Desert

THE MAGAZINE OF THE WEST

OCTOBER 1964 50c

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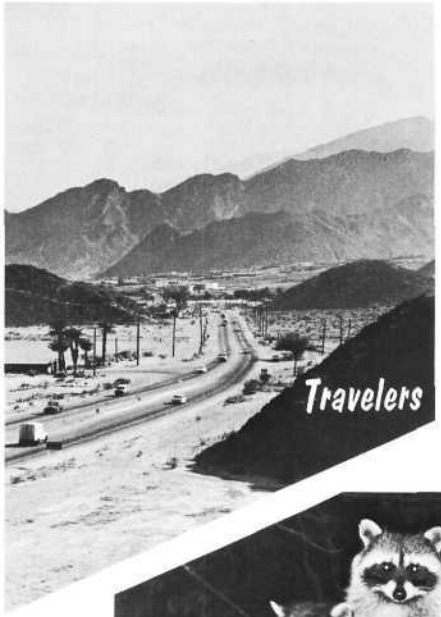

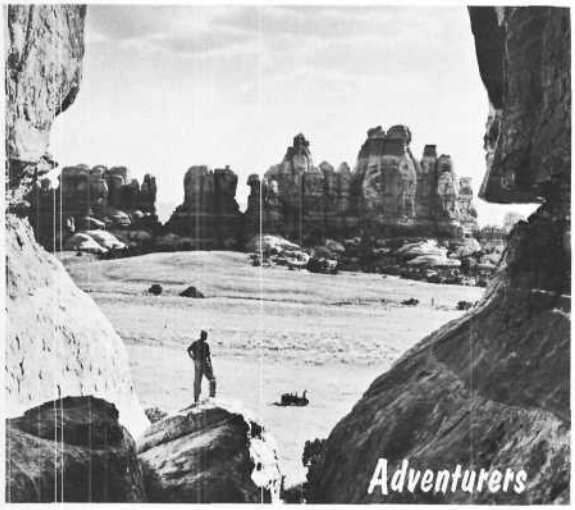

A provocative, informing and entertaining publication devoted to the West, **Desert** *is more than just a magazine — it is a Way of Living you can share with friends and relatives both in the West and in the East. And what better time than Christmas to share this Way of Living with your friends.*

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Desert

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Volume 27 Number 10

October, 1964

October Peppercorns . . . . by Jack Pepper

POSSESSION OF PETRIFIED WOOD. An experimental step to allow rock collectors to take a limited amount of petrified wood from public domain lands is now in effect. The United States Department of the Interior has ruled each collector daily may take up to 25 pounds, plus one piece, without charge, on condition that the fossilized mineral is collected ONLY for recreation and as a hobby. The annual limit per person is 250 pounds.

Petrified wood taken free of charge must be for personal use and may NOT be bartered or sold to commercial dealers. The regulations implement a 1962 Federal law which protects the avidly sought material from unauthorized wholesale removal. This law specifically excluded petrified wood from the mining laws, and directed the Secretary of the Interior to limit and regulate free removal.

"We have a dual responsibility," Secretary Udall said of the Department's regulatory action. "First, we have to recognize the legitimate recreation needs of the growing numbers of rock collectors who flock to the public lands each year. But of equal importance is the need to preserve quantities of petrified wood for the pleasure and interest of future generations of rockhounds."

For a trial period of one year, no permits for the free use of petrified wood on Federal lands will be required. Secretary Udall explained that a permit system could cause delay and discouragement among permit applicants.

Petrified wood may not be collected in any national park, national monument or on any Indian lands. Other public lands, such as those in national forests, national wildlife refuges and game refuges, and certain military reservations may be opened to collection, but regulations for such categories of lands have not yet been completed. BE SURE AND CHECK WITH OFFICIALS before removing petrified wood from doubtful areas.

He invited persons knowing of deposits which should be preserved for public observation or scientific purposes to notify the nearest office of the Bureau of Land Management.

Petrified wood actually is neither petrified nor wood. It is a fossilized mineral substance, a relic of forests which existed millions of years ago. The substance is formed by silica and other elements that seeped into and gradually replaced the original wood over thousands of centuries. It is sometimes "agatized" or "opalized."

The present law and regulations do not extend to other common minerals—agate, obsidian and jasper—which are of interest to rockhounds.

OCTOBER CALENDAR. Miners Convention and Small Miners' Equipment Show at Burton's Tropica Gold Hill, Rosamond, Calif., Oct. 3-4. San Diego County Gemboree at Del Mar, Calif., Oct. 10-11. Fiesta de la Luna, Chula Vista, Calif., Oct. 14-18. "Helldorado" Celebration, Tombstone, Ariz., Oct. 16-18. Butterfield Stage Fiesta, Gila Bend, Ariz., Oct. 17. Fishermen's Fiesta at the Port of Los Angeles in San Pedro, Oct. 23-25. Lockheed's Annual Gem and Mineral Show, 2814 Empire Ave., Burbank, Calif., Oct. 24-25. Last week of October, Nevada Centennial Celebrations at Carson City. Month of October, Fiesta of Nations, House of Pacific Relations, Balboa Park, San Diego.

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New Books For Desert Readers

OLD MINES OF CALIFORNIA AND NEVADA

By R. W. Raymond

For ghost town chasers, bottle diggers, and Western historians, this little book is a real bonanza. Originally issued by the Government Printing Office in 1868, this 1964 reprint is limited to only 1000 copies.

Including comments on the time, the country and persons, as well as highly reliable reports on mines of the Mother Lode of California and Nevada, information contained in this 133-page paperback is not to be found elsewhere. Certain mining camp ruins discovered by this reviewer in Esmeralda County were unidentified on current topographical maps, but described in detail here. This would be true of other areas, no doubt, and if carried into the field by back country explorers, the book could contribute enormously as a guide to abandoned mining camps, old diggings and geological information pertinent to the region.

Published by Frontier Book Company, it is available in a limited quantity from the DESERT Magazine Book Order Department and priced at $2.75, including postage.

FIELD NOTES OF CAPTAIN WILLIAM CLARK

Edited by Ernest Staples Osgood

The discovery in a St. Paul attic in 1953 of the rough notes taken between 1803 and 1805 by Captain William Clark brings into focus new highlights of the important Lewis and Clark expeditions. These manuscripts, now in the Western Americana Collection at Yale University, have been edited and accompanied with introductory notes by Mr. Osgood and published in a large (11x14) volume to be prized by collectors of Western history.

Not for the casual reader, these maps and field notes describe the wild life, Indians, and adventures of the expedition in detail. One note reads, "The buffalo killed were so thin that the hunters probably took only the brains, marrow bones and hides. The hides were used to cover one of the pirogues to protect baggage. The brains were used to soften the hides and to make them more flexible after they were dried and scraped."

Details such as the above will render the work of Mr. Osgood invaluable to researchers, as it is only through them that modern writers are able to bring life and veracity to historical manuscripts.

Including photographed reproductions of the original notes and a complete index, the book consists of 335 pages, is hardcover and sells for $12.50. Published by the Yale University Press, it may be ordered from the DESERT Magazine Book Department.

THE AMERICAS ON THE EVE OF DISCOVERY

Edited by Harold E. Driver

This collection of well-documented and eye-witness accounts of American Indian life and culture on the eve of its discovery by white men (including accounts of Norsemen who arrived before Columbus) doesn't establish the origination of the Red Man, but it does stimulate new thoughts on the subject.

Dr. Driver, a professor at Indiana University, has written many articles and books on his studies of the North American Indian — extensive studies which have taken him as far afield as Mexico and Africa. This book is comprised of 11 sketches. Among them are a Spanish soldier's description of the capital of Montezuma's sprawling Aztec Empire, a tragic Peeagan love story, an explorer's discovery of the Polar Eskimo, and a fascinating story about a young Indian of Tierra del Fuego named Jemmy Button who was introduced to civilization by Charles Darwin in 1832 and then later returned to his own primitive "land of fire."

In the final chapter of his book, Dr. Driver deals with contributions made by early Indians to our modern life. Plants domesticated by the Indians, such as potatoes and corn, are of prime importance. Tobacco, curative drugs, cotton, the native hammock, the poncho, parka and rubber are others. Art, literature, music, and the cinema have revealed Indian influences.

Either paperback for $1.95 or cloth cover for $4.50, this 179-page book is published by Prentice-Hall Inc., and may be ordered from the DESERT Magazine Book Order Department.

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WESTERN CHRISTMAS CARDS

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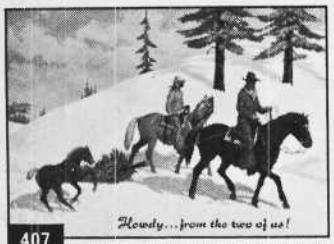
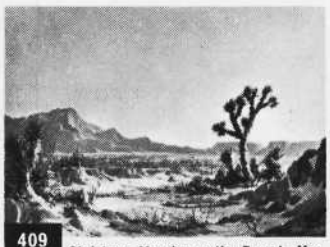
403 **The Story of Christmas in Sign Language**—May the Spirit of Christmas abide with you throughout the Coming Year

404 **Smoketree in the West**—Best Wishes at Christmas and Happiness through all the Coming Year

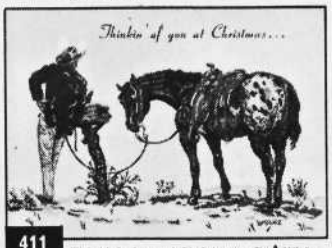
405 **A Christmas Kindness**—Greeting is a beautiful 4 line western verse



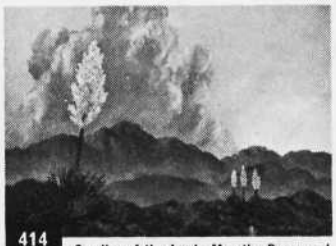
407 **Howdy** . . . from the two of us!—With Best Wishes at Christmas and through all the New Year



409 **Christmas Morning on the Desert**—May every happiness be yours at Christmas and throughout the New Year

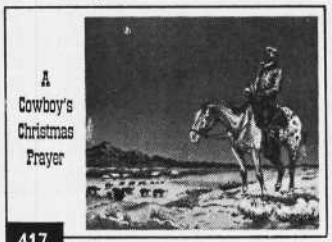


411 **Thinkin' of you at Christmas**—Best Wishes for the Holidays and Happiness throughout the New Year



414 **Candles of the Lord**—May the Peace and Happiness of the Christmas Season abide with you through all the Coming Year

415 **Christmas Chores**—Christmas Greetings and Best Wishes for all the Year



417 **A Cowboy's Christmas Prayer**—This famous 26 line prayer is inside the card in addition to a greeting

418 **"...fair and open face of heaven..."**—May every happiness be yours at Christmas and throughout the New Year

419 **Winter Friends**—A friendly wish for a Merry Christmas and a Happy New Year

420 **Season's Greetings**—With Best Wishes at Christmas and Happiness through all the Coming Year

421 **Christmas Visitors**—May the meaning of the Season be deeper, its friendships stronger and its hopes brighter, etc.

422 **Greetings from our outfit to yours**—With Best Wishes for Christmas and all the New Year

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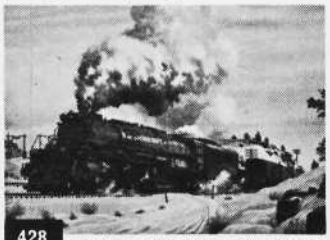
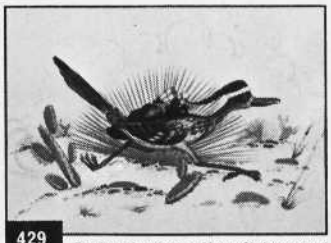


428 **Headin' West to Laramie**—Best Wishes for a Merry Christmas and a Happy New Year



429 **Roadrunning Santa**—Merry Christmas and a Happy New Year

430 **Christmas Thanks**—Inside is a sentimental 14 line western Christmas verse in addition to the greeting

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New Books

THE VAQUERO
By A. R. Rojas

Here is the story of the men who herded cattle in the Far West, of the men who rode far and wide suffering hardships unimaginable today, told like it has never been told before.

Reared among vaqueros himself, Mr. Rojas feels these greatest of Western horsemen have been neglected by history. A distinctly different breed of horseman from the American cowboy whose culture descended from the south via the African negro herdsman, the vaquero was a product of Spanish tradition. Techniques as well as equipment differed greatly. The vaquero and his counterpart, the buckaroo, were palate-bit men whereas the cowboy used a snaffle-bit. One used a single-cinch saddle, the other a double-cinch. The cowboy depended upon the natural instinct of a good cow horse to do his job, the vaquero was a rein man. No greater riders have ever ridden our ranges than the proud vaqueros.

Because of his direct Spanish and Mexican Indian heritage, the author has been privileged to experience interludes foreign to most gringos. He writes of a conversation with the great Yaqui warrior, Exciquio Chavez, who rose to brigadier general against his will. He relates a colorful incident in the life of a Baja California vaquero who became famous for braving a gray bull. His stories of people, places and horses are told tenderly and simply.

Illustrated with sketches by the famous Western artist, Nicholas S. Firfires, this book belongs in all collections of Western Americana as it is among the few (if not the only) authentic records of the American Vaquero. Published by McNally and Loftin, it is hardcover, 194 pages and may be ordered from the DESERT Magazine Book Order Department for $4.25, postage included.

SPICE YOUR SPANISH WITH DICHOS
By Ricardo Castillo

"Dichos" are the pungent Spanish proverbs which add so much color and logic to the conversation and thinking of our Mexican neighbors.

"En el pais de los ciegos, el tuerto es rey."

In the blind man's country, the one-eyed man is king.

"Como el burro del aguador, cargado de agua y muerto—de sed."

Like the water bearer's donkey—loaded with water, but dying of thirst.

"Enchanda a perder se aprende."

You have to waste a little when you are learning.

"Cuesta mas trabajo guardarlo que ganarlo."

Money is easier to earn than it is to keep.

"El corazon no envejece, el cuero es el que se arruga."

The heart doesn't grow old; it's only the skin that wrinkles.

Books Make Lasting Gifts

GHOSTS OF THE GLORY TRAIL by Nell Murbarger is a fast moving chronicle of Western boomcamp and bonanza. Rich in human interest as well as authentic history, this book covers ghosttowns of Nevada, western Utah and eastern California. Hardcover, 291 pages. Price $6.75.

NEVADA'S TURBULENT YESTERDAY by Don Ashbaugh. Illustrated with a fine collection of old photos and throbbing with exciting tales of Nevada's robust past, this an authentic ghost town history written by one of Nevada's favorite authors. Hard cover. 346 pages. $7.50.

JEEP TRAILS TO COLORADO GHOST TOWNS by Robert L. Brown. An illustrated, detailed, informal history of life in the mining camps deep in the almost inaccessible mountain fastness of the Colorado Rockies. Fifty-eight towns are included as examples of the vigorous struggle for existence in the mining camps of the West. 239 pages, illustrated, end sheet map. Hard Cover. $5.50.

PUEBLO GODS AND MYTHS by Hamilton A. Tyler. In this book the author draws interesting analogies between Greek and mythological gods, not to show that one developed from the other, but to better explain the development and intention of Pueblo mythology. Then, like constructing the House That Jack Built, he goes on to illustrate associated ideas which gave birth to the gods. The fascinating final chapter relates Pueblo cosmology to contemporary Western thought. 313 pages, Hard Cover. $5.95.

GHOSTS OF THE ADOBE WALLS by Nell Murbarger, the well known "roving reporter of the desert." The author's just-published book is an intimate chronicle of Arizona's once-booming mining towns, stage stations, army posts, marauding Indians and fantastic human characters. 380 pages, illustrated. Hard Cover. $7.50.

ALL ABOUT CALIFORNIA By Thomas B. Lesure. The author has compiled a factual report on the attractions, cities and communities of California designed for "an auto trip or a vacation and for assistance to find a home or low-cost retirement in pleasant surroundings." It also includes a section on "Business Opportunities and Job Outlook." 104 pages, 8¼x11, durable paperback. $2.00.

ON DESERT TRAILS by Randall Henderson, founder and publisher of Desert Magazine for 23 years. One of the first good writers to reveal the beauty of the mysterious desert areas. Henderson's experiences, combined with his comments on the desert of yesterday and today, makes this a MUST for those who really want to understand the desert. 375 pages, illustrated. Hard Cover. $5.00.

LOWER CALIFORNIA GUIDE BOOK by Gerhard and Gulick. The authors have revised the third edition to bring it up to date. Veteran travelers in Baja California would not venture south of the border without this authoritative volume. It combines the fascinating history of every location, whether it be a town, mission or abandoned ranch, with detailed mileage maps and locations of gasoline supplies, water and other needed information on Baja. 243 pages with three-color folding map, 16 detailed route maps, 4 city maps, 22 illustrations. Hard cover. $6.50.

THE RANCH THAT WAS ROBBINS' By Adelaide LeMert Doran who began her professional career in 1929 with the Los Angeles City School System as a teacher of California history and geography. A complete book with good information on Santa Catalina Island's flora, fauna, and history and the part the Island played in the mining excitement before and during the Civil War. Double-page map. 211 pages. Hard cover. $5.

THE OREGON DESERT by E. R. Jackman and R. A. Long. This book is a hard one to define. A single paragraph may be a mixture of geology, history, biography and rich desert lore. The only complete book about the Oregon desert, the material applies equally well to other deserts of the West. The humor and fascinating anecdotes coupled with factual background and unusual photos, including color, make it excellent reading material even for those who may never visit Oregon. 407 pages, illustrated. Hard Cover. **Third printing, $6.50.**

To Insure a Real

Merry Christmas

Order these books by mail today from DESERT Magazine.

See Information Below

THE NORTH AMERICAN DESERTS by Edmund C. Jaeger. A long-time authority on all phases of desert areas and life, Dr. Jaeger's book on the North American Deserts should be carried wherever you travel. It not only describes each of the individual desert areas, but has illustrated sections on desert insects, reptiles, birds, mammals and plants. 315 pages, illustrated photographs, line drawings and maps. Hard Cover. $5.95.

GHOST TOWN TRAILS by Lambert Florin is third in a series that ranks among the best ghosttown books ever written. Excellent photos and stories cover an area that stretches across the entire west from Alaska to New Mexico. Large format, 192 pages. Hardcover. Price $12.50.

PAINTERS OF THE DESERT by Ed Ainsworth. A beautifully illustrated and well-written roundup of 13 of the desert's outstanding artists—Dixon, Forsythe, Swinnerton, Fechin, Eytel, Lauritz, Buff, Klinker, Perceval, Hilton, Proctor, McGrew, and Bender. Folio size, gold-stamped hard cover. Full color reproductions. 125 pages. $11.00.

CORTES, By Francisco Lopez de Gomara, secretary to the famous conqueror of Mexico. A vivid narration of the exploits of Herman Cortes who combined diplomacy, cunning and military might to overcome his adversaries. 480 pages, illustrated. Hard cover. $8.50.

MEET FLORA MEXICANA by Walter Pesman. Absolutely essential for travelers into Old Mexico or Baja who want to know the names, uses and habits of flora that grows along roads and highways. Well illustrated with lively text. 278 pages. Hard cover. $6.00.

THE DESERT IS YOURS by Erle Stanley Gardner. In his latest book on the desert areas of the West, the author again takes his reader with him as he uses every means of transportation to explore the wilderness areas and sift the facts and rumors about such famous legends as the Lost Arch, Lost Dutchman and Lost Dutch Oven mines. 256 pages, illustrated. Hard cover. $7.50.

TREASURE OF THE SANGRE DE CRISTOS by Arthur L. Campa. Illustrated by Joe Beeler. Tales of lost mines stacked with golden bars, mule loads of silver cached away in outlaw hordes and Jesuit buried treasures are recounted with maps, legend, lore and fact. A new challenge for lost mine hunters of the Southwest. Hardcover. 223 pages, $5.95.

THE HIDDEN HEART OF BAJA by Erle Stanley Gardner. The noted creator of the best-selling mysteries of our time has written several books on Baja California and the desert areas of the West. With his talent of combining adventure and mystery with facts, the author takes you with him as he probes the mysteries of "The Hidden Heart of Baja" and tells how he discovered an archeological find of major importance thus opening up a new concept regarding cave paintings. 256 pages, illustrated with color photos of Indian paintings. Hard cover. $7.50.

