasure comes to light. Ranchers have discovered that cattle, eating the blossom, require less watering. Some wisely chop and shred the stems to store for use as a drought maintenance food.

Call it what you will, the yucca baccate it truly an unsung gem of the West. □

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A SHORT TIME ago I watched a Cup-of-Gold spring into full bloom. A petal flipped outward, then another and another and in a matter of minutes a beautiful golden blossom graced the vine. Two days later, both lay forgotten, trod underfoot on the path.

The life and death of a Cup-of-Gold typifies the life and death of a gold mining camp. Someone finds a good prospect, the cup of gold opens suddenly, it flourishes until the gold runs out; then it dies, forgotten by all but the few who reflect thoughtfully upon its past splendor.

Columbia, California refused to follow the usual pattern. It burst to full glory in a matter of days . . . but let's start at the beginning and follow its marvelous career.

On March 27, 1850, five prospectors still smelling of the piney woods of Maine camped beside a gulch to pan for gold. To their great surprise, they found it. We can easily guess their whispered plans and their desires to keep their find a secret as long as possible. If they could just hold out for a few days or weeks they would be rich beyond their wildest expectations, for each man was recovering eight to ten ounces of gold per day.

Their plans were shattered less than a week after they made their discovery. A sixth man showed up, pitched his tent and went to work. By nightfall he had panned out two and a half pounds of gold. One petal of the Cup-of-Gold had flipped open.

In those days news traveled almost as fast as it does now. Within 13 days, 8000 miners from "Jimtown," Sonora, Shaw's Flat and beyond had fought, clawed and be-damned their way through poison oak and rattlesnakes to the diggin's. With 8000 men recovering gold as fast as they could shove it into tin cans and leather pokes, the Cup-of-Gold was now wide open.

When we speak of a man recovering ten ounces of gold per day we must not relate its worth to the present price of gold, \$35.00 per troy ounce. Gold buyers in those days offered as little as \$7 per ounce for dust which later assayed from \$14.50 to \$19.50 per ounce, based on an ounce of pure gold being worth \$20.67. However, even at the low prices then offered, men became rich with relatively little effort.

As Columbia's fame spread, in rushed camp followers, claim jumpers, gunslingers, cut-throats, confidence men and similar ilk. Almost before anyone realized it, Columbia boasted of 150 Monte and Faro banks, to say nothing of hell-raising sal-

oons and ignominious dives. Fortunately, close on the heels of the Machiavellian predators came carpenters, masons, shoemakers, doctors, and other men willing to do an honest day's work. In a matter of a week or two this precipitous influx of men and women boosted Columbia's population to 20,000, making it one of the largest camps in California. From then on it was known as the Gem of the Southern Mines.

A fortnight after the original gold discovery, it became evident that some sort of government was needed to protect the honest men. A Major Sullivan was appointed alcalde and given power adequate to cope with the lawlessness then existing. In addition, he was permitted to collect registry fees on claims and to enforce the collecting of taxes. Although California did not officially become a member of the Union until September 9, 1850, a state constitution had been adopted as early as November 13, 1849. On June 1, 1850, the alcalde began to tax foreigners, thus

of the delegates had strong dislikes for certain races of people. Therefore, it is quite probable that the alcalde, while not willing to break the law as spelled out in the constitution, may have been willing to bend it a bit and tax some residents of Columbia so heavily that they moved away.

In addition to the appointment of an alcalde, the miners also promulgated several Columbia District laws, the most notable of which were: (1) Dry diggings and gold bearing earth thrown in heaps to await winter rains are to be considered private property. (2) No one shall be allowed to divert a naturally flowing stream without permission of all interested parties. (3) The presence of tools, sluice boxes in condition for use or other mining machinery is prima-facie evidence of occupation. (4) South Sea Islanders and Asiatics shall not be permitted to mine in the district, either for themselves or for others. Furthermore, any person who sells a claim to persons of such ori-

THE GLORY OF COLUMBIA

by Milo Bird

causing an exodus which greatly reduced Columbia's population.

In view of the wording of the 1849 constitution it does not seem that the alcalde could legally tax foreigners any more heavily than any one else. Article I section 17 reads, "Foreigners who are, or may hereafter become bona fide residents of this state, shall enjoy the same rights in respect to the possession, enjoyment, and inheritance of property as native born citizens."

Article II section 1 reads, "Every white male citizen of the U. S. and every white male citizen of Mexico who shall have elected to become a citizen of the U. S. and of age 21 years shall be entitled to vote."

Article XI section 13 reads, "Taxation shall be equal and uniform throughout the state. All property in the state shall be taxed in proportion to its value."

Although none of these articles indicate prejudicial treatment of foreigners, the constitutional debates indicate that some

gin shall not be permitted to hold another claim for six months. (5) Only Americans or Europeans who intend to become citizens shall be permitted to mine for themselves or for others.

No regulations covering arbitration or civil suits were established. The alcalde was given the power to handle such cases and to appoint a jury, hear arguments pro and con and to be guided by the jury's verdict.

Columbia was incorporated in 1854, four years after the discovery of gold among its limestone boulders. By that time the easy-to-find gold had all been taken out and it became evident that better means were necessary to recover that which remained. Columbia's Cup-of-Gold was fading fast.

However, another bud was beginning to open. A water company was started which would bring water from large streams higher in the Sierra and thus permit heavy sluicing. In order to hasten progress on the ditch more than 300

miners quit work on their claims, took their picks and shovels and donated their time to the digging of that ditch. The company constructed 44 miles of ditch and flume in 10 months and thus supplied water to 25 square miles of mining ground and numerous ranches.

This flood of water opened the second Cup-of-Gold. With it, miners operated huge hydraulic nozzles which tore down hills and sent untold thousands of tons of gold-bearing clay tumbling in a yellow, foamy froth through huge sluice boxes. Gold nuggets and dust poured in a steady stream from the sluices.

The Wells-Fargo building, erected in 1855 after the first Cup-of-Gold had faded, is reputed to have handled more than \$50,000,000 in gold. One authority claims that more than \$80,000,000 was recovered from one square mile of ground. A California Division of Mines Bulletin states, "The rough limestone bedrock is credited with having caught and held gold to the fabulous sum of \$87,000,000. Few

can realize what a wonderful job of concentrating gold old Mother Nature did and why those veins were so rich.

Many early day miners intended to stay only long enough to make a stake. They built shacks of anything they could get hold of, from lumber to grain sacks to flattened tin cans. Such construction was naturally tinder for a fire, and fires Columbia had. She burned down twice, but Phoenix-like, sprang to life again, each time erecting better homes and business houses, the ultimate of which had installed huge steel doors at every opening to protect the interiors from further destruction by fire as well as burglars and other night time marauders. Residences were constructed chiefly of lumber. Over the years most of them became victims of fire or decay. The house my family occupied in 1901 and 1902 has fallen within the past year.

Several notable buildings, although more or less rejuvenated, still line the streets. The old two-story brick school on

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The old brick schoolhouse.

gold placers of similar area have yielded so rich a harvest."

Several large nuggets were found in the area. One weighing 50 avoirdupois pounds, yielded \$8,500. Another weighing 362 troy ounces, was worth \$6,500, while two others were worth \$5,265 and \$5,000 respectively.

It might be well to pause now and examine this patch of ground to see why it was so rich. One theory is that gold-bearing quartz veins had been formed in rifts in limestone. During wet weather limestone, which is basic, reacted with quartz, which is acidic, thus forming calcium silicate and liberating the gold. As the calcium silicate washed away, the gold settled deeper and deeper into crevices so formed and was unable to escape. When we remember that geologists believe the original surface of the earth along the Mother Lode may have been several thousand feet above where it is now, we

the hill near the cemetery looks much the same, as does St. Ann's Catholic Church, built on unplacered ground in 1856 and recently rejuvenated. The Wells-Fargo bank building erected in 1855 is still a tourist attraction and the Fallon House provides space for a theatrical group from the University of Pacific at Stockton.

Sporadic placer mining continued until 1901, but dwindled rapidly after that because all of the rich ground had been placered out. Columbia's second Cup-of-Gold faded fast. However, it was destined to die. A town which, according to local legend, had nearly become the capital of the state couldn't be permitted to die on the vine. In 1945 it was made a State Park. Thus Columbia escaped the ghostly fate of other mining camps. Today, thousands of visitors pour through its streets and keep the Cup-of-Gold from wasting away. □

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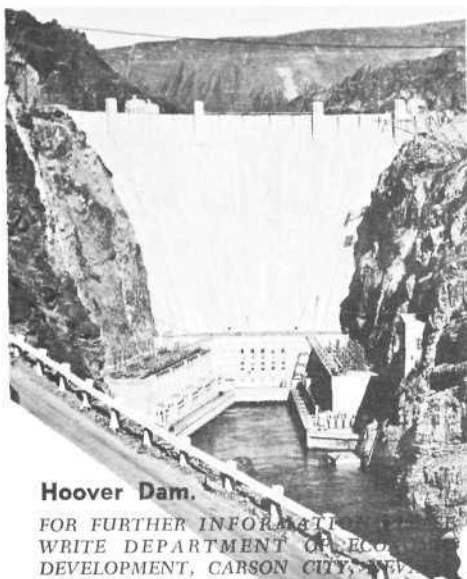
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Exploring Pacoima Canyon

by Max Ferguson



The stream was diverted through the mountain so alluvial deposits could be worked for gold.



There are lots of things for a girl to do with sand.

AT THE back door to Los Angeles lies a green little gem called Pacoima Canyon. It's sparkling, twisting stream beckons all to come wade, explore, and picnic on its low banks. For the camper, rockhound, adventure traveler, and history buff, the canyon holds many hours of enjoyment.

After a winding drive down from Dillion Divide, Honeybee Campground with its four campsites looks very inviting. It is perched on a level flat overlooking the sparkling Pacoima Creek. During these hot months, there's no better way to "beat the heat" than to sit in the shade and let the breeze blow; or, better yet, wade in the creek and really cool off.

Just past Honeybee, you ford the stream. At times you seem to be driving more in water than on land, but have no fear. It's wide, but shallow. One mile further brings you to the Dutch Louie Campground, the largest in the canyon. The six campsites here are inside a long curving swing of the creek. Diamond Campground is five miles further, a thousand feet higher and has four campsites. Stoves, tables, and sanitary facilities are at each campsite and the stream is

always nearby, but it's safer to bring your own water supply.

The canyon bottom has been cleared of all vegetation, except the larger trees, in what District Ranger Jesse J. Barton called a "canyon bottom fuel break." The term "fuel break" rings new to the layman's ear, accustomed to hearing "fire break." Ranger Barton explained that a wide strip of land is cleaned down to the bare earth in a fuel break and then replanted with a type of flame-resistant grass. As the name implies, when a fire burns to this area, it simply does not have the fuel to continue. The cleaned area with its maintained road serves fire fighting equipment as an anchor point for fire control. Because of the fuel break and similar improvements, it is hoped this area will be opened permanently to the public by 1968. At present, it's closed on July 1st, and reopened when the fall rains come.

Many types of minerals can be found in the alluvium deposit at the bottom of the canyon, including cobalt to zinc. The stream banks are lined with black ilmenite-magnetite sand containing up to 30% titanium oxide. A small toy magnet dipped into this sand will pick up enough

black grains to equal its own volume. Children find this fascinating!

A magnet will also help you find the ilmenite-magnetite rocks (or boulders) lying in the stream bed. Biotite mica can be found in large chunks and is an interesting addition to any collection. Also found in varying quantities are: graphite, pyrite, lead, copper ore, silver ore, zinc ore, and dolemite. The dolemite was mined briefly in 1940 and used for chicken grit. Though spectacular, the ilmenite-magnetite (titanomagnetite) are so finely intergrown that no profitable means has been developed to separate the two. The small amounts of chromium, vanadium, and phosphorus in titanomagnetite will affect the properties of the product whether it be iron, steel, or pigments. Many millions of tons of this material lie in the 40-foot deep stream deposits.

But, remember, you are in a national forest. If you intend to collect, a permit is required. Ranger Barton said that obtaining one is no problem. Simply go to a ranger's office and request permission to collect rocks in the national forest. There's a minimum fee of \$5.00 (payable by money order only) for the permit, but it allows you to collect up to five tons of ornamental rock and is good anywhere in the forest. Such a permit would last the average collector a lifetime.

Upstream from Dutch Louie Campground and on the left is an abandoned tunnel with a stream flowing from its mouth. The loud roar coming from the tunnel is incongruous with the stream's leisurely flow, but it's a delightful discovery! The measured difference in temperature is 24°F! To our surprise, after driving around a rock promontory, we found the entrance to the tunnel. I learned later that the water had been diverted via a tunnel, which created the roar, so the alluvial deposits in the long curve of the stream could be worked for gold.

To get to this little oasis of manzanita trees, clear streams, and solitude, turn north off Foothill Boulevard onto Osborne Street which becomes Little Tungja Road. Ten miles from Foothill Boulevard, at the top of the gap, is Dillon Divide. Here is a dirt road to the right with signs directing you to the Honeybee Campground. The dirt road is narrow and winding, but plenty of pull-out places have been provided, should you need them.

Whatever the reason that motivates you to explore Pacoima Canyon, you'll be surprised to find yourself so quickly alone. The stream is gurgling, the breeze is blowing—yes, this is the spot! □

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Little Charlie's Lost Placer

by Robert Buck

IN THE autumn of 1940 a deer hunter found Little Charlie's lost placer, but as he'd never heard the story and had no knowledge of gold mining, he didn't realize he'd stumbled upon a potential bonanza and passed it by.

There are many tales and legends of lost gold mines woven into the history of the West, but this one was found and lost in recent times. It is now, here, set in print for the first time.

