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LETTERS

... FROM OUR READERS ...

Recalling the Wrong Turn . . .

To the Editor: I read with interest the story, "The Wrong Turn," by Arthur R. Benton (April *Desert Magazine*). I know every foot of the country Benton went over. In fact, I remember seeing his outfit when he drove through Beatty, Nevada. I was working at the depot there at the time.

My wife and her father had a store in Leadfield all during the boom days.

Benton was lucky that the road out of Leadfield to Rhyolite was in passable condition. We had to haul all our Leadfield-bound supplies around through Titus Canyon from the Death Valley side. It didn't seem too bad then for all the roads were about the same.

The worst part of the road Benton followed, in my estimation, was the stretch down the floor of Death Valley. That road went down through the middle of the Valley where the silt ran down in front of the wheels, and the hot dust was so thick we had to roll up the car windows to breathe. We'd have to stop every few feet to try to determine where our road had disappeared to.

W. H. BROWN
Beatty, Nev.

The Leadfield Hotel . . .

To the Editor: Despite the sign hanging over the door, the building in the photograph accompanying Arthur Benton's "Wrong Turn" article is not the Leadfield Hotel.

The hotel sign was found approximately 100 feet north of the building shown. There were some foundations near there that probably marked the site of the hotel. Two C.C.C. boys nailed the sign to the shack as a practical joke. I know this for a fact, for these boys were part of my crew while we were maintaining the Leadfield-Titus Canyon Road. We occupied the "hotel" while working in this vicinity.

ARCHIE L. MERRILL
Bellflower, Calif.

Titus Canyon Adventure . . .

To the Editor: The experience of Arthur Benton and his friend, who made "the wrong turn" in Death Valley in 1925, reminded me of the time my husband and I had a very difficult trip going down Titus Canyon.

We traveled amid the heavy sand and sharp rocks washed down in rains the winter before. I know just how Benton and his companion felt when they looked up at the crack of sky between those awesome cliffs, and saw heavy clouds gathering. I salute them for accomplishing the trip up the canyon.

MARGARET E. SUMNER
Chula Vista, Calif.

Tewa-quap-tewa Is Dead . . .

To the Editor: Tewa-quap-tewa—the subject of R. Brownell McGrew's brush and pen in your May issue—passed away recently. McGrew's article on the old chap was in poor taste, anyway.

I say this advisedly because I met and

photographed the old Hopi chief a few years back. He did not look like clay as in the McGrew cover painting.

Tewa-quap-tewa was 106 years old when he died.

RUSS GRESSER
Los Angeles

Artist McGrew's Prose . . .

To the Editor: For Brownell McGrew to take two full pages of valuable space to tell how he came to paint the portrait on your May cover is going too far. I am in full accord with earlier letter writers who took McGrew to task for his "yawning so what" attitude on the Rainbow Bridge scene.

E. M. VAUGHAN
Yucaipa, Calif.

War Pony . . .



BOB'S PONY (CIRCLED)

To the Editor: Your April cover brought a dream to life for my eight-year-old son, born and bred a desert rat. To me and you, your cover is as all adults would see it: sky, rocks, cacti and flowers. But, Bob spotted something more: an Indian chief's war pony.

MRS. CLAIRE
GILMORE
Hinkley, Calif.

Prosperity Comes to Harry . . .

To the Editor: I want to tell you how wonderful *Desert Magazine* has become. But, there is one thing in your publication I miss: Harry Oliver's Almanac. Is Harry still around?

VIRGINIA M. MAXWELL
Costa Mesa, Calif.

(We haven't seen Harry since he raised the price of his *Desert Rat Scrapbook* from "one lousy thin dime" to 25c.—Ed.)

Entertainment, Education . . .

To the Editor: As an oldtimer who lived and worked in eastern Utah and western Colorado around the turn of the century, and who, since the '90s, has wandered over most other parts of the West and Southwest, I think *Desert* is a magazine people everywhere should read.

You are doing a good job in a way that is both entertaining and educational. Even an oldtimer like myself can learn many things from your pages.

"TUMBLEWEED" TOM MOSS
Los Angeles

Erratum . . .

To the Editor: I am most sorry to report

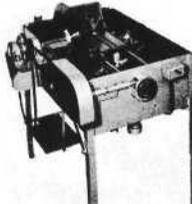
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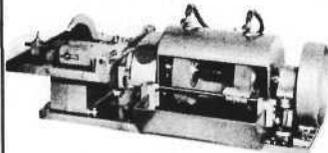
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that an error slipped into my story on ocotillos in the May issue.

On page 24, column 3, paragraph 2, substitute *Idria columnaris* for *Pachycormus discolor*.

EDMUND C. JAEGER
Riverside, Calif.

He Worked at Calico . . .

To the Editor: I was very much interested in Lucile Weight's article on Calico in the May issue—especially her mention of Herman Mellen who, in 1882, was hired by the Silver King Company to construct works for handling the ore at the mine.

Mr. Mellen is still living. He was 94 in May. He is my next door neighbor, and is a wonderful old gentleman with a twinkle in his eye.

I am sure there are not many, if any, other men left who worked in the original Calico mines.

HELEN MANDEVILLE
La Crescenta, Calif.

"Wild Horse Annie" Reports . . .

To the Editor: Since the passage of the bill in 1959 prohibiting the pursuit and capture of wild horses by airborne and motorized vehicles on Public Lands, I have been on "rest" orders from my doctor, due to extreme physical and emotional exhaustion from the long years of day and night work that went into the project.

I had planned to follow up the passage of the law with a movement to establish protective areas for the animals here in the West. Such areas would assure these animals of adequate feed and shelter, with a view to restoring them to the physical condition and appearance they should have, instead of the pitiful condition they are in as a result of the pursuit and harassment over the years of commercial exploitation. It is still my hope that some organization or individual will take this on as another step in the preservation of some of the wonderful things we have in the West to pass on to future generations.

My mail still contains letters from all over the world from individuals interested in our wild horse population, as articles about the fight for the legislation appear in publications in exotic corners of the world.

I appreciate the publicity you gave to the horses in your magazine ("Wild Horse Annie Fights to Save the Mustang," June '59 *Desert Magazine*), and it was because of the interest aroused in readers all over the country that we were able to build up so much support for our legislation in Washington. Thank you for all that you have done for this worthwhile project.

VELMA B. JOHNSTON
Reno

FATHER'S DAY

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24

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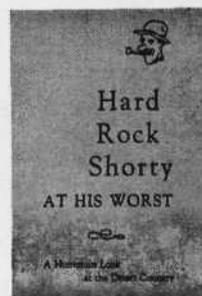


Desert Books For Summer Reading



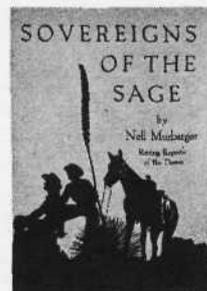
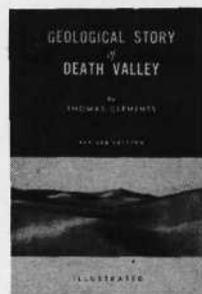
PAINTERS OF THE DESERT by Ed Ainsworth. Large, handsomely printed. Thirteen color plates, 67 black-and-white pictures. About artists of the Southwest. Thirteen chapters featuring 13 artists: Dixon, Forsythe, Hilton, Swinnerton, Klinker, Buff, Procter, Lauritz, Perceval, Fechin, Eytel, McGrew, Bender. **\$11**

HARD ROCK SHORTY—AT HIS WORST. A Humorous Look at the Desert Country by that fictional character, Hard Rock Shorty. A compilation of whimsical stories that appeared in the Desert Magazine in the past two decades. 21 chapters without a word of truth in 'em. Tall tales for greenhorns. Published 1960. Paperbound. **\$1**



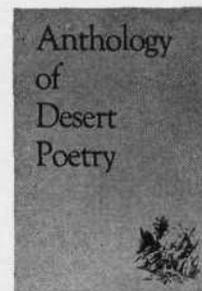
GHOSTS OF THE GLORY TRAIL by Nell Murbarger. Old mining camps of the West come to life again in these vivid and historically accurate tales of 275 boom towns. Includes a Ghost Town directory. 328 pages, historic halftones. Fourth printing. The author is recognized as the top writer on the subject. Non-fiction. **\$5.75**

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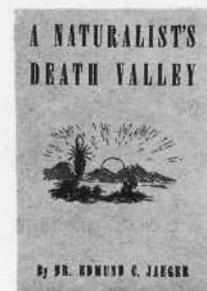
SOVEREIGNS OF THE SAGE by Nell Murbarger. True tales about interesting residents and unusual places in the Sagebrush County of Western America. Filled with human interest, humor, and history. Of documentary value. The author was personally acquainted with most of those of whom she wrote. Excellent Westerniana. **\$6**

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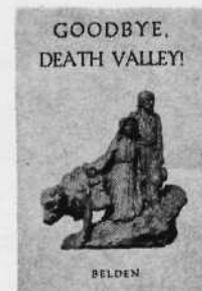
LOST MINES AND BURIED TREASURES by John D. Mitchell. 51 stories of lost mines and hidden trove along the Old Frontier. Maps to set the explorers to planning western trips. Fabulous tales of faded treasure trails. Spanish and Indian legends, and stories of the early explorers and Mountain Men. Hardback. 240 pages. **\$5**

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GOODBYE, DEATH VALLEY by Burr Belden. The story of the tragic trek of the Jayhawker party that gave Death Valley its name and first fame during the 1849 gold rush. Belden is an authority on the western desertland. Pen sketches. Paperbound. **\$1.25**



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NEW DESERT BOOKS

A RESPLENDENT BOOK ON AMERICAN INDIAN ART

Though not exclusively a Southwestern work, *Indian Art in America* is such a beautifully executed book that it deserves special notice and commendation. Less than a quarter of the richly illustrated volume features the arts and crafts of Southwestern Indians, yet the complementing sections give balance and perspective that any serious student of Indian culture will appreciate and admire.

Undoubtedly the finest thing ever done in its field, *Indian Art in America* was a six-year project for the author, Dr. Frederick J. Dockstader, and the publisher, the New York Graphic Society. Dockstader, recently appointed Director of the Heye Foundation's Museum of the American Indian, also has served for the past few years as a Commissioner of the Indian Arts and Crafts Board of the U.S. Department of the Interior.

Heavy with excellent color plates and top-quality halftones, the book is a graduate fellowship in anthropological art. The illustrations show the delicate carvings of the Northwest natives, the kachinas and baskets and blankets of the desert Indians, the pottery figurines of the southeastern tribes, and the ornaments and artistry on buckskin of the Plains Indians.

Released for the first time this month, the 224 page book is priced at \$25. It has 70 color plates and 180 black-and-white illustrations. It is a "must" gift for anyone who is building up a library on the culture of America's Indians.

The book may be ordered as indicated by the footnote on this page.

1920 LIFE ON THE CALIFORNIA HIGH DESERT

The archeologist and author, Elizabeth W. Crozer Campbell, departs from her usual scientific vein of writing in her new book, *The Desert Was Home*. The Campbells moved to the desert from Pasadena in 1924, hoping that the sunshine would benefit Mr. Campbell's health. Their adventures at homesteading in Twentynine Palms is the basis of this warm and intimate story. Their personal High Desert experiences are a delight to the reader.

Mrs. Campbell tells of the first settlers and how they met and faced their problems—especially the struggle to build a town in an isolated area at a time when it was a hideout for criminals, bootleggers—and almost everyone else in Southern California who shunned civilization.

This 265 page book contains numerous photographs. \$6.75 from Desert Magazine Book Store (see below).

ALL ABOUT THE YUMA TO WARNER'S "CORRIDOR"

Limited to 500 copies, *Lost Oases Along the Carrizo* is an exhaustive work on the "lost" palm oases dotting the corridor that

led from the Colorado desert sink up to the Vallecito and Warner's Ranch area. Written by E. I. Edwards, the book was published last month by the Westernlore Press of Los Angeles, and is another excellent regional publication by that printing house.

Lost Oases is detailed, and more than half its pages concern themselves with bibliographical material. The book's appeal is limited, but intense. Though it may be too restricted in subject area for the average desert visitor, it will make an excellent traveling companion for the true desert rat who likes to retrace the historic routes and ways of the pioneering men who trekked the wastelands between Yuma and Southern California. A Norton Allen map illustrates the end sheets. The book, 126 pages of high-quality printing, is amply illustrated. Foreword by Harold O. Weight. Price: \$12:50. (See details below for ordering this book by mail.)

COMPACT GUIDE TO CALIFORNIA BIRDS

Handbook of California Birds is a conveniently-sized guide that will fit the coat pocket and the pocketbook budget, too. Prepared by Dr. Henry Weston, Jr., and Vinson Brown, the booklet is a compact directory of the shore and land birds of California.

Especially helpful in identifying the 368 species appearing in the handbook are color sketches of 165 of the more common varieties. Black-and-white sketches supplement the color pages. Cross-references to help identify birds are listed in a flight-pattern section, a food foraging behavior pattern, and a bird-sound section. The 156 page guide is indexed.

The paper-bound edition is priced at \$2.95; the cloth-bound handbook sells for \$4.50. Just off the press last month, this practical field guide to California's birds may be ordered through the Desert Magazine book store as outlined below.

A GUIDE TO THE EXOTIC PALM TREES

Palms is the title of a new paperback volume written by landscape architect, Desmond Muirhead. This excellent book provides a comprehensive study of the history of palms and their uses in landscaping. The professional gardener and the amateur as well will find much valuable information here. *Palms* covers in detail the origin, identification, cultivation and care of palm trees. Also included are notes on palm-like plants such as tree ferns and yuccas.

Palms is illustrated with photographs and line drawings — 66 drawings, 43 photos. 144 pages, paperbound, \$1.95. (Washable vinyl cloth binding \$3.20.) (See footnote for purchase details.)

Books reviewed on this page can be purchased by mail from Desert Magazine Book Store, Palm Desert, California. Please add 15c for postage and handling per book. California residents also add 4% sales tax. Write for free book catalog.

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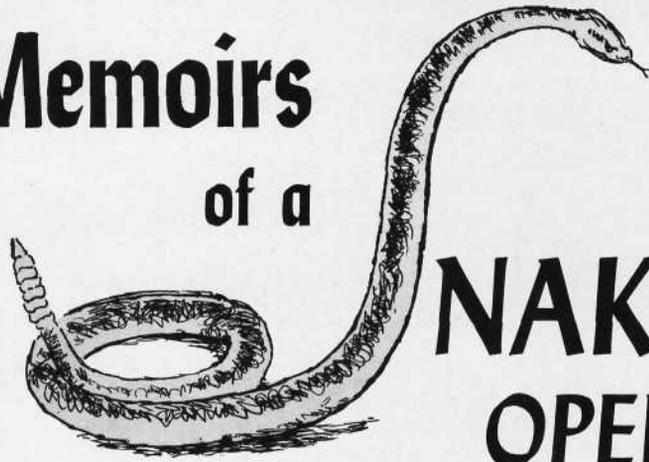
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Memoirs of a



NAKE-PIT OPERATOR

By SIMON HENRY WALKER

IN 1930, WHEN I was living at Indian Wells in the Coachella Valley of Southern California, a man and his wife saw a rattlesnake crossing the road in front of my place. They backed their car to the house and asked for a gun to shoot the varment. I sent my son, Frank, out with a shotgun and he killed it.

The stranger said the snake was valuable for its oil, skin and meat. He took the dead reptile with him to the auto camp where they lived.

Next day I went to see the man to learn the particulars about selling rattlesnakes. There was a Depression, and I was not making much money farming. He gave me the address of a buyer in Pasadena who re-sold snakes wherever he could make a profit. I knew there were lots of snakes in the Coachella Valley, and I could figure out a way to catch them if there was money in it.

I had half-way studied snakes ever since my nine-year-old cousin died of a diamondback's bite on the heel when we were boys together in Texas. Some years later a 14-inch sidewinder killed my brother-in-law.

While riding after cattle one morning when I was a single young cow-

hand, my horse trotted over a big rattlesnake without seeing or smelling it, and was bitten between the forelegs. The horse jumped and jerked the snake along about 10 feet before the snake let go and crawled into a prairie dog hole. My horse bowed up several times and didn't want to go, so I took off the saddle and walked three miles back to the ranch house. When I told the rancher what had happened, he said the horse would be all right. We went back the next day and the horse was dead. Yes, I knew quite a bit about rattlers—but I had plenty to learn.

And so, I got into the snake-catching business. My first catch was a big diamondback. I was picking cotton near Indian Wells in September, 1930. There was a mesquite thicket at each end of the cotton field. Rattlesnakes denned in the thickets and traveled back and forth through the cotton field at night during the September-October mating and feeding season. (The spring mating and feeding season is April and May.)