THE DINOSAUR HUNTERS, Othneil C. Marsh and Edward D. Cope, By Robert Plate. A dual biography of the first dinosaur hunters whose bitter rivalry split the scientific world for about 25 years but whose exploits of the 1870s and 1880s excited the public imagination and made dinosaurs a household word. Easy reading, the book is packed with action resulting from the intense feud between Marsh and Cope, both wealthy men who exhausted their fortunes in the arduous hunt for the creatures of the past. 281 pages. Hard Cover. $4.95.

A SOUTHWESTERN UTOPIA By Thomas A. Robertson. An American Colony in Mexico. Half a century ago some 2000 Americans, pioneers, idealists and adventurers trekked into northwestern Mexico intent on forming a cooperative colony. The author (reared among the colonists) tells of the trials, failures and successes of colony life. This book, describing the people and life in Mexico's Sinaloa will be enjoyed by those who dream escapist dreams. 266 pages. Hard cover. $5.95.

THREE PATHS ALONG A RIVER By Tom Hudson. Illustrated by Ralph Love. Once a river, the San Luis Rey is now only an intermittent stream. History marched beside the river, and in a sense the Valley of San Luis Rey can called the Gateway to California. The earliest overland travelers coming from Mexico and west from the States traveled the Carrizo Corridor leading inland through Temecula to the Mission of San Gabriel and the Pueblo of Los Angeles. The Butterfield Stage route crossed the river near its headwaters. 245 page. Hard cover. $6.

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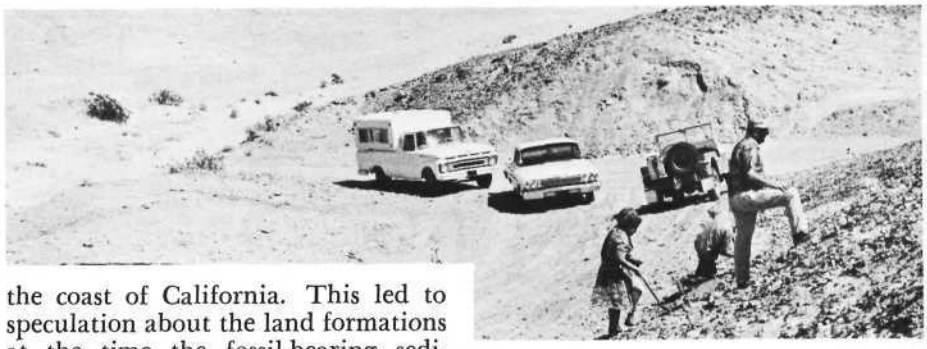
Beachcombing a Desert Oyster Bed

by wally pugh

THE COLORADO desert is an upside down world where irrigation has turned barren waste into one of the world's most fruitful gardens and where a river out of control half a century ago formed an inland sea now 234 feet below sea level. In this land of contrasts, one of the most unusual spectacles is a vast oyster shell bed formed when today's desert lay at the bottom of an ancient sea. Acres and acres of petrified oysters blanket the land west of El Centro just south of Plaster City in the Yuha Basin of the Imperial Valley. No midgets, these oysters average about six to eight inches across.



These fossils relate a history of the Imperial Valley and adjacent regions extending back millions of years. But the interpreter must be wary, for the language of fossils is full of pitfalls.

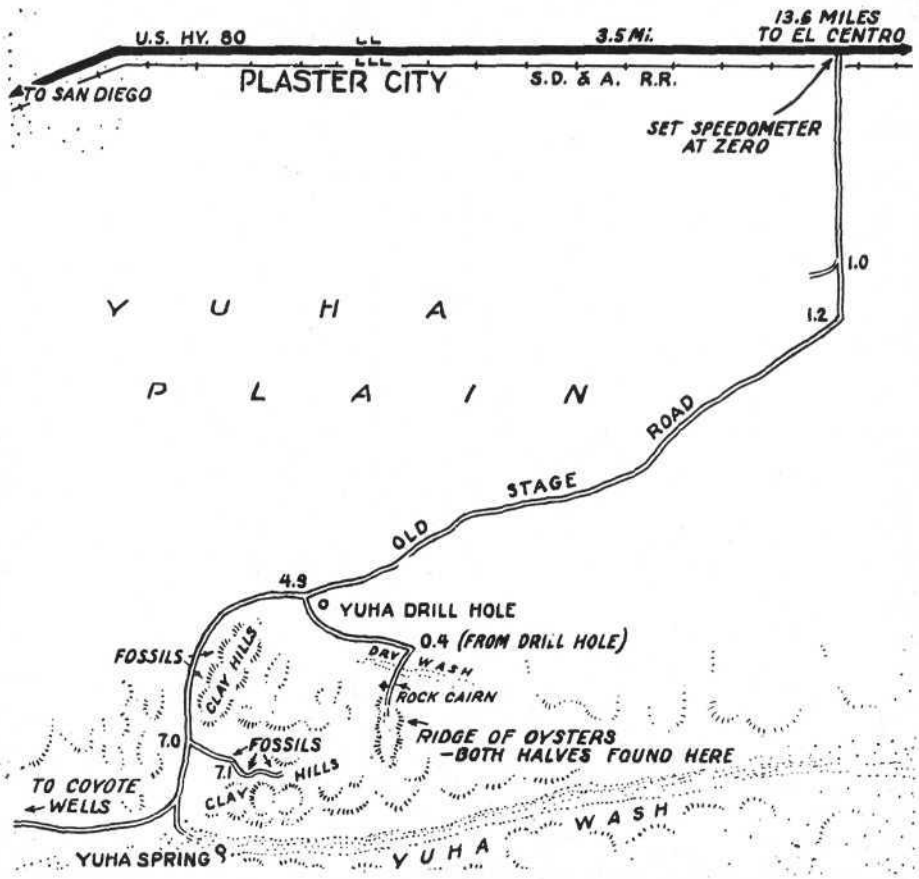
Since the shells came to the attention of some of the earliest white men to visit the valley, attempts have been made to translate the story in the rocks. The first published description of fossils from the Imperial Formation was made by William P. Blake, who was a geologist for the Southern Pacific Railroad Survey in the early 1850's. Blake was with a party that camped near the mouth of Alverson Canyon. His description of four fossils from the locality, including two species of oysters, launched scientific interest in the area.

Colonization of the Imperial Valley around the turn of the century stimulated further interest in the geological history of the region. However, in those days it was no leisurely Sunday drive to the fossil beds. One collector, W. C. Mendenhall, reported that it was a one-day journey from El Centro to the Coyote mountain area.

Initially, the fossil shells raised more questions than they answered. For example, their age became a major subject of debate among paleontologists, who dated them from Cretaceous times more than 70,000,000 years ago to the Pliocene period of 5,000,000 or 10,000,000 years ago.

A mystery developed when early geologists discovered that the closest living relatives of the fossil shells were in the Atlantic Ocean rather than off the coast of California. This led to speculation about the land formations at the time the fossil-bearing sediments were laid down. Was there a sea passage that connected this region to the eastern seaboard?

An expedition of the California Academy of Sciences to the Gulf of California in 1921 cleared up part of the mystery. This expedition established that the ancient shells are related to gulf species, which in many respects resembles marine life in the Atlantic more closely than life in the Pacific just across the peninsula of Baja California. Descendants of the fossil forms live today in the warm gulf waters almost unchanged in appearance from their ancestors. Today



it is generally believed that the oysters as well as the other fossils in the area, lived toward the end of the Miocene period or at the beginning of the Pliocene, around 10,000,000 years ago.

Later studies established that a succession of "Panama" canals linked the Atlantic and Pacific oceans across different parts of Central America during earlier ages. Each time the oceans were connected, there was a great migration of sea life between the two oceans. The last of these canals closed off about 30,000,000 years ago. These migrations provided the interchange of life on the two sides of the continent that resulted in the similarity between fossil and gulf forms and Atlantic sea life.

As a result of the patient geological investigations, we have a fairly accurate picture of the Imperial Valley region of 10,000,000 years ago. In the midst of the relatively shallow sea, the Coyotes mountains rose to form an island of granitic and metamorphic rocks of possibly carboniferous age. A balmy tropical climate prevailed in that ancient time as evidenced by the huge fossil coral reefs of the region. Sharks swam in the sea, and ancestors of the horse and camel roamed the shores.

A trip to the oyster shell beds takes you back through 10,000,000 years of geologic time. It also provides you with a look at the rugged desert terrain almost unchanged from the way it was found by the first explorers of the region. A four-wheel drive vehicle is essential and plan on hiking the last half or three-quarters of a mile to the oysters.

A good place to start is El Centro. Before you leave town, make sure there is water in your canteen. Even in winter, this is thirsty country. You will also want a good pair of hiking shoes.

From El Centro, head west on Highway 80 about 13 miles until you see a sign announcing the "Oyster Shell Beds." The sign is on the south side of the highway, and it directs you down a dirt road leading south across the railroad tracks. Indicated distance to the shell beds is 4½ miles.

Follow the dirt road for about four miles. From this point, it is better to walk, as the road winds down into a sandy wash where a conventional automobile may get stuck. Also, you will miss additional collecting opportunities if you drive all the way to the shells.

From where you are parked, Signal Mountain arises out of the desert almost due south. The mountain is just across the border in Mexico and makes an excellent landmark. Set your course southwest and you will be going directly toward the shell bed. To get there, descend into a gully, climb a small but steep hill, and descend into a second gully. Follow this gully upstream to the shells.

Along the way, you'll find chips of petrified driftwood that once floated in that ancient Pliocene sea. Years ago, petrified driftwood logs were relatively common on the desert, but these are now to be found only in some of the local rock and mineral shops. In addition, there are interesting concretions to be found. Another bonus is the scattering of desert flowers that bloom almost any time during winter or spring.

From a distance, the oysters appear as rocks covering the slopes. Most numerous members of this vast oyster colony are *Ostrea vespertina* or the ruffled oyster. You are also likely to find pecten fragments and possibly the complete valve of a pecten.

But more important, you will take your own personal trip into the past. For here, on a vast scale, Mother Nature exhibits a rare collection of ancient memorabilia. ///

RISING TO NEW HEIGHTS

Although the East African Watusi and Dinka tribes are taller, Americans are among the tallest people in the world. Yale University recently reported that men of the Class of 1967 are an inch taller than those of '38. Today's Americans are four inches taller than those of Colonial times and today's teenegers are taller than their parents.

Dr. T. D. Stewart of the Smithsonian Institution thinks better nutrition is the answer, but warns of possible danger. "This is what happened to the dinosaurs," he says. "They got so big they became helpless."

Experts predict that women will average 5'10" by the end of the century and men 6'6". Dr. Harry Shapiro of the American Museum of Natural History attributes this tendency to marriage outside one's local group. But, in contrast to Dr. Stewart, he believes outbreeding produces extra vigor and is a phychological advantage.

So far, excessive tallness hasn't gone to American heads, however. Merchants report that men still buy the same size hats!

SOUTHWEST UTAH'S Old NAVAJO LAKE

KNOWN AS *Pacuay,* meaning Cloud Lake, by early Piute Indians, Utah's Navajo Lake received its present name when pioneers recovered animals stolen by marauding Navajo Indians along its shores.

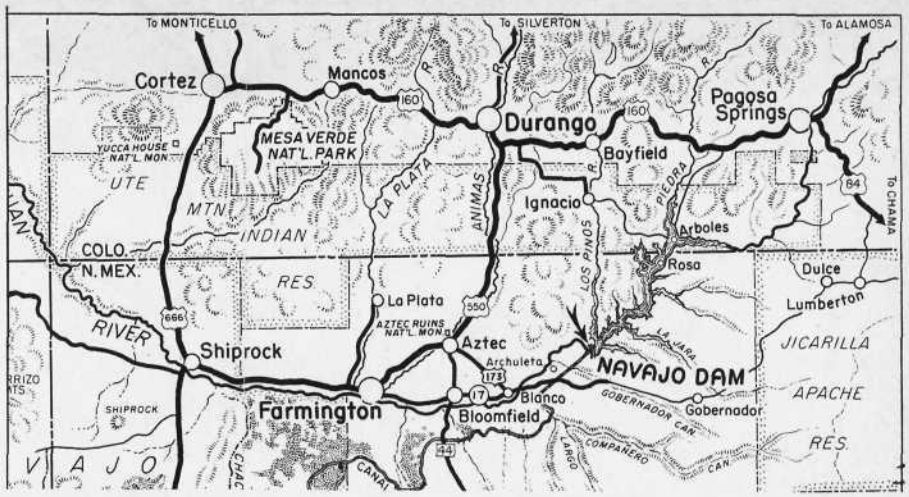
Mirrorlike and clear, Navajo Lake is especially spectacular during fall months when turning birch leaves outline its cool water like fire on ice.

Little known, other than locally by residents of nearby Cedar City, this beautiful body of water was impounded by an ancient lava flow that fills the east end of the valley over which Highway 14 is built. Old timers tell of fish perishing during autumn and early winter when its waters grew low and left them stranded, but that story belongs with the past. Now a government-built dike maintains a minimum depth and the various species of trout planted by the Utah State Fish and Game Commission swim happily all year round.

An excellent camp with fine facilities is provided on the south shore by the U. S. Forest Service. Beyond the forest camp, boats and other accommodations may be rented during summer months, but Navajo Lake's shore rests under snow in the winter. Fall is the ideal season for a camera foray as may be seen by this month's DESERT cover. ///

NEW MEXICO'S *New* NAVAJO LAKE

by John Young



"TIME IS A great legalizer," wrote the late H. L. Mencken. An example of this truism took place recently when the United State government moved to carry out a long-deferred obligation under its 1868 treaty with the Navajo tribe.

The result is a brand new lake. Although in the treaty the government promised 160 acres of agricultural land to each head of a family and 80 acres to each single Navajo for farming, the land alloted to the Navajo reservation was notably devoid of agricultural possibilities, without irrigation.

In September of 1962, something was finally done about it. The new $42 million Navajo Dam, second largest of its type built by the Bureau of Reclamation, was dedicated to fulfill the 96-year-old committment by providing the water necessary for irrigation.

In addition, Navajos are enjoying fringe benefits never dreamed of a century ago. Already fresh water enthusiasts are skimming across Navajo Lake's 35-mile-long surface on skis, fishermen are pulling up trout by the string, and campers from neighboring Texas and Oklahoma are seeking relief from heat along its cool, wooded shores. Although the dam is actually situated on the reservation, it will attract thousands of tourists to Navajo country and the tribe is making busy plans to reap a share of the tourist dollars. This, of course, is secondary to the lakes primary asset—that of providing irrigation water for more than 100,000 acres of arid reservation land which can soon be devoted to cultivating something beside sheep.

Not yet full, the lake will eventually cover some 19,000 acres of land. At its peak it will contain 778,000 acre-feet of water, with a dead storage capacity of 672,000 acre-feet. Located near the Four Corner's country where New Mexico, Colorado, Utah and Arizona meet (39 miles west of Farmington and 30 miles south of Aztec), it is served by two clear streams, the Pine and the San Juan, a major tributary of the Colorado. The water is cold enough to support a large population of trout.

Situated only a dozen miles off new state highway Route 17 that crosses northern New Mexico from Chama to Blanco through the Jicarilla Apache and Navajo reservations, the new route connects at Blanco with the Navajo Trail recently paved from Shiprock to Kayenta at the southern end of Monument Valley.

By building its own access road to the dam, using volunteer labor and funds raised by popular subscription, the little town of Aztec earlier this year won an All-American City award for community building projects without federal assistance. Its population of less than 5000 turned out en masse to build a 250,000 highway which was turned over to the New Mexico state highway department as a gift.

Aztec is so named because its early settlers thought that the extensive, intricately designed stone ruins at the edge of town were of Aztec origin. Now known to have been built by 14th-century Pueblo Indians, related to the present-day Rio Grande Pueblo people, the ruins are preserved in Aztec Ruins National Monument.

Many less elaborate Indian ruins and relics were buried by the new lake, but only after considerable salvage archeology was carried out during the period of dam construction. These ruins were both of prehistoric and modern Navajo and Pueblo origin. Thousands of Pueblo Indians lived here for many years as refugees from the aftermath of the Pueblo revolt in 1680 in New Mexico. The Pueblos chased all the Spaniards out of the state, then many of them went away and hid when the Spaniards returned in force 10 years later.

Part of the attraction of the new lake is its dramatic setting in steep, heavily-wooded canyons at an elevation of 6,000 feet, surrounded by by ridges above 7,000 feet.

Fall should be the best season of the year to visit this new lake in its ancient setting and to explore a few of its canyons before the State Park Commission fully develops resort facilities and the crowds move in. ///

$8 MILLION in a

SOIL PIPES made of gold! This is no Arabian Nights tale. These pipes were made in the Los Angeles pottery works of one Ezra Hamilton. Actually, the pipes were not solid gold, but the same clay that went into their manufacture came from pits that subsequently yielded up $8,000,000 of the precious metal.

It was in the 1880s and Los Angeles was enjoying a building boom. The demand for Ezra's pipe grew by leaps and bounds. His one big problem—to assure himself of a dependable source of raw material—he solved by acquiring his own clay pits. These were located 50 miles to the northeast near the town of Rosamond. The purchase price is not known, but there are records of earlier land sales in the area for as little as 50c an acre. Although the same clay is still there, these pits are no longer known as clay pits; they are called Burton's Tropico Hill and are occupied by a gold mine that was one of the nation's most productive until mining operations ceased in 1956.

Today, all gold mines are not gold mines. High labor costs and the price of gold are such that the industry can no longer operate at a profit.

Ezra continued to use his superlative quality fire clay to make his superlative quality soil pipe. His business flourished with an ever-increasing demand for his products until the early 90's. Although he had tried his hand at gold mining in earlier years, it took a national depression to cause Ezra to wonder if his superlative quality fire clay might possibly be ultra-superlative. Business at the pottery works fell off and Ezra, with more time on his hands, occupied himself with a close examination of his clay. He panned some of the material and found shiny yellow specks. Testing proved them gold!

From then on, Ezra spent more time at clay pit and less time at his pottery works. He panned in various parts of his holdings for over two years, but the results were indifferent. The gold was there, but the yield did not encourage a profitable operation.

Then, one day in 1896, he hit a dike that assayed at $35 a ton! Ezra was elated. This would justify a large scale operation.

He closed out his pottery business, but because the government controlled all mining operations he carefully guarded his secret until he could legally secure claims. After completing legal requirements, he made his first shipment to the smelter in San Francisco, which netted him $4600. Ezra used this to build a mill. Four years after his initial strike, he sold one of his claims for $100,000 and over the next few years sold additional claims. With his new prosperity he developed a health resort at nearby Willow Springs, built the Hamilton Hotel in Rosamond, and dabbled in other ventures, such as silk worm culture. At the request of the State of California, he contributed choice specimens of ore for the state exhibit at the 1904 St. Louis World's Fair—specimens bulging with the yellow stuff that assayed at $90,000 a ton!

Eventually Ezra sold out entirely. Various groups succeeded one another in ownership until Clifford and Cecil Burton, brothers, bought out the Tropico stockholders some time after 1920. Meanwhile, the mine had undergone many vicissitudes caused by war, depression, inflation and exhaustion of known productive areas. Stockholders sold to the Burtons out of sheer discouragement. The confidence and judgment of the Burtons were vindicated, however, when new explorations turned up the richest deposits yet to be found. During a period between 1933 and 1942 the operation enjoyed its greatest prosperity.

The two Burtons have now passed on, but Clifford's daughter, Doreen, and her husband, Glen Settle, operate the property as a tourist attrac-

clay pit

by leslie tillinghast

White area is formed of mill washings and said to contain $250,000 in gold.