For years I kept Little Charlie's secret, quietly searching for his lost deposit without success. Now, after 35 years, I'm sharing it. All I ask is that the finder—and there will be one—remember where he got his information and forward to DESERT Magazine a nugget so it can be added to those from lost mines now being rediscovered.

Also, be reminded that although this area retains its original wilderness, it is privately owned land and permission should be sought before entering it.

In the spring of 1931 I first met Charles Prichett, or Little Charlie, as he was known. A wizened fellow about five feet tall and 48 years old, he'd come to California from Missouri to work as a cowhand, but had turned prospector. A bachelor, he preferred to stay to himself and not be bothered by anyone.

When we met, Little Charlie was panning gold on the upper reaches of Wildcat Creek in the western end of Tuolumne County, California, on property locally known as the Stone place. I was staying with friends on the Hodgdon ranch adjacent to it, a youth of 16 and suffering with "gold fever."

Henry and Abbie Haywood, the friends with whom I stayed, told me of former rich placer finds in the area so I set out with my gold pan to search for golden particles overlooked by the '49ers.

Unknown to me, Little Charlie considered the Stone place his personal claim and carried a gun to discourage poachers. When I ventured his way, Little Charlie

was sitting on a rock at the edge of a water hole manipulating a pan of gravel. We passed the time of day and he seemed friendly enough, even though I was carrying a gold pan. Why he never ran me off, I don't know.

Before he had the gravel panned down, it was evident this was rich gravel. Several small nuggets already showed. When he finished, he displayed about \$5 worth of gold in that single pan—nearly as much as he could make in a week as a cowhand. No wonder he'd turned to prospecting!

an ounce. Nuggets, evidently, had become quite commonplace to him, as he remarked, "Shucks, I reckon you'd uh really got excited if you uh seen the chispas I washed out a couple winters back." Little Charlie then told me the following story:

He'd heard of a spot in a ravine on the western slope of Bear Mountain which was reported to be rich in placer gold. He decided to find it. Bear Mountain is a range which rises up in the foothills of the Sierras, the highest peak of which reaches an elevation of around 2000 feet. The



Little Charlie took a liking to me and invited me to try a pan or two. I didn't turn up the amount he did, but managed to take home a nice amount of coarse gold in a little glass bottle.

During the next couple of years, I visited with Little Charlie many times and he seemed to enjoy my company. At times he was quite talkative and spoke of places he'd prospected throughout the foothills of California's Mother Lode region. On one occasion, while watching him pan down a pan of gravel, I became excited when he turned up a nugget of about half

range is about 20 miles long and runs north and south in Calaveras County between the Calaveras and Stanislaus rivers. Sparsely populated and covered with oak, scrub pine, buckeye and chapparal, it had a mining history, but was now strictly rangeland.

On a cloudy, winter morning, carrying his gold pan and prospect pick, Little Charlie hiked off across the rolling hills and ravines along the western base of Bear Mountain. Whenever he found a likely spot with water, he stopped to try a pan. Several places looked promising

... a hunter found it, but didn't know what it was!

and by about 2:00 p.m., after covering what he guessed to be over eight miles, he was ready to turn back. The wind had come up and it was starting to rain.

Plotting a course which he thought would lead more directly back to his car, he started out at a fast walk over the ridges and ravines. He'd walked a little over half-an-hour when the rain started to come down in sheets.

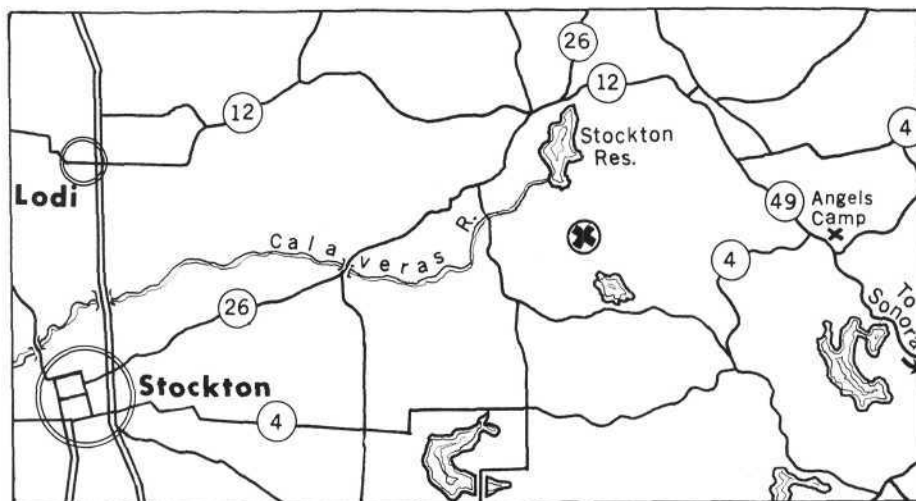
Looking for shelter, he huddled close to the trunk of a huge oak tree, but standing still caused him to chill. As it didn't appear the rain was going to let up, he moved on.

By now water was running in rivulets down the sidehills and the ravines were running streams of water. With his head down to keep the wind and rain from his face, Little Charlie was hiking up a sidehill when he noticed a strange patch of iron-stained red gravel underfoot. A rivulet of water ran over it and a gleam of yellow in this rivulet caught his eye. Reaching down, he picked up an ounce nugget of gold. Looking closer, he found another a little smaller.

Gone now, were thoughts of the rain. With his pick, Little Charlie scratched away the gravel in the small furrow the water had carved. Then he made a couple of furrows around the hillside above the exposed red gravel to direct the runoff from the pouring rain across the area where he'd picked up the nuggets. Working the gravel loose with his pick, he tossed aside larger rocks and let the rain water wash gravel for him while he picked out the coarse nuggets. Here were the riches he'd dreamed of finding. He had it made!

As darkness fell and the storm continued, Little Charlie, wet but jubilant, filled his pockets with gold nuggets and reluctantly left his new found wealth. Stumbling through the inky darkness with only the southeasterly wind in his face to guide him, it was many hours before he found the road and his car.

"Yuh know, Bobby," Little Charlie



said, "I hunted for that red gravel patch for the next two year. Never did find it agin."

The sameness of the slopes and ridges in the area, together with the fact that Little Charlie was too excited over his find to take stock of his surroundings combined to confuse him to the extent that he did not know, other than the general area, where his rich placer was.

"I'm still a huntin' it off 'n' on," he added. But Little Charlie never did relocate his red, iron stained, patch of gravel. In the spring of 1934, in a spell of despondency, he committed suicide. He used a single shot 22 calibre rifle, which belonged to the writer of this story. Little Charlie had borrowed it to shoot squirrels, which he said had become a nuisance around the old ranch house in the hills where he was staying.

I'd almost forgotten about Little Charlie's lost placer, when in the fall of 1940 I was suddenly reminded of it. I had married and we were making our home in Valley Springs, Calaveras County, a few miles north of Bear Mountain. It was near the end of deer hunting season. I was visiting with a couple of friends in front of Piler and Lillie's general store when a car with a nice four point buck draped over its front fender pulled up and parked. The proud hunter, a stranger to the area, was anxious to show off his buck.

When asked by his audience where he got it, he pointed towards Bear Mountain and said, "Over there, in those mountains."

While everyone looked over the deer, he dug in his shirt pocket and pulled out a small gold nugget. Why he singled me out, I don't know, but handing it to me he said, "Here's something else I found over there, too, on the side of a hill in a patch of red colored gravel. There was a little ditch that the water had washed down through and this was laying in the ditch. Do you think it's gold?"

"Sure it's gold," I told him.

"Well," he remarked, "it will make me a nice souvenir of this hunting trip. I wonder how it got that far up the hill? A bird must have dropped it there. It must have come from one of those creeks around there."

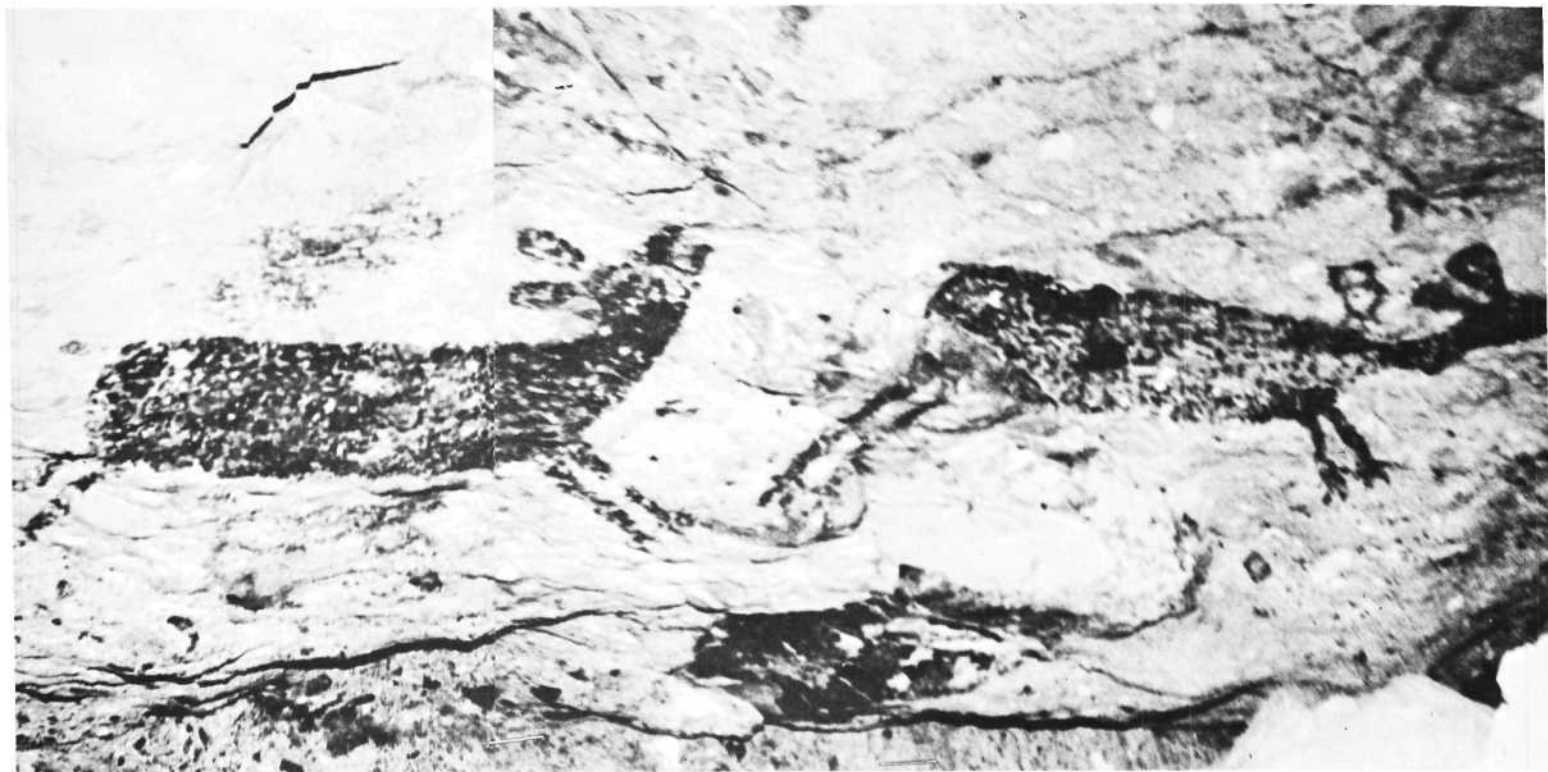
He put the nugget in his pocket and I realized he hadn't the least idea he'd stumbled over a potential bonanza—and I wasn't about to enlighten him. The buck he'd shot was of the most importance to him.

Since then, I've made several prospecting excursions to the area, but never found the patch of iron stained, red gravel. So now Little Charlie's lost placer joins the legends of lost mine stories. It's there. Someone will find it someday. □

The Magic of Baja

by Choral Pepper

Editor of DESERT Magazine



Fawn leap spritely across low ceiling of cave. Author had to lie on her back and use a flash bulb to get photo. This was one of most expressive cave paintings.

THE MINUTE I saw this man, I knew there was something extraordinary about him. He alighted from the plane in an ordinary manner. He said the customary things when introduced. He spoke excellent English. But hanging from the front lacings of his antelope jerkin was a pagan talisman.

"What does it do for you?" I dared to ask.

"Well," he hesitated, pushing back a Tyrolean hat and studying me through thick, dark glasses, "the little bundle of sticks protects my health. The tiny carved hand gives me the wealth of the world. And the round seed that looks like an eye keeps me from having trouble with beautiful women!"

"Get me one that BRINGS ON trouble with beautiful women!" Erle Stanley Gardner roared.

And that was the beginning of our friendship with Dr. Carlos Margain, one of the world's great archeologists. This all happened over a year ago on a quick

trip to Baja (DESERT, January '65) when Uncle Erle invited the University of Mexico to send an archeologist at his expense to meet him in Mulege and evaluate a site Gardner had discovered on a previous expedition. The University sent Carlos Margain. Since then we've all kept in touch and as the Gardner 1966 expedition grew from a rumble to a reality, Carlos became an important part of the plan.

On the 1964 Gardner Baja expedition, we'd made a special trip to San Ignacio from our camp at Coyote Bay to investigate a reported cave containing a giant serpent pictograph which was believed to represent a map or migration pattern. Upon arriving there, however, we learned that the cave was a three-day trip by mule *each* way, rather than round-trip, as we'd been led to believe, and because of the time element, we were unable to make the trip to it. So now, with two helicopters and an expert like Carlos Margain, our Number One target was to see and evaluate the Serpent Cave.