To catch the snake I used an eight-foot stick with a slipnoose on one end. I dropped the noose over his head and jerked it tight. Then I dragged my first catch a half-mile to the house and

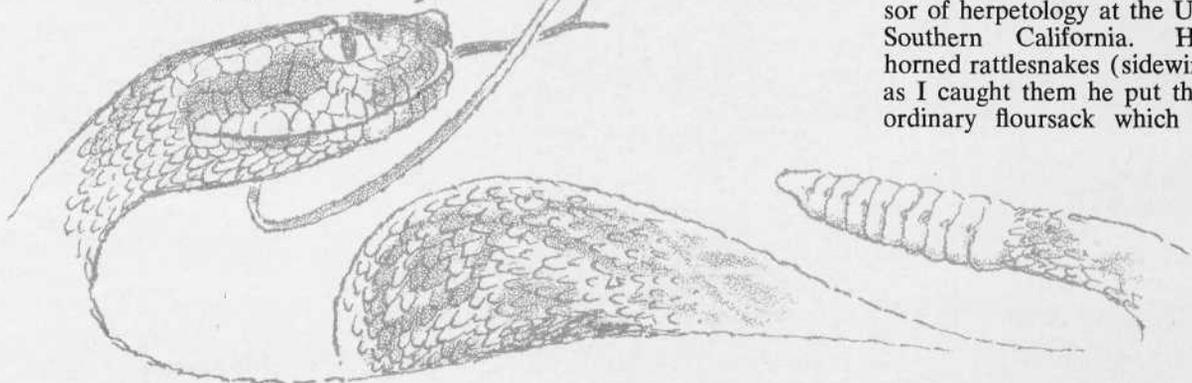
put it in a dry-good box. I caught 11 more snakes at that ranch and sold them to a Chinese merchant in Indio, who re-sold them to a Chinese doctor in San Bernardino.

I made some improvements on my "catcher" and business picked-up. I began selling snakes to the Pasadena man the auto camp people told me about. I once captured 45 diamondbacks in one day—106 pounds total weight. I caught 800 diamondbacks for him in the next five years.

A couple of years after I got started as a supplier, a farmer who had heard that I hunted snakes came to Indian Wells to ask me to catch the rattlesnakes off his farm near the Salton Sea. I went back with him, stayed overnight, and caught 27 diamondbacks by 10 the next morning.

The Pasadena man also bought certain kinds of lizards and horned toads, and all the big desert scorpions and tarantulas I could catch. He paid me 10c each for scorpions and tarantulas, 25c a pound for sidewinders, 30c a pound for diamondbacks, and 50c a pound for red racers because they are harder to catch.

The first person to go snake hunting with me was Dr. Mauser, a professor of herpetology at the University of Southern California. He wanted horned rattlesnakes (sidewinders), and as I caught them he put them into an ordinary floursack which he carried



over his bare back. For several years he made trips to the desert to hunt snakes with me.

Dr. Cole, who took Dr. Mauser's place at USC, came down to Indian Wells one spring and camped about a mile-and-a-half west of where I lived. He was catching lizards and horned toads and recording their temperatures. That was when I found out that snakes were cold blooded and that a rattlesnake's bite wouldn't much harm another snake, but would kill warm-blooded creatures. Dr. Cole taught me a lot of scientific things about snakes and I taught him some field lessons. He told me once that I knew more about the habits of desert reptiles than anyone he knew.

On one trip to the mesquite snake country near Palo Verde, Dr. Cole brought one of his students along. Whenever I found a snake they would note the air temperature and what kind of place the snake was in. On this trip I caught a rare rattlesnake. Next morning it had 10 babies, and the student gave me \$10 for the bunch.

Once my first customer, the Chinese merchant in Indio, put in an order for an extra big rattler, and I caught a long one for him. He put the snake in a burlap sack and placed it on the car seat beside him, then started off for San Bernardino where he was going to deliver the snake to his doctor friend. A few miles along the road the snake found a hole in the sack and crawled out. It bit the merchant on the shoulder. He stopped the car at Whitewater, but died before he could reach aid.

A Chinese doctor from Fresno bought all the dried rattlesnake gall bladders I could get for him. He paid 25c apiece at first, but a few years later I was able to get double that figure. I never killed a rattlesnake for the gall alone, but would always save this organ when I dressed-out a snake. I also saved the skin, rattles and bones of the vertebra. The strip of fat that is on each side near the heart and liver can be melted-out in a clean jar set in boiling water. This rattlesnake oil is used for rheumatism, stiffness, burns and bruises. It does not harden like animal fats. I have sold gallons of rattlesnake oil at \$2 an ounce.

A Mrs. Pratt from Victorville used to make jewelry from the vertebra bones of rattlesnakes. I cooked the backbones until they fell apart, then washed them in cold water and dried them in the shade. She polished them some way until they looked like pearls.

I sold dressed rattlesnake meat at \$5 a pound to people in Los Angeles and San Bernardino. Chinese would

buy all I had, and I couldn't always fill their orders. The last rattlesnakes I dressed for meat were for two Chinese in 1949. I got \$25 for one and \$15 for the other. I dressed only the extra big ones for meat as they brought the best prices. The meat looks good and smells like chicken when it is cooking. I never ate any of it myself.

To dress a diamondback you just skin it, take out the entrails, cut off the head and about six inches of the tail, coil it up as you would an eel, and put it into a container. The heart will go on beating for as long as 20 minutes after the snake has been decapitated.

I kept tab on the number of diamondbacks I caught between 1930 and 1939 because someone told me that the state or county might pay a bounty on venomous snakes. In those

nine years I captured nearly 10,000 diamondbacks! After I found out there would be no bounty, I stopped counting, but I know that the total catch up to 1949 was at least 15,000 diamondbacks, 5000 sidewinders and I don't know how many non-poisonous kingsnakes, racers, bullsnakes and others.

I have shipped live rattlesnakes to all parts of the nation and Canada. The snakes are sent by express in wooden boxes, screened inside, with ventilation holes at the side. I marked all boxes "Keep Out Of Sun" because 15 minutes of direct hot sun will kill a snake.

Western diamondbacks stay in the mesquite thickets in the daytime, but come out at night to hunt for their supper. I would hunt them after eight o'clock in the evening, using a lantern to spot them. With a lantern

"BEFORE I COULD MOVE, IT GRABBED THE BRIM OF THE BIG SOMBRERO I WAS HOLDING . . ."





"A FEW YARDS INTO THE WEED PATCH
I FOUND THE DEAD DOG, AND 10-
FEET AWAY LAY THE DIAMONDBACK
THAT HAD KILLED HIM. I QUICKLY
CAPTURED IT, AND THE OWNER
OF THE DOG OFFERED ME A DOLLAR FOR
THE PRIVILEGE OF KILLING THE SNAKE.
I REFUSED . . ."



strike. If you catch him too close behind his head, he will thrash around and break his own neck.

One time I caught a diamondback whose head was sticking out of a badger hole. I got 10 more snakes by digging out that hole. I sold the biggest for \$14 to the manager of a zoo at Phoenix, and kept the others for my snake show. I caught more than 300 diamondbacks in that one area in two years.

Catching a diamondback in the open is easier and less risky than hunting him after he gets into a thicket. If you know how to do it, you can pick up a rattlesnake out in the open spaces. When I get within three-feet of a snake, I stop and brace myself with a stick so I won't stumble, raise my boot over his head and just ease down on the snake. The snake will settle to the ground, and then I've got him. But I wouldn't advise a tenderfoot to try this.

Hunting sidewinders is much harder because they are the same color as the sand. They work themselves down into the sand, leaving only their heads and necks exposed. You can pass by and never see them.

When I first started catching rattlesnakes, I was afraid of them. Now a rattlesnake knows I am not afraid, and will run from me. Most wild things know if you are afraid of them.

In the spring of 1933 when I was still new at snake-catching, my Uncle Jim Walker of Texas and I were hunting at the Cook Date Ranch eight miles west of Indio. One morning we found the track of a big diamondback, and trailed it to a small mesquite thicket. Since his trail did not leave the thicket on the opposite side, I went in to find him. I came to a big mesquite limb laying on the ground with a lot of desert rat holes around it. I began poking into these holes, knowing the snake would rattle when I found the right one.

The next thing I knew—as I turned at a rustling sound—the rattlesnake was coming right at me. Before I could move, it grabbed the brim of the big sombrero I was holding in my hand. I let the snake keep the hat, dropped my catcher, and got out of there pronto! But I went back in and got the snake when he had moved away from my catcher. It was a five-foot-long female, and the fightin'est

rattler I ever caught. I dragged her out into the open and turned her loose so we could have a good look at her, and she kept circling around ready to fight. Even after I put her in the can she kept fighting, and so I tied the lid on extra tight. We walked a mile back home, and she kept rattling all the way. That's the kind the customers like to see.

In the spring of 1934, while my wife was visiting in Oklahoma, another fellow and I were batching in an old house on the desert near Indio. I was catching snakes, and he was working for a truck gardener.

My friend had a habit of throwing his pants on the floor at night. One morning when he was getting dressed, a big scorpion which had crawled into the seat of his pants, stung him on the left hip. He whooped and shucked-off his pants in a hurry, and then stomped that scorpion as it ran across the floor. As he killed it, the scorpion stung him on his left foot.

I chewed some tobacco and put it on the stung spots. It looked as if he had been stabbed with an icepick. His left leg was numb all day, but was better the next day, though still painful. I had seen lots of desert scorpions in Oklahoma, but was never stung by one. After this experience, I treated them with respect and my friend was cured of his lax habit.

One day I crawled into a mesquite thicket and caught a diamondback about 5½ feet long. A man who saw me asked how in the world did I find that snake. With a straight face, I told him, "I crawled through the thicket and the snake grabbed my coattail and hung on while I dragged him out."

One June morning in 1934 I caught 10 diamondbacks near the Coachella Valley High School. It was rather hot that morning, so on the way home I stopped at a beer joint at Thermal. The proprietor was standing on the sidewalk in front of his place, and he asked, "What you got in that box?" When I told him, he said, "Don't you know them snakes puts out pizen gas? That's what killed the Chinaman at Indio." I tried to convince him that he was wrong, but he would not change his mind.

Another morning I had caught seven snakes south of Indio when I found myself between two mesquite thickets. In a small space between the thickets I saw a big rattler coiled in the dead brush. I put down the can and took off the lid. The diamondbacks in the can were quiet, and I knew they couldn't get out unless they were dumped out. While I was trying to catch the other snake, I stepped on a

I could find their trails and see their bodies glistening 20 or 30 feet away. I also hunted them early in the morning, but after nine o'clock when the sun begins to get hot, they bed down along the edge of the thickets.

A diamondback's track nearly always goes in a straight line, and there is a sort of heart-shaped or thumb-like marking every two or three feet—depending upon the length of the snake. The small end of the thumb-like print shows the direction of travel. Except for that special marking, the track of a kingsnake is very similar. When I find a diamondback's track going into a mesquite thicket, I go around to the opposite side to see if the trail leaves the thicket. If it doesn't, I go in and hunt until I find and catch him.

For this work I carry the snake-catcher I made, and a five-gallon can with a darned good lid. My catcher has a noose on one end, and a small shovel on the other which comes in hand when I have to dig out a denned-in diamondback. I poke a stick into every likely hole in the ground, and if a rattlesnake is at home he will give himself away by shaking his rattles.

If you try to catch a rattlesnake by grabbing his tail when he is crawling into a hole, he will double-up and perhaps bite you. It is better to let him get all the way in, and then dig him out. It is easier to get the catcher around his body when he rears up to

dry limb that upset the can, and dumped all my diamondbacks. They began to strike and rattle and take-off in every direction.

That was the first time I was ever in a real hurry, but I got all of them back in the can — not one of them escaped.

That spring near Indian Wells I saw the widest diamondback track I have ever seen. It was as big as my boot sole. I noticed his tracks several times, heading back and forth from the rocks at the base of the mountain to a mesquite thicket about a hundred yards apart. I was less experienced then, and thought it was too risky to go into the thicket after such a big one. The last time I saw his track, it was headed up a little draw into the mountains. I was afraid to trail him into a rocky canyon where he might hit me from a ledge before I would see him. If I had known then what I know now, I would have gone in and caught him.

The largest snake I ever caught in the desert was a Western diamondback more than six-feet long, and weighing 10-pounds. The biggest rattlesnake I ever saw anywhere was one I killed in

Oklahoma. That one was eight-foot-10-inches long and weighed 40 pounds.

In the fall of 1936, I was visiting my son, Ed, at Frank Lawrence's date ranch at Indio. My son, Curtis, (now dead) was playing the violin while Ed picked a guitar. Billy, the baby, was out in the yard asleep. When the boys stopped playing, we heard a rattle and saw a diamondback coiled under the baby's bed. I captured that one in record time.

My wife and I were living in a two-room house at Hinkle's ranch that year. Hinkle had given us the place in payment for catching the rattlesnakes in his cottonfield so his pickers wouldn't quit.

Working ahead of the pickers, I caught 54 diamondbacks in that cotton patch. The last morning I was there, 14 new hands came to help finish the field. They had picked 40 or 50 yards down the row before I went into the field. (It was cool and the snakes were still bedded down, or so I had figured.)

I made a tour through the field and caught a big diamondback a few rows from the pickers. I started back with

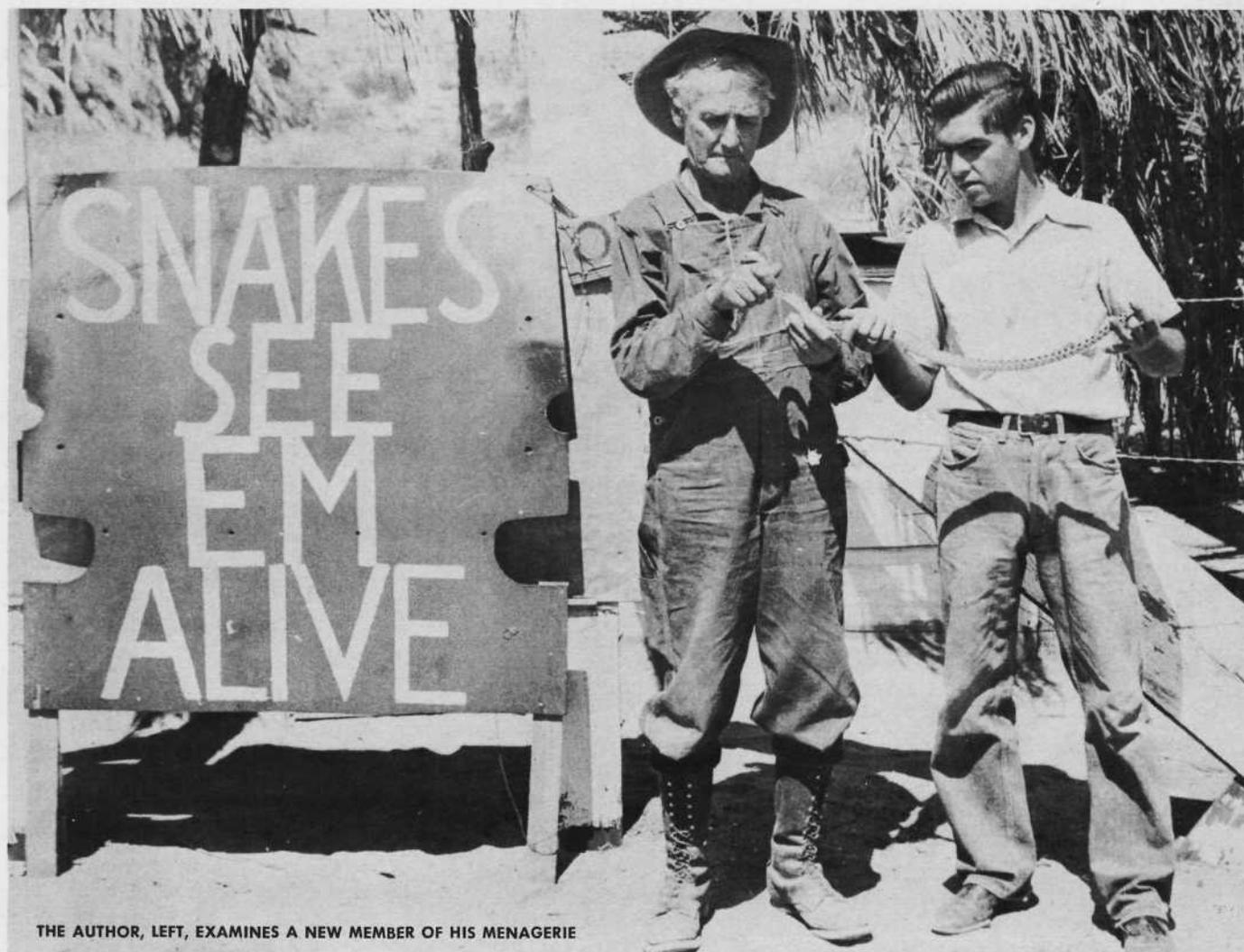
the snake in a cotton sack, when I spotted another diamondback a few yards from the workers. The sun was warming-up by then, and the snake rattled. The pickers straightened up and stood looking with open mouths while I put the second snake in the sack.

Then they dumped the cotton out of their bags and ran out of that field in a body. They weren't going to share a cotton field with no rattlesnakes!

I went snake hunting at Point Happy south of Indian Wells in October, 1937, and among several diamondbacks I captured on that trip was one that was six-feet-two-inches long. I took them home and put all of them in with the other snakes I had in a box equipped with a wire screen top.

The next day someone came to see the rattlesnakes. I pulled back the canvas covering the wire top, and that big diamondback struck at me through the screen. He hung his fangs through the wire and squirted venom into my left eye.

It burned like fire, and temporarily blinded me. I thought sure I was a goner. I knew better than to rub



THE AUTHOR, LEFT, EXAMINES A NEW MEMBER OF HIS MENAGERIE

the eye. My daughter-in-law fixed some warm soda water for me to bathe the eye, and it was two hours before the burning stopped. Next morning my eye was swollen shut.