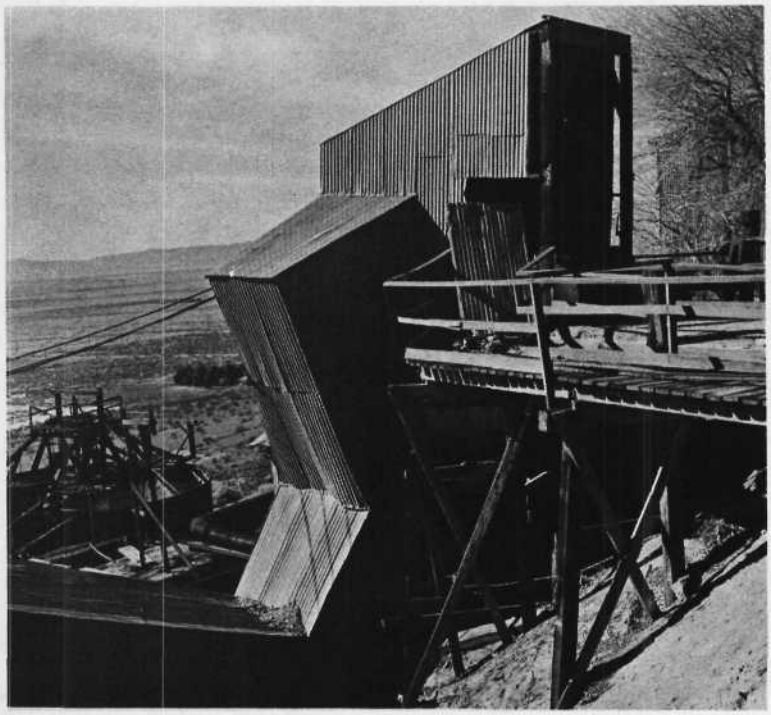
tion. Tours are conducted through the underground passages, now electrically lighted, and through the mill. You can see how ore was removed by hand pick and chisel, dynamite, and later power drills; how it was collected in small iron cars and conveyed to the mills on narrow gauge rails; how it went through a series of crushers until it became a floury powder from which the gold was dissolved and recovered in huge machines by means of chemicals, filtratration, heat, and lots of water. The Settles also operate a restored gold camp and museum in conjunction with the mine.

Visitors to Tropico Hill are shown a flat, whitish area at the base of the hill. This, it is explained, consists of residue deposited by years of mill washings and still contains an estimated quarter-million dollars of gold. Upon hearing this, a visitor's better self may be sorely tried, but all thoughts of backing in a fleet of trucks are quickly dispelled when he learns that the cost of recovering it is figured at $300,000.

Will the Tropico ever produce again? The Settles say its depends upon the future of the price of gold. All is in readiness and with little preparation the speed of resumption would make the dust fly—and the dust would be gold dust! ///

Above: Gold from Tropico Mine was tested in this office. Below: Ezra Hamilton whoops it up in 1896.

Corrugated iron structure encloses ore crushers. Ore is passed to it in steel cars over rails on scaffolding. Floury fine ore ultimately reaches agitation tanks (lower left) where it is mixed with cyanide and water to dissolve gold.



Flower Kissers

by Kay Dunn

IT TAKES 150 North American ruby-throated hummingbirds to weigh one pound! Yet, despite their diminutive proportions, their maneuverability defies the science of aerodynamics, their beauty equals that of glittering jewels and their boundless energy exceeds that of any other bird.

Among the smallest featured creatures in the world, they inhabit only the Western Hemisphere. Early explorers, seeing them for the first time darting from flower to flower, called them *beija flor* meaning "kiss the flower."

The Indians, too, glimpsed their beauty, calling them "rays of the sun" and "tresses of the day-star." But neither the Indians nor the early explorers realized that in addition to his sparkling beauty, the hummingbird is endowed with dexterity, energy and stamina far in excess of any other member of the bird family.

Wherever and whenever flowers bloom profusely, the hummer is seen streaking from blossom to bloom in an aerial display of precision flying that never fails to astound the experts.

Hitting his mark like an arrow, he makes a pin point stop, probes the flower for nectar, then, in a rapid sequence of movements—too quick for the eye to see—he flies backward, straight up, sideways, turns a somersault and speeds away again.

While modern science has only recently accomplished the feat of refueling in mid-air, hummingbirds have been doing it for centuries.

With heavily developed wing muscles that account for over ¼ of his entire weight, and a wing beat of up to 80 beats a second, he hovers on invisibly vibrating wings like a miniature helicopter while draining honey-like liquid from a flower.

In contrast, his legs are underdeveloped and he needs a strong grip even to stand. Resembling a tiny tippler, his efforts to walk are sometimes comical, leading one observer to comment, "I wonder what they put in that nectar anyway?"

Some North American species migrate 2000 miles to their winter home in Mexico or Central America and, weight-wise, hold the world's record for long distance flying. Among those that make this lengthy migration is the ruby throat, which weighs in at 1/10 of an ounce. This colossal trip is the equivalent of a 25-pound eagle flying 8 million miles!

One stretch of the journey necessitates a 500-mile non-stop hop across the Gulf of Mexico. For this rigorous crossing he carries an extra tank of fuel. In preparation, Nature provides him with the ability to store energy by adding fat up to half his weight.

With complete disregard for calorie-counting, the hummingbird snacks every 10 or 15 minutes, consuming half his weight in sugar every day. If calculated for a human, this intake equals that of a 150 pound person eating 75 pounds of sugar. He also requires meat, devouring quantities of insects in addition to the sugar.

His insatiable appetite keeps him on the go at dizzying speeds from early morning until sundown. But at night, especially where nights are cold or when food is scarce, he passes into a deep sleep resembling suspended animation. His body temperature

drops and his energy output diminishes to an extremely low degree.

From this profound sleep he awakens almost instantly and at daybreak is again making his rounds at full speed.

Although it appears that his needle-like beak is used as a drinking straw, it is his long tubular tongue that does the work. In conjunction with an internal suction pump, his tongue extends beyond his bill, probes a deep-throated flower and drains it of nectar in less time than it takes to tell.

In addition to his dexterity and stamina, this fragile creature is generously endowed with beauty. Audubon, the famous American naturalist, said, "They are indeed glittering fragments of the rainbow." And Crawford H. Greenwalt describes them as "the world's living gems."

Their names hint at their radiant beauty, many species being named after precious stones—fiery topaz, sapphire, and ruby throat. Other names like "golden torch" derive from their coloring which runs the spectral scale from delicate pastels to fiery reds and deep purples.

The male is the more brilliantly attired of the two and in courtship he flips through a series of aerial acrobats designed to attract even the most retiring female. Darting and flashing in high rises, dips and dives, his speed paints a streak of vivid color against the sky. His elation doesn't last, however, for soon after the ceremony he swiftly disappears—leaving his tiny bride with the entire responsibility of building the nest, incubating and raising her family of two.

At first glance his actions seem heartless, but his desertion is at least partially excused when the shortage of males is taken into consideration. Some authorities believe that there is only one male to every six females.

Those who lure the hummingbird by artificial feeders, report that, by nature, they are curious pugnacious and friendly. Because of their jet-like get-away they come close to humans and, sometimes while feeding, even grow tame enough to be stroked. Others report that they sometimes take possesion of a feeder and chase off all intruders regardless of size. Since they can become air-borne and accelerate to a speed of 30 miles an hour in 2/10 of a second, they are practically fearless.

They will happily drink your sugar and water, but don't ask them to sing for their supper because, of all birds, they probably have the tiniest voice in birdland. But if their feeders become empty, they make their needs known in no uncertain terms. They put on a noisy display of airpower by "buzzing" the feeders, dive-bombing and darting back and forth. The entire show is accompanied by threatening chirps and squeaks.

With respect for his skill, admiration for his beauty and wonderment that so much personality can be wrapped up in such a small package (gift-wrapped at that), everyone who has ever had contact with the hummingbird agrees with Comte de Buffon, the French naturalist, who said, "of all animated beings, the hummingbirds is the most elegant in form and brilliant in color. Nature has loaded him with all the gifts of which she has only given other birds a share."

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A Moonlight Cruise on a Shrimp Boat

by Sam Hicks

EACH TIME a Mexican shrimper winches up its purse nets from the floor of the Gulf of California, an amazing collection of marine life is deposited on the concrete afterdeck of the *camaronero*. When a shrimper is dragging, the big nets are lifted every four to six hours and swung over the gunwhales. Taut drawstrings are pulled and thousands of pounds of exotic and monstrous creatures spill out in flapping disarray.

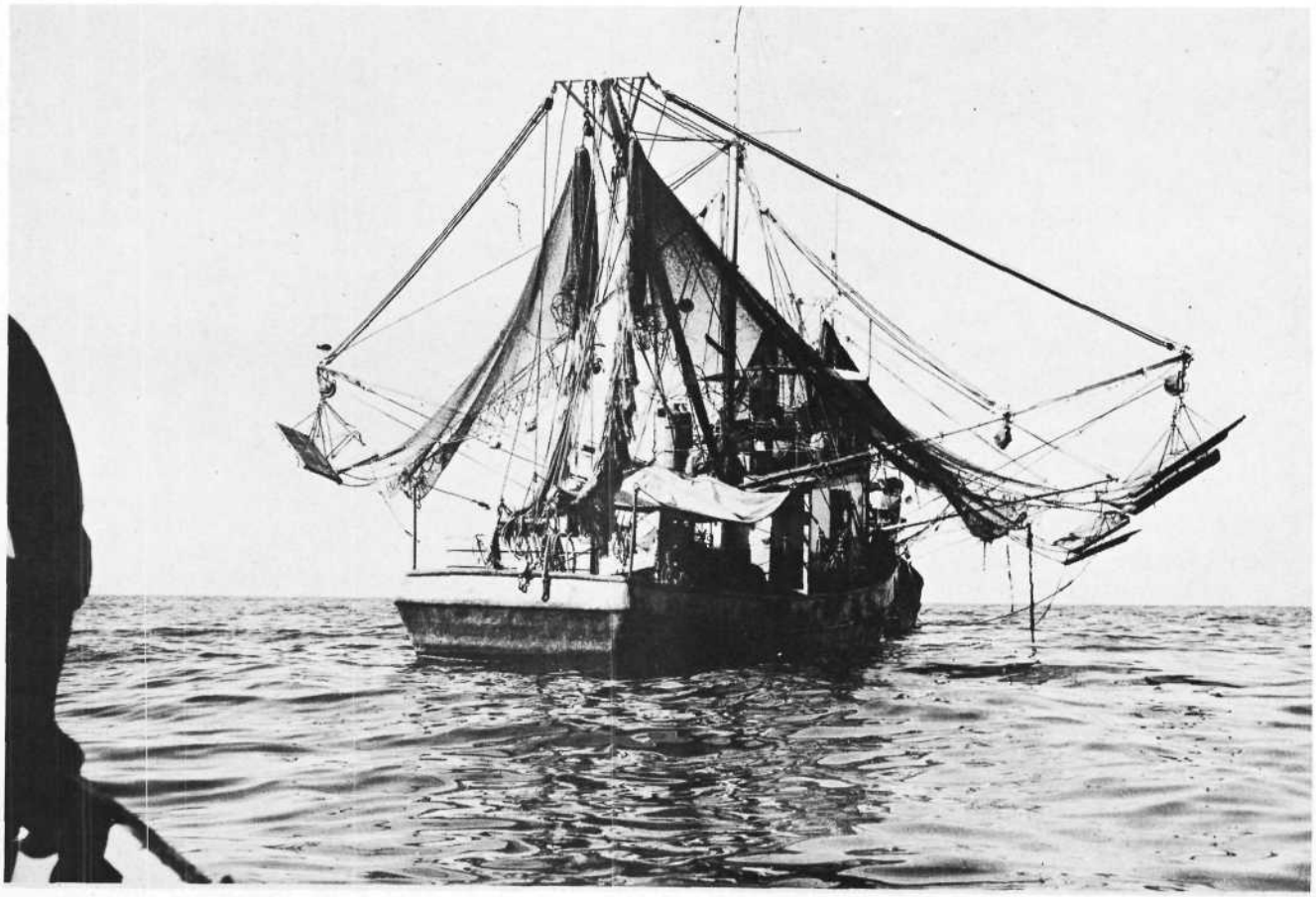
Octopus, squid, turtles and poisonous spotted sea snakes tangle with at least a 100 different varieties of sea life of every shape and size. Vicious moray eels weave from side to side, biting everything that moves. Manta rays, vivid shellfish, sea horses and crawling crabs add a final grotesque touch to the quivering mass of displaced denizens of the semi-tropical waters. Sometimes, to the consternation of shrimpers off the Gulf coast of Baja California, it seems that only shrimp are scarce.

At Mulege's Las Casitas hotel, I sat in the patio visiting with the crew members of a Guaymas shrimp boat named Jose Luis anchored off Sombrerito at the mouth of the Mulege River. Fred Woolworth, manager of Las Casitas, had once spent an interesting night aboard a shrimper and suggested that if it could be arranged, I might enjoy a similar experience. Reluctantly taking the hint, Martin Robes, engineer of the Jose Luis, looked me over long and hard before finally offering to see if he could arrange with his captain to take me aboard for the night's run.

A short time later, waiting for a young sailor from the Jose Luis to pick us up in a dinghy at the pier, I understood his apparent reluctance. My coat, which was much too hot to wear, had a flash-gun sticking out of one pocket and the other bulged with orange film packs. In one hand I held a camera and in the other a pink blanket proferred by Fred Woolworth's wife, Cuca, as we'd left his hotel. I'm a rancher by trade and comfortably at home around Mexican campfire circles, but this was a new element for me. In other words, I felt like a dude.

A few minutes later, after Guadalupe Rodriques warped the *pango* alongside the shrimper and I looked up into the steady gaze of Capitan Felipe Maytorena, I almost blurted that it was all just a joke; that I really hadn't intended to clutter up his shrimp boat anyway. However, I stood up manfully, although unsteadily, in my Western boots and acknowledged his introduction. Courteously shaking hands and helping me aboard, he didn't betray his inner thoughts, but having once been in the dude business myself, I had little difficulty in reading his mind as he escorted me on a tour of his boat.

The steel-hulled Jose Luis is 62-feet long with about a 22-foot beam. Her deck is covered with a four-inch



layer of concrete gravel to prevent slipping. She's powered by a sparkling clean Caterpillar diesel—a marine conversion of the Cat D-8 engine—and is probably the finest power plant ever devised. The Jose Luis, like nearly all Mexican *camaroneros,* carries a crew of seven; the captain, the motorista, the motorista's helper, the cook and three fishermen. The men are salaried and they share a percentage of the catch over and above a certain tonnage which first goes to the company owning the boat. The length of time a shrimper is at sea depends entirely upon how long the ice lasts in her hold.

Grub aboard was excellent. Most meals consisted of beef and fresh vegetables accompanied, of course, with beans and tortillas. Ample refrigeration eliminated any problem in keeping meat, vegetables and fruit fresh.

On my many trips to Baja with Erle Stanley Gardner I had always noticed the *camaroneros* and wondered about the mechanics of their dragging operation. Prior to this experience I had never known what purpose the plank platforms served which swing from the steel booms extending outward from the beams of all the boats. As soon as the Jose Luis was under way, I found out.

Martin explained the position that the planks, or *tablas,* assume in the water and pointed out to me the manner in which the mouth of each purse net is held both open and down during the dragging operation by the *tablas.* While suspended in air these heavy planks resemble table tops, but in the water they look more like sled-runners. The leading corner of the bottom edge is rounded and protected with a heavy steel band.

While the shrimp boat is in motion, the *tablas* sink the nets to the bottom and slice through the water. The mouths of the nets drag the ocean floor at just enough of an angle to scoop up everything in their way like a giant vacuum cleaner. Near the bottom of the purse nets thick tiers of colorful plastic ribbons prevent the loaded nets from catching on the bottom and tearing.

A small third net, complete with small-scale *tablas* is lowered while the boat is working and then raised every half-hour to check on the amount of shrimp in the area. A heavy catch indicates what is happening in the big purse nets and they are raised and emptied accordingly. The boat usually travels about four miles per hour while it is dragging.

Power winches with cat-heads do the heavy lifting, but crew members

Big purse nets are straightened as they enter water.

The small chango is dropped over side.

The purse nets are hauled in simultaneously and dumped.

Shrimp are sorted and tossed into baskets.

blend so expertly into the maze of tackle and power equipment that they seem a part of the machinery. We raised the purse net three times during the night. Although the big nets are sucked in by separately operated winches reeling in approximately 500 feet of cable, each time the *tablas* broke the surface at the same instant.

When the nets reached the surface, the skipper gave the engine full throttle forward for about a half mile to force everything in the nets down to the bottom of the purses. Next, the pay load ends of the nets were winched up and swung over the sides where draw strings were tripped to release a silvery avalance of sea life onto the deck.

After throwing big fish, sharks and shell-fish to the stern, crewmen separated the shrimps and squid from other small fish with a wooden rake and then tossed them into baskets. The men wear gloves for this because many of the fish have poisonous spines. One dangerous customer is the poisonous *Lopon*. This fish looks something like a sculpin and his poison is so virulent that a tiny scratch from his dorsal made on a person's hand will cause the entire arm to swell and throb with pain for days. After sorting, everything else is shoveled back into the sea. Occasionally manta rays are netted that are so huge they can't be forced out through the holes in the gunwhales and must be hoisted over the side with a power winch.

On the following day, sharks are filleted, salted, then hung in the rigging to dry like clothes on a line. Other fish are cleaned and put on ice, like the shrimp and squid.

There was a moon, but I think the pelicans would have homed in on the boat without it when we hoisted the net at 10.30 P.M. and again at 2:00 A.M. Floodlights shining down from the rigging and the clattering sounds made by winches sucking in the nets attracted them like a dinner gong.

The shrimp season closes in Mexican water July 15 and opens September 15. For a short time after the opening of the season, crew members of the Jose Luis claim that often the big nets come up so full of pure shrimp they have no sorting problem whatsoever. By May they become more scarce.

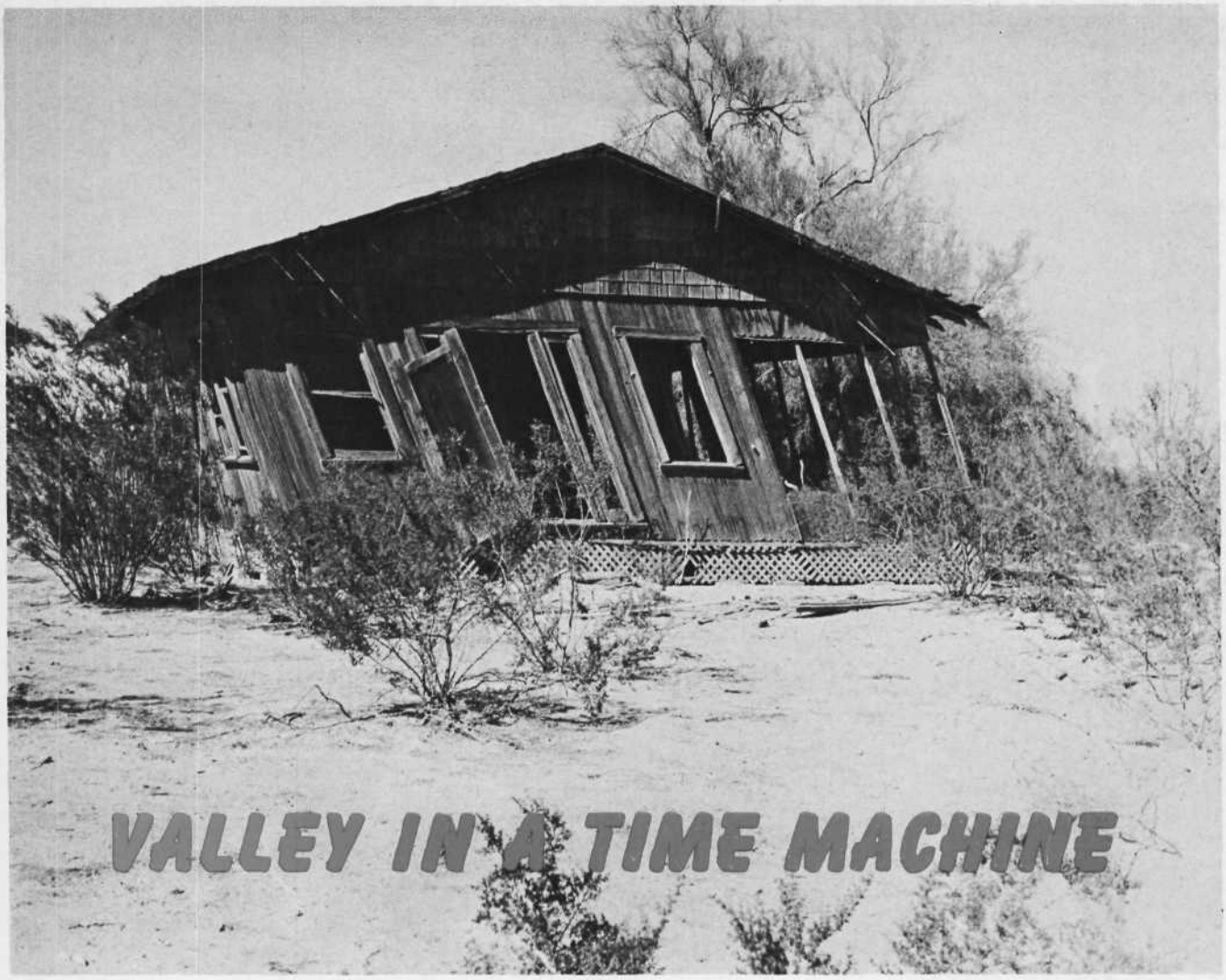
After I had been aboard the Jose Luis for a couple of hours without committing any serious breach of shrimp boat etiquette, the Captain and every member of his crew came to me individually with some sort of gift characteristic of life aboard a *camaronero*. The Captain gave me three sea-horses and later Martin presented me with two flat ovals resembling tortoise-shell which came from the feet of large shell-fish These things are the trap-doors which protect the shell-fish while they are inside their mobile homes and are supposed to make wonderful guitar and mandolin picks. Still later, Arturo Nolasco gave me a beautiful shell he had stowed away in his bunk, and one by one, the other boys appeared with startling little cow-heads they'd made from the heads of a fish called *vaquillas,* or, literally, heifer-fish.