An arrival into San Ignacio is always accompanied with disbelief. From surroundings so arid even the eternal cholla looks mangey, there suddenly appears a broad arroyo rampant with feathery date palms and flamboyant bougainvillea. And, like Rome, all roads lead to it, although these are more primitive even than the Appian Way.

This oasis, watered by an underground river which surfaces only long enough to give life to a village, was known as Kada-Kaaman by the Cochimi Indians who implored early Jesuit priests to establish a mission here. Father Luyando, the first priest, laid the foundation for beautiful San Ignacio in 1728 and, to make his visits to outlying rancheritas less burdensome, instituted the roads which radiate from it. These old trails are still visible from the air. The Order of Jesus was banished from New Spain before the mission at San Ignacio was completed, so efforts of both Franciscan and Dominican priests who followed

were involved until its completion in 1786 by Dominican Padre Gomez. Throughout its history, San Ignacio has prospered, chiefly because of an abundance of water which could support more neophytes than other missions could handle.

Constructed of cut lava with walls four feet thick and an arched ceiling, the mission stands before a picturesque plaza shaded by giant trees. Its exquisitely carved doors have weathered to a beautiful patina and the faces on mission statuary reflect the earnestness of their primitive sculpturers, and their individual likenesses as well.

This mission is still in use today and its priest is an American from Chicago, Father Franze, who is currently involved in a campaign to raise money to repair the bell tower, which is in sad disrepair. The Gardner camp took an enthusiastic interest in this worthy endeavor and, as a result, bells should ring in San Ignacio for a long, long time.

Capitan Francisco Munoz of the Baja Airlines circled our camp on a return from his regular run to Puerto Vallarta, so we all rushed to the airstrip located near camp. In addition to Dr. Margain, who had flown from Mexico City to the popular mainland tropical resort where Francisco picked him up, our old friend and favorite pilot brought arms full of exotic green coconut and papaya for us to enjoy in camp. He also brought our first letters and news from home.

One of these bulletins informed us that the helicopters would be late, an advantage in that it allowed us time to become better acquainted with San Ignacio. Another missile was the first copy of my new book, *Cooking and Camping on the Desert*, which Jack had asked Francisco to deliver at camp. It wasn't until then I truly appreciated how out of contact we'd been. Imagine not seeing a copy of your book until it had been on the market a week!

As soon as Dr. Margain was introduced and installed in camp, we unhitched the Chapulinos and took a dip into civilization to locate a laundress and to purchase a shower and some hard *pan*. Now these just aren't things you do everyday, especially the latter two. Or, at least, you don't do them in quite this way. The shower, we found in the general store across the plaza from the mission. It consisted of a bucket with holes punched into the bottom and some sort of inner contraption which would plug the holes when you stood underneath it and pulled a string. Back at camp the men carved a niche into a limb of a mesquite tree, hung

the bucket on it, stretched a tarp around four posts to make it private, paved the floor with large, flat stones, and then filled the bucket with water heated over a campfire. It was a lovely shower, especially on warm sunny days before helicopters started to hover overhead!

To locate a laundress we didn't drive around town looking for a sign. We'd never have found one if we had. Instead, we stopped at a grocery to enlist the aid of Hercilia Cesena, a beautiful senorita we'd met on a former trip to San Ignacio (DESERT, May-Sept., 1964). Hercilia remembered us and continued to be helpful throughout our stay. This time she directed us to a senora who was willing to do our laundry and trust us for labor, but needed a little advance to purchase the amount of soap required to launder our enormous accumulation of soiled clothes. This little matter was taken care of and by the following afternoon every-

thing was laundered and skillfully ironed—all this accomplished without running water, gas water heaters or electricity to heat an iron.

Now the "hard *pan*" bit may sound misleading if you don't speak Spanish and know that *pan* means bread, but it isn't anymore misleading than being sent to the schoolhouse to buy it. Nevertheless, that's where you go to buy bread in San Ignacio. Not in front, though, or to any visible entrance. You park at the side of the building, walk through a mammoth patio-playground, past a long dormitory filled with beds for the *siesta*, and then, among a series of former classrooms now converted into apartments, you'll find a very comely *senora* who makes hard *pan*—but never on Sunday. On all other days of the week, however, she bakes twice a day and turns out superb hard-crusted, soft-centered rolls that can't be matched anywhere outside of France—

In a grasshopper vehicle we called "chopulino" in Mexico, we explored crooked streets and palm groves in San Ignacio.





other than elsewhere in Mexico. I don't know what does it—whether it's a wood-burning stove or hourly freshness, but only the French and the Mexicans achieve such perfection in contrast between hard, crisp crusts and tender centers of hard rolls.



Because our first visit was on a Sunday, we returned to the schoolhouse to buy bread on Monday and this time arrived while it was in the oven—a good excuse to spin around town on a sight-seeing tour while it baked. We drove up one street and down another, past the pink houses, the blue houses, the char- treuse house where the nuns lived and the crooked old tree the boys climb. Everyone was interested in the Chapulinos and laughed and waved as we passed, but even the children didn't molest the intriguing vehicles when we stopped to take photos or have a lobster taco and beer at the Oasis Cafe.

San Ignacio is an incredibly romantic village. Glorious little streets are overhung with leaning palms and crisscrossed with shallow fords where the languid river runs astray. At its far end the stream is dammed and here natives go for water—and in a separate willow-framed area, for a swim. We carried containers there daily to fill with utility water. Sometimes bushes along the river bank sagged with the weight of laundry drying in the sun and we always drove by slowly to see if the array included our own.

Most of the houses are constructed of adobe, plastered and painted gay colors. Apparently paint is purchased in quantity, all of one color, and you can pretty much guess which season a house was painted by which period it belongs to—the pink, the orange, or the blue. Sometimes the adobe is left unplastered and only trim is garnished with color. In the center of town, roofs of buildings are of tile or composition, but those along the river and

on the fringe of town are usually thatched with palm fronds.

From the hilltops surrounding the broad arroyo which holds the village, there are splendid views which take on varying moods with the different times of day. In the late afternoon shadows turn the palms to blue and a tropical aura falls over the grass shacks along the limpid lagoon, but in the morning the streets are lively with children parading to school and every housewife in San Ignacio is wielding a broom. In some farmhouses chickens wander in and out like pets, but during the hour of "the sweep" they fly from doors and windows like feathered dust. The floors of most of these cottages are of mud sprayed with occasional coats of sealer to keep them solid.

On the surface, living here looks lazy because the pace is slow, but these people are rigorously industrious when you consider the water they haul, the wood they chop (when they have it), and the great effort they expend in trying to make gardens grow in the hard, rocky soil away from the river. Their problems may be more elemental than ours, but they're no less complex. Opportunity hasn't kept pace with the birth rate, for one thing—although it's bound to catch up when Baja California realizes its ultimate development in tourism.

In the meantime, necessity has produced some startling beauty. Junk Art in sophisticated circles is praised or panned all over the world, but there's a creation in San Ignacio of such rare beauty that it belongs in the Museum of Modern Art. It's a windmill and I won't even attempt to describe it, but a photograph accompanies this story. It wasn't conceived for effect, shock appeal, nor was it motivated by the "anti-environment" of Pop Art. No doubt it was constructed of materials at hand to serve a functional purpose, but I think its creator achieved more fulfillment from creation than he ever did from function.

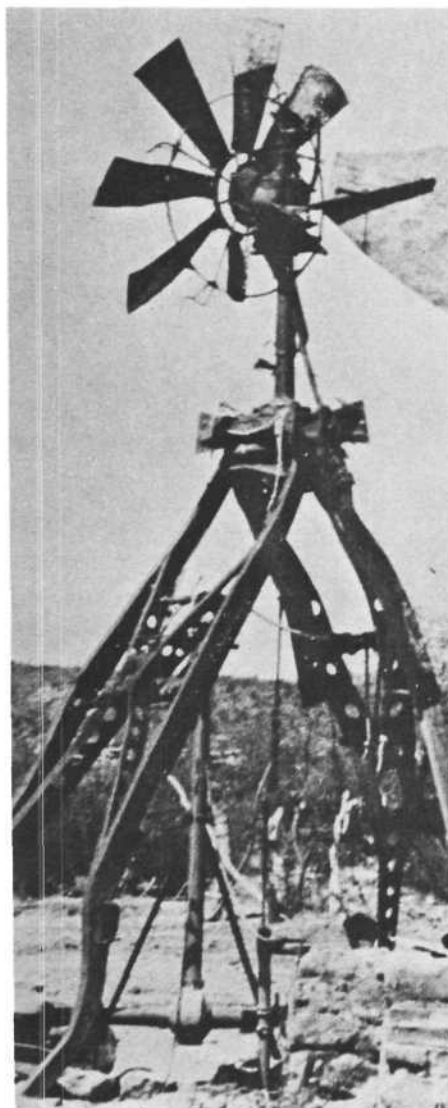
Another example of ingenious handcraft is found in the local cemetery. All Mexican cemeteries are bright and gay, but San Ignacio's seems even more so. Here local people have cut flowers and leaves from tin cans, painted them bright colors and attached them to wire frames to form garlands. Some have weathered to a beautiful finish and would lend themselves cleverly to decorative purposes other than funereal. It's remarkable the skill with which this tin work has been executed. We'd never have known they were made from cans if Bruce Barron hadn't happened to notice a tomato soup

label on the back of a gardenia petal. Everytime the men at camp buried a can, I shuddered, thinking of all the beautiful flowers going to waste.

While some of us ran errands, Uncle Erle and Sam ran down information. They learned that the Serpent Cave was located in a canyon on the vast cattle range of Jose Espenosa. This gentleman gave us permission to explore on his property and Uncle Erle invited him to join the expedition as a guide.

It was an exciting afternoon when the helicopters arrived and we began our campaign by air. Doug Allen, the brilliant cinematographer who accompanied the Gardner expedition to photograph Fairchild Hiller helicopters when we looked for the lost Nummel mine in Arizona last year (DESERT, April 1965), joined our camp, along with pilots Dick Peck, Don New and their mechanic, Mike Deutsch. One of the 'copters was an SL4 like we used in the Trigos, but the other

Windmill is constructed of old automobile parts. Its colors are mellow with age and exposure.



J. W. Black and Dr. Carlos Margain fill cans with utility water at San Ignacio River.



was the new jet helicopter FH1100. This jet is absolutely the greatest thing to be developed in helicopters. It will fly 125 miles an hour, compared to about 90 miles for the SL4. It also has the slowest descent of any helicopter in the air, which could be desperately important in the terrain we were to cover.

As we lifted from the ground to float over canyons thousands of feet deep with no evidence of water or habitation, I wondered what would happen if the engine failed. Unlike a fixed-wing aircraft, a helicopter is "working" every minute—there aren't any wings for gliding. If something goes wrong, it just stops. However, I discovered later that the FH1100 has an auto-rotation feature which, if your engine failed only 20 feet above ground at 120 miles an hour, would give you enough power to zoom up to around

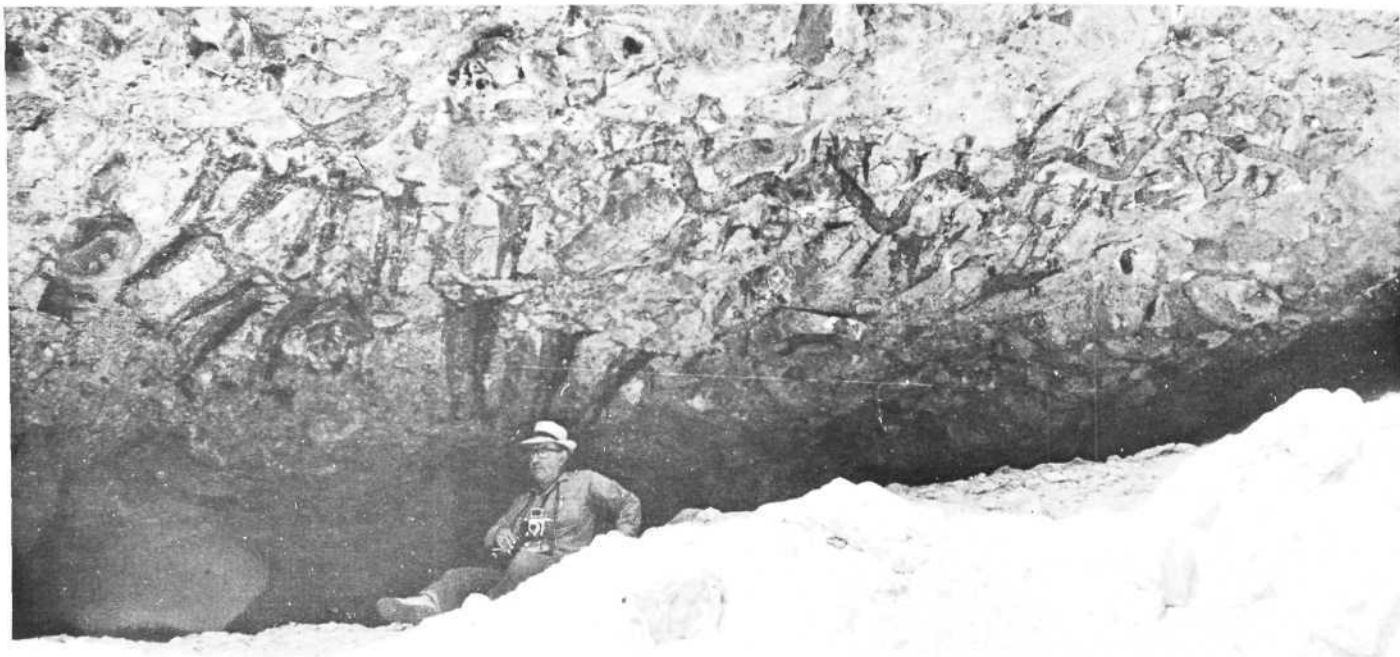


500 feet, make a complete circle and still have a half-mile in which to pick a spot to land. I've never felt nervous in a Fairchild Hiller craft, but it was comforting to know we had leeway for emergency.