That same October I went to Hemet and caught a "red rock" rattlesnake. It became a fine pet. He was a quiet male and never tried to bite me. The first step in taming him was to pick him up by the back of the neck. Soon I could lift him by the tail; finally by the middle as if he were a piece of hose. I would lay him across my shoulders and hold his head in the palm of my hand—but I kept my eye on him and watched his tongue. You can tell by the tongue when a snake is going to strike. He curls it back against his head.

When spring came (1938), I spent several days hunting snakes at Mecca. One of them had 37 babies. I sold them to a student of herpetology at the University of Southern California for \$1 each.

That same day, a man living near my camp asked me to go home with him and look for his dog in a nearby weedpatch. He said the dog had just yelped in the weeds, and would not come out. The dog had killed about 50 rattlesnakes before then, but had never been bitten. The man was afraid to go into the weeds because of the snakes.

A few yards into the weed patch I found the dead dog, and 10-feet away lay the diamondback that had killed him. I quickly captured it, and the owner of the dog offered me a dollar for the privilege of killing the snake. I refused for I wanted the diamondback for my show.

I had only one serious bite during the 20 years I handled rattlesnakes. That was in 1938.

Some Hollywood people with movie cameras had asked me to put a few rocks in the show pit to make it look natural. A snake was coiled by one of these rocks. Thinking it was one of the smaller diamondbacks, I walked past it. However it was big enough to strike over my boot top, and it caught me just below the left knee.

With my pocket knife I stabbed the fang punctures deep to bleed out the venom. Then I tied a fishing cord between the bite and my knee to keep the remaining venom from getting into the bloodstream until I could get an anti-venom shot.

A customer took me in his car to the hospital in Indio where I was given a full shot of anti-venom. I had to stay in the hospital six days.

For two years before the time I was bitten, I had been having heart attacks

caused by hardening of the arteries. I had even been hospitalized for this condition. When I was bitten by the snake, I nearly died of a heart attack—but I never had another one after I recovered from the bite—or any trouble from hardening of the arteries, either! However I wouldn't advise anyone to get bitten by a rattler in order to cure heart disease.

When the diamondback bit me, it felt as if I had been hit with a club. My leg became numb right down to my toes for about 10 minutes, then it began to burn as if red-hot irons were sticking through it.

The only other time a rattlesnake's fangs broke through my skin was soon after I had opened my show pit at



"SOMETIMES BOYS AROUND 10 OR 12 YEARS OF AGE WILL REACH THEIR LONG ARMS AS FAR DOWN THE WALLS OF THE PIT AS THEY CAN."

Palo Verde. A customer asked me if I could handle a rattlesnake, so I picked up a diamondback and held it as I always did when I talked to the audience. Somehow the snake squirmed loose and turned over in my hand. She got one fang clean through my left forefinger. I went to the Palo Verde Hospital and was given one-fourth of an anti-venom shot. The swelling in my hand and arm went down in a week's time.

The word got out that I sometimes bought snakes which were in good condition. One day, upon returning to the farming community at the foot of the Coral Reef Mountain after a snake hunt, I found a little six-year-old boy waiting for me. He was calmly holding a deadly sidewinder in his hands.

I ordered the boy to put down the snake. He did, and the snake, perfectly healthy, wiggled away. I told the boy that he must not catch snakes for me, and that I would not buy from him. I got hold of his father and told him how lucky his boy had been.

All kinds of people come to see my

snakes in the pit. Some of these folks are very unruly. My reptiles have had lighted cigarettes and rocks thrown at them. Some customers have spit tobacco juice on them. Snakes are easily injured, and many of mine have been killed by people who should know better.

I've had intoxicated young men and women try to climb into the snake pit with me, claiming they had as much nerve as I had. Nerve, perhaps; sense, no.

Sometimes boys around 10 or 12 years of age will reach their long arms as far down the walls of the pit as they can. An extra big rattlesnake might be able to reach them some day. The most worrisome time comes when parents drive up and let several small children come in alone.

I always keep my cashbox right over another box placed in the center of the snake pit. The snakes hide in the bottom box when they are frightened. I often run the show alone, and when I have to get away for a few minutes, I leave the cashbox right where it is. So far nobody has seen fit to steal it.

But once I did suffer a most unusual theft. In the fall of 1940 I made a hunting trip to Gila Bend, Arizona, in company with another snake pit operator. We camped about 10 days, and in that time he caught 23 diamondbacks with his forked-stick. Using the special catcher I invented, I caught 52 diamondbacks and one big green Arizona rattler.

As soon as we got back to Indian Wells, I put my 53 snakes into my 18-foot pit. This gave me a total of 125 rattlesnakes plus numerous non-poisonous snakes.

My friend hurried on home to get his show in shape. One morning about two weeks later I turned up for work and discovered that 75 of my biggest rattlesnakes were gone. There was no way they could have gotten out of that pit under their own power. I was pretty sure who it was that took those snakes, but I couldn't prove a thing. It was a big loss to me.

(Editor's Note: In April, 1951, Simon Henry Walker died in the San Diego County Hospital of rattlesnake bite. He was 72 years of age. The fatal bite occurred while Walker was hunting snakes near Descanso. He was grabbing for a hand-hold on a rock ledge above him when the rattler bit him on the left wrist. Walker's body was laid to rest in Indio. The original manuscript from which the foregoing article was taken, was submitted to *Desert Magazine* by Walker's daughter.)

Nature's Story

... interpreted for
the public at
Ghost Ranch Museum

FOSSIL
REMAINS OF
COELOPHYSIS—THE
"GRANDDADDY DINOSAUR"—
FOUND ON GROUNDS OF GHOST RANCH

By **W. THETFORD LeVINNESS**

FROM A CROSSING of the Rio Chama at Abiquiu, New Mexico, U.S. 84 takes a steady climb as it wends its way northward toward the Colorado line. There are small farms near the river, but as elevation increases the land becomes less arable. Rock cliffs of a multitude of colors come into view—a *fantasia*, as it were, of nature's

making. Fourteen miles from Abiquiu and no nearer to any other settlement in the area, at an altitude of more than 6400 feet above sea level, is an expansive tract of land—Ghost Ranch.

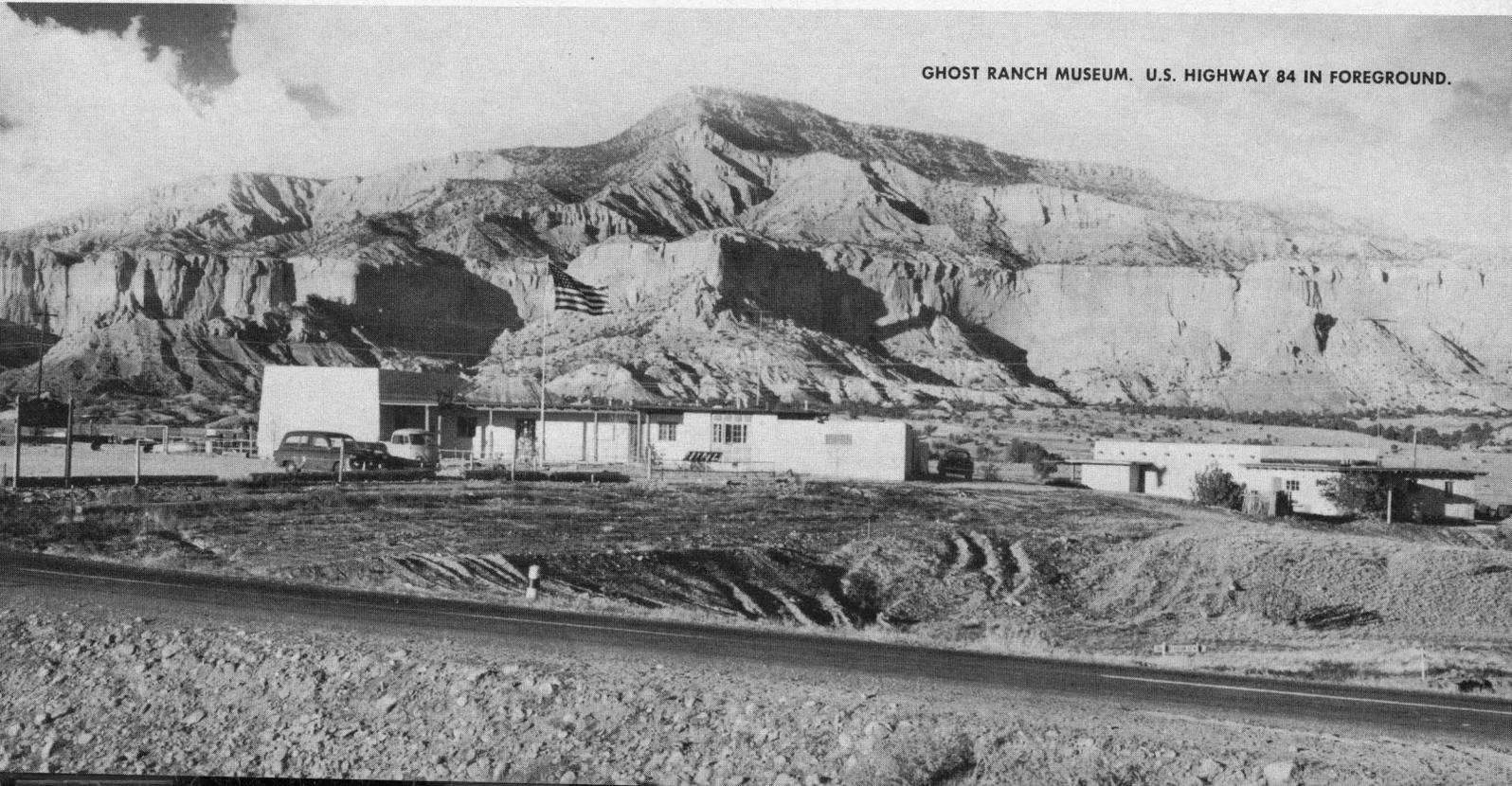
The property is owned by the Board of Christian Education of the United Presbyterian Church, U.S.A. Three miles east of the highway are the buildings maintained for summertime religious instruction. Along the road itself is a small cluster of other buildings: Ghost Ranch Museum. A project of

the Charles Lathrop Pack Forestry Foundation, it is one of the Southwest's most unique establishments.

Museum construction took place near an ugly, crumbly arroyo. "The site beside this unlovely example of soil erosion was selected deliberately," says William H. Carr, the founder and director. "Here is a ready-made and shocking example of man's abuses of soil and water resources. At the same time, it offers us an opportunity to show how deteriorated land may be reclaimed."

Soil conservation is only one of Ghost Ranch Museum's reasons for existence. Geology, paleontology, and natural history have equally important exhibition space in and near the buildings. But this

GHOST RANCH MUSEUM. U.S. HIGHWAY 84 IN FOREGROUND.





PALEONTOLOGISTS REMOVE A PLASTER-OF-PARIS BLOCK OF FOSSILIFEROUS ROCK FROM QUARRY

naked, forbidding arroyo tells a particularly dramatic story of destruction, devastation—and repair.

The crevice is about 75 feet wide and 600 feet long. Geologists think it has been possibly 60 years in the making. Almost every rain tumbles more of the surrounding soil into the cut. Some severe storms in recent years have removed as much as five feet of earth at museum level and dumped it into the chasm's depth.

A succession of well-placed labels gives museum visitors the grim, unsavory picture. Only the last one strikes an optimistic note. It describes the earthen dam, 25 feet high, which has been built to check erosion and protect the sides of the wash from further crumbling.

"Work of this sort represents one of the most valuable conservation efforts in our country," says Mr. Carr, a naturalist with many years' experience in museum planning. "But the distressing sight of the land disappearing forms the crux of this exhibit and gives us a chance to discuss aspects of control." Museum personnel talk regularly with groups gathered at the arroyo's edge, using the arroyo and the dam as illustrations.

Ghost Ranch was a part of the old Piedra Lumbre Land Grant. It first broke into history when the priest-explorer, Silvestre Velez de Escalante, mentioned its cliffs in his diary—August

1, 1776. It has long been developed for luxury ranch living. Several famous personalities have made their homes there, among them the painter of Western scenes, Georgia O'Keefe. It was in 1955 that its owner, Arthur N. Pack, presented the place to the Presbyterians. On July 11, 1959, Ghost Ranch Museum opened its doors to the public.

Scientists had already been busy at Ghost Ranch. In 1947 its Triassic rocks had yielded the fossilized, claw-like toenail of a *Coelophysis*. Paleontologists converged on the quarry, and soon 18 skeletons of this "granddaddy dinosaur" were found. Dr. Edwin H. Colbert, Curator of Fossil Reptiles, Amphibians, and Fishes at New York's American Museum of Natural History and Professor of Vertebrate Paleontology at Columbia University, said they were fully 175 million years old. It was one of the important fossil finds of this century.

Several of the skeletons were taken East and displayed at the American Museum. One has now been returned to New Mexico for the Ghost Ranch Museum. It is on permanent exhibition in the main gallery there—probably the only dinosaur—living or dead—to make a 4000-mile round trip.

Coelophysis (pronounced: see-lo-fi-sis) was an early reptile, small as dinosaurs are usually thought of. Its length (including a long, tapering tail) rarely exceeded six feet—about the size of a

turkey. Cold-blooded and scaly, it was a two-footed meat-eater, light enough for swift movement—a vicious carnivore which preyed upon slow-motion amphibians and fresh-water fishes of its day. *Coelophysis* was a direct ancestor of the 10-ton monster of similar habits, *Tyrannosaurus Rex*. It also preceded the land-giant of all time, *Brontosaurus*, the 40-ton herbivorous quadruped most commonly associated with the term "dinosaur."

Visitors learn lots more about this ancient reptile at Ghost Ranch Museum. *Coelophysis*, for example, was among the first creatures to lay amniotic eggs—with a hard shell to protect the embryo. This was a significant step in evolution, and it helped the reptiles gain supremacy over the amphibians, and dominate the earth till the rise of the mammals about 60 million years ago. Practically all the reptiles have since died out; just five types still survive—snakes, lizards, turtles, crocodiles, and rhynchocephalians.

In the room with the dinosaur exhibition at Ghost Ranch Museum is an assortment of living lizards, bull snakes, rattlesnakes, salamanders, frogs, and toads. All are displayed, as much as possible, against backdrops of environmental appurtenances—for detailed observation and study.

A back door leads to an open-air amphitheatre, where lectures are given as the audience sits facing the rock cliffs to the east. These perpendicular formations, variegated and majestic, are a vast and wonderful exhibition in geology.

To facilitate viewing these cliffs and further dramatize the Ghost Ranch story, the museum has erected a series of steps, appropriately called "Walk Up through the Ages." On each step is a telescope, focused upon a certain level beyond the church school buildings. The one on the first step shows the Triassic rock in which the fossils were found. This is the oldest of the Ghost Ranch strata; it is early Mesozoic, and near the cliffs' bottom. Other 'scopes are arranged to show later Mesozoic rock—Entrada, Todilto, Morrison, and Dakota—in chronological order. Near each instrument is an actual specimen of the stratum being viewed; the sample may be picked up and handled. Atop this "geologic staircase" is a shaded pavilion, with room for groups to congregate.

About 200 million years of earth history is depicted in this exhibition, era by era, as nature patterned it. Dinosaurs were dominant roughly two-thirds of that time, and the mammal Man has ruled supreme for just a few thousand years. But on the pavilion is a mirror

—and a sign with the intriguing message:

This represents the highest form of life on Earth—YOU—the only one with Spirituality, the only one who can save the world or destroy it.

Natural history provides another great on-the-spot exhibition at Ghost Ranch. Antelope and mule deer graze there undisturbed. The gray fox and coyote constantly feed upon the fast-reproducing population of jackrabbits, while predatory birds control the insect increase. Snakes and lizards are encountered frequently in the warm months of the year.

Again, Ghost Ranch Museum has made it easy on the visitor. Beyond the "Walk Up Through the Ages" is a series of sturdy enclosures which may be viewed from either side. In each cage, or pen, a species of animal native to Ghost Ranch or its immediate vicinity is on display. Pet names have been given most of them. As in other sections of the museum, signs and labels play an important role; there is a sign near the cage of Bushy the squirrel which reads: "Do Not Feed Your Fingers to the Animals—Their Diet Is Carefully Supervised."

Needless to say, both Bushy and the sign are great favorites with small-fry visitors to the museum.

Perhaps the most popular occupant of the Ghost Ranch cages is George Mountainlion. The museum staff has built a penthouse for him—a shaded platform above his quarters with a ramp leading up to it. George spends lots of his time in these luxury surroundings,



gazing out the maximum-security mesh screens in all directions. Adults and children alike enjoy observing this permanent resident of the establishment in all the vicissitudes of his personality.

Most of the other animals on display are small. There is a family of prairie dogs (with a label stating why these rodents are valuable assets in the day-by-day balance-of-nature survival drama). Raccoons, bobcats, marmots, and badgers are shown, too. At first, Mr. Carr and his associates planned to exhibit a bear in this section of the museum grounds, but it didn't quite work out. They raised a frisky cub, Yogi, for a few months, but when he got too big he became difficult to manage with safety. Yogi was sent as a gift to the large municipal zoo in Albuquerque.