We had cast off at 5:00 in the afternoon on our shrimp run and after several long, sweeping circles out in the Gulf north of Mulege, we returned to the conical-shaped point called Sombrerito at the mouth of the Mulege River at 7:00 the following morning.

Somehow, under the influence of a warm Baja moon, the night slipped by like the shadow of a passing cloud. I had always suspected a man could find as much contentment and friendship on the after-deck of a *camaronero* as he could find around a campfire on a Mexican mountainside. I was right.

In fact, the night was so short I didn't find time to use Cuca's pink blanket! ///

Left top: Manuel Beltran removes meat from shell fish. Bottom: Capitan Maytorena with gift of sea horses. Below: Guadalupe Rodriquez hoists giant manta ray. Right top: Arturo Cedillo holds poisonous Lopon in right hand and Paraguito in left. Bottom: Day or night, pelicans come when nets are raised.



VALLEY IN A TIME MACHINE

Old Stage Coach Station

Desert's trip of the month

By Grace Arlington

DRIVING THROUGH Arizona's Harquahala Valley is like stepping into a time machine. You can view the past, present and future of the nation's development all in a day. This wide area 60 miles due west of Phoenix stretches beyond Route 80 past the busy town of Buckeye to a land where the old and new stare at each other.

The fabled Hassayampa River is worth a stop, but don't drink of its waters, at least not up-river. Legend attributed to the Indian warns that he who drinks from that side of the road will never again tell the truth. Drink downstream and you will always be truthful.

We stopped beside the river to climb a black lava hill of up-jutting volcanic rock which eons ago spewed out from the earth's center in a process of creation so awesome it is still shrouded in mystery. Even our time machine didn't take us back far enough to show how it all came about. Some thousand feet above level ground we reached the highest ledge. Far in the distance outcroppings of rocks supported sparse gray-green desert growths. We were looking at scenes of exotic beauty that hadn't changed since the swamps dried up and the desert began a million years ago.

How huge this valley, and how quiet! Birds and insects made small noises as they flew through the air, nature's busy creatures which long ago adjusted to the dry terrain of the desert.

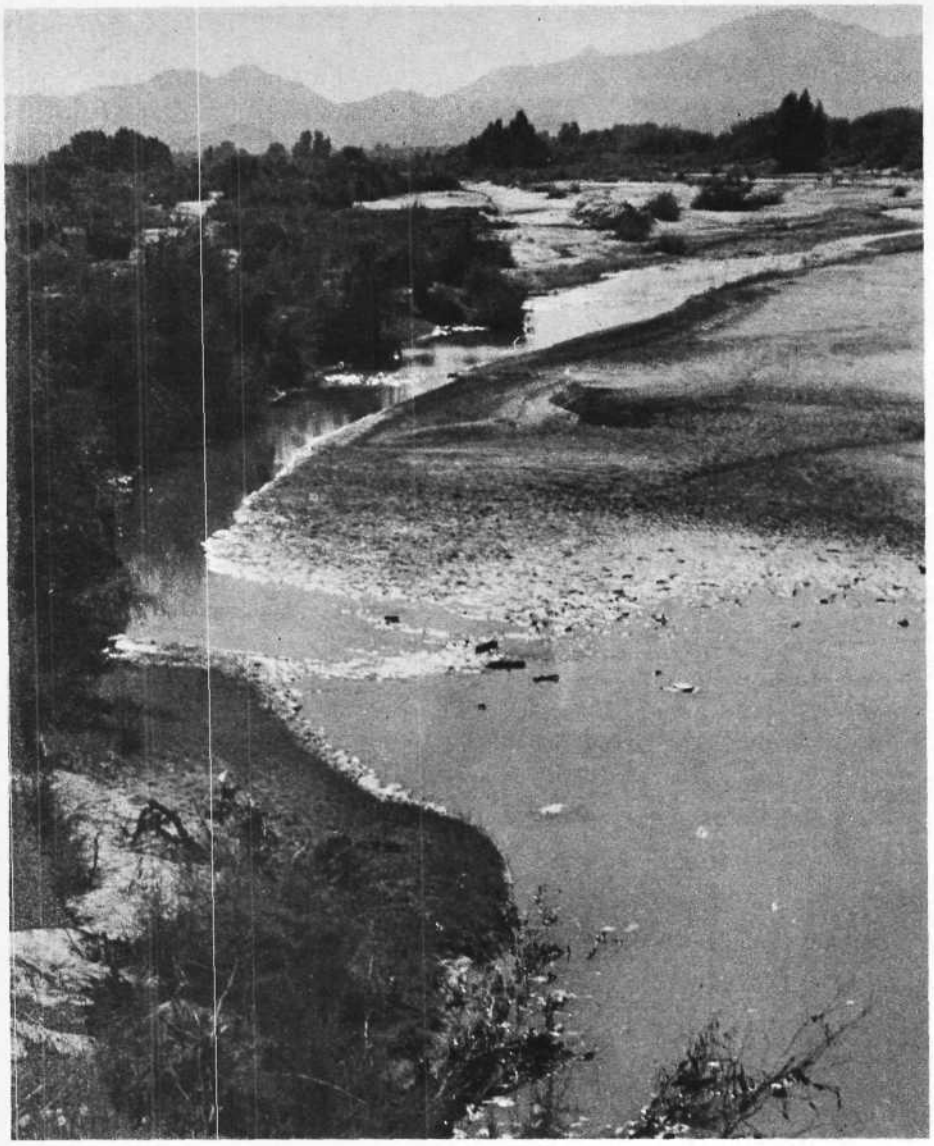
After setting the camera on a tripod so we could study myriad scenes to photograph, we leisurely picked our way down. Below, a long column of dust swirled behind a rapidly moving car. It stopped with a jerk. A man alighted and looked up at us. He stood with feet apart and hands on hips, in a belligerent attitude.

"We'd better get down and see what he wants," my husband said. We made a hurried descent, watching him as we neared the bottom.

Suddenly his face cleared into a broad smile. "I came out to see what you were doing surveying my land," he called sheepishly, "but I see it's a camera you're using."

We shook hands, introduced ourselves, and found him a "kindred spirit" who thrills to the magic of desert scenes as we do. Ed Arand is his name, and he was building a new house where he could look up at the mountain he owned.

"You ought to see the old Winter's Well," he told us. "It was a stage



Don't ever drink from the up-river side of the Hassayampa!

coach stop. Horses were watered there, and people put up for the night on the run to Los Angeles. Not many places like it left any more." And he told us how to find it.

"Go over beyond those telephone poles about a half mile as the crow flies and then a stone's throw beyond the irrigation ditches."

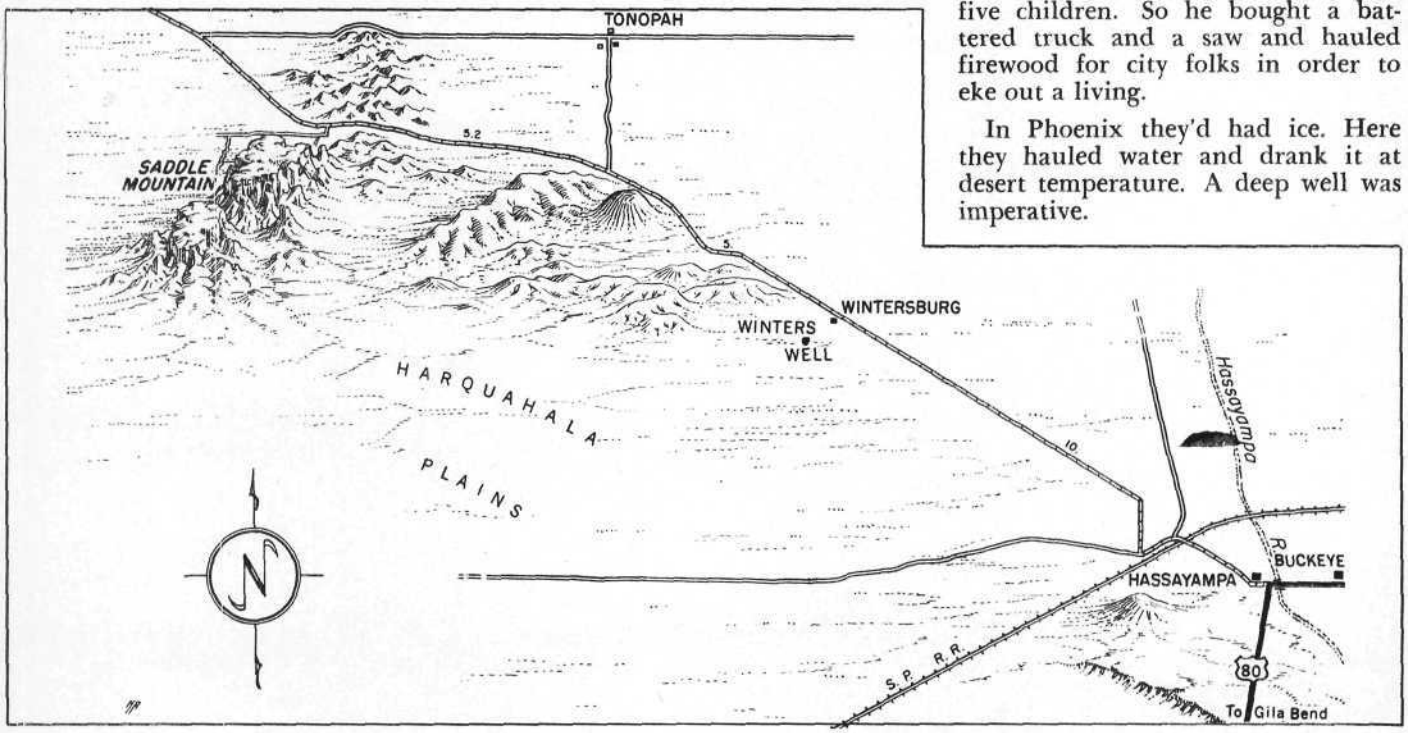
How else but with birds and stones could a man measure the desert? We thanked him and drove on, wondering about the scene we were about to witness. And when we got there it was beyond expectation.

A forest of cool, green trees rose from the hot, dusty land to invite us to tarry a while. Out of the past we concocted images of stage coaches drawn by dashing horses careening across the rugged land. We started to walk, feeling a desire to be active in this place when men had sweat and worked to develop an empty plain. In a small clearing an old tumble-down inn leaned with the wind at a crazy angle.

Then we found the well. Straight down 60 feet, men had dug it. Now it was empty, except for a little water at the bottom that glistened in the noonday sun. Nearby a noiseless windmill pumped water for cattle that somehow grazed on the meager fodder of the desert.

We did not stay long. Other places awaited—like the hot mineral spring, up to 128 degrees, that ran in a vein through the valley. An old settler had told about moving out from Phoenix during the depression when he had no job nor money to feed his five children. So he bought a battered truck and a saw and hauled firewood for city folks in order to eke out a living.

In Phoenix they'd had ice. Here they hauled water and drank it at desert temperature. A deep well was imperative.



A drilling rig came in—then the impossible happened. It rained. Hard, driving, lasting rain. And when it quit, the rig was immovable, bogged down in the man's front yard.

"Then drill right there," the desert dweller said. "We have to get water."

So they drilled. Day after day the bit pounded deeper into the earth while his wife watched from the kitchen window anticipating the time when they could enjoy a cool drink. At last the drill struck water—hot water, 108 degrees! The woman could have cried, but being of pioneer stock, she didn't. Nor did she forsee that this vein of water would one day be valuable for hot mineral baths and sold by the gallon for heathful drinking.

We mused on this tale as we drove toward the setting of another— a modern pioneer named Stephen Martori whose reputation is fabulous in this part of the country.

Martori had come West from Brooklyn to buy cabbage for a produce firm his family owned. Instead, he bought a dream. Looking out at the vast Valley of Harquahala one day, his imagination tricked him into seeing acres of lettuce and cabbage and potatoes. Obsessed with this vision, he began to buy great sections of this worthless desert.

His brother, Joe, came from Brooklyn to see what ailed him. "If you'd gone a little farther, you'd be a little nearer." said Joe.

"Nearer to what?" asked Steve.

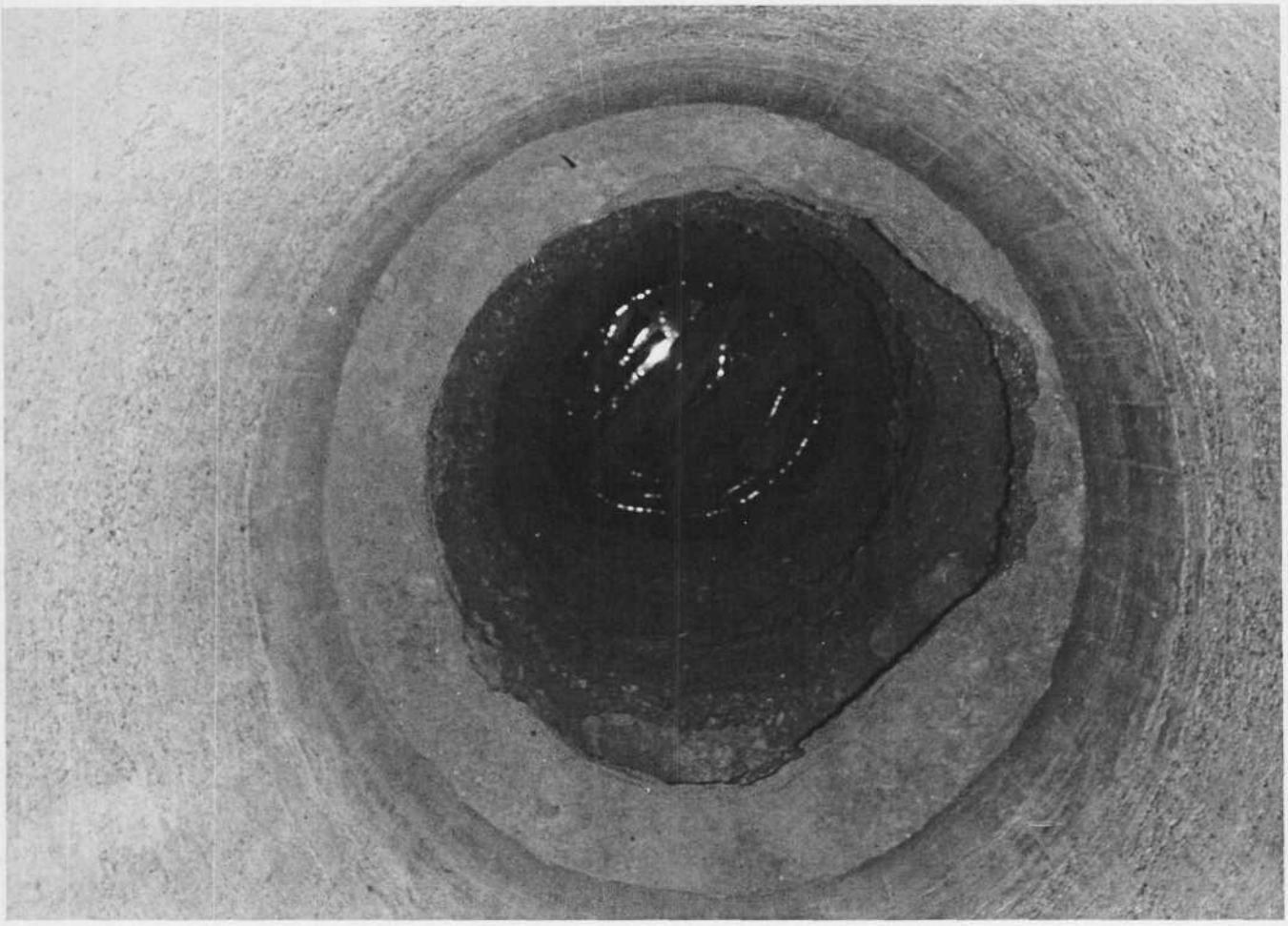
"The school for mentally retarded at Salome, where you belong."

It looked that way to others too. There was no available transportation and the railroad demanded $15,000 to build a spur to his acres. The electric company agreed so emphatically with the general opinion of Steve's mental condition that it wouldn't risk putting up lines unless he put up $240,000. The gas company turned him down flat. Bankers wouldn't talk to him. And a geologist he hired to find water concluded that there wasn't any.

But, as has happened before, adverse conditions such as these stimulate the American pioneer spirit, causing a man to work like the devil to prove he can do what he *thinks* he can.

Today Steve Martori owns 6,000 acres producing very high yields. We drove up to one of his wells sunk 1500 feet into the earth. He has eight of them, some pumping at the fantastic rate of 4,000 gallons a minute. Geologists say the whole valley rests on a vast underground lake.

We stopped the car and stepped out to feel the earth shake from the mighty reverberations of the roaring pump. Here was the look of the future—and the worry. Would this underground water someday be depleted and allow the mile-long rows of green vegetables to again sink into desert dust?



This haunting photograph is the eye of a well.

Martori thinks the underground waters are produced by seepage from upground rivers and lakes. Perhaps he is right; he has been right about many things.

The mystery of the past, glory of the present, and hope for the future—that's Harquahala Valley where prehistoric upheavals challenge the modern accomplishments of our mechanical era. ///

I esteem the blue shells . . . and especially the large one, it is truly a rare piece. May your reverence live a thousand years. Softly I chanted these words, as I gazed down into the quiet waters of the tidal pool. There, in the bottom on a cushion of velvety sand, I found my first "blue shell" of the season.

From an isolated mission in the wilds of the Sonora Pimeria, a Jesuit missionary wrote the above lines to Father Kino in appreciation for a gift of several abalone shells Kino had sent him.

Father Eusebio Francisco Kino, pioneer Jesuit missionary, explorer, cartographer, ranchman and, we might add, first conchologist of the western hemisphere, had come to Pimeria Alta in 1687. Pimeria Alta comprised an area from Northern Sonora Mexico to the Gila River border in Arizona and west to the Colorado River. His arrival in Pimeria marked the beginning of a remarkable feat of exploration, the development of a cattle industry, and of agriculture in this new world. But it was his search for the origin of the blue shells that launched the intensive investigations that bordered on the scientific.

In Pimeria Alta he established missions and visitas that extended from Kino's headquarters, the Mission Nuestra Senora de los Dolores in the north-central section of Sonora, to a point close to Casas Grandes, Arizona; thence west to the fringes of the Yuma nations on the Colorado. Though soldiers of the royal order often accompanied him, Father Kino made many a trip alone. His treks into the unchartered deserts of Pimeria Alta of Southern Arizona took him to villages where dwelled unknown Indian tribes to whom he carried the message of Christianity.

It was on one of these expeditions to the junction of the Gila and the Colorado rivers in 1699 that Kino was presented with blue shells identical to some he had seen in 1685 along the Pacific coast of the Baja California peninsula.