Because our group was so large, it was necessary to conduct a sort of airlift to the site. Dr. Margain and our Mexican host went in the first 'copter and the rest of us followed by relay. Floating across the country as we were, we could really appreciate the work that went into carving the old mission trails into the hard, rocky terrain. Occasional remains of rock walled corrals still stood, but what startled us most were elaborate burial monuments in remote locations with no signs of habitation or ruin anywhere near them. In the San Ignacio cemetery we noticed that monuments in which the casket vaults were above ground were the oldest, some so old that dates carved into the headstones had eroded away. It wasn't until about 1900 that Mexicans buried their dead under the sod. These that lay below us on the desert now probably held the remains of Spanish soldiers from the mission period, some of whom were granted land and settled in Baja after retirement. It's doubtful that the native Indians who failed to survive in the white man's world erected such elaborate tombstones. There's something paradoxical about these burial chambers being out there with only lizards to see them. We wondered who the hardy people had been who survived the rugged area even long enough to bury their dead!

Soon we hovered over a deep, twisted canyon littered with huge boulders along an old water course. Erle scanned the canyon on his side of the helicopter while I studied its jagged walls on mine. We were headed toward the Serpent Cave in the mouth of the canyon, but hopeful of finding other paintings along the way which would give us a comparative perspective as to the relative importance the serpent cave might have. These caves with paintings should more probably be called "cave shelters." Located about mid-way up canyon walls, they are shallow niches eroded into the granite cliffs and usually there is a shelf, or narrow projection at the base of the shallow shelter, but often this shelf does not extend out as far as the upper parts of the paintings overhead. This presents a puzzle to archeologists, who wonder how the paintings were executed with no conceivable place for an artist to stand or base a ladder.

When Don New, the pilot, started to drop to the floor of the canyon, we all but jumped his landing. Suspense grew intense as we hiked through the rugged



Dr. Margain rests in shade of Serpent Cave.



Old mission roads criss-cross all of Baja. Right: Sam Hicks and Erle Stanley Gardner climb through rugged terrain from helicopter pad to Serpent Cave.

canyon, over and around chaparral and huge boulders and rocks which shifted underfoot as we climbed. A series of *tinajas* were full of water from recent rains, but, strangely, we didn't find animal tracks here. At last we stumbled across the rocky base of the dry stream and up a ramp-like ledge to a vantage point from which we could see the Serpent Cave!

It was like meeting an old friend. I'd written about this cave and studied a photograph of it for two years, never dreaming I'd be among the first six persons to ever see it—discounting Mexican vaqueros who have rounded up cattle here, of course.

As soon as the initial thrill simmered down, we applied ourselves to critically

appraising it. For one thing, the red and black striped figures of men with arms upraised were considerably smaller than those found in other caves discovered by Erle Stanley Gardner and described in *LIFE* Magazine and, later, in his book *The Hidden Heart of Baja*. And, they were smaller than the impression the photographs had given us. The entire mural was probably 25 feet long and the figures averaged about 36 inches in height. There was an intimacy in composition, with the figures clustered above

and below the curvatures of the serpent, as well as in the overall scale, which suggested a preliminary study in miniature. The serpent had been outlined in black and the red painted in first, then the figures built around it. A figure of a doe appeared to underlay a small section of the mural and could have been there before the serpent mural was conceived.

Always the serpent's ears have fascinated me—a floppy-eared serpent is so out of character. Uncle Erle nourishes a theory that these strange ears represent



plumes and are somehow related to the famed plumed serpent of the Aztecs. Nowhere in any records nor among the numerous Baja caves discovered and visited by Gardner has a serpent been the subject of a painting. The studied rendering of this pictograph and its obvious conformation to scale certainly does suggest something of unique importance.

There were other important serpent gods depicted with headgear in ancient Mexico besides *Quetzalcoatl*. There was the Fire Snake *Xinhcoatl*, who wore a feather; the Cloud Serpent *Mixcoatl*, a war god named *Camaxtli* and several earth goddesses who ruled life and death and springtime, like *Cihucoatl* and *Coatl-icue*. And then, above the border, there were the Zuni and Hopi Water Serpents, both of which sported a horn and a fluff of feathers or fur. The striking power of serpents has been likened to lightning and credited with magic weather control; the serpent's deadliness has symbolized prowess in war; its underground habitat has symbolized fertility; and its ability to climb trees, swim in water, and burrow under and travel over the earth has rendered the serpent the all-powerful, all-time god of many ancient cults. It's not surprising that it found its way to Baja. What is surprising is that it only made a single trip!

In line with Uncle Erle's theory, Dr. Margain came up with a startling idea. He does not think the head of our serpent is a serpent head at all. He thinks it's a deer head on a serpent body, but he does consider it similar in connotation to that of the Aztec Plumed Serpent. Plumes for these unknown Baja people had no value or meaning. Thus, Dr. Margain considered, they substituted something which for them did have significance—the head of a deer. In this country, deer meat provided nourishment that didn't bloom and fade like the pitayha cactus and it was more plentiful and easier captured than other game.

This is not the end of the Baja Serpent Cave story. It ties in with the highly individualistic cult of a lost race and surely more will come of it later. Most of us, including Dr. Margain, withheld further judgement until we'd had a chance to study other caves in the area, some of which had never been reported before.

Several of us turned up a curious pictograph in a small cave further toward the mouth and on the opposite side of the canyon. It was a small one in which a man could sit, but not stand. A pair of leaping fawn which would do justice to a Disney cartoon cavorted across a rock facia which extended from the ceiling in-



Sometimes the terrain was as hard on the helicopters as it was on our feet.

side the shallow cave. It took a flash attachment to photograph it, but of all the cave paintings we saw, these two figures showed the most animation and true joy of creation, in an artistic sense. I felt they were motivated purely for expression.

The last helicopter to relay a return shift to camp whirred overhead and we scrambled down the rocky cliff and stumbled along the torturous terrain back to the landing pad.

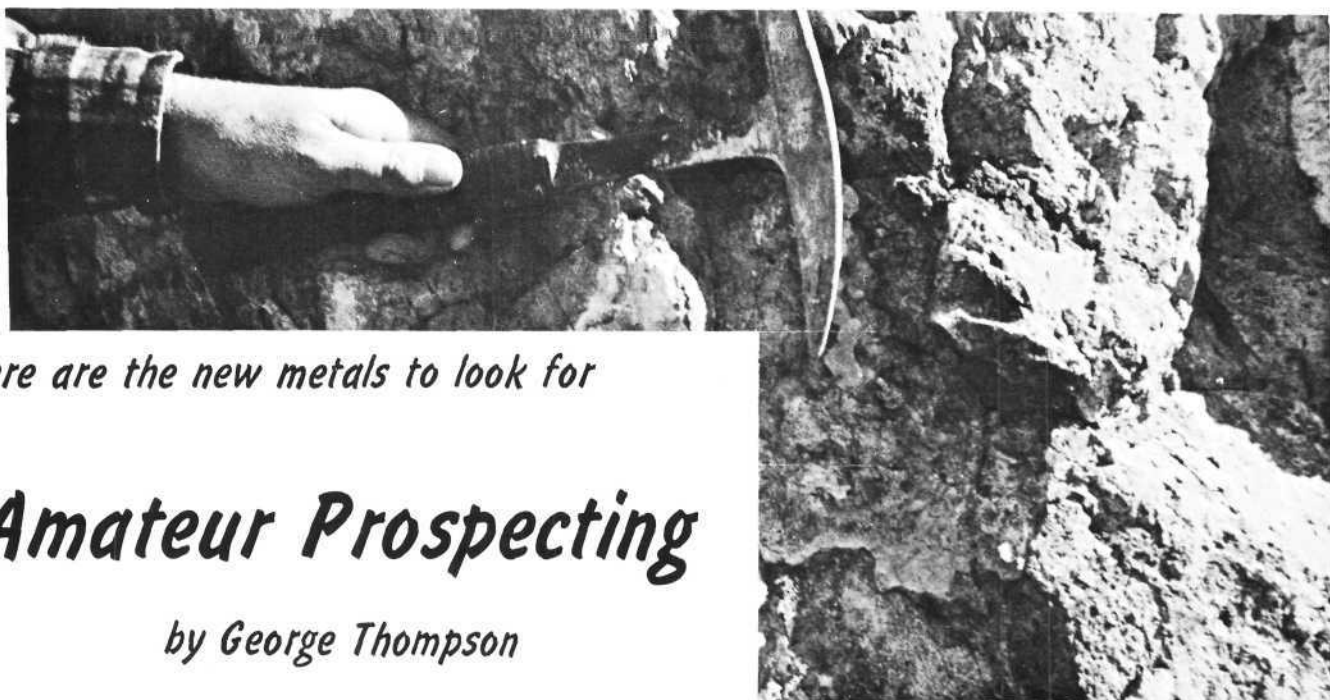
It had been a great day; one filled with discovery, excitement and suspense. Somehow all the things that occupy us at home,

like making a living, scheduling our time, worrying about Viet Nam, didn't exist in the primitive world we were sharing with an evaporated race of man. Instead, it seemed vastly more important to dwell upon the ears of a snake. A campfire lit the night, a rabbit appeared in the moon, Carlos talked of an archeological expedition to the jungles of Chiapas, Bruce strummed *Beautiful Dreamer*, and I fell asleep to hasten the time between then and morning when we'd be adventuring again. □

To be continued

Bruce Barron and Sam Hicks were the musicians in camp and made music each night around the fire.





Here are the new metals to look for

Amateur Prospecting

by George Thompson

A PICK, SHOVEL, and gold pan may have been equipment enough for the '49er, but not today. Modern prospectors need more than just good luck or a hunch. Space age metals, unheard of only a few years ago, are today far more valuable than the gold and silver old-timers searched for.

Today's successful prospector must be familiar with the chemical properties of minerals as well as their physical characteristics and tests for hardness, weight, crystal, luster, etc. Textbooks give this information, but statistics in them are dull and difficult to comprehend, especially for the layman. The purpose of this article is to familiarize the reader with the basics of these characteristics and tests in easily understood language.

Among the first means of identification are the reliable old standbys of hardness and weight. Determining these factors greatly narrows the field of possible minerals with which it might be associated. The Mohs Scale is the basis for hardness tests. Degrees of hardness are numbered from 1 to 10, number 1 being the softest and 10 the hardest. A mineral having a particular degree of hardness will scratch all minerals having a lesser degree of hardness and can, in turn, be scratched by all harder minerals. For example, Wolframite, a tungsten ore, has a hardness of 5 and will scratch cinnabar, an ore of mercury with a hardness of 2.5, but it can be scratched by common quartz with a hardness of 7.

For field testing, the prospector should know the hardness of some common ma-

terials to compare with the hardness of his samples. For example, a fingernail has a hardness of 2.5, a copper penny 3, a knife blade 5, and a steel file 6. Hardness scales give useful examples which can be used for comparison to determine hardness of unknown minerals. A useful scale, which can be compiled by the individual, might include the following: 1—Talc or Graphite, 2—Gypsum or Cinnabar, 3—Calcite or Gold, 4—Fluorite or Cuprite (copper oxide), 5—Obsidian or Scheelite (tungsten), 6—Feldspar or Turquoise, 7—Quartz or Garnet, 8—Beryl or Emerald, 9—Corundum or Sapphire, 10—Diamond.

Weight is also an indicative clue to a mineral's identity. Weight is expressed in terms of specific gravity which, in plain language, is weight compared to an equal volume of water, which is given the designation of 1. Weight is apparent whenever a sample heavier than surrounding country rock is picked up; however, the unknown sample may be more accurately identified when compared to other minerals of known weight. Quartz, which is light, has a specific gravity of 2.7, as compared to galena (lead) which is much heavier at 7.5, or gold which is among the heaviest minerals at 19.3. A few metals, such as platinum and rhenium, have weights over 20 while others, such as lithium and sodium, have weights of less than 1, but most minerals are intermediate in weight and can be so placed on a scale made up for the prospector's convenience. Making comparisons by this recognized scale makes mineral identification much easier.

All minerals have a definite and unchanging crystal structure. With minor exceptions, crystals of a particular mineral are always the same irregardless of size or place of origin. Generally speaking, crystals are solids having their surfaces and angles arranged in a definite system. The relationship of angles and surfaces of a particular crystal doesn't vary. Some crystals, such as galena or pyrite, are easily recognized while others require optical aids to identify them. Textbooks give illustrations of various crystal structure, but recognition is best learned by observation.

Another valuable aid to a mineral's identity is luster. Luster is the appearance of the surface when light is reflected from it, and varies from dull to bright. Some examples which might be included in a prospector's notebook are *earthy*, such as carnotite or autunite, *dull*, as in cinnabar or lime, *opaque* (impervious to light,) like calcite or turquoise, *silky* or *greasy*, as found in graphite or asbestos, *pearly*, such as in barite or dolomite, *vitreous* (glass-like), as in tungsten or basalt, *dull metallic*, like copper or gold, *bright metallic*, as silver and pyrite, *translucent* (when an object's outline can be seen through it), like quartz or jade, or *transparent* (when the object itself can be seen through it), such as the diamond or mica. Placing the luster of an unknown mineral in a definite group further helps to identify it.

Although a particular color is often associated with certain minerals, the color may vary greatly, depending upon the mineral's chemical composition. Copper

is generally thought of as being a red metal, but the ores of copper are usually blue or green. Impurities or other metals in small quantity in a specimen may produce colors not normally associated with the mineral being sought. Shades of color are definitely indicative of a mineral's composition. However, the prospector should consider metals other than the one he is searching for which might be present and account for color variations.