There are a few birds. Oscar, a horned owl, keeps watch day and night over the museum's donation box. (The

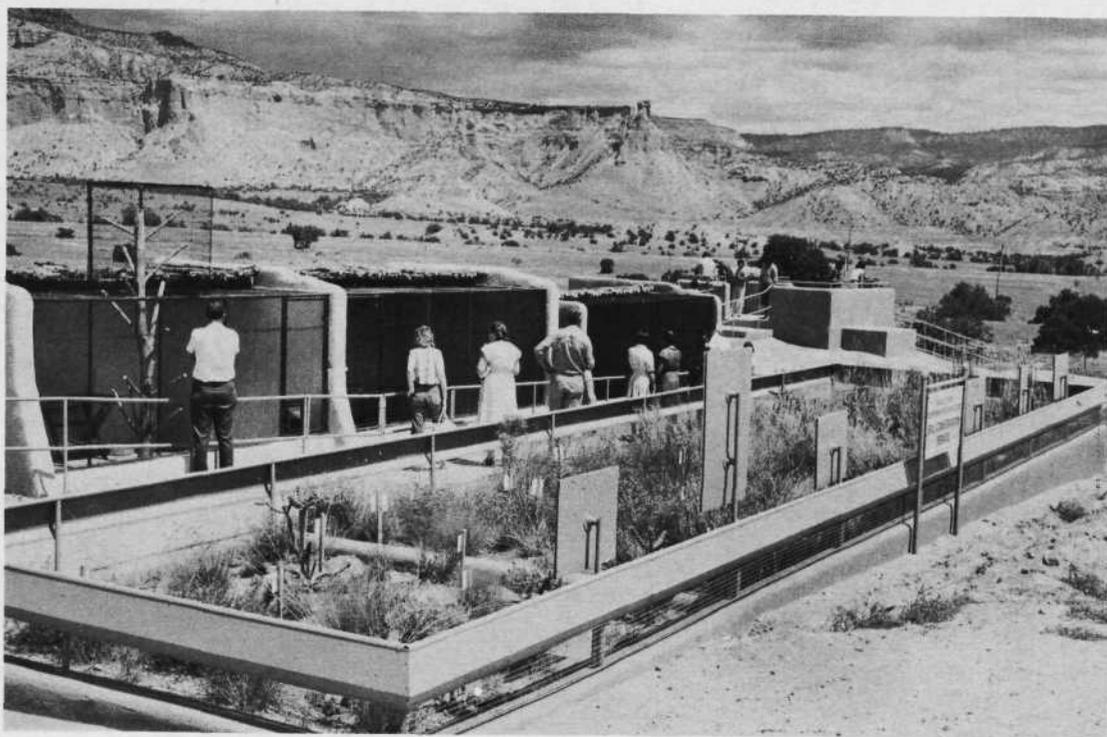
museum has free admission, but contributions to help defray expenses are gratefully received.) A separate building on the premises houses a beaver pond and dam.

This beaver house includes appropriate descriptions of trapping. One label, for instance, tells of the "mountain men" along the Rio Chama 100 years ago, when the now-sleepy village of Abiquiu was one of the leading fur centers of New Mexico.

"The models in this building show the superiority of beaver dams on mountain watersheds, as compared with the kind made by man," says Mr. Carr. "The beavers control soil erosion at the source upstream. Our man-made dams only catch and submerge the useless soil after it has been removed from higher places."

Bill Carr should know. He has spent most of his life—"boy and man," he says — interpreting natural history and conservation to the public. Outdoor exhibitions have been his specialty. As a youth in New York he prepared displays for the popular Bear Mountain Trailside Museums. Later, he founded the Arizona-Sonora Desert Museum in Tucson, and directed it till he went to Ghost Ranch. The program he has pursued at all three establishments is appropriately summed up in a bulletin, "Signs Along the Trail," published for the Bear Mountain project by the American Museum of Natural History in 1927:

"The idea is to encourage the public to realize that the information we provide is worth having, that the objects we display are worth seeing." ///



VISITORS TO GHOST RANCH STAND BEFORE THE ANIMAL CAGES. EXHIBIT IN FOREGROUND DEALS WITH DESERT GROUND COVER AND SOIL CONSERVATION.

SHORT-CUT

TO CANYONS AND COLOR...

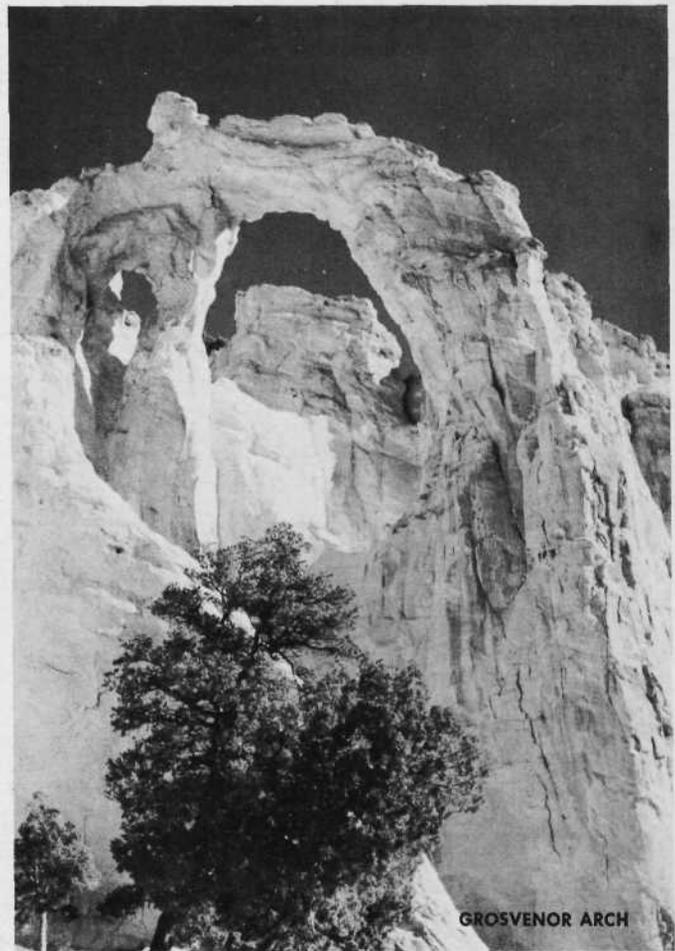
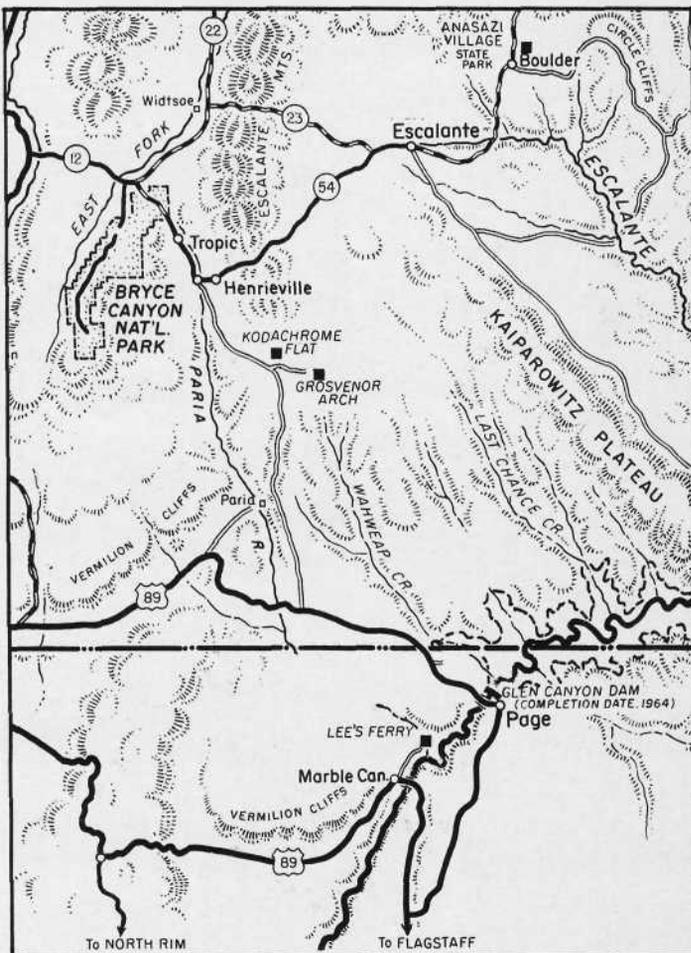
THOUSANDS OF ACRES of spectacular desert scenery, hitherto accessible only by four-wheel-drive vehicle or horseback, were opened to automobile travel by completion of the 40-mile Cottonwood Short-Cut, a road built in its entirety by funds and labor supplied gratuitously by a small group of southern Utah citizens.

In 1957, when the Utah State Highway Department was considering which of several potential routes would be most feasible as the main access highway to Glen Canyon Dam, residents of several Utah counties proposed and strongly advocated a road to diverge from State 54 at Cannonville, in the shadow of Bryce Canyon National Park, thence proceeding down the east

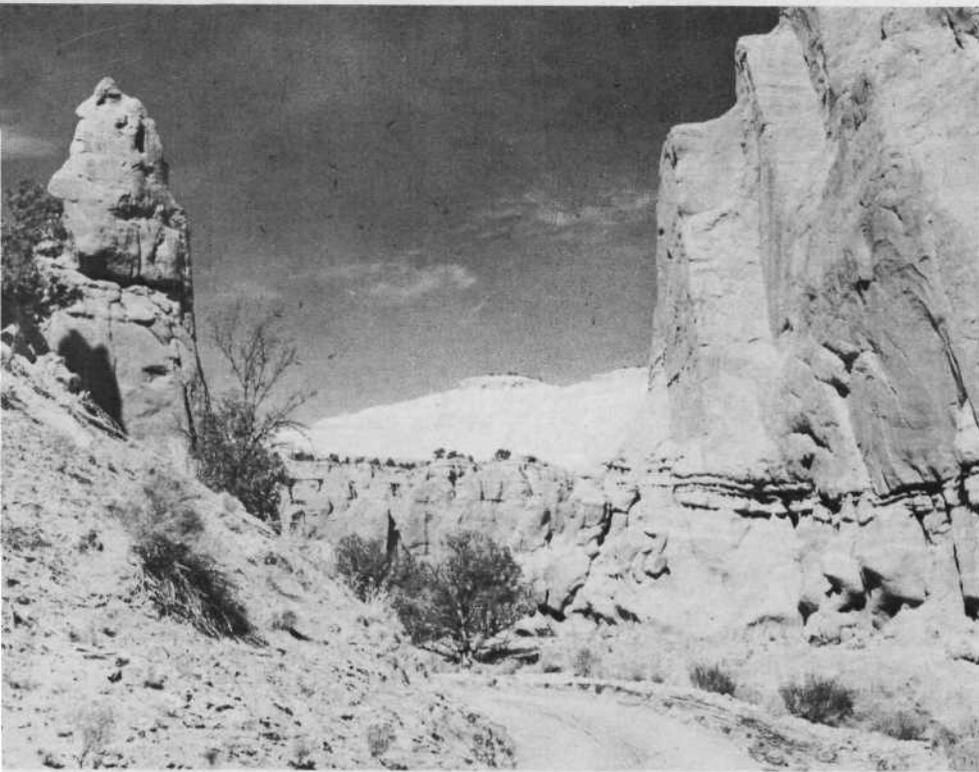
side of the Paria River Valley and through Cottonwood Canyon to the damsite. When highway engineers rejected this proposal as infeasible because of asserted high cost of construction and other factors, and settled upon the now-paved route leading easterly from Kanab, advocates of the so-called Cottonwood Short-Cut stubbornly set out to build their projected road at the expense of their own labor and contributed funds. Under the chairmanship of 72-year-old Sam Pollack of the small village of Tropic, and some \$5000 in cash raised by public subscription and through benefit dances, box socials and ballgames, the road was pushed through to completion in the summer of 1958.

This splendid example of concerted community effort had come to my attention through the columns of several weekly newspapers published in that section of Utah, but my own acquaintance with the Short-Cut was not made until last autumn when my mother and I were traveling Route 89 between Page, Arizona, and Kanab, Utah, with our sights set on the cool pine timber of Bryce Canyon. At a point 26 miles northeast of Glen Canyon Bridge, we glimpsed a small signboard lettered, "Cannonville," with an arrow pointing to the right along the course of a sunswept graded road. Distance cited on the board was, I believe, 47 miles.

The fact that this byway would carry us to our destination some 80



GROSVENOR ARCH



THE ROAD WINDS THROUGH COTTONWOOD CANYON

miles sooner than the main route influenced our choice far less than did the element of adventure and challenge offered by a side-road our wheels had never traveled, and when Mom said, "Why not?" I turned the car upon it.

After leading through dry rolling hills for a half-dozen miles, the little road dipped into the wide cottonwood-fringed wash through which the shallow Paria River makes its meandering way.

Winding through the narrowing canyon that cradles the desultory desert stream, we found ourselves thrilling to a land that grew steadily wilder and more broken. In the high sheer precipices across the wash, we could glimpse the yawning mouths of occasional caves, and wherever the canyon widened briefly there were attractive natural campsites shaded by cottonwoods. As we gained elevation we entered the realm of the junipers and pinyons, and 25 miles from the turn-off we were bisecting a region of colorful pinnacles and promontories and fins in myriad shadings from white to buff to red. The little dirt road was very good, wide enough in nearly all places to permit passing, not even very dusty, and without any grades of undue severity.

Twenty-eight miles from the pavement we camped for the night in a pretty grove of pinyons. Next morning, after driving scarcely more than a mile down our road we came to the

turn-off to Grosvenor Arch in Butler Valley, 1.2 miles east.

Time-chiseled through a fin of buff-colored sandstone rising sheerly from the gray-green sea of sage, Grosvenor Arch comprises a pair of windows, one large and one small. According to measurements by the U.S. Geological Survey, the larger of the two openings is 152-feet in height, 99-feet wide, and only four-feet thick at the top of the span. Cattlemen of the region, who had known of the arch for some 70 or 80 years, were understandably "amused" when the arch was "discovered" in 1939 by an elaborate expedition carrying flags of the National Geographic Society and the Explorers' Club of New York City, who thereupon named the span in honor of Dr. Gilbert Grosvenor, president of the Society.

We found it possible to drive almost to the foot of the arch, where several pretty campsites are available on a juniper-speckled flat. Mom declares she will never be completely satisfied until we can go back to Grosvenor and camp at its foot at a time when that great picture window is lighted by a full moon.

Returning to the Short-Cut, we rambled on through desert-scapes of most diverse nature—sandstone cliffs, pinnacles, eroded knolls, sage flats, rolling slopes and neat groves of junipers arranged by nature in almost parklike precision, following one upon the other. Ten miles from the side-

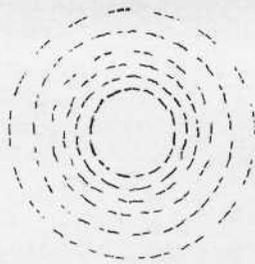
road to Grosvenor Arch, we turned upon a marked trail leading to Kodachrome Flat—a name that irks me terribly. From the time this region was first settled by pioneering Mormon cattlemen, this lovely hidden valley had been known to all as "Thorny Pasture," a nomenclature as rustic and guileless as the men who bestowed it. But due, presumably to high coloring of the formations studding and ringing the valley, the aforementioned party of National Geographic explorers had seen fit to discard that time-honored designation in favor of a copyrighted tradename of the Eastman Kodak Company.

But whether you call it Kodachrome Flat or Thorny Pasture, it is a spot that embraces some of southern Utah's most colorful and spectacular scenery. Reached by two miles of good dirt road, the little "lost" valley is a place bristling with pinnacles and towers in gray and brownish-red sandstone, with 1000-foot snow-white cliffs rising like a rampart along the north. One of the great brown pinnacles looks exactly like a fairytale giant, even to the peaked cap and belted coat. Another, in grayish-white sandstone, made us think of a medieval tower in which some story-book princess might be awaiting her rescuing knight. When the turn-around at the end of the auto road left us with an appetite for more, we spent a couple of delightful hours meandering over the clean sandy floor of the valley, photographing its strange formations and reveling in the peace and quiet.

Back on the main road we soon reentered the Paria River Valley, and began passing picturesque old log cabins, barns, and corrals built in the long ago by strong pioneering hands, and now all virtually deserted. Early in the afternoon we rejoined the pavement at Cannonville, a pleasant village embracing a few nice old homes and a couple of small general stores. Only a few miles to the northwest rose the orange-red turrets of Bryce Canyon National Park—our destination.