Father Kino carried these shells back to his home mission of Dolores. Exulting in their beauty, he held them before a flickering candle. Light playing on the iridescent hues of the abalone shell produced a panorama of magnificent scenes. Slowly turning the blue shell, Kino saw the first rays of the brilliant Sonora sun breaking through the blue and purple shadows of distant mountains. Then again, a glorious sunset with flashes of fiery orange silhouetting grotesque saguaros.

Thus, while Kino sat in rapturous meditation, a brain wave of tremendous impact invaded him. "How," he asked himself, "did these blue shells native only to the Pacific find their way to the Quiquima tribes of the Colorado? Was it possible that a passage existed between the land of the Yuma nations and California?

It had long been believed by the Spaniards that California was an island. Even though Father Kino had studied under the brilliant tutelage of German professors in Ingolstadt who instilled in him the theory that California was a peninsula, he changed his views after arriving in America—perhaps to be in harmony with his superiors.

But now as he sat contemplating the blue shells, the possibility that a land passage connected Pimeria with Las Californias took form. From 1700 on, his quest for the blue shells fostered many strenuous journeys into the land of Yuma tribes.

Following his decision to investigate a land passage to California, Father Kino asked all of the Pimeria Tribes to assemble at San Xavier del Bac, near the present town of Tucson, Arizona. At that time del Bac was only an Indian rancheria which he visited periodically, but while awaiting the Indian alcaldes, governors and captains, Kino occupied himself by laying the first foundations for the present "White Dove of the Desert," the beautiful mission of San Xavier del Bac. The year, 1700.

When all of the visiting tribes had gathered at del Bac, Father Kino patiently expounded the

Romance of the Blue Shell

by Juanita Ruiz

virtues of the Holy Faith, of brotherhood, and of eventual peace among all the Indian nations. But interposed among his spiritual talks were persistent inquiries. The gifts of blue shells brought to him by the Indians—where were they acquired? Of the Colorado alcaldes he asked, "Are these blue shells relayed to you by your Indian brothers to the West?"

It has now been established that the abalone shell was an important trade item among the Indians of the American continent. Archeological excavations have produced evidence that the abalone shell was traded as far as the Eastern seaboard of the United States. It is probable that it had been used as a trade item long before the arrival of the missionaries. The abalone shell was used primarily as a household utensil, but was also carved into decorative pieces of jewelry.

As early as 1698 Kino had traveled to the Northwestern corner of Sonora, climbed to the heights of the ancient volcano now known as Pinacate Peak, and from this vantage viewed the junction of the Pimeria land with that of California. From here he observed the arm of the Sea of California growing narrower. He wagered the distance, "to be no more than 15 or 18 or 20 leagues across." He admits, though, that at that time he was not able to recognize the land passage which was there before him, on latitude 32, but persisted with the theory that California was an island and that somewhere this Sea of California communicated with the North Sea.

Father Kino, the indefatigable explorer, made four trips to the junction of the Rio Grande de Gila and the Colorado before he conclusively proved that the Sea of California ended at the mouth of the Colorado. On one of his trips another Jesuit mission accompanied him. Father Rector Manuel Gonzales, Kino's sympathetic superior, made this journey, in spite of poor health, to observe the culmination of Kino's explorations—to see for himself the land passage to California.

Via Caborca, Sonoyta, thence through the dread del Diable, these two hardy pioneers found their way to the mouth of the Colorado River. Here they made camp on the grounds of an estuary. From all indications they were camped on the west shore of the Gulf of California, just below its head. That early March morning, so many years ago, Kino was elated to see the sunrise over the head of the gulf, "proof most evident that we were now in California." From this location they were able to sight land for 30 leagues to the west and the south. Towards the northwest and northeast, land was also visible for many leagues.

To further bind these illuminating discoveries were reports from Indians who had traveled long distances to visit the missionary. From the southwest of California they brought gifts of blue shells. Further south, they informed Father Kino, were other white men who wore the same robes and vestments as the missionaries of the Pimas. The Sea of the West, they assured Kino, was not more than eight or nine days distant.

Kather Kino dropped onto the damp grounds of the estuary to give thanks for the confirmation that a land passage to California existed. As he prayed, there passed before him visions of mule caravans following the possible land route with provisions for Mission Loretto Concho on Baja California where Kino's beloved Jesuit brother and co-worker, Salvatierra, existed in desperate need. The hope that some day Sonora's missions would render help to the poorer missions of the Baja California peninsula was almost a reality.

Kino had by this time extended Christianity and pushed the margins of the Spanish empire to the borders of the Gila and Colorado rivers. New territories to the south and west beckoned, but he made his last trip to the Yuma nations in 1702. It was not until 72 years later than Franciscan Friars opened the land passage that Kino discovered.

To the brown clad Franciscan Friar, Francisco

(Continued on Page 36)

NEVADA UNDERGROUND

by william klette

"LITTLE GREEN men?. In the Lehman Caves? Never heard of them."

"Green men around here? What are you, Mister, some kind of a nut?"

"Sorry, but I can assure you that any story of little green men in the caves is absolutely not of Indian origin. Now if you were to ask about a blue-headed dwarf . . ."

These were a few of the comments I received when, following a suggestion made by DESERT editor Choral Pepper, I undertook to run down just one of the many strange stories that surround the Lehman Caves National Monument.

Rising starkly from the sage and greasewood covered desert of eastern Nevada is a wild, pinyon-covered area of jagged mountains and steep glaciated canyons called the Snake Range. At the north-eastern edge, dominating the surrounding country like a snow-covered pyramid, is Mt. Wheeler, one of the highest peaks in the Great Basin. Here, forests of aspen, fir and pine sweep down almost to the desert's rim and snow-fed streams flow the year around.

Tens of thousands of years ago surface water percolating through the huge block of limestone that underlies this part of the Snake carved a labyrinth of high vaulted rooms and twisted passageways. As years passed, mineral-laden water seeped through the overlying rock and spread a thin film of drip stone over the walls and ceilings. These formations grew as stalactites while underneath squat, columnlike stalagmites rose to meet them.

Today, an estimated 300 caves ranging in length from a few hundred feet to several miles honeycomb the range. Some are partly filled with water and must be entered by small boats or rubber rafts. Others once housed the giant sloth and the sabre-toothed tiger. Among all of these, the largest and most spectacular is the two mile long series named after an early Nevada rancher and pioneer, Absalom Lehman, the Lehman Caves.

Although only 10 miles by a good paved road from U. S. Highways 6 and 50, the caves are little known to the general public, attracting fewer than 30,000 visitors each year. However, once seen their beauty is not easily forgotten and many travelers return year after year.

Unlike other caves, there is no sameness here. Each room is entirely different. In some, water seeping through the walls has woven flowing panels of stone draperies or banded strips of translucent "bacon." In others, helictites, twisting twigs of limestone growing in seeming defiance of gravity, reach out like dead branches from an ancient tree. Their names suggest their contents—Queens Chamber, Cypress Swamp, the Music and Gothic Rooms.

A strange type of formation found only here are palettes, or shields—round, flat discs of calcite up to three feet in diameter that have pulled away from the walls and project out into the rooms at crazy angles.

Although history has it that the cave was first discovered when a horse Lehman was riding stepped in a hole, archaeological excavations show that Indians made use of the place many years earlier. In 1939, when work was being done to enlarge the entrance, the remains of seven bodies were found. The fact that they had been buried over a period of years rules out any sudden calamity, but a lack of artifacts to serve as mortuary gifts presents a puzzle.

Work done this past year under the direction of Dr. Charles Rozaire for the Nevada State Museum sheds little light on the mystery. While a formal report on the "dig" has not yet been released, Dr. Rozaire, in a letter, stated that the cave was probably a place visited rather than used. No satisfactory explanation has been given for the burials.

But what about the rumor of little green men? It was from just such a remark that I set out on my search.

The people that I contacted in and around the community of Baker, just five miles north of the Monument, were friendly, but of little help. Indian legend or not, as far as they were concerned no one like that had ever lived around there.

I visited with Keith Trexler, the Chief Park Naturalist at the Monument, and heard for the first time the story of the blue-headed dwarf. From here the trail led me to the Southwest Museum in Los Angeles and to its curator, M. R. Harrington. Here I heard more of the same. "An Indian legend, perhaps, but I've never heard of it. Of course, all tribes did have their stories of little people. Why don't you contact my son, Dr. Johns Harrington, of Tujunga?"

Dr. Harrington, a previous contributor to DESERT and one who is well acquainted with this part of Nevada, referred me to an old factsheet once issued by Cave Headquarters. This stated that ". . . local Indians who had long known of the caverns . . . firmly believed that they were inhabited by a little blue-headed man who would spread pestilence among them and eat their children if he were molested."

A later check at Monument Headquarters did not uncover this report, but I did learn that the Cave Custodian at the time of the report had been discharged from the Park Service for having "hallucinations." It seems that he would often run from the cave screaming stories of strange lights

dancing in far off corners and living walls pulsating like a stomach of some gigantic creature.

Could this be where and when the story of the little green men or the blue dwarf got started?

A rather ignoble end to a legend, perhaps, but there are still other mysteries surrounding the Monument. Who were the Indians who first lived there? In what way did they use the caves? Was Lehman the first white man to set foot inside the caverns or did he, as some say, only take credit for its discovery? And how many unknown wonders await the tap of a speleologist's hammer to open up another crystal wonderland?

The cave is open to the public throughout the year. Guided tours conducted by Park Service personnel take about an hour and a half to cover the two-thirds mile of trail. The temperature inside remains at a steady 48 degrees so wear warm clothing.

Free picnic facilities, complete with barbeque pits and restrooms, are maintained near the Park Service Headquarters and there is a newly inaugurated Visitor's Center with museum. While there are no overnight accommodations within the Monument itself, excellent camping sites are found in the surrounding Humboldt National Forest.

With or without any help from little green men or blue-headed dwarfs, the Lehman Caves stand easily among the most beautiful in the world. Dr. William R. Halliday, a leading American cave authority and author of several books on speleology, has said that if a person were to see only one cave in his lifetime, that one should be the Lehman Caves. ///

The Parachute, a distinctive formation in Lehman Cave found nowhere else in the world.

THE SECRET CANYON

by Victor Stoyanow

COLUMBUS SOUGHT India and discovered, among other things, Cuba. Penicillin, the Grand Canyon, and gunpowder were likewise accidental finds auxiliary to less lofty quests.

Similarly, Hank Brandt's Mine has been, for over 100 years, a fringe benefit of ventures in pursuit of the fabulous bonanza promised in overblown Peg Leg Smith sagas.

Though disciples of the famous amputee have sought his black nuggets of the three buttes from the Rio Grande to the Pacific and Mexico to the Tonto Rim, more analytical explorers invariably reach an impasse in the baleful quadrangle of California's Colorado Desert circumscribed by Highways 80, 86, 78, and S-2.

This, unlike Evangeline's verdant rain forest, is indeed the "forest primeval" where nature has reduced its tortured terrain to basic essentials. Even the delicate Smoke Trees boast a hardness unbelievable to outsiders. Unpopulated and unpopular, this detrital, diastrophic region of screaming contrasts has become the classic dead-end for the professional hunters of Peg Leg's lost loot.

Unlike the rest of the desert, at best a poor geologic risk for gold, the badlands of Carrizo, Borrego, and Ocotillo have the necessary ingredients for the shy and elusive yellow stuff, having, in recent times, been subjected to dynamic and violent action of seismic, hydraulic, and igneous forces. Moreover, extraction of gold of prodigious yields from that region is historically undeniable. Indian reports—tales of the Cocopahs and Dieguenos—point to the sorry area between Travertine Rock and Carrizo Mountain as the source for gold they have exhibited and bartered with from time to time. Chronicles containing the accounts of Anza's contemporaries, Pedrillo and Rubio, as well as notable Pegleggers such as Knowles, Coffee, Ortega, Slover and Owens are fair indication of the geologically irregular zone.

We spent several months of 1963-64 in the Badlands of the Carrizo between its yawning Gorge and its confluence with the San Felipe, and in the Lower Borrego Valley below the level of the sea in the Salton Sink. After tracking Captain Anza's route from Santa Rosa (Yuha Well) to San Sebastian (Harper's Well), I was convinced that exploration of the area had been surprisingly scant. Our interest lay in the story behind accounts of Desert Gold in general. Why, with all the many sightings of the bashful product, has it remained so elusive, so unattainable?

Hank Brandt's name seems to crop up by accident in the accounts of advocates of Peg Leg Smith lore. The usual entree into his story is by reference to a Cocopah Indian known as Antonio who worked for the L.C.D. Corporation in Baja California under its American superintendent, a man of integrity called Smale. Antonio sought the counsel of an Indian shaman high in the mountains of San Pedro Martyr and inquired regarding the source of readily available Indian gold. The wise man's directions led to the mouth of the Carrizo Corridor where it passes through gates formed by Fish Creek and Coyote Mountains. From here the story digresses to accounts of a slew-footed giant that chased unwary travelers to death down the winding Carrizo Wash. Probing below the surface of these tales, despite the dearth of journalistic treatment, leads to the unmistakable discovery that the tall phantom was in fact a flesh and blood being who went by the name of Henri Brandt.

Since Brandt's story reposes in the shadow of the colorful Peg Leg legends, it receives little notice in the Americana of Lost Mines. Nevertheless, the overall picture of Hank Brandt's Canyon enjoys a status seldom achieved by other bashful bonanzas. The latter are in most cases a synthesis of tales varying in authenticity, the degree of reliability being directly proportional to variables including delusion, alcohol, literary license, and the double-edged artistry of the con-man. Not so with Hank Brandt and his secret canyon. Here is an account we can put in a box and nail down the lid. We can pinpoint his activities. We can relate them quite accurately to definite limits in time and space and this, believe me, is quite unusual in Lost Mine hunting.

The site of Hank's shack in the Carrizo Slot can be readily fixed on the map and on the ground. His shipments of gold to the San Francisco Mint from Riverside are a matter of record. At least one photograph of him exists. There are people alive today who as children knew him. There is a man in the Jacumba area who recalls Hank's excursions into the Badlands.

Henri Brandt was a French Canadian of German descent (if you can reconcile this) who, in the 1880s, was working a gold mine with two partners in Baja California near Tecate. Having amassed a sizeable fortune, they were enroute the United States when they were attacked by Mexican bandits. After a series of gun-fights, Hank found himself the sole survivor, minus the loot, and the object of pursuit. During the night he escaped from Mexico and by morning was in California north of Signal Mountain in what he believed was a canyon of Superstition Mountain.

Wherever he was, he found, in a remote canyon, enough gold to keep him in luxury the rest of his life. Working the find alone just three months out of the year, he averaged $4000 in yield during each 90-day period. He always shipped his gold from Riverside, emerging from the Malpais at Kane Springs and spending the remainder of the year loafing around San Diego. What he didn't ship to the Mint can only be conjectured.

His diggings are consistently described as free gold matrixed in rusty quartz veins or streamers, a departure from the usual tales of the area which, probably inspired by the Peg Leg legends, relate the gold found there to placer nuggets coated with dark Desert Varnish. While working the mine Brandt lived in a crude shack near brackish water four miles east of the old Carrizo Stage Station. This structure was in an area of spring seepage on the banks of a creek and was built of scrap tin and ocotillo stalks. Hank's signposts were human skulls found while wandering about the Malpais. This shack, according to

OF HANK BRANDT

Major Victor Stoyanow, USMC, Retired, admits to a mania on lost mine lore. The son of a Western geologist, he grew and matured among the mysteries and realities of the desert. Believing that lost mine lore, so important a part of Western Americana, is falling prey to slip-shod writers commercializing on stereotyped themes, Major Stoyanow enters this popular field of writing with a background of on-the-spot experience, determined accuracy in reporting, disciplined imagination and knowledge of his subject. DESERT predicts that if this writer, now in his early 40s, will stick to his typewriter, he'll become one of the great lost mine writers of all time.

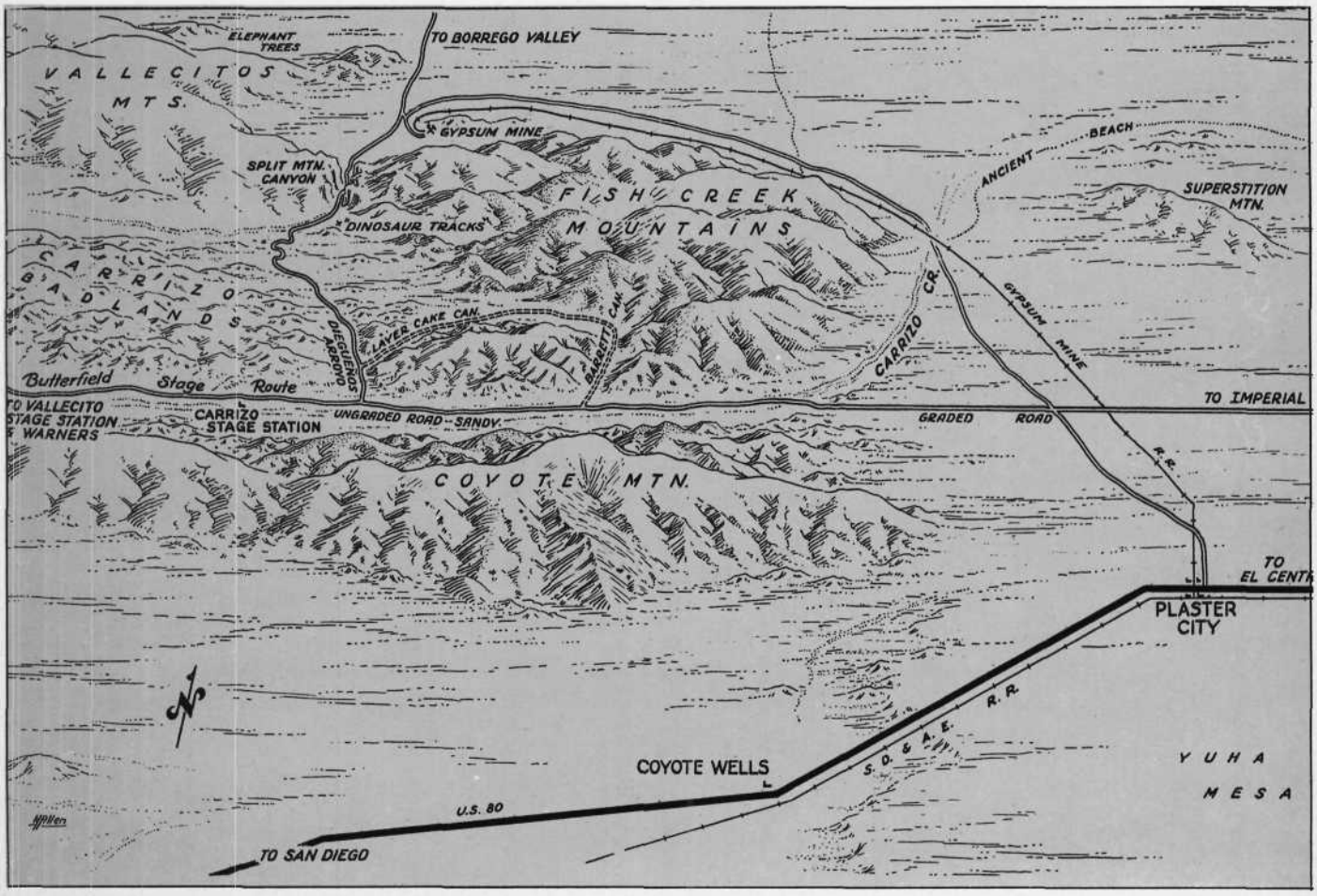
Hank, was some three hours by foot from his mine to the northeast. He chose this abode primarily for its proximity to water for his mule. It is not difficult to locate the site of his shelter today, using aerial photos in stereo-pairs.

More difficult is locating the mine using Hank's waybill.

Probably the most analytical and cogent treatment of the subject of Desert Gold is found in the Peg Leg story of Golden Mirages, a book by Philip A. Bailey. The author, long familiar with the Borrego desert regions, devoted considerable space to Hank Brandt and related the taciturn Canadian's waybill as acquired from a number of sources.