Minerals have other characteristics useful in identifying them and with which the prospector should be familiar. Some metals are malleable; that is, capable of being hammered into thin sheets, or ductible, capable of being drawn into a fine wire, or perhaps both. Some minerals, such as certain irons and platinum ores, are magnetic or are attracted to a magnet. Others are fluorescent and glow in the dark when exposed to ultra-violet light; the colors with which they glow identifying them. Some are phosphorescent and continue to glow after the ultra-violet light is turned off. Radioactivity identifies some minerals, particularly the ores of uranium and thorium. A geiger counter or scintillator is used when prospecting for these minerals.

Books giving the characteristics of a particular mineral are of little use to a prospector in the field because he rarely encounters the metal itself, only an ore bearing the metal. Other than gold, which is perhaps the only metal most prospectors will find in its native form, it is the ores bearing the metal which the prospector must learn to recognize. It is the characteristics of hardness, specific gravity, crystal, luster, color, etc. as they apply to an ore rather than a metal which concerns the experienced prospector.

Once the prospector has identified his samples as nearly as possible from their physical characteristics, he realizes the necessity of more positive tests. A few inexpensive chemicals, which are not dangerous, will provide the means for fast and definite identification. With a small bottle each of nitric and hydro-chloric acids, plus common ammonia and a piece of tinfoil, look what can be done!

For a sample thought to contain silver or lead, pulverize some of the ore and place a small amount in a pyrex dish. Add enough dilute nitric acid to cover and boil over a flame until the concentrate is dissolved. When the solution cools, add several drops of hydro-chloric acid. If the sample contains silver or lead, a white salt will settle to the bottom of the dish. If this salt is silver, it will turn dark in color when exposed to the light for some time, while lead will remain white. For an even more definite

test, add clean water to part of the solution and boil. If it is lead, the salt will dissolve. If it does not dissolve, add a small amount of ammonia to the remainder of the solution and stir thoroughly. If silver is present, the salt will then dissolve. What could be easier?

If you think your sample contains gold, pulverize it and place a small amount of the concentrate in a pyrex dish with one part nitric and three parts hydro-chloric acids, boil and let the solution cool. Place several drops on a clean white paper towel and add a drop or two of a solution made by dissolving a small piece of tinfoil in hydro-chloric acid. If gold is present, the solution will turn pink or red, the darker the color the richer the ore. A test for tungsten is quite similar. Place some of the concentrated sample in a dish with hydro-chloric acid and a small piece of tinfoil and boil over a flame. If the solution turns blue as it cools, tungsten is present. The darker the blue, the higher the percentage of tungsten in the ore. Other tests may be made just as easily and at small cost. Books are available which describe such tests. A small kit stocked with testing agents and carried into the field is not only valuable for making field assays, but is also educational and promotes greater interest in prospecting.

As easily found mineral deposits are already discovered, more modern methods and better equipment are necessary for prospecting new space age metals. Because these constitute the future financial incentive, it isn't reasonable to confine your weekend prospecting to basic metals such as silver, lead, and gold worth, perhaps, \$50 per ton, while molybdenum, zirconium, or beryllium is worth many times more, if you know what to look for and how to recognize and identify it when found. In the rugged desert country of western Utah, deposits of beryllium have been found near Spor Mountain not far from mining towns which had been prospected for years, but only for basic metals. Beryllium is a space age metal in demand for today's rocket industry. Although only 2/3rds the weight of aluminum, it's pound for pound stronger than steel, very hard and resistant to heat, and will alloy with almost any other metal. Only 3% of beryllium added to nickel or copper makes an alloy having a tensile strength greater than structural steel.

Beryllium is found in pegmatites which are merely cracks in igneous (volcanic) rocks, such as granite, which are filled with coarse quartz, mica, and feldspar forced by pressure into the cracks from the earth's depths while still in a molten

state. Beryllium does not occur in nature as a free metal like gold, but is found in a number of ores, nearly all found in pegmatites and having the same general characteristics. They are light, having a specific gravity of 2.5 to 3.5, except when associated with iron, and are generally hard, from 5 to 8 on the Mohs Scale.

Most of these ores resemble common quartz or garnet iron and are usually associated with granite. The ore generally occurs in large crystals in colors from white to green, red, or brown. The crystals usually have a glassy or resinous luster, but may vary from pearl to nearly transparent. The amount of beryllium may vary from 15% to 40% in the various ores and is sold by the ton unit, a unit being 200 pounds of ore containing at least 10% beryllium. A bonus is paid for the richer ore which, in most cases, makes it more valuable than any gold or silver ore a prospector might find. Prior to the discovery at Spor Mountain, which is the largest known deposit in the free world, if not anywhere, the United States imported 95% of its needs. The newly found deposit may mean we are no longer dependent upon foreign supply. This is only one example, but it does illustrate the folly of searching for basic metals while over-looking rarer metals worth much more.

Knowing what to look for is no more important than knowing where to look. Good maps are essential and among the best are those available from the U.S. Geological Survey. These are well detailed, showing ground contours in relief, prominent natural features, existing mines, roads, trails, and streams, and are available in several scales. The scale of 1:125,000, where one inch equals two miles, is a good one to locate general areas, while the maps having a scale of 1:24,000 where one inch equals 2,000 feet are ideal for locating specific topographic details. They are available for almost all areas at a cost of approximately 30c each. (See DESERT, June 1965).

The picture of a bearded prospector plodding across the desert with a burro might be romantic, but very few of those old timers struck it rich. Today's prospector with modern equipment stands a much better chance and the stakes are higher! If you'll take time to study the characteristics of ores you are searching for so you'll recognize them and be able to identify them by proper tests, and if you know your search area, you could strike it richer than any old timer ever did. And, if you happen to see another prospector digging away at an outcrop in the hot desert sun, stop and offer him a drink. It might be me! □

Needles' Second Mystic Maze

PERHAPS WE have found a clue to the mystery of the maze; perhaps not. We are hoping a DESERT reader can contribute to this story.

It all began about 15 years ago when the town of Needles, California, located on the bank of the lower Colorado River, tried to get a historical marker from the California Highway Department to commemorate a prehistoric Indian site. Before bestowing such an honor, however, the Highway department demands assurance of a site's legitimate claim to antiquity. This is where the citizens ran into trouble.

Their neighbors to the south, at Blythe, had already acquired a marker to establish a site where a series of prehistoric giant effigies had been made by scraping sun-darkened rock away from the lighter surface of the ground (DESERT Nov. '57). These had been discovered by a pilot flying over the area, but went unreported

until the U.S. Air Force during World War II called them to the attention of the Smithsonian Institute and the National Geographic Society.

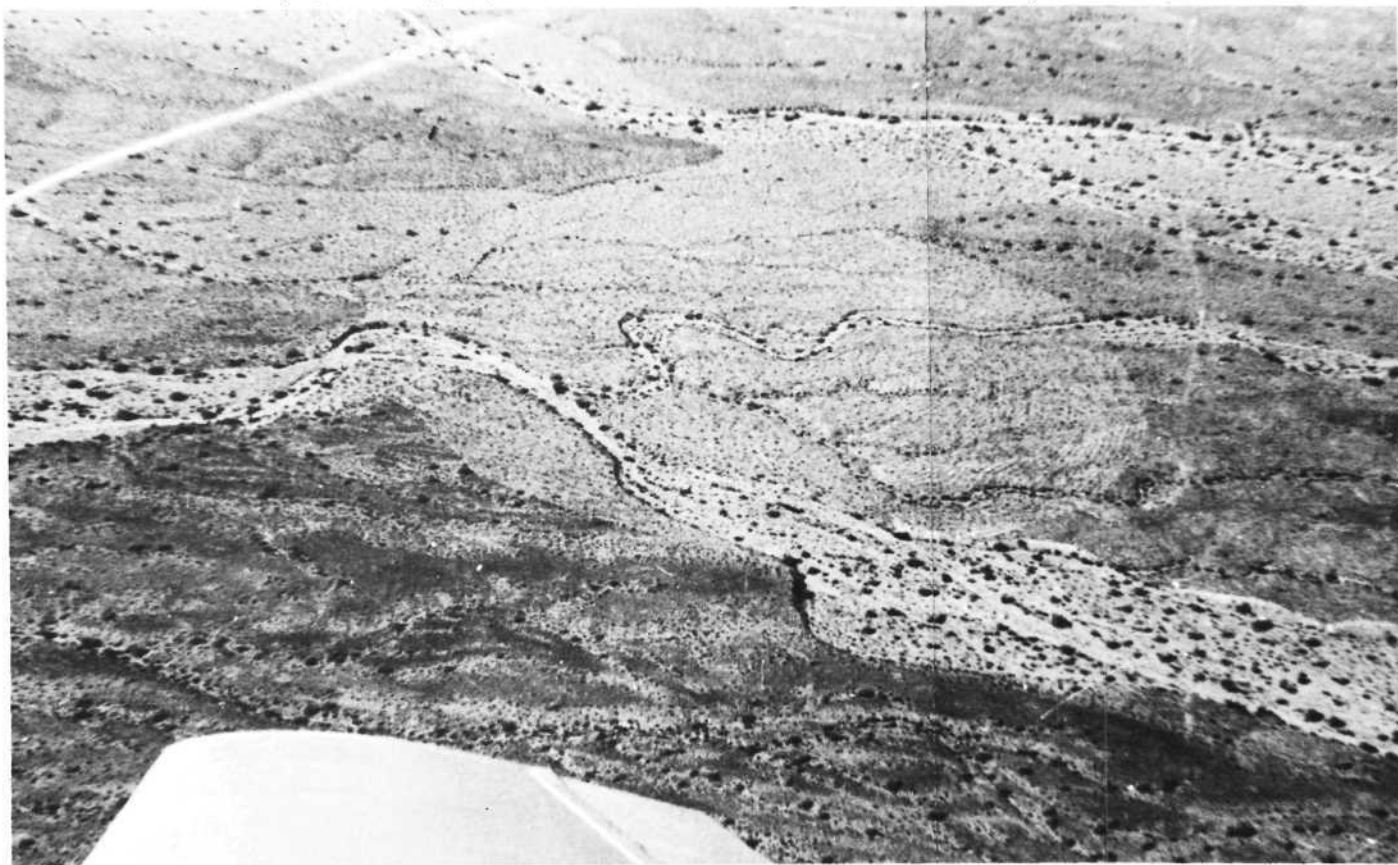
These august organizations launched a joint expedition to study the matter and turned up a similar site on the Arizona side of the river directly across from Ripley, as well as reports of one on the Gila some 300 miles to the east. They also recorded the existence of a giant maze covering some ten acres of desert near Needles, but since no similar site was found to associate with the maze and the giant figures were some distance away, they sort of glossed over the maze. Had a similar maze been known to exist elsewhere, Needles would have had a stronger case for its historic marker.

Twelve years after the Blythe site had been studied, a set of giant effigies pre-dating Christ turned up on a desert pla-

teau in Peru. Etched into the yellow sub-soil and outlined in dark stones like those of Blythe, the Peruvian figures near Nazca resembled ceremonial roads, spiders, a bird with an elongated beak, one with a zigzag neck, a killer whale, a 262-foot monkey and the site's largest figure, a bird measuring 787 feet long.

In addition to these characters, a mysterious series of lines, similar to the Needles maze, covered an area of five miles. The leading authority on the Peruvian effigies, German mathematician-astronomer Maria Reiche, found that many of the straight lines pointed to certain stars. This caused her to conclude that the vast series of windrows had something to do with the summer solstice, an important date to agricultural people and an industry which also occupied tribes along the lower Colorado. The fact that both sites are in desert areas and include

Flying at 2000 feet, pilot Locke estimated circular maze covers radius of two miles.



by Choral Pepper
Editor Desert Magazine

over-scaled figures doesn't necessarily indicate a relationship, but at least it establishes a precedent for a giant maze constructed in like manner and associated with objective figures.

The mysterious maze of Needles rested quietly on a dry, rocky plateau beside the river near the railroad bridge until the hullabaloo broke loose. Then it became the subject of impassioned town meetings and hot editorials. One fact, established beyond any doubt, was that modern Mohave tribes periodically made running forays through the maze in a traditional ceremony designed to lure evil spirits into its labyrinths and trap them there. This was confirmed by North American Indian authority Edward S. Curtis in a report on Mohave Indian ceremonies.

But dissenting voices claimed the maze held no mystery at all; that it was simply rock scraped into windrows by horse-drawn rakes to be used for caisson work when the Santa Fe Railroad constructed its bridge across the Colorado in 1891. "Proof" was found in an excerpt from engineering records which described the process in detail.

About to see their region's most picturesque legend reduced to an absurdity, old timers came to the fore. What quixotic quirk would cause Indians to shed their evil spirits in an industrial rock pile, they scoffed? Mr. Fred Kelly, an early postmaster of Needles, claimed that in 1892 he personally inspected both the gigantic maze and an outline of a human figure to one side of it, the latter destroyed when the railroad was relocated. He had even telegraphed his Congressman and succeeded in stopping the complete removal of the maze when the railroad threatened it. Others confirmed that they, too, had examined both a figure, now missing, and the maze before the railroad bridge was in construction.

But the *coup de grace* fell when a plane banked and turned over the hamlet of Topoc across the river from Needles' maze. In this plane flew Arthur Woodward of the Los Angeles County Museum who had come to survey the maze from



One in a series of giant intaglios at Blythe. Insert shows aerial view.

the air and offer an opinion. Below him and clearly discernable, Woodward identified a rectangular series of stripes of uniform pattern, obviously made with scrapers. This, of course, was the source of the broken stone used for the railroad bridge construction.