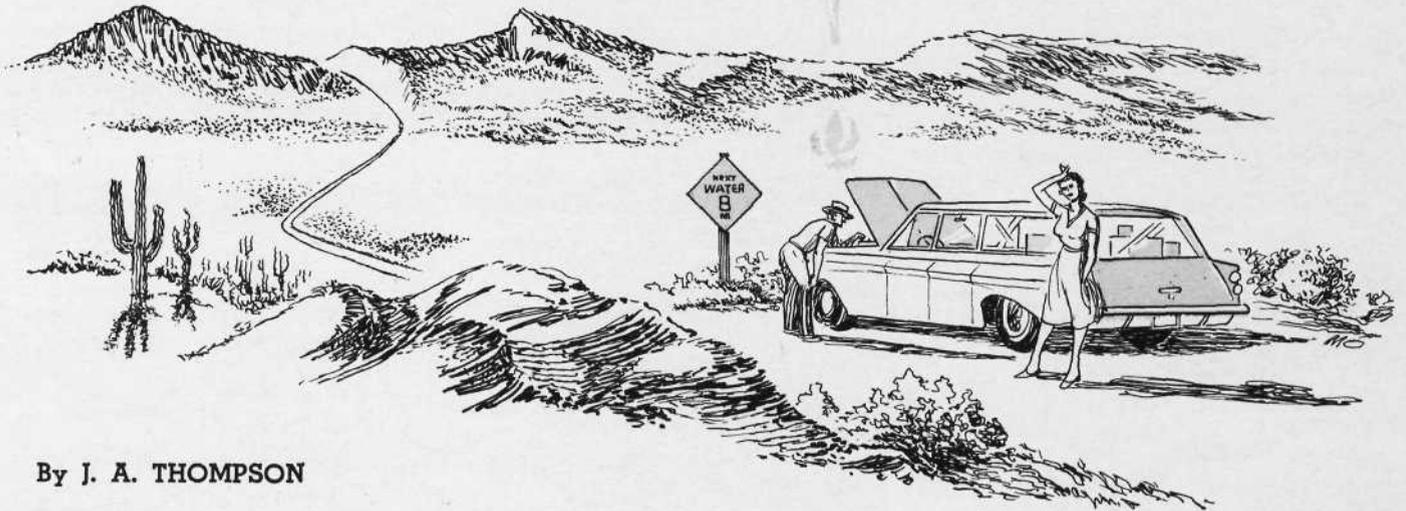
Including our two side-trips to Grosvenor Arch and Kodachrome Flat, we had traveled 51.7 miles since leaving paved Route 89 nearly 24 hours earlier, making it rather obvious that the Cottonwood Short-Cut had gained us little or nothing in traveling time. But time, when Mom and I go browsing over the desert, is of relatively little consequence. We prefer to gauge our trips by the meter of fascination, interest, and adventure—and from these standpoints we felt much richer for having followed that little winding road through the Kane County hills.

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Auto Breakdown

*What you should know
What you should do*



By J. A. THOMPSON

AN ENGINE FAILURE anywhere is a troublesome inconvenience; a failure in the desert — especially during the hot summer months—could have serious consequences. The fact that it doesn't happen more often is a tribute to the durability of the American automobile. Paradoxically, many of the breakdowns that do occur are because of this very quality. Because the average car engine will keep running long after its peak performance has passed, many car owners neglect minor adjustments and repairs until a major breakdown finally forces them into a garage. Car owners who pay careful attention to engine performance and watch for the first signs of trouble seldom find themselves afoot.

A desert traveler need not be an experienced mechanic before daring to venture beyond the asphalt. The ability to recognize trouble symptoms in the engine or other parts of the car is as mechanical as any of us need be. The chart below outlines the more common indicators of car trouble, with appropriate corrective measures. Should your car evidence any of these signs, it would be most unwise to drive it very far from the repair facilities of a garage.

BEFORE YOU START THE TRIP

Symptoms of Trouble

Corrective Measures

Engine has become progressively harder to start over a period of time.

Replace spark plugs if they have been in the engine more than nine or ten thousand miles, otherwise have old ones cleaned. ¶ Replace breaker points in distributor if old ones appear burned or pitted. ¶ Examine automatic choke to make sure it moves easily. Clean it with carburetor solvent if it appears to stick or move with difficulty.

Engine skips or misses at all running speeds.
(Occasionally will display this symptom only when rounding a curve at highway speed.)

Push all distributor wires firmly into their receptacles. ¶ Check spark plugs as above.

Engine "pings" excessively when pulling up a grade.

Use a higher octane gasoline. ¶ If this fails to correct trouble, have

a mechanic check the ignition timing.

Engine makes a hard pounding knock when pulling up a grade.

Main crankshaft bearings are worn. Must be repaired by an experienced mechanic.

Engine makes a loud rattling knock at regular highway speeds.

Caused by worn connecting-rod bearings. Must be repaired by an experienced mechanic.

Temperature gauge reads above normal while traveling at highway speeds.

Check radiator first for leaks. Small leaks may be repaired by pouring a special anti-leak liquid into the radiator. Larger leaks or clogged radiator core will require services of mechanic. ¶ Replace fan belt if broken or badly worn. ¶ If cause of trouble is not in radiator or fan belt, have a mechanic check distributor timing. A retarded spark will sometimes cause overheating.

Electric ammeter gauge shows discharge or zero reading (or red indicator light flashes) at normal highway speeds, or when engine is not running.

This can be caused by a short or ground in any one of the several circuits in the car's electrical system, and will require the services of an experienced mechanic.

Oil pressure gauge shows zero or below normal reading (or red indicator light glows) at normal highway speeds.

First check for low oil level. If oil level is normal, then worn connecting rod bearings are probably at fault, and must be repaired by an experienced mechanic.

Erratic or difficult shifting of gears, or unusual growls or noises in the transmission.

Caused by worn transmission parts such as gears, bearings, valves, etc. Must be repaired by a trained mechanic.

Brake pedal slowly gives under steady foot pressure.

Wheel and/or master brake cylinders leak; should be replaced by trained mechanic.

Lights brighten and dim as the engine speed is increased or diminished.

Caused by a low battery charge or corroded terminal connections. Check battery charge first with hydrometer. If okay, then remove cables and scrape terminal posts and insides of cable clamps to a shiny brightness.

In addition to correcting all symptoms of engine and car trouble, the wise desert traveler should also be prepared to make emergency repairs. In fact, a general rule might be stated that no one should venture far from the beaten path unless he or she is able to make simple engine and car repairs.

The first step in achieving some degree of proficiency in this matter is to become familiar with the parts of your car's motor that most often cause trouble. This should be done in the comfort of your own garage rather than out somewhere under the duress of an actual breakdown.

The distributor is the heart of the ignition system, and trouble here will quickly kill your motor. It is found either on top or on the side of the engine and is easily recognized by several heavy wires emerging from its top. Most of these wires lead to the spark plugs; the wire in the center goes to another important motor part—the coil. Examine the coil carefully. Notice that it has two or three small wires on top besides the big wire to the distributor. Should either of these little wires work themselves loose, the engine will die instantly.

Take a screwdriver and loosen the two spring clamps that hold down the distributor cap. Lift out the distributor cap together with its wires and lay it aside, leaving the wires attached to the spark plugs. You will see uncovered a small plastic rotor piece with a small piece of metal and a spring fastened to it. Have someone step on the starter

and note how this rotor spins; also note how the breaker points open and close as the rotor turns. This action by the breaker points creates a heavy spark which is distributed to the spark plug wire terminals inside the cap as the rotor sweeps past them in its rotation.

Release the starter and lift the rotor from its shaft. Notice that you can put it back only in the exact position from which it was removed, thus making it impossible for the system to get "out of time."

Now look for a small bright cylinder in the distributor. This is the condenser. Its job is to shorten the time of the electrical spark between the points as they open and close. Should it become faulty it will cause your engine to run erratically or completely kill it.

Next examine the carburetor and fuel pump. The former is situated up on top of the engine, usually with a large round air filter fastened to it; the latter is located low down on the side of the engine. Remove the air filter from atop the carburetor. Inside the large opening of the carburetor you will see a flat vane valve. This is the automatic choke, and will close momentarily when you start the motor. It should be loose, and easily moved by finger pressure. If it acts sluggish or hard to move, try loosening it with carburetor solvent.

Have someone press the accelerator pedal two or three times. You will see a small squirt of gasoline each time the pedal is pressed.

The fuel pump is frequently the villain in car trouble, and experienced travelers usually carry a spare. More often than not, the pump is located in a rather inaccessible spot on the side of the engine, and sometimes special wrenches are needed to work on it. Be sure that you have the proper tools for this job in your kit.

Lastly, take a look at your fan belt or belts. Carrying spares is important, especially if the one you have on the motor has been in use for 10,000 miles or more. Examine the adjustments that must be made in order to remove or replace the fan belt. Usually a screw has to be loosened and the generator moved toward the engine in order to accomplish this. As with the fuel pump, be sure you have the proper wrenches in your car's tool kit to perform this job.

Now assemble your repair kit. Besides a good set of mechanics' tools, it should include a dozen feet of baling wire, a tube of "Magic Steel" or epoxy-resin glue, and a "jumper wire." This last named item can be prepared by obtaining a four-foot piece of rubber-covered electrical wire, and fastening a small alligator clip at each end. Also have a good tire pump, a puncture repair kit, and a shovel.

Remedying an engine failure consists of first locating the trouble, and then fixing it. Usually, the latter procedure is much easier than the former. Amateur mechanics sometimes spend hours trying to find the cause of an engine stoppage, whereas correcting that trouble requires only a few minutes.

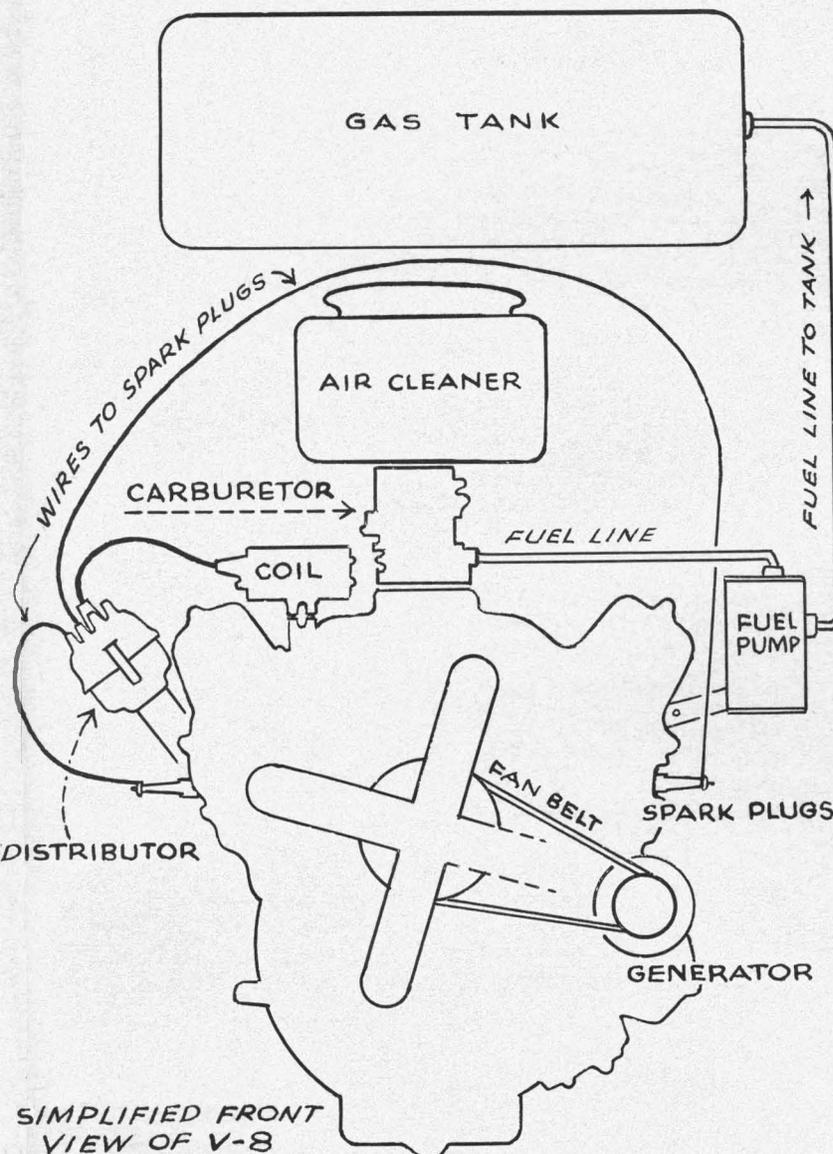
The way in which an engine dies serves as a good clue to the trouble source. A sudden complete stoppage generally means something has gone wrong with the ignition system. A coughing, gasping stoppage most often is caused by a disorder in the fuel system (practically a certainty if you can revive the dying motor temporarily by pumping the accelerator several times).

The following step-by-step detective work will aid you in pinpointing your car's troubles.

WHAT TO DO IF YOUR ENGINE DIES

(Note: if ignition trouble is suspected, start with Step 1. If fuel trouble is suspected, start with Step 6.)

STEP 1. Visually inspect the distributor cap and coil



for loose wires. Push any of the heavy ignition wires that may be loose firmly into their receptacles. ¶ Examine the distributor cap for cracks or broken places. Epoxy-resin glue is valuable for making repairs here. **If car still will not start, go to Step 2.**

STEP 2. Remove the distributor cap, turn engine with starter motor until breaker points are closed. Turn on ignition. Remove center wire from the distributor cap where it fastens to the coil and hold its end about half-inch from the engine block. Open and close the breaker points with a small screwdriver. If a spark jumps from center wire to the engine block, your ignition system is okay up to the rotor piece. ¶ Examine rotor piece to see if the small piece of metal and its small flat spring are still fastened to the top of the rotor. If they are broken, a temporary replacement can sometimes be fashioned from a short piece of wire. **If the rotor is not broken, move on to Step 6. If no spark jumps from the end of the centerwire, move to Step 3.**

STEP 3. Clean the breaker points with a small file or piece of sandpaper. Replace rotor and distributor cap. Try to start engine. **If it will not run properly, go to Step 4.**

STEP 4. Remove the condenser from the distributor, leaving it connected by its small wire to the breaker points. Lay it on a cloth or piece of cardboard to insulate it from the metal of the distributor. Open the breaker points again, after making sure they are in a closed position. If a spark jumps from the end of the wire to the engine, the condenser is bad and must be replaced. Almost any condenser from any other make of car will work—provided it fits in the space in your distributor. **If no spark occurs with the condenser removed, go to Step 5.**

STEP 5. Reconnect condenser. Take the "jumper wire" from tool kit and connect it from the battery terminal on the starter motor to one of the small terminal posts on top of the coil. (Be sure you do not connect it to the post with the small wire going down to the distributor). **If the motor still refuses to start, move on to Step 6.**

(Note: If your car stopped in a gasping manner, with reluctant spurts of life when the accelerator was pressed several times, chances are that either you have run out of gas, or something has gone wrong with the fuel system. Start your check with Step 6.)

STEP 6. Remove the air filter from the carburetor. Press the accelerator several times. If squirts of gasoline can be seen, chances are that your trouble lies in your coil (Step 5). (In the event you don't carry a spare coil, you will have to go for help. Almost any coil will work so long as it is for the same voltage as that of your car's battery.) **If car still refuses to run properly, go to Step 7. If no squirts of gasoline are seen when accelerator is pushed, go to Step 8.**

STEP 7. Examine the automatic choke vane. If it is stuck or works with difficulty, loosen it by working it back and forth several times, then try to start the engine. (If too much gas is evident — engine "flooded"—wait several minutes for gas to evaporate, then try to start the engine.)

STEP 8. Disconnect the gas line at the carburetor. Turn the engine over several times with the starter. If gas spurts out after a couple of revolutions, the fuel pump is working, and your trouble is in the carburetor. Remove the top of the carburetor from the bowl and examine the float valve and float. Clean out any sediment that may be in the bowl, and reconnect the gas line. Turn the motor over again and see if gasoline is being pumped into the carburetor bowl. If not, the valve is stuck and must be cleaned. (Caution: make sure gasoline doesn't spurt out onto a hot manifold or to electrical wiring during these tests. Have a fire extinguisher or shovel full of sand ready in case of fire.) **If no gasoline is being pumped either from the open end of the line or into the bowl, move on to step 9.**

STEP 9. Disconnect gas line from tank at fuel pump. If no gas runs out, blow hard into the open end of the line. Have someone listen at the open filler pipe of the gas tank. If a bubbling sound is heard, the gas line is open; and the trouble is in the fuel pump. If no bubbling is heard, the fuel line is clogged and must be cleaned out. The baling wire in your tool kit may turn the trick here. In some cases you may have to disconnect the other end of the line where it fastens to the gas tank in order to properly clean the line.

Engine stoppage caused by vapor lock is a condition unique to hot weather driving—especially when the motorist must travel at slow speeds up a long, steep grade. The engine may then become so hot that the gasoline in the fuel pump and gas line boils into a vapor. When vapor lock hits a car, the engine will die much as it would if it were having fuel pump trouble. The remedy is quite simple: do nothing. Wait for the engine to cool and the gasoline to return to its liquid state. Propping up the car's hood with a short stick, and then tying it down securely, sometimes helps to keep the engine temperature down while driving in hot weather.

If you can't afford a 15 or 20 minute wait for the gasoline to liquify, try pouring water over the fuel pump. I once met an old miner in Arizona who had wrapped strips of burlap around his gas line and fuel pump, and when the temperature reached a critical point, he would pour water over the burlap. This acted effectively to keep the line cool enough to prevent vapor lock.

Another "special" kind of car trouble not treated above has to do with the car's starter. If, after being parked overnight, the starter motor will not turn the engine, follow this two-step procedure:

Step A. Turn on the car's lights. Step on the starter and observe the light. If they go dim or completely out, the trouble lies in the battery or its cable connectors. If your battery is fairly new, the chances are that corrosion has built up a crust around the terminal posts. This can be remedied by removing the cables and scraping the posts and clamps to a shiny brightness with a pocketknife. If this doesn't correct the trouble, then the battery has lost its charge. In either case, you can start the engine by having someone give you a push.