It goes basically like this: Follow the present Highway east from Coyote Wells for three miles. Go north across the Palm Canyon washes to a place where jade has been reported. It is necessary to locate this exacty, as from here a dark slash in the Superstitions is seen. This slash must be entered to reach the next step, which is to the northeast, crossing the old stage route into Carrizo, past several petrified palms and some whalebones, skirting the northern edge of two dry lakes marked by two ironwood trees and known as Dos Mesquite Lake and located on an imaginary line into the dark slash of the Superstitions. Upon locating the entrance to the Superstitions, follow the canyon to a small mesa, then turn into another canyon with reddish-brown sandstone walls to the mountain's eastern front. Here you will find the imprint of a petrified ship in sandstone. Following the canyon to its mouth on the eastern front, turn north along a wall of

This map shows the area of the Hank Brandt mine, but the map reference used by Major Stoyanow for this article is the USCG series 7.5 minute quad., Plaster City, Barrel and should be acquired by readers intending to enter the area



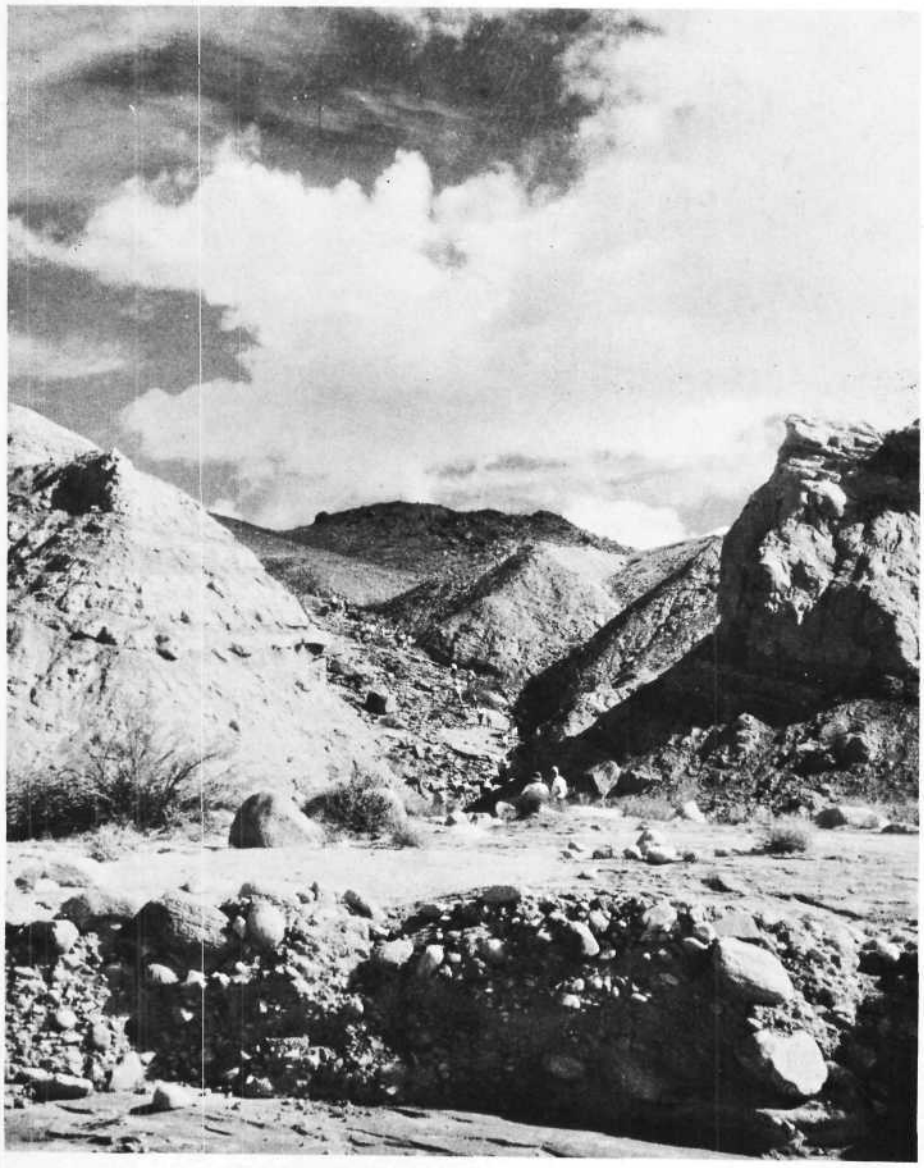
purple talc between some small hills, then enter a canyon similar to the one with the ship. This canyon is filled with mesquite. When you reach a high bank from which outcrops a boulder, you will see an ocotillo—a big one. The mine is in a hidden valley above this spot.

Bailey concludes, quite correctly, that following these simple directions leads everywhere and nowhere and that the mine does not suddenly pop out of terra firma. He points out that there is no jade on the desert, no petrified palms have been found, and that the whalebones were removed in 1915 for the San Diego Exposition. When I recently spoke with Mr. Bailey, he told me that Henri Brandt's ambiguity was typical of many prospectors who related their finds strictly to their own limited observations and knowledge.

Some writers have treated, albeit briefly, the story of Hank Brandt, and almost to a man have fallen into the trap of the Initial Error. Ensnared in this, any subsequent action is doomed to failure. The Initial Error is this: regardless of all subsequent indications to the contrary, people will tend to stubbornly accept the basic premises of the Lost Mine "discoverer" as gospel. In this case, it is the postulation by Hank Brandt that his location upon exodus from Mexico was in the Superstitions.

Latching on the Superstitions as a site for a lost mine is a natural mistake. Though a namesake of their more impressive and mineralized cousins in Arizona, there the resemblance of the California Superstitions ends. This outcrop of sand-covered granite is a measly 700 feet above sea-level, tossed unceremoniously by seismic action into the bottom of the Salton Sink. Then, in recent times it was sheared from its base which sits further up the Borrego Valley. Undercut by caverns never explored, the mountain, influenced by night's cooling actions, creaks and groans, producing awesome sounds amplified by resonant cavities in the granite. N' wonder Superstition Mountain is replete with legend and lore incongruous with its stature!

The Anza-Borrego desert Photo by George Leetch



Because of this I gave Hank's story short shrift. After exploring Superstition during 1963, I knew the unhappy freak boasted no ocotillo, purple talc, petrified ships, nor for that matter, gold.

Waxing charitable in his later years, Henri Brandt provided further directions for the location of his mine—directions seeming incompatible with his initial waybill. This fix was essentially thus: West of the mine was a hot spring, above which a double-decked cave was situated in the canyon wall and from which the mine could be seen. From his diggings, Hank could go "north" to Split Canyon, his annual route to Riverside. The mine was three hours distant from his shack east of Carrizo. Enroute he always passed a cave filled with Indian *ollas*. South of the mine, a wondrous painted canyon existed. Just below his source of gold was a seepage around which a large swarm of bees continually buzzed.

This set of directions boxes the compass, placing his location anywhere within a 200 square-mile area around the Carrizo Slot. Though Carrizo, Painted Gorge, and Split Canyon are well-known terrain features the rest of the directions appear elusive when taken alone.

As well as I knew it couldn't be in the Superstitions, I had long deduced that, if anyhere, Hank's Secret Canyon was somewhere in the eastern Fish Creeks or Coyotes. Though credited with superhuman speeds, he was still a cripple and his periodic safari from the Slot to his mine would scarcely put him at Superstition in three hours, nor would he have made it in 36 hours when on the lam from Tecate. But the Coyote Mountains, and particularly the assymetrical Fish Creeks, were well within a radius cogently possible for the silent recluse.

When Henri Brandt died in San Diego he left his final benefactor, in whose home he passed away, $16,000 in gold.

Standing on Egg Hill at Sweeney Pass near Vallecito one day this spring I was scanning the axis of the Carrizo Corridor. Having just emerged from Deguynos Canyon, I was considering another run down the length of the uninviting Slot. As the low-lying lavender hills in the distance were

focused in the long-glass, a vague premonition fomented.

Hank's purple talc?

Truth, like gold, is where you find it, and leaps out suddenly and swifty once detected. Without equivocation I knew at that moment that, regardless of outcome, I had stumbled onto Hank's mystery. Although Hank's waybill was erroneous, it was nevertheless *true*. The Initial Error was about to be wiped out. The old man didn't know the Superstitions from the Mountains of Montgomery, but he *saw what he said he'd seen.*

Considering that his initial encounter with his gold was under trying conditions—entering the area at night pursued by howling Mexicans— his Initial Error was quite understandable. The difference between Hank and prospectors who followed is that he *knew* where his mine was. Accuracy wasn't important.

The only dependable map of the Colorado Desert in those days was that of Lieutenant Ives, and the names he had given many of the ranges changed several times. Directions are often misleading . . . the compass needle in this particular isogonic strip is subject to an easterly magnetic declination in the compass needle of 14 degrees from true north, with an annual westerly variation of three minutes in arc. In addition, the sun's seasonal shift across the ecliptic is particularly disarming in the clear atmosphere of the desert.

If one depends on landmarks for directions, one is in trouble. Buttes, dunes, ravines and canyons constantly shift shape, colors, and relationship to other features, like mute chameleons. Three reliable maps have been made: Alverson's in 1905, prior to formation of the Salton Sea; Valle's oil survey map in 1914; and the current USGC map, surveyed in that sector by the Corps of Engineers in 1957. None of these, while similar, are identical. The most recent maps contain glaring errors when matched against photo-mosaics, witness to the dynamics of the desert and the fickle carvings of the San Felipe and Carrizo waterways. Several earthquakes have been recorded here in the past several decades, some of sufficient intensity to rattle the complacence of El Centro and environs.

Still, assuming as I did that Hank was telling the truth, some of his landmarks should have remained. One day, dangerously late in the season, I struck out to the north from a point 3.8 miles northeast of Coyote Wells. The latter refers to the one on modern road maps, not the original Pozos Coyotes or Sackett's Tanks on Anza's track. The point of departure was on old U.S. 80, the only one possibly known to Brandt, which roughly parallels the current highway. This is the junction of the Painted Gorge Road, artistically marked, and from here Coyote, Fish Creek, and Superstition Mountains may be seen.

About six miles along Painted Gorge Road, I swung to the northeast across erratic, unnamed washes and ridges cascading eastward from the Coyote Mountains. Shortly thereafter I was up to my drive-shaft in pumice. Continuing on foot toward the old Overland Stage Trail, in Section 29, Range 10 East, Township 15 South, I came across what appeared to be cuttlefish bones, but nothing that would ever have been claimed by a whale.

Near the Overland Stage Road, in the vicinity of Vertical Survey Marker 194, I found concentrated float of green rock with a hardness of six to seven on Mohs' scale. Probably Amazonite or pyroxene rather than Jade, but then Hank Brandt was no more a lapidary than was Geronimo.

From this place a real illusion, one of many on the desert, greets the observer. Superstition Mountain, its long axis southeast to northwest, has nearly disappeared. A runt among mountains, it appears to have crawled deeper into the Sink. The lower Fish Creeks, gateway to the Slot, have their longitudinal axis southwest to northeast. Yet, from Survey Marker 194, both ranges appear to be on the same axis and seem, in fact, to be *one continuous massif.* My respect for Henri Brandt and his mistakes grew by the moment.

The confusing thing about Hank's next direction was his reference to Dos Mesquites Lake. The only one shown on current maps is on the Naval Reservation well to the southeast of Superstition, and adjacent to civilization. Nevertheless, aerial photomaps disclose several small sinks on both sides of the mouth of the Corridor, and these also appear on Valle's maps near a Black Mountain and three buttes which modern maps don't show since they are, mysteriously, no longer there.

These sinks are long-dry mud flats in the indecisive beds of the Carizzo and its Malpais. Though not too conspicuous, they make themselves known at night with an eerie phosphorescent glow that spooked many an early traveler through the Corridor. Ironwoods and other trees pepper the scene.

From Marker 194 there is an *unmistakable* "dark-appearing cut" in the skyline belonging to a deep gorge slicing into the Fish Creeks from Section 17 (Township 14 South). This is one of several back doors to Barrett Canyon, to which I'd already given the once-over.

Since I had commenced thinking more and more about Antonio, I had the suspicion that there was more than met the eye in the eastern and northern slopes of the Fish Creeks, where there are 14 chasms of canyon-caliber in evidence, but only nine shown on the maps.

Following, against my better judgment, some intuition, I made several incursions across the face of the Slot, using dead-reckoning means to ascertain where I had been, for the 7.5 minute quadrangles had long become useless. There is a mesa visible from the air at the head of Barrett Canyon, and the physical and logistic effort in reaching it overland yielded little on my first trip, except confirming Murphy's Law that if things can get worse they will.

There is an abundance of petrified wood between Marker 194 and the Slot, and among this are bits of palm, but these are obviously float which have been transported hydraulically

from higher altitudes and are hardly of such significance that they would have been singled out by the gaunt Canadian as a landmark.

Finding myself stymied in many a dead-end box canyon, I suspected that my wheels were spinning faster than my engine and, applying the principle of patience, I put Hank Brandt on the shelf.

Sitting one day in Fred Harvey's gem shop in Encinitas, in sight and sound of the Pacific, I was discussing movie-making on the desert with the venerable gentleman who runs one of the more professional rock-larders in Southern California. I had just watched him evict a young woman who had tried to unload a trunk-full of gravel on him for gem-stones, and the conversation now drifted to the Carrizo-Vallecito area and some of its ghost-stories.

"Next time I go into the Fish-Creeks, I'm taking along a collapsible ladder," Fred volunteered.

Since this seemed a costly bit of impedimentia, weight-wise, I challenged it.

"There's a cave up there in the canyon wall. It's about 30 or 40 feet above the floor. I've seen it but never been in it. A man told me a couple of years ago that there were Indian jars in the cave. I'd like to get a look at them."

I casually dropped the Brazilian emerald I'd been fiddling with.

"You mean *ollas?*" I queried weakly, knowing damn well what he meant.

"Right . . . that's a funny place up there. I had a heck of a time packing into it. The going is especially rough from the place where the bones are."

"Bones . . .?"

"Mastodon bones. They're in two places. One's on top of a kind of mesa up from Fish Creek Wash. The other set is in this deep canyon."

"Fred, are you sure these aren't whalebones, like they had at the 1915 Exposition?"

He looked at me as though I belonged in a laughing academy, and with every right. But overly suspicious by nature, I expected a gambit.

"Whales? No, I mean mastodons, the prehistoric elephants with the curved tusks. You couldn't move some of those bones with a bulldozer."

Ye gods, and all this time we'd been thinking whalebones! I recalled that some people ascribed Whale Peak's name to the findings of prehistoric whalebones there when actually, one look at its shape provides a reason for its name.

"Some of the tusks are 10 feet long," Harvey continued. "And there's a place near there where there's quite a stand of petrified wood. Good stuff, too. Goes over quite well."

"There's petrified wood scattered across that desert?" I countered, trying to be as negative as I could.

"This is petrified palm," he said. handing me a slab of finished and filigreed stone.

This was too much. I looked him right in the eye.

"Fred, what do you know about Hank Brandt?"

He mulled the question, but briefly.

"Never heard of him. Where's his shop?"

On several occasions Fred had made statements concerning the desert I had questioned. Out of orneriness, I'd checked up on him. Invariably, he was right. Leaping out of his store to the car, I brought in my file on Hank Brandt. In a few moments Mr. Harvey was privy to the story. He listened with genuine amazement.

"You know," he said later, "I've heard of a mine up there, someplace in a deep arroyo . . . somebody found some old-time tools there once . . . maybe you ought to go up and take a look."

Maybe I ought to go up and take a look! I wondered vaguely where he thought I'd been.

"Where is this canyon, the one with the cave, the bones, the hard wood?" I asked.

"Six miles down the line from the Gypsum Mine. Down the railroad line, skirting east and south around the Fish Creeks. Not hard to find. Just hard to get to." His answer was unhesitating.

Twenty hours later I was on the hardpan at Ocotillo Wells staring down the 12 miles of Malpais across the San Felipe and Carrizo Washes, sights fixed on Fish Mountain.

Decades ago Charlie Knowles, who spent three years searching for Hank Brandt's Mine, made three positive postulations: (1) the mine was within a five-mile radius of Fish Mountain (2) It definitely existed as a source of high-yield gold and (3) It would be found by accident.

Once, last year in Arizona, I was on the trail of a remote and difficult lost mine. During the last days of the hunt, every time I'd sally forth to my target, a torrential flash-flood would arise and I'd become immobilized in muddy sands. A desert-rat told me I was offending the Apache thunder gods.

So I wondered what gods I offended on this trip when my 4-wheeler, in ostensibly perfect condition, sprung a gas leak, lost its lights, short-circuited its ignition, and developing a vapor-lock. Finally it collapsed its transmission. From experience I knew that wars aren't won on wheels, nor are the favors of lost mines. In both cases one has to come, sooner or later, into conjunction with Mother Earth.

I walked into the target area, and crawled out. Had it not been for Don Haskell of the U. S. Gypsum Mine, I'd still be there, and so would this story.

Relating the maddening terrain to Hank Brandt's waybill is difficult, but with a little imagination it can be done, if one places himself in the shoes of a chauvinistic prospector of the last century. All ensuing coordinates are in Range 10 East, Township 14 South, Imperial County, California.

For purposes of resolving the confusion on direction, let me say that the northern slopes of Fish Creek Mountains and the eastern slopes appear almost identical and without appreciable or abrupt change of direction. The many sheer canyons are filled with detritum known as fish-tails which from a distance resemble large deposits of gravel. In reality, they are man-sized boulders. Several of the canyons knifing north and east from the mesa at the head of Barrett Canyon, near Fish Mountain, contain petrified palm and prehistoric bones. Brown sandstone is in evidence everywhere.

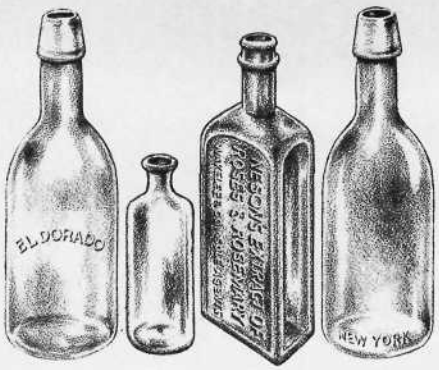
On the Mining Railroad from Plaster City to the Split Mountain Road are several trestles. Counting from the north, the first one crosses an unnamed wash several miles below Fish Creek itself. The second crosses the bed of the Carrizo in Section 5, just southeast of a gravel pit adjacent to the railroad. Between the two trestles about 2000 meters above the gravel pit is a wet-back shack. Behind this oasis and into the mountains is a tortuous canyon with purple stratum. This is the canyon, higher up, with the cave of the Indian *ollas*. It dead-ends on Fish Mountain. From the air a very primitive trail may be detected.

Fish Mountain complex is like a a Fourth of July fire-wheel, with the

(Continued on Page 34)

A BOTTLE BONANZA

by E. Francis Long



FIFTY MILES east of Barstow, on U.S. Highway 66, the little desert community of Ludlow, California (population 75) is still lively enough to be largely ignored by professional ghost town chasers.

Consisting of several service stations and garages, a motel, a couple of roadside cafes and even a small grocery store, Ludlow is also a jumping-off place for the real ghost town site of Bagdad Chase (Camp Rochester) nine miles south and for the rugged emptiness of the Bristol Mountains on the north. This is rockhound country, and the nearby Cady Mountains offer unexploited hunting grounds for Indian artifacts.

Behind its modern facade, however, Ludlow itself teems with ghosts. Upon driving a block or two south to the Atcheson, Topeka and Santa Fe Railway, you can find row upon row of crumbling concrete slabs where once stood the homes and business establishments of a vanished era. Lee's Market and General Store, which faces the railroad tracks instead of the highway, is closed up tight and displays an unmistakable air of abandonment. At the other end of the same street, Murphy Bros. General Store is but a hollow brick shell of its once imposing structure. Still farther west, the ruins of Ludlow's old railroad switching yards, which made the town an important rail stop half a century ago, fades into open desert. Here are piles of tin cans, old broken glass, railroad ties half buried in drifting sand, and segments of rusting steel cables.

Bumping across the five sets of tracks to the south, more spectres may be found. A dozen or more abandoned, weather-beaten shacks line the lonely street. Their condition varies from the barely habitable to the totally ruined. Age and the elements have colored their unpainted timbers the same dusty brown as the desert ground. And beyond this ghostly street, tinted glass fragments sparkle in the sun beside old tin can dumps that more than anything else indicate the number of people who made this street their home.