In defense of the Needles maze's antiquity and Indian heritage, Woodward also pointed out that the windrows of the maze were not parallel throughout their length. Here and there termini of lines converged and almost met. Such irregularity could not have been accomplished with a horse-drawn rake.

However, by this time the unfortunate controversy had caused loss of confidence among promoters of the historical marker and it was never secured. Later, additional railroad tracks cut away more of the maze and more recently still, a cross-country freeway removed another chunk. Portions of it still remain, but the dramatic impact of its immensity is lost forever.

Lamenting the fact that progress now denied Mohaves their traditional depository for evil spirits, we recently flew over the area with Needles' pilot Emory Locke in order to photograph for posterity what

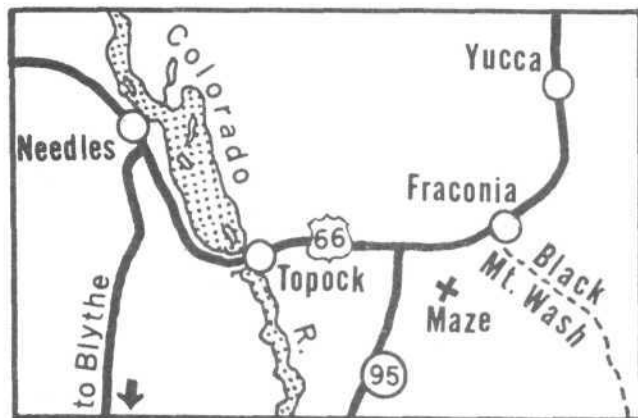
remained of the maze. During the flight, Mr. Locke commented that he'd once noticed a similar ground pattern a few miles east of the river on the Arizona side. Imagining he referred to the 1891 Topoc site where the railroad gangs actually raked rock into windrows, we decided to catch a photo of that, too.

But that isn't what it was. Here, in an area far removed from the railroad and bridge and totally inaccessible by conventional vehicles, was a concentric maze of gigantic proportion. Flying at 2000 feet, we estimated it covered about two miles in diameter. One broad wash and several small ones cut through it, but on each side of the washes concentric lines continued, uninterrupted. How aborigines, without mechanical equipment, could have achieved a design of such vast proportion in the hard rocky terrain is inconceivable.

In order to examine the pattern more closely, we later returned with the DESERT Magazine Grasshopper, a vehicle especially designed for back country exploration.

Strewn with boulders and mesquite and palo verde trees, the wash leading from

Turn off highway at gate in fence about two miles east of Lake Havasu turnoff. Park inside gate and hike up wash for about a mile to reach maze.



the highway to the site was fiercely resistant. Many times on reaching an impasse we retraced our tracks to seek another way. Wherever banks cascaded gently, we left the wash to take a bearing on a pole line which from the air we'd noticed touched the far end of the maze. This was our only landmark to identify its approximate location.

About a mile south from the highway, the wash suddenly leveled onto a plain and the maze stretched before us. Acres and acres of windrows, reaching as far as

we could see, undulated with the lay of the land, broken only where flash floods had cut gullies through the pattern. Spaced approximately nine feet apart, the rows of windrows conformed generally to the overall perimeter curve, although at some places arcs narrowed and allowed one concentric ripple to join another, creating a maze. This maze was different from the controversial Needles maze only in that it lay in a circle rather than at angles.

Some areas were less rocky than others

and here the windrows shone distinctly because the sun-darkened rocks scraped from the lighter toned earth color accented the pattern. In rockier areas, though, where gravel extended deeper under the surface, exposed rocks between the windrows had also darkened and the pattern was less distinct unless you were close enough to detect the difference in contour.

It was hard—and still is—for us to accept this as a prehistoric Indian site. It seems impossible that it could have been engineered with primitive methods, as we imagine them. And yet, it could not have been achieved by modern means without roads leading in and out to transport labor and equipment.

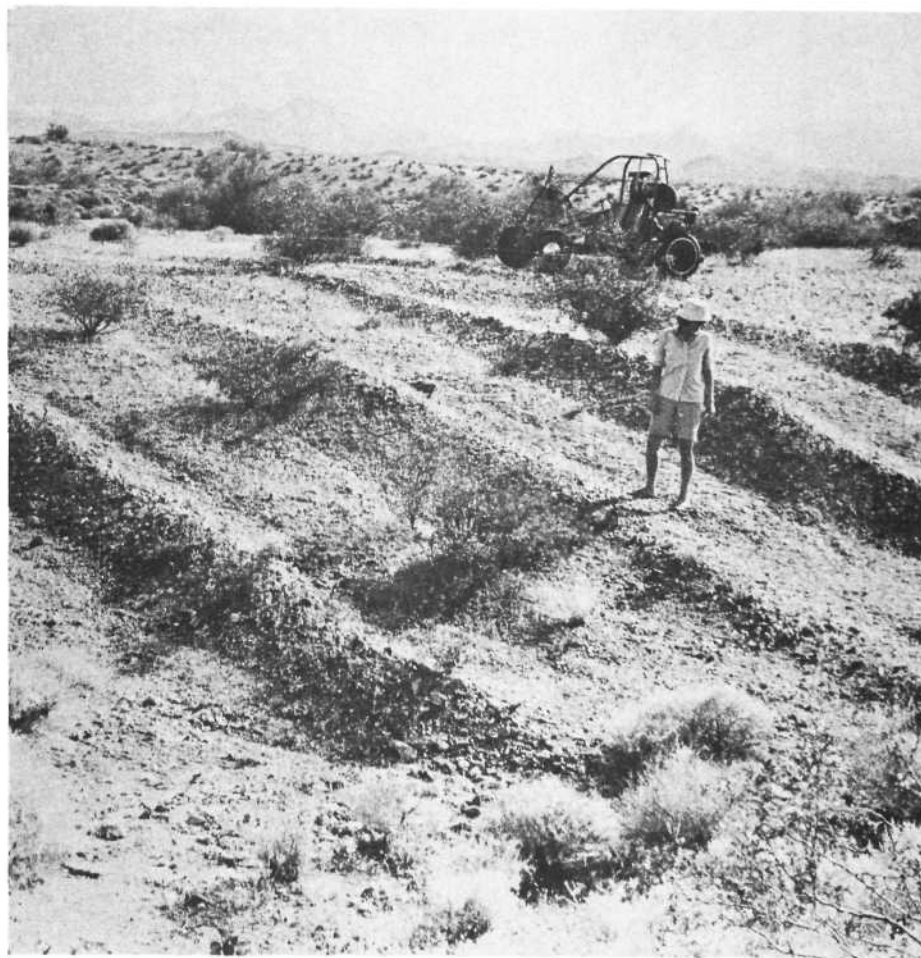
The "evil-spirit trap" suggests a plausible answer for the mazes, as Avikwame Mountain 30 miles north of Needles, figures in the legend of the origin of all Yuman tribes. Possibly the mazes were placed on each side of the river so pilgrims returning from any direction to the tribal womb could deposit their evil spirits before entering the sacred land.

Both historic and prehistoric tribes lived in great numbers along the lower Colorado. Near its mouth, at Yuma, Father Pedro Font described being met by "seven thousand Cojats" on his expedition with Juan Bautista de Anza in 1775, and far greater numbers occupied the Needles area where related tribes lived close to one another. Primarily, these early inhabitants were horticulturists. Before the Colorado was dammed the river overflowed its banks about as often as it changed its course and maize was grown successfully in places which today will hardly accommodate a greasewood.

Because of their agricultural activity, it's highly possible these early farmers worked out some sort of sun calendar on their gigantic mazes, as Miss Reiche suggests to explain the Peruvian site. The circular maze lies two miles east of the present channel of the Colorado, but about mid-way of this distance is a deep channel through which the river ran long ago. This would have placed the maze at about the same distance from water as both the Needles' maze and the giant figures of Blythe.

Compared to the 2000-year old Peruvian site, there's nothing to prove the Needles maze is more recent, unless it is associated with the Blythe figures and restricted to the era of the horse in America, as that animal is depicted among the figures. Desert varnish, the dark coating on the upper sides of exposed rock, is our only gauge.

This phenomenon, called *dunkel Riden*



Windrows run in curious circular pattern. In areas where the space between them is rocky, the rocks are black with desert varnish. Section in photo was moderately rocky.

by the Germans and "patination" or "desert varnish" by American scientists, occurs in desert regions all over the world. One theory is that rain water soaks into the rock and is then brought back to the surface by capillary action of the sun. Here it evaporates, leaving a deposit of the chemicals with which it became charged according to the composition of the rock itself. The process is indigenous to the peculiar climate of the desert. If there is too much moisture, it leaves the rock in liquid form and carries the salts with it. If there is too little moisture, salts are not dissolved to form the varnish. Another theory, advanced by the late Jerry Lauder-



Pilot Locke of Needles and DESERT editor locate site on map after discovery.

milk in an early issue of DESERT Magazine, suggests that it's a lichen which attacks rocks containing iron and manganese. In rainy seasons, this decays and the iron and manganese pass into solution, reprecipitating on surrounding rocks of any kind. Continuing century after century and toasting under hot desert sun, it finally attains a rich *cafe au lait* on its exposed side. The unexposed, of course, remains natural.

Scientists remain uncommitted to any definite theory, although they agree desert varnish takes a long and undetermined time to form. According to Professor Blackwelder of Stanford University, the climate in an adjacent area to this is such that desert varnish isn't forming at present. So, considering speculation by other authorities that the climate has not changed here for six hundred years, it's reasonably safe to assume that desert varnish which has formed on exposed rocks, developed over a period prior to that.

Discounting the nebulous desert varnish theory, the maze could have had an entirely different origin. A lot of activity

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colored these shores of the Colorado. Spanish missionaries blessed the natives here, stage coaches fell to robbers, soldiers battled with Indians, sternwheelers transported ore, and prospectors plucked gold nuggets from pot holes.

If the circular maze weren't located so far inland from the present channel of the Colorado and so far south of the highway and railroad, it would be easier to explain. Unless a reader can introduce a better explanation than our prehistoric one, it looks like DESERT has turned up a new archeological site for Needles' claim to fame.

It's possible to hike to the site from the

highway, but carry a canteen. Another entre would be by following the pole road, which passes adjacent to a small portion of the circle's southern perimeter. However, there is no way to get onto the pole road in the region of the maze. We urgently request that those who enter the area with dune buggies refrain from driving over the windrows of the maze or in any other way disturbing it. It might also be rewarding to carefully examine areas surrounding the maze. We were unable to detect any giant effigies from the air, but we were flying high and they could have eluded us. □



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Mystery of the Black Rock Desert

by Fred Reichman



IT WAS a bright sunny day in October when we started across the Black Rock Desert in Northern Washoe County. This is the best time of year to travel this huge dry lake bed, since it is then devoid of the damp soft spots which sometimes prove disastrous to amateur desert explorers. However, the area is now air-patrolled on week-ends by a Washoe County Deputy Sheriff stationed at Gerlach, the nearest town, his job being to watch for explorers stranded because of improper equipment and experience.

It's a large country, sparsely inhabited

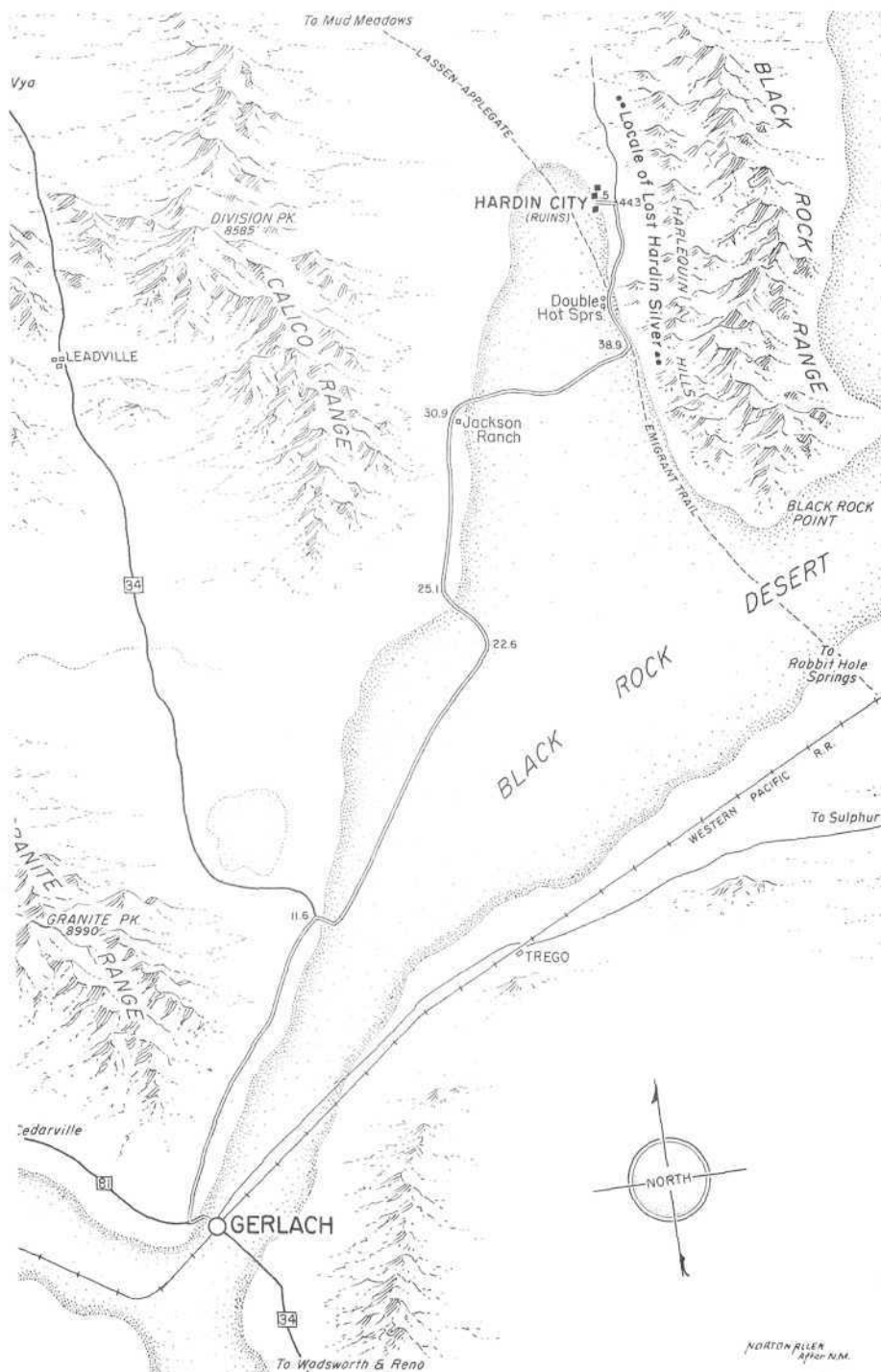


Top of page, large compass rose. Above, smaller compass rose.

and seldom traveled. Like a sea of gray sand, the old lake bed stretches as far as you can see, ending in a mirage. On its west, the mountains are typical Nevadan with scrub growth, but on the east they rise rugged and colorful with red, white, black and many shades of brown. Hot springs simmer at their base and from a distance you can see the steam rising in the cool fall air.