Step B. If the lights remain bright when you step on the starter, the trouble is either in the starter motor or in the starter switch. This usually requires the services of a trained mechanic, but you can still get home if you can find someone to give your car a shove. The object is not to let the motor die until you pull into your driveway. ///



A PHOTOGRAPH OF HOPILAND TAKEN IN 1923 BY THE AUTHOR

THE MORNING STAR

With this chapter, *Desert Magazine* brings to a close the previously unpublished series by

Laura Adams Armer

in which she recounts her experiences among the Navajo and Hopi Indians during the years 1923 to 1931. Mrs. Armer, now 88 years of age, is not only one of the first writers to become established as an authority on the culture of these tribesmen; she is among the most gifted persons with pen and camera ever to travel the beautiful trails of northern Arizona. *Desert Magazine* takes this opportunity to pay public tribute to Mrs. Armer, and to express its deep gratitude to her for having chosen this publication as the medium for presenting this summing-up of her Indianland adventures.

—The Editor

O RAIBI BOUND, I arrived at the Hopi village in time to witness a bean dance in an underground kiva. On the morning before that performance I arose at dawn that I might see the Katchina hand out the sprouted beans grown and forced in

the kiva. These were given to the children of the village along with Katchina dolls and toy bows and arrows. The day dawned still and calm, disclosing bashful little children standing in doorways waiting for the presents. The older ones tagged along after the

bearer of gifts, reminding me of the children following the Pied Piper, only this man carried a rattle. It was dramatic and impressive, a sort of Hopi Santa Claus celebration.

At night I went down the ladder

into the crowded kiva. A central stove gave forth heat. I found a seat and watched the young men descend dressed in colorful costumes. They wore enormous conventionalized cow-head masks. There ensued considerable mooing before the whole herd commenced the song and dance. Absorption in the ceremony brought assurance that the mooing and singing would materialize plentiful food. Presto! The masked dancers produced steamed corn on the cob and strings of red apples which were distributed to the audience. All ate apples and threw the cores on the floor near the stove. The attendant swept them up with a native grass brush to get ready for the next group of dancers.

Thus was spring brought to Oraibi with the first ceremonial of the year. On the hill little weeds grew jade-green leaves that hugged the ground like gem stones. The Hopi children asked me to draw with them, so I went to school five days a week as I had done on previous visits to Oraibi. I gathered the day's work and returned to my room to mount the precious paintings on gray paper. I intended to take them East with me. Seeking material for the new book kept me busy. Lorenzo Hubbell, Jr., the trader, helped in every way. Once, when my mind seemed empty and blank, he said:

"This is a bright, sunny morning with no wind. Take your paper and pencil and a lunch. Have one of the Hopi boys drive you up to the top of the mesa. Just sit and wait for something to happen. I'll send the boy back for you at three o'clock."

So I went to a place suspended between heaven and earth, where the air was clean and pure, the sparse shrubbery pungent with health-giving incense. It was so quiet and the distant mountains so far away, I let myself rest. I did not think. I sat in the sunshine alone in far reaches of desert. How blue were the distant hills! How imperceptibly they became blue. From my feet resting on pink gravel, the desert stretched away pink and soft gray-green, and then it was blue with a blue sky above it. The blueness was vibrant with vitality descending and ascending from sky and earth. Time was no longer. I shut my eyes. My ears heard no sound, but somewhere, somehow in the shell of me I knew that heaven and earth and I were one. I walked in the middle.

Sitting on the high mesa with the glory of sunshine enfolding the desert, I heard someone walking toward me. A very old Hopi from Hotevilla stood beside me. Short, brown and wrinkled, his gray hair hanging about his face,



AN OLD HOPI MAN, AN OLD KIVA, AN OLD BELIEF

he seemed like some gnome of the rocks, some genie from the Arabian Nights' tales. I wondered if he would present me with a lamp to rub. He leaned down, touched my white dress, felt of my shoes, looked into my face with a puzzled expression which seemed to say: "Is this a human or what?" Then he spoke the only Hopi word I knew: "Lolami." That word means beautiful. I stood up and waved my hand toward the western mountain, snow-capped; toward Navajo Mountain in the north; toward the whole encompassing horizon where earth melted into sky and I said: "Lolami."

The genie had given me a lamp to rub. It was the word beauty. He walked toward Hotevilla. I began to write of the Navajo idea of the cosmos. The old medicine man, Na Nai had told me of the four sides of the world where men of turquoise, white shell, abalone and jet sparkle in their strength, upholding the heavens above; twelve men at every point; north, south, east and west, holding the sky in place. He had told me of the sacred mountains and he said to remember the song in the heart of the Morning Star. I had not been sure about that

song. Na Nai took it for granted that I knew it. Why was I making sand paintings if I knew not the songs which went with them? I remembered a day when I visited Na Nai in his hogan and found him in earnest conversation with the learned Snake priest of the Hopis. They were sharing their wisdom. On the floor of the hogan Na Nai outlined with his finger a figure of a four-pointed star. The snake priest watched, nodded approval. I could not understand their words, but I knew that *Sontso*, the Morning Star, was under discussion.

On the mesa-top, just sitting and waiting for something to happen, knowledge came to me. Before me rose myriad turquoise-tinted dreams of the desert; white shell dreams, rainbow-hued dreams of abalone; jewels polished by generations of poets seeking the same assurance as white men seek: constancy and peace. The tinted dreams became personified. They were dancers from the four quarters of heaven and earth, those dancers who played their parts in the hundred sand paintings I had copied. When they do not dance in lines of four,

they move around a circle, always going sunwise. The circle is the deep center.

I remembered a painting from the Big Star Chant where a black star is the center. It is four-pointed, outlined with white rays of light. It serves as the fire in the house of the stars. The star people in the four quarters are of the four colors, dressed in armor, similar to that of the warrior gods, in the Upward-moving Chant. Each has a bow and arrow. From the arms hang long strings with arrow points attached. The headdresses are made of five arrow points. I knew that *Sontso* represents Venus, the Morning Star. There came to my mind the song of Nayenezgani, child of the Sun-Bearer, Slayer of the monsters, savior of the people of the earth:

*"The slayer of the Alien Gods,
That now am I.
The Bearer of the Sun
Arises with me,
Goes down with me;
But sees me not."*

Then I knew that the beautiful Toltec story of Quetzalcoatl, the Feathered Serpent, white god of the air, saintly ruler and civilizer, had reached the Hopis and the Navajos. Mexican legend tells how Quetzalcoatl taught men to follow his austere and virtuous life, to hate all violence and war, to sacrifice no men nor beasts, but to make mild offerings of bread and flowers. He taught picture-writing and the calendar, also the artistic work of the silversmith.

Native tradition holds that when Quetzalcoatl was driven from his kingdom by the artifices of a magician, he journeyed to the seacoast, donned the feather ornament and the mask of turquoise mosaic, as the dead were arrayed on the funeral pile, and cremated himself. The heart flew up to heaven and transformed itself into the Morning Star. This story, so full of the hope of a tortured people, has filtered into the legends of the tribes in the north. It suited the minds of the Navajos weary of war. It suited the Hopis who call themselves the Peaceful People. It became the song

in the heart of the Morning Star. It was Lolami.

So absorbed had I become with the legends of the great land which knows no boundaries in thought, that I was a bit dazed when the automobile came to take me back to Oraibi. I had been traveling on rainbows, on clouds and rafts of sunbeams. I was filled with great joy and wonder when I arrived at the trading post. Mr. Hubbell noticed my exuberance and asked me to tell him what had happened. I described the old Hopi who had touched my garments and said lolami. I confessed that I had felt a certain fear that he might become too curious, too intimate. Mr. Hubbell said:

"No. It was only that you are so white, that he said lolami. Besides, you are wearing the turquoise."

As I look back upon my Navajo-Hopi experiences I think that the two months spent working on my book in Oraibi, held more peace than any two months of my life. Fine old medicine men spent hours telling me of their legends. Mr. Hubbell translated with rare understanding. When it came time for me to leave for the railroad, he took from his safe necklaces of silver and turquoise, bracelets of rare design, rings set with blue-sky stones.

"Show them to the people you meet, wear what you care to, sell any you can," he said. "Keep the turquoise near you, then you will not forget us here on the desert."

I was wearing on my finger the blue piece I had found in the sand that Thanksgiving Day years before. It was set in old silver made by some long-haired silversmith working beneath a turquoise sky. I would not forget, nor would there be erased from my memory a sand-storm which raged for four days before I left. It blew dust under the doors, in every crevice of the house, piled it up on the porch. It obscured the disk of the sun, turning it and the dim rays it sent to turquoise blue. It stood looking out upon the desert world and I marveled that the orb itself had become a turquoise pendant in the deep above. ///

Laura Armer's Desert Magazine Series

- I: March 1960: "Navajoland In 1923"
- II: April 1960: "Because I Wore The Turquoise"
- III: May 1960: "A Visit To The Hopi"
- IV: June 1960: "Days Spent In Blue Canyon"
- V: August 1960: "Tony The Pony"
- VI: October 1960: "When Thunder and Snake Are Asleep"
- VII: December 1960: "The Unfinished Ceremony"
- VIII: February 1961: "I Give You Na Nai"
- IX: April 1961: "The Big Snow"
- X: June 1961: "The Morning Star"

HARD ROCK SHORTY



... OF DEATH VALLEY

Misery Mike walked up the steps of the Inferno Store. Hard Rock Shorty, seated on the porch in his favorite spot, was waiting for him with a question.

"Did ya see th' revenooer?" Shorty asked.

"Fella weren't no revenooer," answered Mike.

"Th' fella I seed at yer cabin last night looked like a revenooer to me," said Shorty in a knowing voice. "He had that 'I'm th' law' look about 'im."

"He's the law, all right — but he ain't no revenooer," said Mike with a sigh. "He's got somethin' to do with that new World War I law 'bout income tax."

"Checking into you?" asked Shorty.

"Yep. Made me feel real important 'til I understood him to say it might cost me some cash."

Mike took a chair next to Shorty's and then reached for his corn cob pipe. When his smoke was hanging thick in the hot still air above the two men, he went on with his report.

"This here fella says: 'Mr. Mike, accordin' to yer own statement, you been prospectin' fer 41 years. That's a long time an' surely you've made yerself a respectful pile o' money in them 41 years o' huntin' minerals in these here parts.'

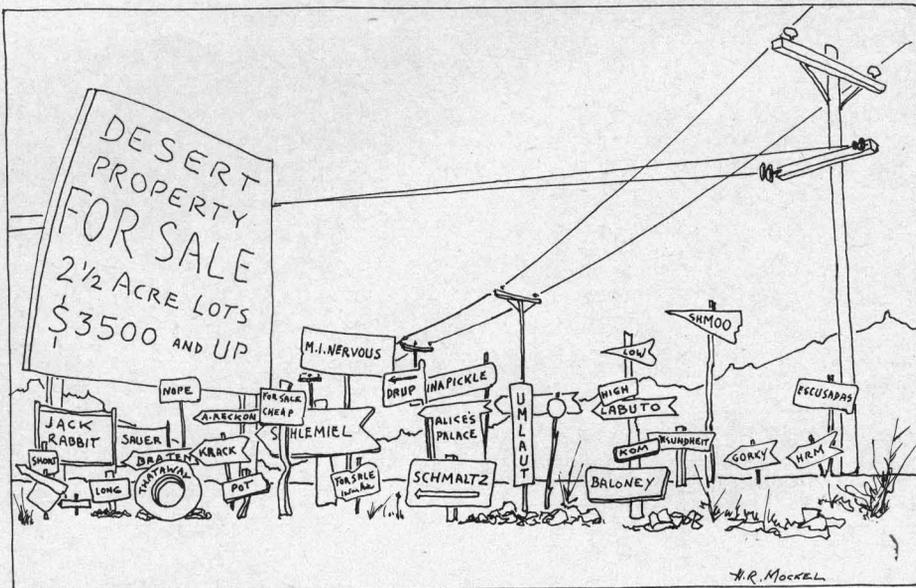
"But, I'm up on that city fella.

"How 'bout deductions?' I asks him.

"'Thet counts in yer favor,' he answers.

"Well, thet no good mule yonder is a special deduction o' mine,' I tells him straightaway.

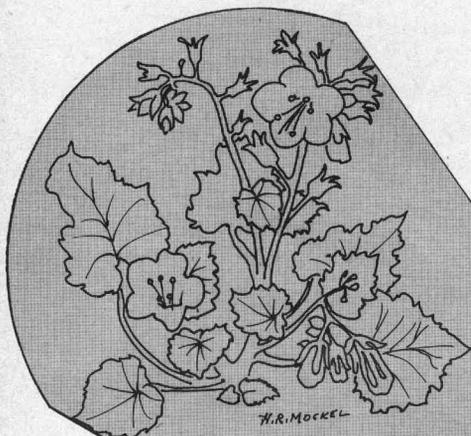
"This here income tax man starts protestin', but I explains: 'True—I been prospectin' fer 41 years, but I figured out a while back thet I spent only four o' them years actually huntin' fer minerals. Spent th' other 37 ahuntin' thet danged mule every time he'd stray from camp.'"



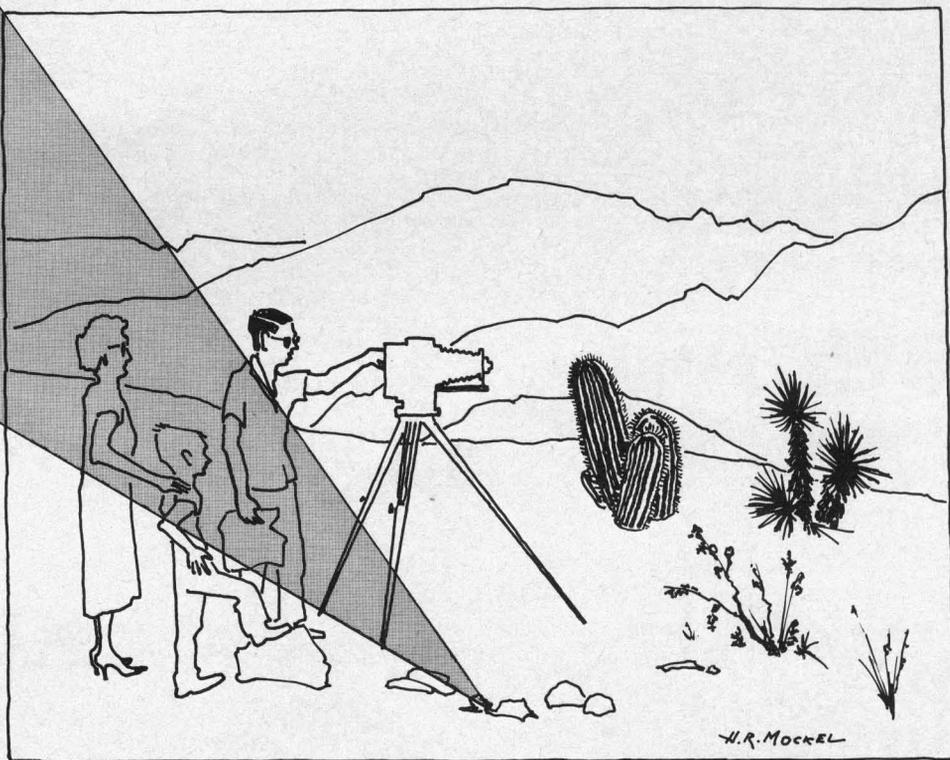
An Eastern Artist Discovers The Mojave

A MAZE OF SIGNS. "This is the way to our personal Mecca," proclaim the battery of signs found at numerous turn-offs on the High Desert. Contrary to what the casual traveler might assume, most of the tiny jackrabbit homestead dwellings that the signs lead to are well built, subject to specifications laid down by Federal and County agencies.

Before coming to the Southwest, Henry Mockel had painted and sketched New York's waterfront, some of its skyline, and "nearly every red barn in the Northeast." The fugitive and delicate moods of desert landscapes caught his eye as did some of the idiosyncracies of this area's permanent and temporary inhabitants. "Some aspects of the Southwest that seem strange to someone coming from the East I have illustrated on these pages," writes Mockel. "It is not my intention to pass judgment on the ways of the West, but merely to point up these little histories to a traveling public. As this traffic increases substantially over the years, it seems indicated that some phases of the desert be clarified. The Southwest is not all monumental scenery and a high degree of heat."



UNNOTICED BEAUTY. Most people come to the desert to see uninterrupted views of up to a hundred miles or more, and the land's real beauty—lying right at their feet—goes unseen. At times the desert floor is covered with ephemeral blooms. Some are so tiny one must assume a prone position to properly view them. Hence the common name "belly-flowers" given to these plants.