Here we found a bottle bonanza. Modern bottles atop the dumps, effectively guarded older treasures buried a few inches below. Tiny, hand-made prescription bottles in purple, blue and amber glass were the most plentiful. Best finds were a light-emerald "Three-in-One Oil," and a little "J.A.F. & C." (The J. A. Folger company once sold spices and extracts as well as coffee) and the prize of the day, a lovely lavender "E. R. Durkee Salad Dressing New York," with the well-known brand on the base "Bottle Patented April 17, 1877."

Beneath the floorboards of one of the old cabins we found a sky-blue pint whiskey flask of the type used during the years of Prohibition in the 1920s.

A quarter of a mile north of town we found a huge dump spread over several acres, which is being used by the few remaining people in Ludlow. No attempt has been made to hide, disguise or bury the rubbish and among its thousands of new bottles, a patient collector might find bottles of the prized 20 to 30-year-old vintage. In the short time we looked here we found a narrow-necked nursing bottle of a half-century past, a clear glass beer bottle with the words "Illinois Brewing Co. Cocorro, N.M. 7 Fluid Oz." and many soda pop bottles of the 1930s, which are just beginning to come into favor with collectors.

All but deserted by the railroad that created it, Ludlow now looks to a transcontinental automobile highway as its lifeline. Trains pass daily, but rarely stop as modern diesel locomotives do not depend upon whistle-stops for fuel and water.

Like many other little desert towns, Ludlow is a live town with a ghostly past. Its spooks still haunt ruined cabins, walk dusty back streets and loiter nostalgically along the railroad right-of-way. Each time a collector pulls an ancient bottle from its dump, he's revealing something in the life of a spectre that once lit Ludlow's past. ///

IF ONLY THE starving Manly party of '49 had known that within sight of their Death Valley camp grew nutritious food!

True mesquite (*prosopis juliflora*), with its life-giving sustenance so rich in carbohydrates, is a small limber-branched tree with needle-sharp thorns. Masquerading under a number of names—Honeypod, Velvet Mesquite, Algaroba, Albarroba, Honey Locust and Texas Ironwood—it ranges from northern Mexico to Arizona and California's low desert regions; from southern Nevada to southwestern Utah; the deserts of New Mexico, Colorado, parts of Texas, western Oklahoma and southern Kansas. On the march and spreading inexorably, it stops only where the isothermal line of winter freezing exists.

An octogenarian friend and long-time prospector has a most appropriate name for the mesquite tree. He calls it the Manna Tree. "Learned about its food value from the Shoshone Indians when I was over in Pahrump and Chicago Valley over 50 years ago," he said. "You can eat the whole seed pod when they're young and tender. Just pick 'em right off the tree and eat 'em! They're pleasant-tasting and real nutritious. Or you can do like the Indians do—pound 'em to powder and use 'em like flour or meal."

Having a mesquite in our own backyard, we decided to taste a pod. We found it chewy and sweet, with a pleasant lemony flavor. I discovered later that mesquite pods contain 25 to 30% grape sugar. Inside the quarter-inch wide pod we found 18 quarter-inch-long mottled seeds imbedded in spongy pulp. A feature of true mesquite is the construction of the pod between each seed.

Ever since livestock was brought into the Southwest, the *albaroda,* as the Spanish-speaking people called mesquite (mesquite comes from the Nahuatl Indian word *misquitl*), was recognized as an important browse. Cattle, deer, goats and pigs devour its pods in the spring when its stiff limbs turn supple and become palatable. Then, too, the delicate green of opening leaf buds cover the awakening trees, turning their gauntness into feathery beauty. Mesquite blooms after winter rains, from April until June and July, often continuing into Fall. Ours has done this twice since we planted it.

Catkin-like clusters of flowers are minute, with bi-sexual greenish-white petals only half as long as the 10 free stamens. The fairy-like flowers are delicately scented. Bees swarm to the mesquites and clear, amber mesquite honey is sought by connoisseurs.

It is surprising how heavy close-grained mesquite wood is—48 pounds (dry weight) per cubic foot, even heavier than mahogany. Its heartwood is reddish-brown with a thin, clear yellow sapwood. Though the wood is not strong, it is durable and takes a high polish. Desert gift shops feature mesquite wood in polished ornaments such as ash trays, lamps, and carvings, but its trunks are not large enough to produce cabinet wood.

For centuries mesquite has indeed been the Manna tree for Southwest Indians whose main staple was its locust-like seed pods which ripened in the fall and could be eaten right from the tree, or boiled, or stored in baskets of arrowweed and placed on

THE MANNA TREE

by dorothy robertson

primitive scaffolds for winter use. Cooked, strained and allowed to ferment, its pods furnished them with a mildly alcoholic beverage. Pounded and ground into a flour called pinole, it was mixed with liquid and made into a type of bread. Even today primitive populations depend upon mesquite pods for food.

Indians found additional uses for this unlikely tree. Trunks and sturdy limbs furnished the framework of their dome-shaped homes. Papago Indians fashioned balls of mesquite wood for a kickball game. (Their toes must have been of ironwood!) A cloth was made of its bark, shredded and pounded. Pottery makers shaped pottery with mesquite wood paddles.

Papoose cradle boards were constructed from roots of the tree, and roots or snags were sharpened and used as primitive plows. A dye was extracted from its thick bark, and used also in the tanning of hides. Gum, which exuded from the bark, was chewed like candy and also used to cure wounds and glue pottery.

As early as 1871, Southwestern pioneer fathers sent mesquite gum back East to be used in the preparation of mucilage and gumdrops! And still mesquite has more to offer man.

For countless years the mesquite has provided fence post material for stockades and corrals. Cheap and easy to cut, it does not deteriorate in the soil. Desert pioneers used mesquite wood almost exclusively in the making of hubs and spokes for wagon wheels. Navajos used it for bows. Mesquite wood is used for fuel, but the best coal-wood comes from its roots, which are actually underground stems. Pioneers were almost entirely dependent upon "miskeet ruts" for their cook-fires and for warmth. Like ironwood, these roots give off intense heat, burn slowly and were considered by blacksmiths as being preferable to any other type of wood.

Another blessing, this time for the land itself, is the mesquite's value as an erosion-countering agent. Ground stems penetrate as much as 60 feet in order to tap underground water. Yet, they also come up just below the surface, spreading laterally in a great circle in order to catch every bit of sporadic desert rainfall. Thus, the mesquite benefits from passing showers as well as it survives prolonged droughts. It is this complex root system that binds the banks of dry water courses and keeps them from washing away in storms.

Despite the mesquite's fine qualities, it is a tree hated in many parts of the Southwest. Every year it spreads browse-desolation on the ranges by competing for precious moisture and shading out native growth. In 60 years, the mesquite has crossed Texas where it was native to the south and west parts, and has sprung up in southwestern Colorado, run completely over Oklahoma and gone on into southwestern Kansas. Now it has put down roots in Missouri and Louisiana! Due to overgrazing, mesquite seedlings have managed to attain a foothold in country otherwise closed to them.

Back in 1906 scientists saw no reason for worry over the increase of mesquite growth. But by the mid-30s, stockmen were calling on the government for aid in controlling the "mesquite pest." It had now taken on a jungle form and stockmen found its stiff, thorny spines a menace to both cowboy and horse.

Because its stems are underground, felling the trees did not help. And, since mesquite crown-sprouts, new growth springs from each cut stem. When left alone, mesquite increases by seed-scattering.

Finally, the most successful and economical control devised was the cutting down of trees and poisoning of stumps with sodium arsenate. Its wood was sold for fence posts and fuel, which in turn paid for the cost of labor involved in cutting down and poisoning the trees.

Nevertheless, stockmen still believe that controlled mesquite is beneficial if allowed to grow in the bottomlands, as they value it for browse and shade for livestock as well as firewood and fencing. So, despite its latent menace, the mesquite continues to triumph as a Manna tree to man and beast. ///

SECRET CANYON

(Continued from Page 30)

geographic crest of Fish, elevation 2334, at the hub. Radiating from the peak 360 degrees is a labyrinth of twisting ravines, chasms, and gullies. Many of these are unmapped box-canyons. Some, viewed from the air and from the ground, have mesquite and ocotillo growths.

One of these is Hank Brandt's Secret Canyon. There, embedded in metamorphic country rock, is a streamer of free-gold of prodigious yield, probably covered by sand or slide. It may be a vein, a pocket, or even a chimney, the most clandestine and classically the richest of all ore-bodies. An ancient wheel-barrow was found there not long ago, and the seepage attracting the bees is still there. The bees are, I know.

Charlie Knowles gave the mine a five mile radius from Fish Mountain. I give it a mile. Recently, after some difficult dry-panning in one of the canyons above the gravel pit, I detected a faint trace of true color.

Hank Brandt's Mine is within a mile of Fish, and he approached it up Barrett Canyon, thence down the gorge with the Indian *ollas,* making a turn into one of the mesquite-studded ravines. He approached it through Barrett Canyon solely because he lived in the Corridor, where there was certainty of water during the spring months, the only time he worked his unclaimed strike.

If you suspect the worst, as I did—that Hank had cached some gold in Mexico after the demise of his partners and was periodically high-grading it into the States, forget it. His operation was too methodical, predictable, and reasonable. For him to consistently smuggle ore across the Yuha Desert would have been impossible. We've determined he told the truth, and we'll stick with that.

This winter I'll strike out again—unless you come across it before then. If you do, drop me a line—after you file your claim—so I can close the case.

The mine is there, I'm convinced. People have seen it without knowing what they were looking at. Don't make the same mistake. If you aren't sure what one-man hardrock diggings look like, find out ahead of time. Rockslides, dune-pockets, even quicksand, are omnipresent hazards and the desert is full of illusions, particularly regarding distance and direction. Overconfidence is courting disaster and the unwritten signs are everywhere: slow down or die. And take plenty of water.

Although none of the objective area is within the Anza-Borrego State Park, some of it might be in the Naval Bombing Range impact area. To make inquiries as to its status and entry, contact the operations office of the Carrier Air Wing at NAS, Miramar, California. The air-space over this area is, incidentally, A D I Z to all private aircraft.

The desert, like the sea, is intolerant of error. In this school you can flunk only once. During recent years, 17 men are *known* to have perished in this tight little area, all in quest of its legendary gold. Try not to be the eighteenth. ///

(Advertisement in the Public Interest.)

ROVER STRONGLY OPPOSED TO CRIME

THREE INSTANCES CITED.

As we know, the Land-Rover is designed to bring its owners fuller, more fruitful lives.

Unfortunately, a sordid few have their own peculiar notions of what it is to get more out of life the Land-Rover way.*

Since these unwholesome activities are more newsy than family trips to the back country, beachbuggying, and an honest job of work, the papers have been chock-full of high and low crimes involving our apparently indispensable 4-wheel drive vehicle.

So much so that we feel we must make our stand clear, and also point out how we are doing our bit to fight lawlessness wherever it appears in the world. Let us start with this example from Southeast Asia:

(1) FIGHTS OPIUM SMUGGLERS

This report of the Land-Rover's deploying on the side of law and order has been relayed to us by Joel Fort, M.D., consultant to the World Health Organization on narcotics matters.

Dr. Fort, after a recent survey trip through Thailand, reports that the police use the Land-Rover to pursue opium smugglers. Their choice of our machine for this laudable assignment is doubtless prompted by the Land-Rover's awesome reputation among lawmen, being used by the police of 37 countries.

Another reason may be that it's the only way they have a prayer of catching the opium smugglers, 10 out of 10 of whom prefer Land-Rovers in their ill-advised work.

"Prefer" is not an apt word here, since it suggests an alternative. For your opium smuggler there is no alternative; the Land-Rover alone is rugged and adaptable enough to make it through the mountains from Burma, Laos, and China to market.

So it boils down to: "Set a Land-Rover to catch a Land-Rover." For those of you interested in specifications, the vehicles of both the hunters and the hunted are Model 88's with the canvas tops removed.

Guns Fore or Aft

The chief point of difference seems to be that, whereas the opium version has its machine gun tripod (not a catalogue accessory) mounted aft to discourage tag-a-longs, the police model has *its* tripod mounted forward and elevated enough to clear the windscreen should a quick burst be necessary.

This conjures up images of Our Product being blasted by shot no matter who is on top; an unhappy prospect for a firm that abhors forced obsolescence, profitable though it may be.

To forestall harsh correspondence we should like to clear up one thing:

When somebody comes into our showroom in, say, Bangkok, we have no way of telling how he stands on decency. One of the most furtive looking customers one could ever hope to meet turned out to be a vicar. Also, Land-Rover prospects rarely sport Opium Running Association badges on their blazers.

Supposing a man introduces himself as a planter from up country, and says he wants to mount a tripod so his little boy can whang away at vermin with his air gun? Were we to refuse to take his money graciously we'd be letting ourselves in for a very nasty court action.

We hope this satisfies everyone.

(2) AGAINST BOBBY SHOCKING

We are distressed by the following misguided solution to the parking problem:

Murky accounts from the British press tell of an over-zealous Londoner who rigs a heavily charged electric fence around his Land-Rover, ostensibly to protect it from thieves.

However, police seeking to affix parking tickets have been laid out flat. Unfortunately there is no law against it, so the poor fellows have no recourse.

While your Land-Rover is capacious enough to conveniently accommodate such a unit, we urge moderation.

(3) DEPLORES WAGE SNATCH

It was with dismay that we recently learned that the Land-Rover was not the only one of our stable in use by the underworld. Still, the following account from the London Daily Telegraph is not devoid of a certain curious charm.

Under the headlines, "Three Hurt in Wage Snatch", and, "Four-foot Eight-inch Cleaner Was Escort for £890," the story goes:

"A five man gang who rammed a wages car and snatched £890 at South Tottenham, yesterday, attacked two women GPO employees and a man who were in the car.

"The gang were waiting in a gray Rover car as the wages vehicle, a hired car with driver, approached the junction of Heysham Road and Seven Sisters Road.

"Wildly With Coshes"

"The bandits opened the vehicle. They forced open the hired car doors and struck out wildly with coshes at the people inside before escaping by car."

The report goes on to state that the man who had been detailed to act as escort for the money was 4 ft. 8 in. high. In his statement he said, "I was not able to do anything as I was sitting in the back of the car and the money was in the front..."

"Asked why a bigger man was not sent to guard the money a Post Office spokesman said: 'I can't comment on our security arrangements'."

A PLEA FOR HELP

Needless to say, we can't win the battle against crime all by ourselves; we need your help.

Obviously, the best way we can show our sincerity is to sell cars to as many honest people as possible. It would help no end if you identified yourselves. Please use the coupon below, and thank you in advance for your public spirited action.

HONEST PROSPECT COUPON

Rover Motor Co. of N. America Ltd.
405 Lexington Avenue,
New York 17, N. Y.

☐ I am reasonably honest; please send me details on how I can help you in your fight.

☐ I am not saying whether I am or not; just send the material please.

Name_____

Address_____

City_____ State_____

*Last year's Great Train Robbery alone netted £2,500,000 ($7,000,000).

BLUE SHELLS

(Continued from Page 23)

Garces, escorted by the Sonoran Captain, Juan Bautista de Anza, fell the task and the honor of pioneering the Land Passage to California. In 1774, via the passage, they blazed an heroic trail from Sonora Mexico to San Gabriel, California. Later, de Anza pioneered the route to Northern California, establishing the first presidio on the site of the present city of San Francisco.

In the years that followed a slow trickle of venturesome trappers and apostolic workers filtered through the land passage en route to Alta California. By 1849 the exodus was on. Gold seekers, rushing to the placer fields of California, perished of thirst and exposure near the very water holes, or aguajes, first discovered by the courageous padre.

There are no great monuments to Father Eusebio Francisco Kino. Even the location of his grave is uncertain. But as long as the sea provides a luminus trail of blue shells there will be a living memorial to a great pioneer. ///

"He says he has to sign off now. His blanket's on fire."

GOODSPRINGS, NEVADA

BY LAMBERT FLORIN

A monthly feature by the author of Ghost Town Album, Ghost Town Trails and Western Ghost Towns

SAM McCLANAHAN lived and mined in Goodsprings back in the days when the town was as lusty a camp as any in southern Nevada. He remembers those times, too—even though today he's resigned to its dusty streets. Nevertheless, he isn't quite ready to admit to a defunct status. "There's not much doing here now," he says. "If people keep on moving away the place ain't going to be nothing but a ghost town." This, in spite of the fact that there is no operating business in the place other than the inevitable tavern.

It wasn't always this dull in Goodsprings. The camp dates back to about 1868 when Joseph Good camped with a group of other prospectors at a spring on the slopes of a small range called Spring Mountain. A copious spring in the area was important enough to identify the whole range.

Good's prospecting there was inspired by a story he heard from an Indian in 1861. "There's a canyon glittering with gold near the Colorado River," the Indian said, with enough conviction to lure Good to southern Nevada from a mining camp in the northern mining section of California's Mother Lode.

Although Good missed a bonanza in his first claim staked in the fabulous Eldorado where he found "only a glittering bunch of pyrites," his Goodsprings claim produced enough wealth to keep him contented for several years. Gold, always preferred in earlier times, was first in importance, but the Goodsprings mines also produced fortunes in silver, platinum and vanadium. The camp boomed through the '70s and '80s, but declined as veins petered out.

Today there are large deposits of soft, air-filled tufa rock in the area that McClanahan believes might produce a new building bonanza. Buildings constructed of it would be cool and naturally insulated and the proximity of Goodsprings to the gambling capital, Las Vegas, would contribute to real estate values. Who knows? He might be right!

Goodsprings is rewarding to ghost town hunters in that its buildings all show their age. Some stand defiantly erect, others are in ruins, but all are identifiable as to original purpose. Rock hunters cherish the area, even though deposits of gem materials are harder to find than they used to be. Listed as being available are Magnasite, Smithsonite, Jarosite, Hemimorphite, Azurite, Limonite and Galena, just to name a few. ///

Desert COOKERY

Food Editor *Lucille Iredale Parleson*

GRILLED CRABMEAT SANDWICHES

4 finger rolls
1 can flaked crabmeat
1 tablespoon finely chopped green onion
2 tablespoons diced celery
1 tablespoon minced parsley
Salt
½ cup mayonnaise
8 slices bacon

Split rolls lengthwise. Spread with above ingredients after mixing well. Top each piece with a strip of bacon. Arrange on cold broiler grill 4 inches from heat. Grill until bacon is crisp. Just before you put the sandwiches in the oven, in a double boiler melt a 3-oz. package of processed cheese, cut in small pieces with ½ cup milk. Stir until well blended and hot and pour over grilled sandwiches.

CRAB and AVOCADO CASSEROLE

2 avocados
½ lb. crab meat
Juice of 1 lemon
Salt and pepper to taste
1 can cream of mushroom soup
1 cup dry bread crumbs
1 tablespoon melted butter

Grease a 2 quart casserole. Arrange slices of avocado and crab meat in alternate layers, sprinkling each layer with lemon juice and seasonings. Over this pour undiluted mushroom soup. Mix bread crumbs with melted butter and arrange over top. Bake in 350 degree oven for 20 minutes.

LOBSTER NEWBERG

2 tablespoons butter
1 tablespoon each: minced onion, parsley, green pepper
2 tablespoons flour
1 cup sliced mushrooms
1¾ cups evaporated milk diluted with ¾ cup water
2 cups diced lobster
Salt and pepper
2 egg yolks
¼ cup Sherry

Melt butter in saucepan. Add onion, parsley, green pepper and mushrooms. Cover and cook gently, stirring frequently, for 10 minutes. Blend in flour, add 2 cups of the milk. Cook, stirring constantly until mixture thickens and is smooth. Add salt, pepper and lobster. Beat egg yolks with remaining milk and add with Sherry to lobster mixture. Cook 1 minute. Serve at once. Serves 6.

CREAMED SHRIMP

2 lbs. boiled shrimp, or canned shrimp
2 cups medium white sauce
½ teaspoon celery salt
1 tablespoon minced pimento (optional)
1 3-oz. package pimento cheese
1 4-oz. can button mushrooms.

Add shrimp to white sauce with celery salt and pimento. Stir in cheese until melted. Add mushrooms. Heat to boiling and serve in patty shells.