We made camp on the west side of the desert. Our goal was to relocate a peculiar phenomenon my wife, Elizabeth, and I found on a previous trip.

Along the eastern foothills is the old Applegate and Lassen trail to California,



It was while following this that we came upon a star-shaped formation a short distance from the trail. Made of various colored rock and settled into the dirt, it appeared very old. Searching further, we found two additional smaller ones farther from the trail. Our assumption was that we'd found some Indian artifacts, since the old Indian trail from Pyramid Lake to Summit Lake supposedly passed through here.

Several miles south we found great amounts of varicolored obsidian, black, white, red, and many shades of brown, and literally thousands of chipped and

there be some connection here? Who knows?

After discounting a few illogical possibilities, we shelved that one and decided to search for Hardin City, a ghost town in the area which was established 100 years ago. So optimistic were its settlers that the Lost Hardin silver mine had been found here that they built a town and two mills on speculation alone. As it turned out, the mine was evidently a grand hoax and soon the town was abandoned (DESERT, April '55).

The old ruins are well hidden and we had some difficulty finding them, but

finally spotted the outline of a white stone jutting its top from a clump of tules above a sand dune about 200 yards from the road. Due to the lack of any other material, Hardin City was built of native rock and mud, but the colorful local rock gave the old town glamor unsurpassed in other mining camps.

After returning home, we took our photos of the curious compass rose to the Curator of the Nevada State Museum, but he, too, was at a loss to explain its meaning. I write this article with anticipation, hoping a DESERT reader will solve the Black Rock mystery. □



Hardin City ruin.

broken arrowheads. That this was once an Indian arrow and spear head factory was evident. J. Goldsboro Bruff mentions this in his journals of a trip to California in 1849.

Following our first trip, we showed photos of our find to a teacher friend and student of Nevada history, John Folkes. He pointed out something which had escaped our notice. The formation on the ground resembled a compass rose. It was then Elizabeth remembered an item in Bruff's journals relative to correcting some directional notices in this same area. Was it possible that Bruff had made this compass rose as a guide? The mystery deepened.

Now we were back to relocate the design and give it a more thorough study. Since the location was still fairly fresh in our minds, we had little difficulty in finding it. Proving something was a different story. In the first place, the north and south line pointed 20° west of north, and the two smaller ones in dissimilar directions. The only relationship we could find to anything was that the larger one pointed towards Fremont's Castle, a huge, white rock formation on the slope of a brown hill which resembles a castle. Fremont and his party traveled this route south in the winter of 1844 and Bruff named the "castle" in his honor, making a drawing of it in his journals. Could

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Elizabethtown, New Mexico

BY LAMBERT FLORIN



THE SANTA Fe Gazette, April 18, 1868, presented a grim picture of life in Elizabethtown, New Mexico. "... the place contains something like 50 or 60 houses," it read, "some of which are like the Arkansas Traveler's house—roofless—for the weather is too severe to complete them. There is considerable hustle and bustle in the air and should you happen

to go into Abor's Saloon, you will be convinced that this is a stirring place.

"There are several stores, two restaurants and many saloons, and also a drug store, a billiard table, barber shop, gambling houses where miners can deposit hard earned earnings in a few hours. The house across the street in which you see two smiling faces you will do well to give

a wide berth in order to remain richer in pocket, wiser in mind and better in health." Elizabethtown, almost vanished and not on some maps, is about five miles north of Eagle's Lake and northwest of Cimarron.

Soldiers stationed at Fort Union during the Civil War spent most of their free time prospecting the surrounding mountains, hoping to establish claims which they could work after the war was over. A few found small traces of gold, but it remained for native Jicarillas, Apaches and Utes to make the big finds; and then it was copper, not gold.

Chunks of red ore they brought to show post sutler W. H. Moore were rich enough to excite his cupidity. When he, in turn, displayed them to ranchers Kroenig, John Buck and others, they were affected the same way. The little group banded together and offered the Indians plenty of supplies in return for divulging the spot where the ore was found. Their scheme resulted in a partnership which began developing what was first called, simply, "The Copper Mine." After several other locations were discovered and developed, the original became the Mystic Lode Mine. All were located on the far-flung Lucien Maxwell Land Grant, but if mine "owners" were aware of the fact they were violating Maxwell's rights, they gave no indication. And while copper alone was the attraction, news of the operations seemed not to reach the ears of Maxwell down at Cimarron.

Kroenig, not satisfied with what he already had, sent out a prospecting party to the neighborhood of Willow Creek, not far from the copper mine. This was in 1866. While the party was waiting for supper to be cooked, one of the men took his pan down to the creek to wash out some gravel. What he found in the bottom made him yell for the others and what they saw made them forget all about food. Father Stanley, New Mexico historian, writes, "That night they had gold for supper." Next morning the party hurried to Fort Union. Although they had promised among themselves to keep secret the find, their purchases of supplies aroused curiosity. In no time at all, the banks of Willow Creek swarmed with prospectors.

While few boom towns of the period were classed as peaceable, Elizabethtown stood out as a nest of murder, pillage and robbery. Possibly most spectacular of "E-Town's" villains was one Charles Kennedy who ran a rooming house with his Indian wife. If a guest seemed well-heeled, Kennedy would kill him and dismember the body, burning the pieces, but

salvaging all valuables. For a time, since arriving travelers were mostly unknown and unexpected, the inn-keeper made more money than some of the miners. But one guest *was* expected; more, his friends knew where he intended to stay. When he failed to appear, they went to the house and were met outside by the distraught wife. She had had all she could take of such goings on and was headed for town.

Vigilantes were summoned, Kennedy was placed in jail, but his stay was brief. Outraged citizens forcibly removed him.

He was thrown to the ground with his hands and feet tied and a rope placed around his neck. The rope's end was attached to the saddle of a horse. Then Kennedy was dragged up and down the street until he was dead.

Elizabethtown has long been ghostly, but enough buildings remain to present a semblance of what it must have been when gold, murder and painted women roamed its streets. Our photo, reminiscent of an ancient Roman aqueduct, shows the burned out ruins of the two-story combination dancehall and saloon. □

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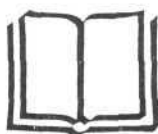
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New Rio Grande Bridge

by W. Thetford Leviness



SPANNING THE Rio Grande Gorge near Taos, New Mexico, the West's newest high bridge is a two million dollar structure projected to connect cities across northern New Mexico with a direct highway. Beginning at the Oklahoma line east of Clayton and reaching Taos via Raton and Cimarron, U. S. 64 will soon be re-routed over the new bridge. Extensions to the route are planned to Tierra Amarilla, through Dulce to Farmington, and into Arizona west of Shiprock. Only about 42 miles remain to be built, but this distance includes some of the Southwest's most rugged terrain. Elevations hit the 9,000-foot mark in the unfinished portion between Tres Piedras and Tierra Amarilla. The artery will be completed in 1968.

But the bridge is open to traffic. A marvel of engineering and beauty, it is

located about 10 miles northwest of Taos at a point where the rim of the gorge is more than 1,200 feet across. A lava flow, approximately 150 feet below the rim, extends into the canyon around 300 feet from each wall. This provides space—and anchorage—for the piers. The center span of the bridge is about 600 feet long, with side spans half that length. The Washington Monument in the nation's capital could be placed in the gorge under the bridge, with clearance of more than 100 feet.

The 29,000-square-foot deck forms a roadway 28 feet wide with a four-foot walk on each side. Six observation platforms are offset from the bridge, providing view points for tourists. Parking facilities are provided at both ends. This will do much to facilitate cross-country travel through formerly isolated areas. □

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Hints for Desert Travelers

by Bruce Barron

VISIONS OF tepid soda pop, wilted lettuce, sour milk and tainted lunch meat, dance through your mind as you ruefully peer into that faithful old ice chest and see your last hunk of ice metamorphose into slushy water. Here are some ways you can stretch that ice, or at least keep those groceries cool and fresh.

If planning an extended tour into the hinterlands, invest in an extra economy priced ice chest. Wrap a piece of dry ice in newspaper and sandwich it in with your regular ice. Then stash it away in your reserve chest.

Ice will last much longer if you minimize the number of times you open and close the chest. Whenever possible refrain from placing grocery items directly against the ice. Be sure to return all items

to the chest immediately after use to avoid the necessity of re-chilling.

If camping near a copious water supply, you can improvise an efficient "pre-ice age" evaporating water cooler. Take a dish pan or water pail full of water and set it on a box. Anchor the ends of towels, burlap, or other absorbent type of cloth in the pan, and drape it over the box containing items to be chilled. Wicking action slowly siphons water down through the cloth. Evaporative action will keep items cool. Cooler in above photograph has an inverted garbage can lid for a reservoir, heavy woven fence mesh for sides and shelving and a burlap cover. It weighs about 16 lbs. A jug of water inverted in the reservoir acts as a reserve. □

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CUSTOM FILM finishing by mail since 1932. Morgan Camera Shop "The complete photographic store," 6262 Sunset Blvd., Hollywood, California 90028.

• PLANTS, SEEDS

SMOKETREES OR JOSHUA TREES: Germinate \$3.25. Precocial \$9.50, large specimen, tubbed \$100. Smoketree or Joshua Tree Germinate airmailed anywhere for \$3.25 plus \$1.95 handling. Rancho Environmental Nursery, 71554 Samarkand, Twentynine Palms, California 92277.

EL RANCHO Galapagos Cactus Growers. You are invited to visit our greenhouses and cactus gardens on the east slope of Copper Mountain. Star Route 1, Box 710, Twentynine Palms, California.

CACTUS: ARIZONA varieties, Texas and Mexican imports. Junior assortment 10 varieties \$3 postpaid in U.S.A. Mail orders carefully filled. Visitors cordially invited. Cactus Fair, Wickenburg, Arizona 85358.

CHIA SEED, with story: 1 1/4 pound \$2.00; 3 1/2 pound \$5.00; 18 pound \$21.00. Pollen Chia Commerce, Box 2151D, Prescott, Arizona.

• REAL ESTATE

400,000,000 ACRES government public land in 25 states. Some low as \$1.00 acre. 1966 report. Details \$1.00. Public Land, 422DM Washington Building, Washington, D.C.

• TREASURE FINDERS

LOOKING FOR treasure: Complete detailed circuit information to build low-cost transistor metal locator and small detector, two circuits \$2. Treasure Hunter, Box 1796, Costa Mesa, Calif.

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POWERFUL METROTECH locators detect gold, silver, coins, relics. Moneyback guarantee. Terms free information. Underground Explorations, Dept. 3A, Box 793, Menlo Park, California.

FIND LOST or hidden treasures with new transistor metal detector, underwater metal detectors, scintillation counters, etc. Free literature. Gardiner Electronics, Dept. 51, 4729 North 7th Ave., Phoenix, Arizona.

FIND BURIED coins, treasures, gold, silver with sensitive new 1966 transistor "Electronic Prospectors." Free information. Sensitronix, 2225-L Lou Ellen, Houston, Texas 77018.

NEW 1966 Goldak treasure, coin, gold, silver locators. Goldak, Dept. DMC, 1544 W. Glenoaks, Calif. 91201.

• WESTERN GOODS

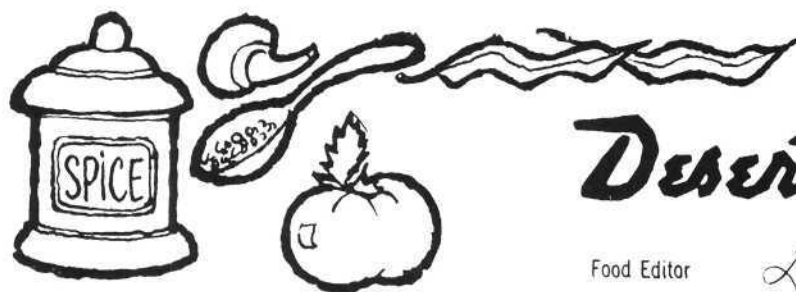
GHOST TOWN items: Sun-colored glass, amethyst to royal purple; ghost railroads materials, tickets; limited odd items from camps of the '60s. Write your interest—Box 64-D, Smith, Nevada.