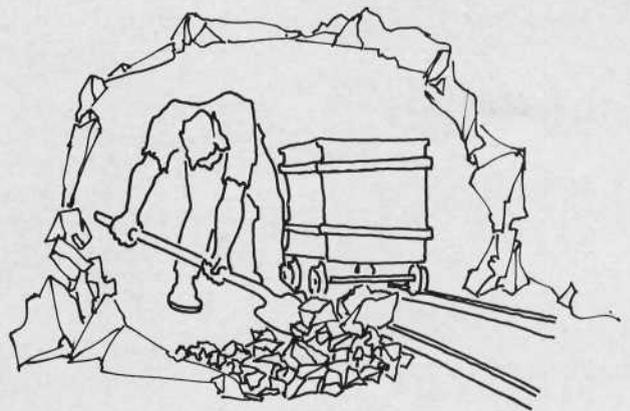
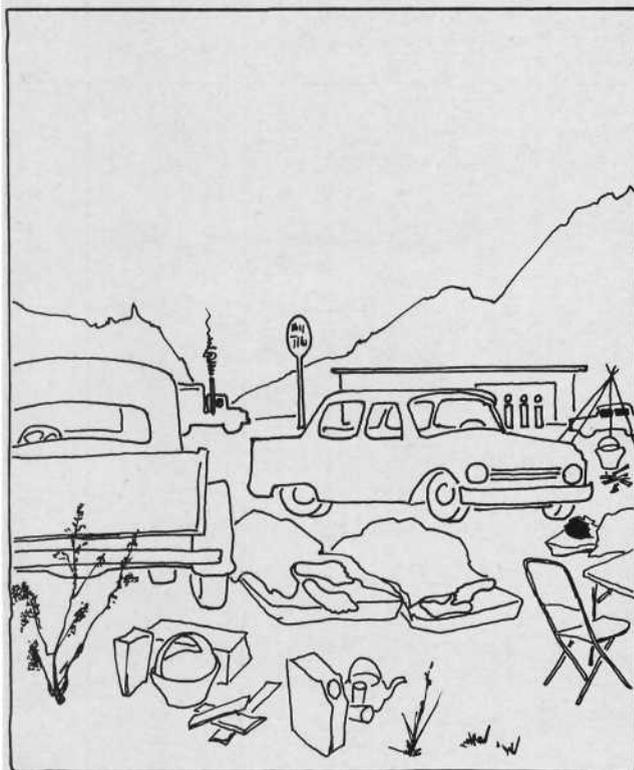
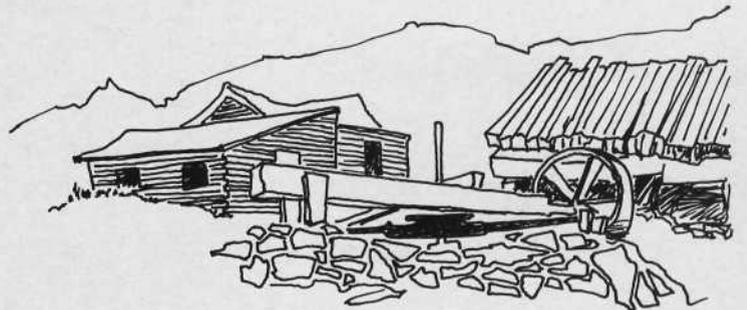


MONUMENT BOUNDARY. No markers are necessary to show the boundaries of Joshua Tree National Monument. Neat little homes extend right up to its line. Under the Homestead Act, every citizen is entitled to a piece of the U.S. On the desert, this dream becomes a reality.

See This Month's
Back Cover
for
HENRY MOCKEL'S
painting of
THISTLE SAGE

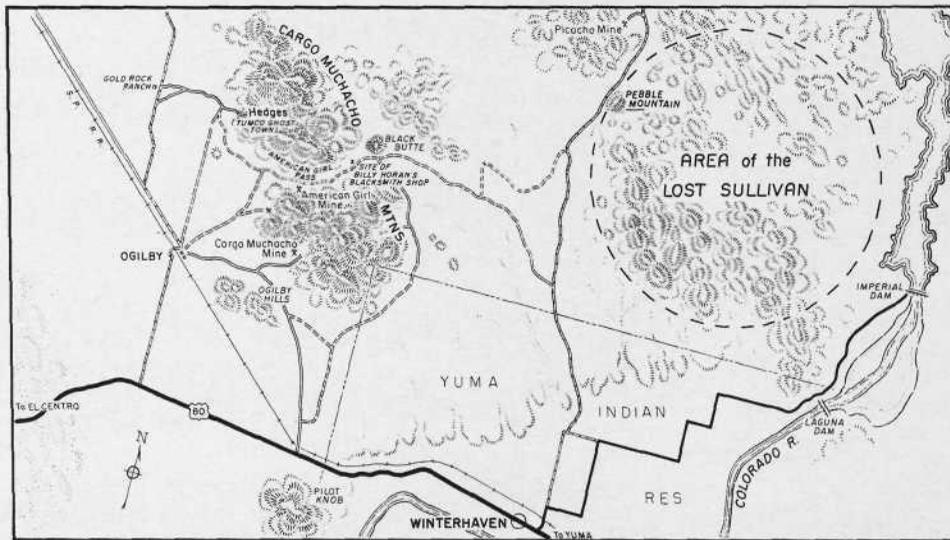


ROADSIDE REST. I think the most startling desert scene my Eastern eyes witnessed was the profusion of bare feet sticking out of hastily improvised beds invariably placed just a few feet from the highway. Many people traveling the desert spend the night off the side of the road. By preference they use sleeping bags, mattresses and blankets or campbeds. As it is a fair certainty there will be no rain during the night, such economies can be indulged in.



OLD AND NEW. Sometimes it's hard to tell the difference between a ghost mining camp and a modern-day operation. In fact, many of the old camps are used by part-time prospectors who have families and permanent residences elsewhere. The worth of mining claims cannot be estimated by the passing tourist. The owner might gain an annual \$1000 or \$30,000—and again he may be dreaming of the day his hard work realizes its first penny. ///

SULLIVAN'S LOST GOLD



BY HAROLD O. WEIGHT

METAL TAKES a long, long time to corrode away in the dry deserts of the Southwest. So it is possible that two ancient bullet-riddled five-gallon kerosene cans still exist somewhere in the lonely land between the Cargo Muchacho Mountains and the Colorado River. But if so, they must be pretty well out of sight. Men—including Jim Sullivan, who shot these cans full of holes have been hunting them since at least 1900. They are—or were—the only real clue to the golden ledge Sullivan found and lost.

I first heard of the Lost Sullivan a dozen years ago, on a moonlit yarn-telling night at old Picacho camp, at the edge of the country where the ledge is hunted. Ed Rochester told the story. He had learned it long before from Billy Horan, and Billy was Sullivan's boss when the Irishman made his strike.

Ed was very sketchy about details that night for he was still actively searching for the Sullivan. In fact, he thought he had it cornered in one square mile of desert. He was just waiting for rainfall to fill the few natural tanks of that area. Then, without the problem of packing in every drop of water he would need, Ed was going to screen that final 620 acres for the elusive golden outcrop.

Water—or rather the lack of it in that waterless land, due to his own carelessness—brought about Sullivan's misadventures when his Indian friend first guided him to the rich ledge. The exact date that Sullivan had his one chance

at fortune is forgotten now. It has been given as the early 1900s. But the strike was made while Billy Horan was at Hedges, in the Cargo Muchachos, and Billy told me he was in that camp between 1892 and 1896.

The Cargo Muchachos consist of a small group of rugged peaks in the far southeastern corner of Imperial County, just north of Mexico and between the great sand dunes and the mountains bordering the Colorado. Rich gold mines and placers have been worked in this little range since the memory of man runneth not. A California Division of Mines report dates the first mining in the region as early as 1780-81.

Hedges—which later became Tumco and is now Tumco ghost town—was the largest camp in the history of the Cargo Muchachos. It was located in a small valley on the west side of the range, near its northern end. The first strike there may have been made in 1877, but Hedges began its real boom about 1892. Its mines—chiefly the Golden Cross group—have been credited with a total production of at least \$3,000,000.

Billy Horan was active in freighting and staging during most of his life. He worked the first freight road from Yuma to Hedges through the Cargo Muchachos, following American Girl Canyon which lies south of the camp. Billy also was constable at Hedges and co-owner of the Stingaree Saloon.

Jim Sullivan was Billy's floor man-

ager at the Stingaree. Billy described this saloon as being in a district outside the company town, "a rough place down in a hollow at the edge of Hedges where there was plenty of knifings and killings." Sullivan must have been a rugged man, since his most important duty was "bouncing" customers who got too tough for this toughest part of a tough camp, and he seems to have experienced no difficulties with his job. He was large, heavily built, and well supplied with muscle and physical courage.

Also, he apparently felt free to choose his friends where he wished, since one of them was a Christianized Mission Indian working as "swamper" (clean-up man) at the Stingaree. This Indian had lived for years, probably with in-laws, on the Yuma Indian Reservation along the Colorado. But although he was far from his home tribe, he remained steadfast enough in his religion to covet dearly a large gold crucifix Sullivan habitually wore dangling from the heavy gold watch chain spread across his vest. And he considered himself on good enough terms with the Irishman to ask for it as a gift.

Sullivan was not parting with his crucifix. But instead of refusing bluntly, he made a counter-proposal.

"You bring me gold," he told his Indian friend, "and I'll make you one just like it."

Sullivan's offer may have been pure good will, but there are reasons to believe he had something else in mind.

Without doubt he was aware of the universal tradition—which still exists—that the Yuma Indians knew the location of many gold ledges but never had and never would lead a white man to one.

And the swamper at the Stingaree gave the expected response: "I know where there's lots of gold, but Indian can't get any of it."

"You don't have to take any," Sullivan said. "Just show me where it is. I'll take it. That's different. If there is a curse, it will fall on me, not you."

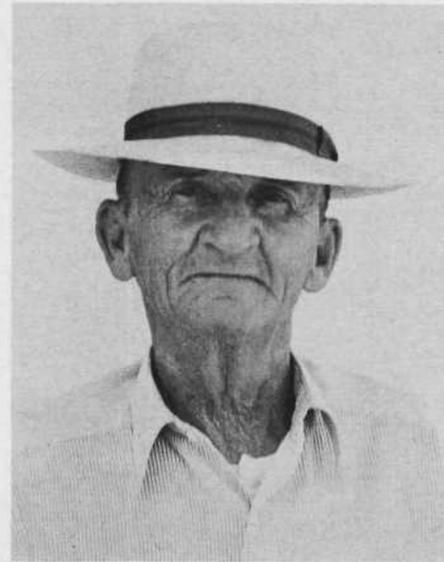
In time Sullivan wore down the Indian's fears and objections. The Indian agreed to guide the Irishman to gold. Ed Rochester believes Sullivan was successful only because the Indian was not a Yuma, but an "outlander" living with them. Yumas of the old days, he says, not only were unwilling to guide white men to such deposits, but were certain there would be reprisals from their gods and their fellow tribesmen should they do so. Even today the old men will not talk about such things to whites, and have not passed details on to their Americanized sons.

By the time Sullivan and the Indian were agreed and ready, hot weather had come upon the lower desert. It was no time to go prospecting. Not that this state of affairs ever seemed to bother the oldtimers and pioneer prospectors. They were as likely in August to head into Death Valley or the Salton Sink as they were in December. And they were tough enough and sufficiently wise in desert ways to get away with it most of the time. But Sullivan was asking for trouble when he dared the summer heat. He was neither desert man nor prospector. Had he been either, there probably would be no Lost Sullivan today.

Besides all his other activities, Billy Horan maintained a small blacksmith shop along the Yuma freight road east

of the Cargos, between the mouth of American Girl Pass and Black Butte. He was heading for the shop to shoe some mules at the time Sullivan was ready for his big adventure. The Irishman and the Indian hitched a ride with Billy in his buckboard as far as the blacksmith shop. All their supplies and equipment were packed on a big burro tied behind the buckboard.

When they arrived at the blacksmith shop, Billy went to work and paid no more attention to the goldseekers. But he was certain that they headed east. Ancient and deep-cut Indian trails cross this part of the Colorado Desert and converge on American Girl Pass. Since it is likely the Indian saw the golden ledge while traveling such a trail, they



THE LATE BILLY HORAN WAS JIM SULLIVAN'S BOSS WHEN THE IRISHMAN FOUND AND LOST THE GOLDEN LEDGE. HORAN LATER HELPED SULLIVAN HUNT FOR HIS LOST MINE AND WAS THE MAIN SOURCE OF DETAILS OF THE SEARCH.

PEBBLE MOUNTAIN, ON THE PICACHO ROAD, WAS THE PLACE FROM WHICH SULLIVAN CONDUCTED HIS MANY SEARCHES FOR HIS LOST LEDGE. HE CAMPED SOUTH OF THE MOUNTAIN.

probably followed one of them. But only Sullivan and the Indian knew where they went. And it is not of record that either ever detailed the route they took or the place where they finally stopped.

It was perhaps 15 air miles from Billy Horan's blacksmith shop to the Colorado River. Today this desert, for the most part, still is wild and lonely—a country first of wide washes and canyons, and then of broken and confused volcanic buttes, mesas and hills that reach almost to the river. Somewhere in this region, on the Indian's instructions, they made camp. If Sullivan's later searches were anywhere in the right area, that camp must have been east of the present Picacho road and not too far from the odd hill of boulders called Pebble Mountain. The ledge must have been somewhere near that camp. The Indian took Sullivan to it. The Irishman knocked off pieces of ore in which he could see native gold.

Besides the canteen they had used up enroute, the gold hunters' entire water supply was contained in two five-gallon kerosene cans packed on the burro. Returning from the ledge to camp, Sullivan drank from one—and found the water tasted strongly of kerosene. He tried the other. It was as bad. Half drunk and just plain mad, Sullivan hauled out his revolver and perforated both cans.

After watching the water vanish into the hot ground, there was nothing left to do but backtrack to the nearest certain supply — Billy Horan's blacksmith shop.

As Billy remembered it, he saw the adventurers returning the third day after they left. Sullivan, nearly unconscious, was riding the burro. He was riding because even if not suffering from thirst and heat, he would have been unable to walk. He had worn low dress shoes on his expedition. They had gone to pieces, and his feet were cut and swollen and



THE MALPAIS COUNTRY BETWEEN THE COLORADO RIVER AND PICACHO ROAD. THIS RUGGED TERRAIN EXPLAINS WHY SULLIVAN COULD NOT RELOCATE THE GOLDEN LEDGE.



blistered. But he still had his golden samples.

Billy Horan loaded the big Irishman into his buckboard and hauled him back to Hedges. There the ore was assayed, reportedly by Andy Trumbo, assayer for the mining company then operating Hedges. The values were \$1000 a ton and higher in gold. The ore appeared to be of two kinds: yellowish-red with limonite, and chocolate brown with hematite. Iron and gold in quartz. Such ore does not resemble that found at Hedges or elsewhere in the Cargos, or at Picacho.

It soon became evident that to recover, Sullivan needed more care than was available at Hedges. He was again loaded in a wagon, hauled down to the Southern Pacific at Ogilby, and shipped "inside" to a hospital. When he left the hospital he went on up to the mining town of Park City, Utah.

The following winter Jim Sullivan re-appeared at Hedges. He was looking for his Indian swamper friend. But the Indian had vanished. Sullivan could not locate him there or on the Yuma Reservation. Quite possibly those In-

dians had punished him for guiding Sullivan to the ledge, or he had decided that he would be healthier if he left the country. And if one believed in an Indian curse on the gold, it would seem that Sullivan had indeed taken it upon himself. Not only had he almost died on the desert, he now began a series of fruitless searches for that golden fortune that had once been in his hands.

Uncertain of the location of the gold and without the Indian to guide him, he decided to attempt to retrace the route they had taken from Billy Horan's blacksmith shop. This effort led him across the Picacho road near Pebble Mountain and into the broken country that Ed Rochester calls "the malapai" beyond it. Here he searched until his supplies ran out. He then returned to Hedges and hired Billy Horan to haul him and supplies and water out the Picacho road to Pebble Mountain. He unloaded his gear and set up camp at the southern end of the mountain. He spent the entire winter in an unsuccessful search for the ledge. Then he went away.

Sullivan returned the winter of 1908. He had been following the Nevada booms. According to Ed Rochester he had obtained a grubstake from George Wingfield, who had made a fortune at Goldfield, to make another search for the lost ledge. He again set up camp south of Pebble Mountain and hired Horan, who then was operating a stage into Picacho, to keep him supplied with water. Again he was unable to retrace his steps, unable to recognize his old camp. And unable to find his golden ledge. He went away when hot weather came.

He made a final search in 1920, supposedly after he had retired to Bell, California. This time he was financed by bankers from Long Beach who came with him. He hunted up Billy Horan, and Billy took them all out to Pebble

RUINS OF HEDGES AND ITS SUCCESSOR-GHOST TUMCO ARE LOCATED IN A SMALL VALLEY ON THE WEST SIDE OF THE CARGO MUCHACHO MOUNTAINS. THIS PHOTOGRAPH OF TUMCO WAS TAKEN ABOUT 15 YEARS AGO.



Mountain. Sullivan was an old man then.

"He was so puzzled by that time he didn't know which way to go," Horan said. "The bankers soon got disgusted and left."

Sullivan soon left too, and never came back.

The area in which Sullivan's ledge must exist is quite limited, lying east of the Picacho road and west of the Colorado. Some oldtimers believe that the Hess Mine on a branch of Senator Wash near Imperial Dam was the Lost Sullivan. Ed Rochester disagrees, saying that the Hess did not have rich enough ore. And it seems unlikely that the strike was anywhere near the river, or Sullivan and the Indian would have gone to it for water.

With only the strip to search, then, why couldn't Sullivan find his ledge again? It would be simple to say that the Indian curse was on him. But it is more likely that Sullivan did not know how to hunt for a gold ledge, and that he had been in no condition to orientate himself either going to it or coming from it with the Indian.

Why has no one found it since, when experienced prospectors have searched? It might be that Sullivan was so wrong in the area where he believed it was located that no one has looked in the right section. But I believe that this country itself is sufficient reason. It is very

rough and rugged, and very large when you are hiking it.

Since he first told me the story, Ed Rochester has moved away from Picacho and much of his time has been occupied with other things than hunting lost mines. But not long ago I reminded him of the time that he thought he had the Lost Sullivan cornered.