SIMPLE SHELLFISH CURRY

2 tablespoons butter
1 small onion minced
2 tablespoons flour
1 teaspoon curry powder (more if desired)
2 cans cream of celery soup
1/3 cup white wine
¼ cup light cream
1 teaspoon lemon juice
½ teaspoon sugar
Dash of garlic salt
2 to 2½ cups crabmeat, shrimp or lobster, cooked or canned
3 hard-cooked eggs, diced

Melt butter in top of double boiler over direct heat. Add onion and saute for a few minutes. Blend in flour and curry powder; add soup, wine and cream. Cook, stirring constantly, until mixture boils. Add lemon juice, sugar and garlic salt. Stir in shellfish and eggs. Cover and cook over boiling water for 10 minutes. Serve with rice. Serves 6.

SHELLFISH SORRENTO

2 cans cream of mushroom soup
1 cup milk
1 can crabmeat
1 can shrimp
¼ cup diced pimento (optional)
1 3-oz. can sliced mushrooms
½ teaspoon garlic salt
Dash of cayenne
1 cup grated Parmesan cheese
2 tablespoons butter
8 oz. package elbow macaroni

Cook and drain macaroni. Heat soup and milk until bubbly. Add macaroni, shellfish, pimento, mushrooms, seasonings and ½ cup of the cheese. Spread into 6 individual shells or baking dishes. Sprinkle with remaining cheese. Dot with butter and place under broiler. Broil until golden brown.

SEAFOOD CASSEROLE

3 hard-cooked eggs, sliced
2 cups medium white sauce
1 can shrimp cut in halves
1 can tuna, well drained
1 2-oz. can sliced mushrooms
1 can crabmeat
¼ lb. grated cheddar cheese
1 cup bread crumbs mixed with ½ stick melted butter

Place in buttered baking dish, layers of sliced egg, shrimp, tuna, mushrooms and crabmeat, pouring white sauce over each layer. Sprinkle with grated cheese. Cover top with buttered crumbs. Bake in 325 degree oven for 45 minutes. Serves 6 to 8.

CRAB-FILLED AVOCADOS

Cut 3 avocados lengthwise in halves. Sprinkle with 1 teaspoon salt and 2 tablespoons lemon juice. Fill each half with thick creamed crab. Sprinkle with grated cheese mixed with melted butter and crumbs. Arrange in a shallow baking dish. Ad ¼ inch of hot water in bottom of baking dish and bake for 20 minutes in moderate oven.

CRABMEAT SOUP

Stir 1 can crabmeat into 1 can tomato soup, 1 can of pea soup, and 1 can of chicken broth. Add ½ pint cream and Sherry to taste. Heat but do not boil.

DEVILED CRAB

Make cream sauce of:
3 tablespoons butter
3 tablespoons flour
2 cups milk

Add to sauce:
1 can pimento, diced
1 tablespoon chopped parsley
2 tablespoons Sherry
1 table Worcestershire sauce
2 teaspoons dry mustard
Dash cayenne
2 cups crab meat
2 chopped hard cooked eggs

Bake in individual shells, or in casserole at 375 degrees for 20 minutes.

CRAB BURGERS

1 cup flaked crab meat
¼ cup diced celery
2 tablespoons finely chopped onion
½ cup shredded Cheddar cheese
About ½ cup mayonnaise

Combine crab meat, celery, onion and cheese. Add mayonnaise. Spread on buttered half bun. Broil until hot and browned. Makes 8 burgers.

DESERT DISPENSARY

by Sam Hicks

Part of a series of articles relating Sam Hicks' first-hand observations to the uses made by primitive peoples of nature's products.

TE DEL CAMPO

In blossom, *te del campo* is a pretty plant. Its fine, long stems produce a prodigious quantity of bright blue flowers, which, for size and shape, look a lot like clover blossoms. The flowers have an exquisite fragrance. This plant grows throughout the Southwest and is easily found in the Spring and early Summer. To me it has the nicest flavor and aroma of all native teas. Stems and blossoms are used in the usual amount of a small handful to a quart of water. The tea should boil briefly.

TE DE LA SIERRA

This is a beautiful green plant which grows throughout Southern California and Northern Mexico at high elevations in brushy mountains. The plant seeks shade and is easily recognized by the symmetry of its tiny leaves. The tea is excellent, but is regarded by some as having a slight medicinal taste. It makes a fine camp beverage for hunters and outdoorsmen. Branches and leaves from the root system upward are used, the tea is boiled, then allowed to steep.

SYCAMORE BARK or CASCARA DE ALISO TEA

A pleasant beverage tea similar to sassafras in both color and taste. The bark is chipped from the trunk near ground level or from roots slightly below surface. The bark requires several minutes of brisk boiling to make a flavorful, red tea. It is widely used in Mexico as a coffee substitute. Sections of orange or grapefruit peel are frequently cooked with the tea to add to its flavor. Young Indian women of Southern California tribes used to drink *te de Aliso* as an aid to childbirth.

DAMIANA

SOMEHOW, SOMEWHERE, the damiana plant of Baja California became known as an aphrodisiac. For many years tons of damiana were shipped from the sea ports of southern Baja to destinations all over the world. Gathering the native shrub meant an increase in tortillas and frijoles to a good many familes living in areas where damiana grew and jobs were scarce. But, after several years of uncontrolled harvesting and marketing, the supply was depleted. A single order from a large pharmaceutical firm for 50 tons of damiana was placed at La Paz. It was never filled.

A liqueur called Creme de Damiana is manufactured in Guadalajara and is probably flavored by damiana gathered from the interior of Mexico. In Baja, the natives continue to gather the shrubs in limited quantities for use as an aromatic tea. Its growth is pretty much confined to the Territory of Southern Baja where the shrubs first become noticeable a short distance south of El Arco, then continue to grow intermittently on down the peninsula to Cape San Lucas.

Tips of the branches and tiny leaves and flowers, if the plant is in blossom, are boiled together to make a delicious tea. I have drunk damiana on many occasions and heartily recommend it as a refreshing, flavorful drink. The accepted measurement for making most herb teas, yerba del manzo and eucalyptus leaves excepted, is *un porcion de la mano*, or, a small handful of twigs and leaves to a quart of water. ///

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NEVADA TREASURE Hunters Ghost Town Guide. Large folded map. 800 place name glossary. Railroads, towns, camps, camel trail. $1.50. Theron Fox, 1296-C Yosemite, San Jose 26, California.

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"GEMS & Minerals Magazine," largest rock hobby monthly. Field trips, "how" articles, pictures, ads. $4 year. Sample 25c. Box 687J, Mentone, California.

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"1200 BOTTLES PRICED"—well illustrated, complete descriptions, covers entire field, 164 pages, by J. C. Tibbitts, first president of Antique Bottle Collectors Association and editor of the "Pontil," $4.25 postpaid. The Little Glass Shack, 3161 56th St., Sacramento, Calif. 95820.

• BOOKS - MAGAZINES

BOOKS: "Old Bottles and Ghost Towns," many sketches. See Desert, February '63 issue. $2.15 prepaid. Mrs. Adele Reed, 272 Shepard Lane, Bishop, California.

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DESERT DUST DEVIL

Violet Emslie Knudston

The paw of the arid wind
savagely scoops the desert sand
like a maddened creature.
Whirling, he casts it high,
watching with fierce eyes
as it falls;
then, flailing the dusty air
with all fours he snarls
and gallops off across the desert
in a cloud of churning dust.

LETTERS
FROM OUR READERS

Letters requesting answers must include stamped self-addressed envelopes

Lost Arch Mine . . .

To the Editor: Two years ago we accidentally discovered the Revelation Mine which has a large arch where a slit about 75 feet long by 90 feet deep had been dug in the top of the mountain. Certainly this old mine was marked by a natural arch. Could it be where Mr. Fish found his nuggets (*Lost Arch Mine* by Erle Stanley Gardner, December '63 DESERT)? Later it could have been found by someone else and mined for one of the other ores found in the district.

To reach this area from Yuma, we passed through the old silver district upriver which passes by a boy scout camp and through a game refuge. Then we entered the Eureka District and headed on a rough road for the Red Cloud Mine some 20 miles further up the river. There are many old mines along this route. From the Red Cloud, we decided to seek the location of the Clip, or Baine Mine, for which we had a map. Starting north, we passed the Norton's Landing road, where ore was once shipped from these old mines to be carried by boat down the Colorado. Continuing, we passed the South Geronimo and the North Geronimo mines and then our pickup could no longer take the trail. Turning east, we walked about two miles and met the same road, which made a horseshoe turn to the Clip mine. There is little there now, but it might be good for bottle hunters to take a look. Leaving the Clip, we chose a different direction to return to our pickup. After about a mile, we came upon the Revelation Mine with its arch. We hope to return there for some prospecting.

N. T. JACKSON,
Calipatria, California

New Campground . . .

To the Editor: With Leon Calloway's article about Bristlecone pines in the August issue of DESERT there is a photograph described as a "campground." This area is the Schulman Grove Picnic Area and was closed to camping last year. There is an excellent campground called Grandview, however, about three miles from Schulman Grove at a lower elevation. Information is available from the U.S. Forest Service, White Mountain District, Inyo National Forest, Bishop, Calif.

EILEEN B. FERGUSON,
Tucson, Arizona

State Marker? . . .

To the Editor: Regarding the article by Jo Knight, *Chia Fostered a Massacre* in the September issue, I believe this canyon is also called Potrero. On the left, as you walk from the bridge up the canyon, are the remains of some old Spanish lime kilns. These are quite near the road, dug into the canyon wall above the creek bed and still partly lined with old brick. We visited the area in June. A little further up the canyon on the south wall, the old quarry is still visible where the Spaniards got their raw material for the kilns. With the history of the massacre and the lime kilns, I would think this canyon should be marked with a State Historical Marker.

AILEEN McKINNEY,
Costa Mesa, California

The Spring was Dammed! . . .

To the Editor: There's a nice little spring in Clipper Mts. where I've been vacationing since 1959. This year when I went to visit it, I found a road to the spring where before there was just a hiking trail for the final mile and at the spring were two large dams and four small dams all filled with muddy water. This is government land. What I want to know is can a person come in and do this? If so, it won't be long until all of our nice quiet spots are ruined.

LEE A. HOOD,
Bellflower, California

Editor's Comment: In answer to our query, the Bureau of Land Management at Riverside confirmed that the land is in public domain. The Department has no record of the construction of a dam in that area and will investigate further. C.P.

The Serpent Cave . . .

To the Editor: The Baja serpent cave you described in the August DESERT is quite a discovery and unlike any of the paintings I saw in Baja on my 1962 expedition with Erle Stanley Gardner. Obviously there are a great many more new and interesting sites of this kind to be found and studied.

I have not forgotten my plan to write an article for you with some more scoop on the Baja cave paintings. In the meantime, it is good to see other writings on the subject appear. You did a fine job with your article and I am glad to see you did not buy the "map" theory of those elaborate drawings. That is one of the old wives tales that crops up about half the petroglyphs in existence—they are believed to be ancient maps, if not of gold mines, then of more mundane things like water holes or hunting areas. It is a tempting idea, but just doesn't check out, as you discovered at first hand.

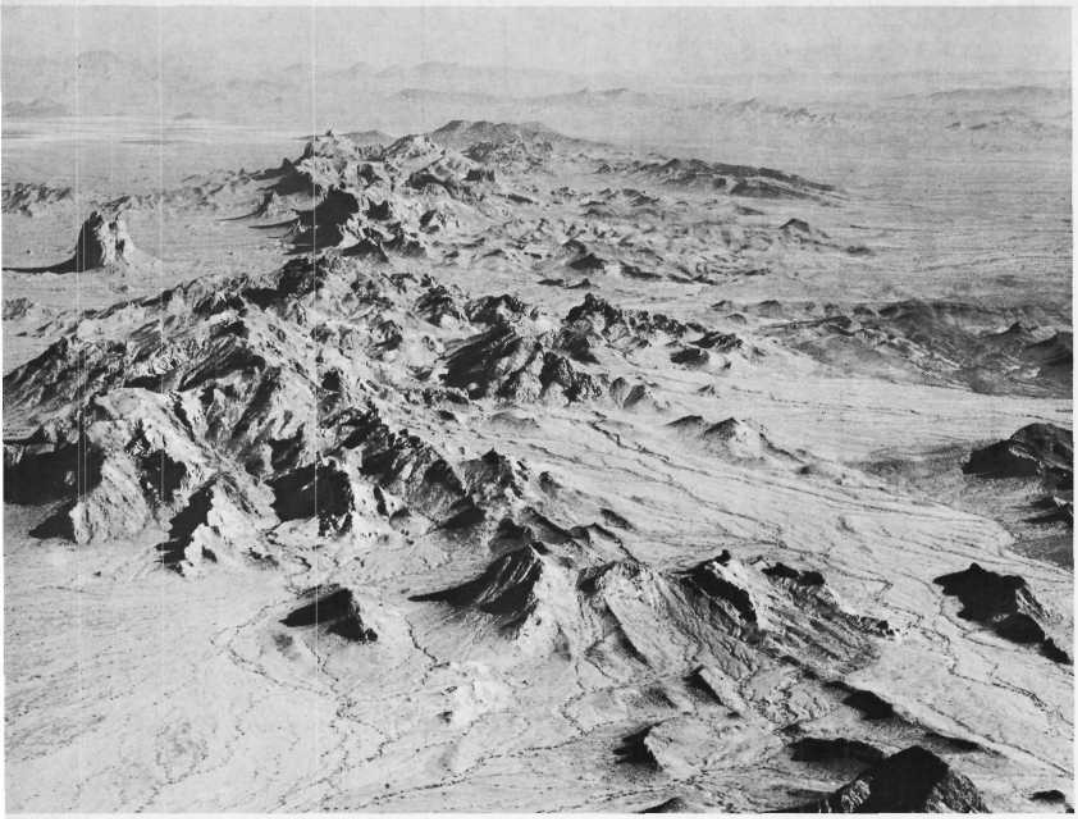
CLEM MEIGHAN,
Department of Anthropology, UCLA

New Data Available . . .

To the Editor: The story by Prouty about the Meteorite Crater in your August number requires some comments. He referred to me as connected with the Denver Museum. I have not been associated with this organization since 1947. Beginning with that year, I investigated the Meteorite Crater first hand and since then have written three books and many papers on the subject. This great crater is one of Nature's outstanding sources of information concerning the Earth's relation to the Cosmos. Many early writings concerning it were erroneous due to a lack of available data. I did not agree with Prouty's article in its entirety.

My most recent book (1956) was based wholly on field and laboratory work and contains 168 pages of text and 50 full page illustrations besides many other figures. It is still available at the American Meteorite Laboratory, P. O. Box 2098, Denver. Please give this information to your readers.

H. H. NININGER,
Sedona, Arizona



OCTOBER PHOTO CONTEST WINNERS

First Prize

MOON MOOD

Bill and Mary Lou Stackhouse
ARCADIA, CALIFORNIA

In the light of midday the desert near Salome and the Eagle Tail mountains in Arizona appears smooth, but in late afternoon the light accentuates the rugged country giving it the feeling of our moon conception. Taken at about 8000 feet. DATA. 4x5 Speed Graphic, 8 inch Ektar Les, Royal Pan, 23A Filter.

Second Prize

MOON OVER DESERT

William Simpson
TORRANCE,CALIFORNIA

As the moon comes over the horizon the last rays of the setting sun light the Ute Indian Reservation mesa on the Colorado-New Mexico border. DATA: Linhof Standard Press 4x5, 21 inch element of Turner-Convertible lens, 120 rolls holder on 120 Panatomic-X film, Kodak Wratten "A" Filter, 1/50th at f8. Photo is one inch of negative.

PHOTO CONTEST RULES

1—Prints for monthly contests must be black and white, 5x7 or larger, printed on glossy paper.

2—Each photograph submitted should be fully labeled as to subject, time and place. Also technical data: camera, shutter speed, hour of day, etc.

3—PRINTS WILL BE RETURNED ONLY WHEN RETURN POSTAGE IS ENCLOSED.

4—All entries must be in the Desert Magazine office by the 20th of the contest month.

5—Contests are open to both amateur and professional photographers.

6—FIRST PRIZE will be $15; SECOND PRIZE, 8. For non-winning pictures accepted for publication $3 each will be paid. Although not part of the contest, Desert is also interest in viewing 4x5 color transparencies for possible front cover use. We pay $25 per transparency.

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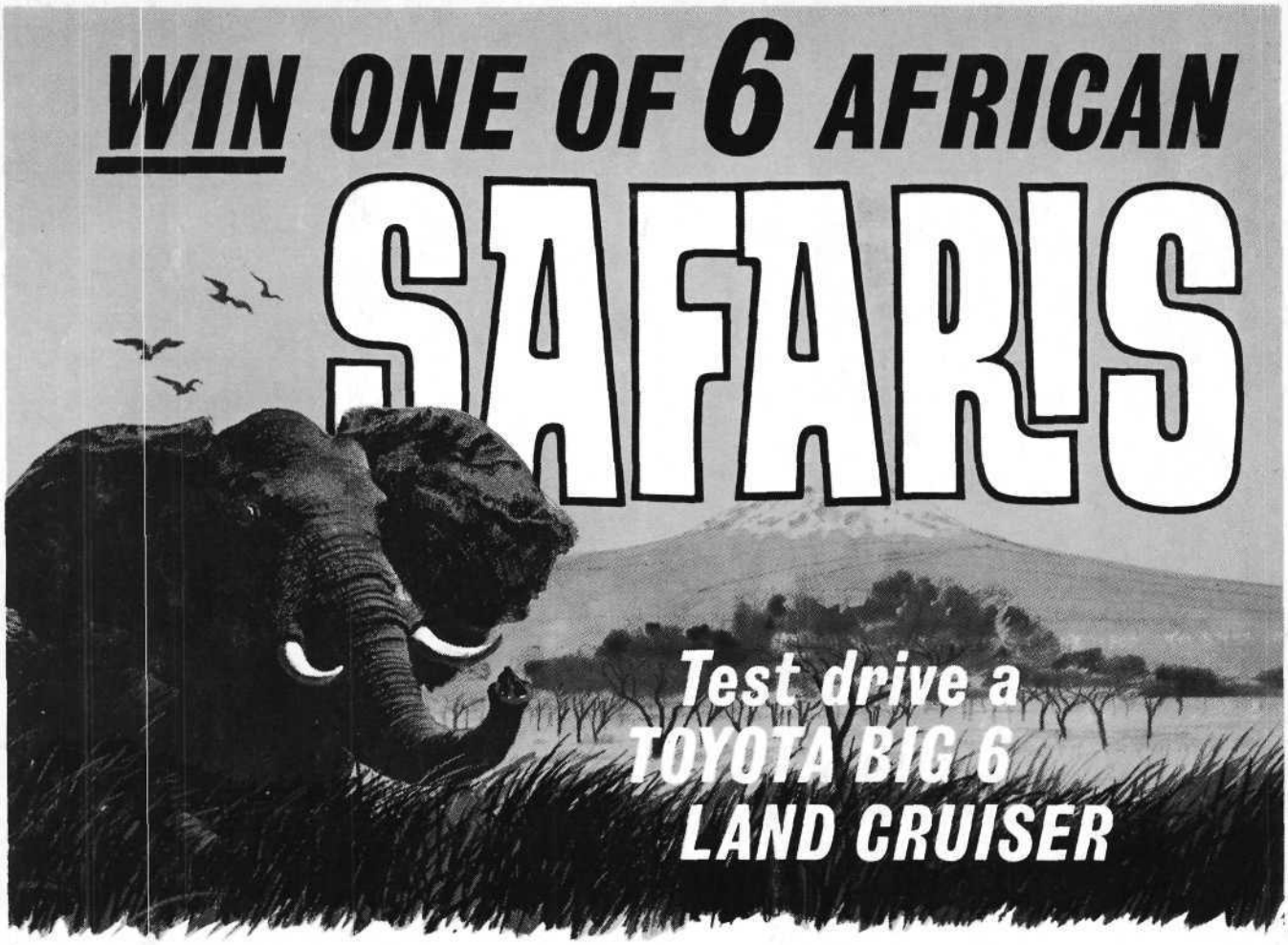

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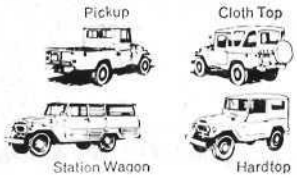

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