• MISCELLANEOUS

OMNI-WAVE improves radio reception, clearer, more volume. Easily constructed. Complete plans \$2. California residents add sales tax. Pollard Precision Products, 23032 Strathern, Canoga Park, Calif. 91304.

BETTER BREATHING keeps you fit. Why contract emphysema, bronchitis, asthma? Reader's Digest reported (February, 1966) this method has "taught 100,000 people how to use their lungs properly." Twelve-week home course, \$28. Write today for free information. Institute of Breathing, Dept. DE, Box 648, San Francisco, California 94101.





Desert COOKERY

Food Editor

Lucille Irene Cole

ESCALLOPED CAULIFLOWER

Clean one large head of cauliflower, but do not cut up. Place in a thin white cloth and lower into a kettle of boiling salted water. Cook in open kettle for 20 minutes. Remove from water and place in buttered baking dish, careful to keep whole. Cover with white sauce to which has been added 1 cup grated cheese. Sprinkle with bread crumbs and grated cheese and bake in oven until browned.

MOCHA CREAM

1 tablespoon plain gelatin soaked in $\frac{1}{4}$ cup cold water for 5 min.
 $1\frac{1}{2}$ cups strong hot coffee
 $\frac{1}{4}$ cup sugar
 1 pint vanilla ice cream
 Dissolve gelatin in hot coffee. Stir in sugar. Cool until it begins to set, then combine with the ice cream. Sprinkle grated sweet chocolate curls or nut meats over top.

TROPICAL BEEF STEW

3 lbs. stewing meat cut in cubes
 3 tablespoons flour
 1 tablespoon cooking oil
 3 fresh tomatoes, cut up
 1 medium onion, sliced
 1 teaspoon salt
 1 teaspoon celery salt
 $\frac{1}{3}$ cup red wine
 $\frac{1}{3}$ cup molasses
 1 cup water
 6 carrots, pared and cut in slices
 $\frac{1}{2}$ cup raisins
 $\frac{1}{2}$ teaspoon ginger

Dredge beef in flour and brown in fat in large skillet, or heavy sauce pan. Add tomatoes, onion, salt and celery salt, and pepper if desired. Combine wine, molasses and water and add to meat. Cover and simmer for about 2 hours, or until tender. Add carrots, raisins and ginger and cook until carrots are tender. This is delicious served over hot rice or with mashed potatoes.

LAMB SHANKS IN FOIL

4 lamb shanks
 1 envelope onion soup mix
 3 tablespoons of catsup or chili sauce

Cut four pieces of heavy foil large enough to wrap and seal lamb shank. Place a shank on each piece of foil. Mix onion soup mix with catsup or chili sauce and spread over each shank. Seal foil and place in flat baking pan. Bake for $3\frac{1}{2}$ hours in 300 degree oven.

CHIPPED BEEF-BAKED POTATO

Cover contents of a jar or package of chipped beef with water and bring to a boil. Drain, scrape beef to one side of pan, place 2 tablespoons butter in remainder of pan and let melt. Stir in $1\frac{1}{2}$ to 2 tablespoons flour, depending whether you want a thick or thinner sauce; slowly stir in 1 cup milk. Stir until you have a smooth sauce blended with the beef. Have 2 potatoes baked, split in half and pour creamed beef over. This makes a quick easy meal. There is usually enough salt in the beef, so it is not necessary to add any.

TOMATO BEEF STEW

1 lb. beef cubes
 2 tablespoons seasoned flour
 $1\frac{1}{2}$ tablespoons shortening
 1 can tomato soup
 1 soup can water
 6 small whole white onions
 6 small carrots, cut in pieces
 3 potatoes, quartered
 $\frac{1}{2}$ teaspoon thyme

Dredge meat in flour and brown in shortening in heavy skillet. Add soup and water. Cover and cook about 1 hour or until vegetables are tender. Stir occasionally. If you wish, you may use a can of small, whole potatoes, adding them just long enough to heat thoroughly. If gravy isn't thick enough, cook for a little while with the lid off. 4 servings.

TOMATOES AU GRATIN

1 lb. tomatoes
 $\frac{2}{3}$ cup bread crumbs
 2 tablespoons butter
 Salt and pepper

Slice tomatoes and place in greased baking dish, sprinkle with crumbs and seasonings. Repeat layers until all is used, ending with layer of crumbs. Dot butter over top and bake in 400 degree oven for 20 minutes.

ITALIAN-STYLE ROUND STEAK

1 round steak, cut $\frac{3}{4}$ inches thick
 $\frac{1}{4}$ cup Italian dressing
 2 tablespoons lemon juice
 1 teaspoon salt
 $\frac{1}{8}$ teaspoon garlic salt
 1 tablespoon brown sugar
 2 tablespoons cooking oil
 $\frac{1}{2}$ cup water
 $\frac{1}{4}$ cup chili sauce
 $\frac{1}{2}$ teaspoon Worcestershire sauce
 1 medium onion, sliced
 1 small can sliced mushrooms

Combine dressing, lemon juice, brown sugar, salt and garlic salt, and marinate steak in this mixture for 4 hours, turning once. Drain steak and brown in oil in heavy skillet, browning on both sides. Add water, chili sauce, and Worcestershire sauce to remaining marinade; lift steak out of pan and pour off the grease, return to pan, add sliced onion and pour marinade mix over, cover and simmer for $1\frac{1}{2}$ or 2 hours, or until steak is tender. Pour mushrooms and juice over steak, cook a few minutes to heat mushrooms, then turn into hot serving dish. If you cut steak into pieces before lifting, you can lift with a pancake lifter, thus keeping the onions and mushrooms on top. Thicken the gravy in the skillet with a little flour and pour over to serve. Instead of mushrooms, you may use sliced carrots, which should be put in when the onions are added.

LETTERS FROM OUR READERS

Letters requesting answers must include stamped self-addressed envelope

Baja Controversy . . .

To the Editor: Thank you for an enjoyable weekend. Part Two of your *Magic of Baja* stimulated my mind so much that sleep was impossible. So, I spent the night perusing books and files, hoping to add fodder to your research on the *Santa Maria Magdalena Empeza*. After many intriguing hours, I came up with a solution of my own. I think the ruins you found are, instead, the ruins of an old cattle ranch that was part of the mission of San Francisco de Borja.

San Borja was a prosperous Jesuit mission, due to the business of raising and trading in livestock. There was at least one, if not more, mission ranches in the area. Your description fits both that of a cattle operation and an Indian rancharia. The existence of a good trail nearby made travel between the ranch and the shipping point at Bahia de Los Angeles easy. I'll bet you a stack of tortillas that at this very moment those same Indians are sitting in a circle in their Happy Hunting Ground, eating clams and flipping eroded shells down on your plateau . . . and laughing like hell at us crazy gringos down here getting all shook up over a few old piles of fallen rock—rocks they hadn't been happy about stacking up in the first place!

I, too, believe in the Magic of Baja.

RICARDO DE LA CERDA,
Tucson, Arizona.

Editor's comment: We entertained a similar idea, but a lost mission is more romantic than an abandoned rancho so I went that route, of course. Maybe Uncle Erle will explore the site more thoroughly next trip and come up with the right answer. In the meantime, one letter like yours makes all the work that went into this series worthwhile. It is more exciting to have an exchange of ideas than to be right! C.P.

Competition! . . .

To the Editor: I noted your article *Oldest Thing Alive* in the last issue with interest because the oldest thing alive is supposed to be here in Pennsylvania. Near where I live there is a single Box Huckleberry Bush which has spread to cover eight acres. Considered 13,000 years old, it is still growing. Like the Bristlecone pine, it seems able to weather any climatic condition. If it were in California, it would have long since received world-wide publicity, I'm sure. I wish Westerners knew as much about the East as we know about the West. Unfortunately, there is no Eastern publication comparable to yours.

FRANK MASLAND,
Carlisle, Pennsylvania.

Many Will Mourn . . .

To the Editor: Recently I heard that Ella Cain has passed away. She authored *The Story of Bodie* and *The Story of Mono County* and is well known to many DESERT readers. Born in Bodie in 1882, she married David Victor Cain in 1904, a member of Bodie's most prominent family. For many of my own ghost town stories, Ella Cain was generous in sharing material, and I'm sure other ghost town writers and readers share my affection for this wonderful woman.

LAMBERT FLORIN,
Portland, Oregon.

Correction . . .

To the Editor: I would like to correct my goof in *Lost Mines and Treasures of Nevada* in last month's DESERT. Concerning the Lost Cabin Mine, I stated that it was first reported in 1890 in a Tonopah saloon. However, Tonopah wasn't discovered until about 1900, although Nye County was in the late 1800s. You'll probably get some letters about it.

DORIS CERVERI,
Reno, Nevada.

Lost Quail . . .

To the Editor: Ever since Feb. 1965, when it appeared in DESERT, we've been looking for the Lost Quail ledge. We assume it is within 10 miles of Beecher's Spring; that would be about half-a-day's ride on a horse. Now for a broad wash, Wildhorse Canyon fits that clue. The mouth of Wildhorse Canyon is privately owned and we couldn't get permission to enter. We then combed the hills north of Wildhorse and found Mr. Marquiss' Apache tears, but bismuth is not here, for these hills were made several million years after the bismuth was deposited. These hills are volcanic ash loaded with round balls of volcanic glass.

From the Bureau of Mines in Washington we learned that bismuthinite, bismuth sulfide, is rare and found in igneous rocks, complex pegmatites with tourmaline, magnetite, garnet, tin, pyrite, etc. Also, bismuth was mined at the Lost Horse mine, which is near Twentynine Palms. Information from the California Division of Mines added copper and tungsten to the list of minerals that bismuth associated with in pegmatites. You can bet 10 to one pegmatite associates with granite, so all we had to do was find granite hills with pegmatite dykes in them.

So, we got our maps out and found a Granite Well on the west side of Gold Valley; there was also a Gold Valley Spring where quail could get water. We went there and found different kinds of ore, but no bismuth nor pegmatites. Further north we found pegmatite, seams, veins and dykes but no tourmaline, garnets nor bismuth.

We re-read Mr. Marquiss' story and concluded as he did—maybe the plumber ranged too far away from Beecher's Spring. About two miles south of Wild Horse Canyon is a broad wash leading into Colton Hills. Up there we found a man-made water trap and around it were quail and doves, but there's nothing here, as these hills are made up of volcanic ash and lava, laid down several million years after the bismuth. So we went to Bearclaw Well and crossed a ridge. There were prospect holes everywhere, but in quartz. Turning south and crossing a saddle, we came into a different formation altogether.

I was on one side of the canyon and Bill on the other. He rushed over with a heavy piece of black rock. At first I thought he'd found it, but the crystals were wrong. It was an iron mixture. Later we found iron crystals, calcite crystals and apatite crystals. Here is a place that needed more looking. At the B.L.M. we learned this whole area is owned by the railroad company. They wouldn't make any kind of deal.

There's one other way of locating an area where bismuth might be, but it would take time and run \$5.00 per test, so we gave it up for this year, at least.

JACK DERFUS,
Burbank, California.

Treasure Finder . . .

To the Editor: You will be surprised to get this letter. I am the person who found the Cibola treasure, many thanks to your fine magazine as all credit goes to it. I located the treasure with a metal detector in less than half a day. I went through lots of junk before I hit it. When I was sure I had it, I filled in some dirt and went on prospecting as if I hadn't found it. I knew I was being watched. As soon as it got dark, I went back and lifted out the old cedar chest, but didn't stop to fill in the hole. Most of the stuff was junk—old lamps, pots and pans, a bag of marbles, several guns and one fine old watch. There was at least 50 pounds of lead molded bullets. But the best was a decayed sack of coins—gold, silver and copper, U. S. and some foreign. The total face value came to nearly \$5000, but I hope to sell them to coin dealers for at least \$10,000. Not a fortune, but I was satisfied. No letters were found, but there was something that appeared to be a treasure map made by a person who couldn't write. I'll try to figure it out and later will send it to you, as I'm through with treasure hunting.

I'm sorry the man was too late who wrote that he missed finding the treasure, but found the empty hole I'd left. I don't want to sign this letter, so you can just throw it out if you like, as you may think it a hoax.

A Subscriber.

Editor's note: A reader we are personally acquainted with arrived at the same scene too late, also, and discovered the same evidence as that reported by the reader in Letters in the June issue. C.P.

Walls of Gold . . .

To the Editor: In your last issue, *Lost Mines and Treasures of Nevada* mentioned the "cave of the golden walls." Years ago I heard about that cave from a friend whose father worked as a miner in the region. That cave should be in the southern end of Stillwater Range close to Highway 50. Gold was found there and the Summit King mine was among the 10 largest producers in Nevada. I have spent many days looking for it, but have not yet located the right position of the Painted Hills, even from a Cessna plane. The country looks like the surface of the moon and there aren't any correct maps available. The best help might be a new map (No. 28: Nevada Bureau of Maps) published last year by the MacKay School of Mines in Reno. Its name is Preliminary Geologic Map of a part of the Stillwater Range, Churchill County. Maybe someone else will find the golden cave.

MICK JIRACK,
Stateline, California.

Credit to Artist . . .

To the Editor: The composite painting of Padre Kino reproduced in last month's DESERT was created by Frances O'Brien of Tucson. Thought you'd like to know.

MARIE HUSGOOD,
Tucson, Arizona.

Credit to Photographer . . .

To the Editor: Those splendid photos to illustrate my article, *High Camp at Hilton Lakes* in the last issue were taken by Felix Paavel, free lance sports writer and photographer.

HELEN GILBERT.

Vandals at Work . . .

To the Editor: Just before you went to press with my article about Stevens historic sawmill in the Sierras in last month's issue, I learned that the 93-year old structure has been burned by vandals.

ROGER MITCHELL,
Sierra Madre, Calif.

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