"Why didn't you go out and find it?" I asked.

"I told you I was waiting for rain," Ed said. "Well, for eight years it didn't rain enough to fill those waterholes."

"And where was the square mile?"

"In there near Pebble Mountain, between the road and the river."

Living in a country extraordinarily rich in such legends, Ed has hunted a lot of lost mines. But usually he has done so only as relaxation from the serious businesses of mining, prospecting, rock hunting, and trapping and fish-

ing on the Colorado. That he believed sufficiently in the Lost Sullivan to make a real search for it has given me a considerable belief in its authenticity.

And even today he says, "I do have faith that Sullivan's ledge does exist and that it has not been found. And the one clue that would put the gold hunter in the spot where Sullivan and the Indian camped would be those two kerosene cans."

The road through American Girl Canyon is impassable now. Even the site of Billy Horan's blacksmith shop cannot be pinpointed with certainty. The old Indian trail which Sullivan and his guide may have followed is broken, and sections have vanished.

But Pebble Mountain is still there. So, perhaps, are the bullet-riddled kerosene cans. And so most certainly is the golden outcrop that the big Irishman saw and sampled and lost. ///

Poem of the Month

Lonely Marker

Half-buried in gray sand it lies,

Grotesquely angled like a clowning tire,

And rusted by the elements;

A monument to some brave soul's desire

To wrest from drifting sand and mountain cold

The fleeting secret of the desert's gold.

He sought adventure — counting not the cost;

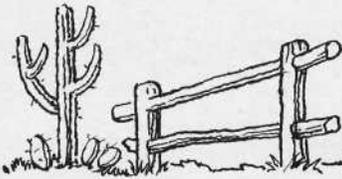
Pitted his strength against the desert's might—

And lost.

GRACE R. BALLARD
Santa Barbara, Calif.



ED ROCHESTER AND LUCILE WEIGHT EXAMINE AN OLD PROSPECT IN THE LOST SULLIVAN AREA



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MORE CLASSIFIEDS ▶

True or False

Purpose of this quiz is not to find out how much you do (or don't) know about the Desert Southwest; it's to point up how much there really is to learn about this strange big land. 12 correct answers is passing; 13 to 16 is a good score; 17 or better rates excellent. Answers are on page 30.

1. First wagon train across the Southwestern desert was that of the Mormon Battalion. True..... False.....
2. Scottsdale, Ariz., is best known for its zinc mines. True..... False.....
3. Phantom Ranch is located in Death Valley. True..... False.....
4. Author of the new book, "Painters of the Desert," is Ed Ainsworth. True..... False.....
5. Blossom of the agave or wild century plant is blue. True..... False.....
6. To see the prehistoric cliff dwellings known as the White House Ruins, you would go to Chiricahua National Monument. True..... False.....
7. The White Mountain Indian Reservation in Arizona belongs to the Pimas. True..... False.....
8. Tote-Gotes and Pak-Jaks are trade-names of off-the-highway power scooters. True..... False.....
9. The vast majority of California's Mojave Desert lies below sea level. True..... False.....
10. The famous Palm Canyon near Palm Springs is a California State Park. True..... False.....
11. Woodpeckers sometimes nest in saguaro cacti. True..... False.....
12. Ocotillo is a species of cactus. True..... False.....
13. Shore line of Lake Mead lies in four states: Nevada, California, Utah and Arizona. True..... False.....
14. Traveling east on U.S. Highway 80, Pacific time changes to Mountain time at Gila Bend, Ariz. True..... False.....
15. "Hogan" is a Navajo word that translates as "Medicine Man." True..... False.....
16. According to legend, the Lost Breyfogle Mine is located in the Four Corners region. True..... False.....
17. The mineral calcite is harder (on the Mohs' Scale of Hardness) than topaz. True..... False.....
18. Lieutenant Ives is remembered in Southwest history as the officer who first explored the lower Colorado River by boat. True..... False.....
19. Kaiparowitz is the name of a plateau in Utah. True..... False.....
20. Smoke trees on the desert often live to 250-300 years of age. True..... False.....



TRADING POST

CLASSIFIEDS

Continued from preceding page

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TRUE-FALSE ANSWERS

Questions are on page 29

1. True.
2. False. Scottsdale is famous for its arts and crafts colony.
3. False. Phantom Ranch is in Grand Canyon.
4. True.
5. False. The agave's blossom is yellow.
6. False. White House Ruins are in Canyon de Chelly.
7. False. The White Mountain Reservation is Apache.
8. True.
9. False.
10. False. Palm Canyon is largely Indian land.
11. True.
12. False. Ocotillo belongs to the species, Fouqueria.
13. False. Lake Mead's shore line touches Nevada and Arizona.
14. False. The time zone boundary on this highway is at Yuma.
15. False. A hogan is a Navajo dwelling.
16. False. The Lost Breyfogle is supposedly in the Death Valley area.
17. False. Topaz is harder than calcite.
18. True.
19. True.
20. False. Smoke trees are comparatively short-lived.

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By EDMUND C. JAEGER

AUTHOR OF

"DESERT WILDFLOWERS,"

"THE CALIFORNIA DESERTS,"

"OUR DESERT NEIGHBORS,"

"THE NORTH AMERICAN DESERTS"

THE GOLDEN BUSH CALLED RABBITBRUSH

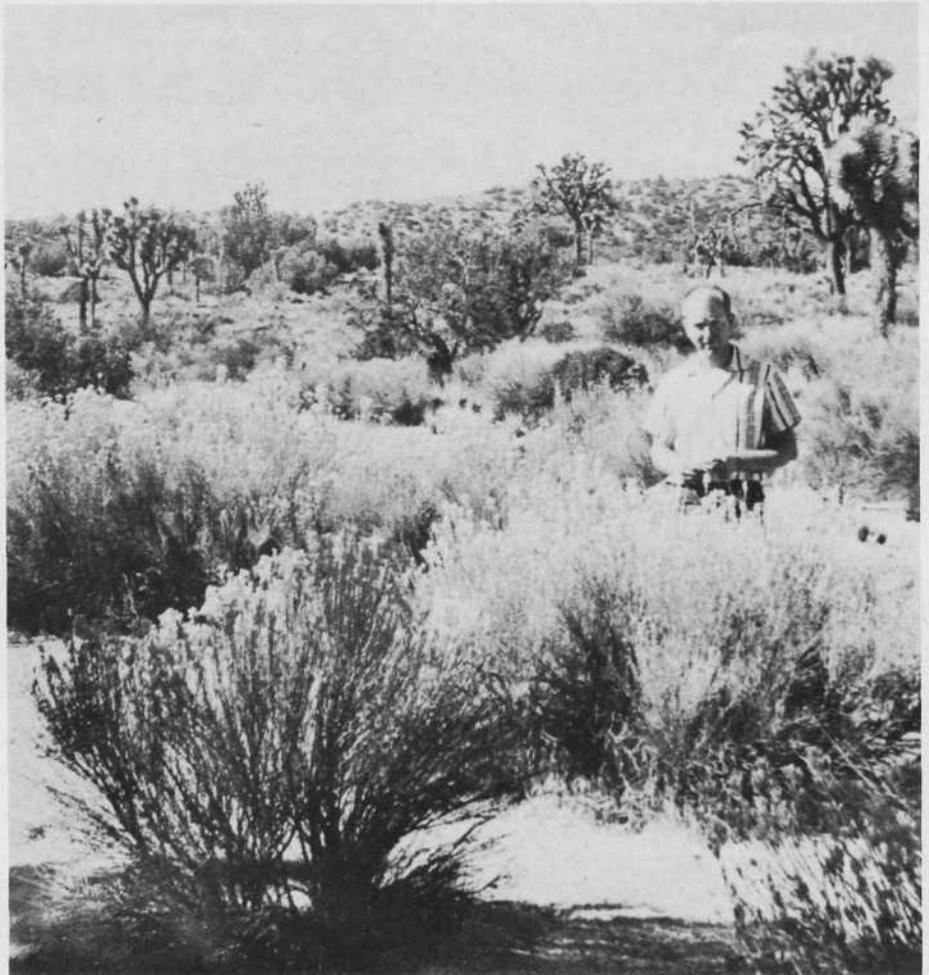
IF IT IS LATE summer or early autumn and you suddenly notice half-woody knee-high roadside or open-sunny-spot shrubs bursting into surprisingly beautiful hemispheres of small close-set golden flowers, you are probably looking upon some of the Rabbitbrushes or near relations among members of the Sunflower Family. Your amazement is probably accentuated by the fact that all summer long these same shrubs, now so colorful, were only a maze of gray or dusty green and about as unattractive as a plant could be.

The hardy perennial Rabbitbrushes carry the scientific name "Chrysothamnus," a Greek-derived word meaning *golden bush*. The casual name Rabbitbrush has really little rightful relation to rabbits except that the many coarse-stemmed bushes offer occasional cover for both the long-eared hares and agile cottontail rabbits. I feel quite certain that these animals seldom eat the Rabbitbrush herbage because most of the plants have ex-

ceedingly bitter sap in addition to strong-smelling odors because of their gums and resins. One of the most widely-spread kinds of Rabbitbrush has had the specific Latin name *nauseosus* (literally meaning "full of disgust, sickening") very aptly applied to it.

Rabbitbrush first came to prominent popular attention during World War II when a shortage of natural rubber developed. All local sources of natural rubber were carefully scrutinized for possible substitution.

It had been known for some time that the Paiute Indians of far eastern California had derived a kind of chewing gum from Rabbitbrush; later it was found that this gum was really a kind of rubber, and that it was of rather high grade. The question now in wartime was: could it be found in quantities sufficient, and could the rubber be easily extracted. Dr. Harvey M. Hall of the University of California, working with Dr. Frederick E. Clements of the Carnegie Institution of Washington, earlier estimated that in



BOTANIST WARREN ANDERSON OF THE SANTA ANA BOTANICAL GARDENS STANDS BEHIND A GROUP OF RABBITBRUSH PLANTS IN FLOWER

the natural stands of harvestable Rabbitbrush there were several millions of pounds of rubber available. Plants of some species, they said, contained as much as 2.5 percent of what they called "chrysil rubber," while others ran a content even up to 6.75 percent. Average was 2.83 percent. Additional yield, they suggested, might be obtained by selective breeding and special cultivation. All of this takes time, but time was short and the need very urgent.

In the meantime several other plants, best among them the shrubby guayule found quite abundantly in northern Mexico, were giving more promise as a ready supply of rubber, and considerable desert acreage in the Southwest was hastily given over to guayule growth. In anticipation, several processing plants were built to handle the shrubs and extract their rubber. But before much natural rubber was thus obtained, synthetic rubber was developed in quantity, the war ended and the new but meager supplies of natural rubber from Rabbitbrush and guayule were promptly forgotten. Nevertheless, the search had not been

without value for it promoted the intense study of a wide variety of heretofore neglected desert plants.

I have mentioned how the leaves and herbage of most of the Rabbitbrushes have an exceedingly bitter taste and unpleasant smell, but there are a few that have an odor so pleasing that it suggests a "combination of tropical fruits and berries." Indeed Dr. Hall mentioned how the herbage of some subspecies of *nauseosus*, notably *hololeucus* and *gnaphalodes*, are so pleasantly fragrant that the preparation of an essential oil from them would seem to be possible.

All of these shrubs like best the deep sandy or gravelly soils of washes

and open sunny flats. If there is a bit of alkali in the soil they flourish the better for it, hence it is not surprising to find Rabbitbrush among the shrubs occupying the outer marginal borders of dry lakes.

A great variety of beautiful insects and several small spiders can very easily be collected on *Chrysothamnus*, even without a net, by shaking the flower clusters on a sheet of paper or above the open top of a wide-mouth killing-jar. Such collections are usually rich in beetles, bees and wasps. Among these will surely be attractive small yellow wild bees of the genus *Perdita*. They are flower feeders, hence protected by their color as they feed on pollen or probe for nectar on the golden Rabbitbrush flowers. Bees of the genus *Colletes* (kol-EE-teez) also frequent Rabbitbrush. These medium-sized rather hairy insects nest in colonies in clay or sand banks and provision their cells with the nectar and pollen. The big wild metallic-bodied colorful-winged tarantula hawks (a kind of wasp) make spectacular flights about the flowerheads and also feed on the nectar. They'd much rather feed on milkweed flowers, but settle for second best on the Rabbitbrush.

Dr. Norton S. Wheeler recently called my attention to some tiny bud mites of the genus *Eriophyes* (air-i-o-FY-eez). "If you wish for something small in the way of living creatures to talk about here you have it," he said with a smile. "Many are but 1/250th of an inch long, indeed so small are they that unless you examine the plants they live on with a high powered microscope, you will never see them. Most of these mites live in unbelievable numbers in grasses and in the buds of certain trees and shrubs, but I have found unusually odd ones only about 1/350th of an inch long which live among the very fine hairs that cover both the upper and lower surfaces of the leaves of Rabbitbrush. The diminutive plant hairs are to them like giant trees of a forest would be to us. They feed on the liquid contents of the epidermal leaf cells. Their small size is doubtless an asset of no minor importance in their battle for survival. It is only recently that we've learned much about them."

Whenever I see a creature so minute as this mite I marvel anew at the unusual perfections of nature. Packed away in perfect order and nicety in this tiny body is a mechanism wholly complete from nervous system, with its "brain," to digestive, reproductive, respiratory and excretory apparatus—all built to carry on with nicest efficiency all the essential physiological functions of life. The smallest most

delicate machines man can make are simple trifling toys in comparison. And in this connection I recall the wise saying of an erudite philosopher: "The more we magnify the works of man the more imperfections we see; the more we examine the creations of God the more high excellence of design and function we discover."

There is one kind of insect, the elongate almost-colorless tiny tassel-winged thrips, that are commonly found on the Rabbitbrush flowers. In fact there is scarcely a kind of flower on which they are not found. These thrips can readily be seen by the naked eye, but only a magnifying glass reveals their true beauty. Often they fairly swarm on the flowerheads where they feed on the juices found in the cells of the corollas.

If small elongate green often jug-shaped hard-walled swellings are found on Rabbitbrush stems, you may be certain these are insect-caused, in this case by one of the tiny flies known as trypetids. These galls, wherein the maggots feed, are often produced in great abundance.

Several of the Rabbitbrushes make attractive ornamentals for desert gardens. In summer their early verdure is good to look upon, and of course in autumn when flowering plants are scarce they add a burst of fine friendly color. Once established, the hardy plants need next to no attention and live on for many years. They are best propagated from seed. If well-spaced the bushes develop quite symmetrical forms; if crowded they are likely to be very stemmy, upright and lacking in good form.

A really big expanse of pure stand of *Chrysothamnus* in full flower is a real sight to behold. Recently I saw one such colorful carpet on the wide flat margined borders of beautiful Laguna Hansen, a salt-encrusted dry lake in the plateau-like Sierra Juarez of Baja California. Emphasizing by way of contrast the rich golden sward of blossoms, were the giant white granite boulders bordering the lake, and behind all the fine living forest wall of noble green pines.

Where found in abundance many of the kinds of Rabbitbrush are very definite indicators of over-grazing by sheep raisers and cattlemen who all too often attempt to get every ounce of food from earth's green mantle for their beasts; in the meanwhile they give little thought of future grazing supplies. A succession of undesirable shrubs soon follows on lands over-grazed and much trampled by hoofs. Once established, the plants are difficult to eradicate.

Some years ago while out collecting

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autumnal flowering plants in southwestern Utah, I came upon an old woman and her husband who were out plucking flower clusters of resinous-stemmed Rabbitbrush; these they were putting into a large cloth bag. Upon asking them what they intended to do with them, the woman told me she was about to braid a small rug from strips cut from several white woolen blankets that had been worn thin from long use, and since she wished to have some yellow in her pattern she would "boil up" the flowers and make a good non-fading yellow dye from them. She said her mother, one of the early resourceful Mormons who had settled in St. George, had learned this way of making yellow dye from a Navajo Indian woman. A green dye, she said, could be made from the inner Rabbitbrush bark, and a brown dye from other plants growing nearby.

Thomas Nuttall (1786-1859), the man who gave *Chrysothamnus* its generic name, is worth knowing about. Although he was an Englishman, he did most of his scientific work in the United States and for many years served as curator of the botanic gardens at Harvard University. Not only was he an exceedingly competent botanist, but a first-rate ornithologist as well. He authored a book on trees, *The North American Sylva*, and a scholarly two volume work on the birds of the United States and Canada. In 1834, as botanical explorer, he made the arduous journey with Captain Wyeth across the American continent to the Columbia River. Shortly after that he visited the Hawaiian Islands, then came to California and traveled from San Francisco to San Diego. He found here and described many new plant species. He was mentioned by Richard Henry Dana in his *Two Years Before The Mast*. Dana as a student had known Nuttall as a primly dressed professor at Harvard. When he next met him at San Diego Bay Dana was surprised to see Nuttall "strolling about . . . in a sailor's pea-jacket, with a wide straw hat and bare feet, with his trousers rolled up to his knees, picking up stones and shells." Nuttall made his way home to the East on the same ship with Dana.

The sailors were amused at the professor, and thought the famous naturalist-explorer a bit "teched in the head." They jokingly spoke of him as "Old Curious." Nuttall's name is connected with several plants and birds—Nuttall's Woodpecker, Nuttall's Poor-will, Nuttall's Dogwood, and many others. If you see the abbreviation *Nutt.* after numerous plant and bird names it means that it was he who first described them. ///

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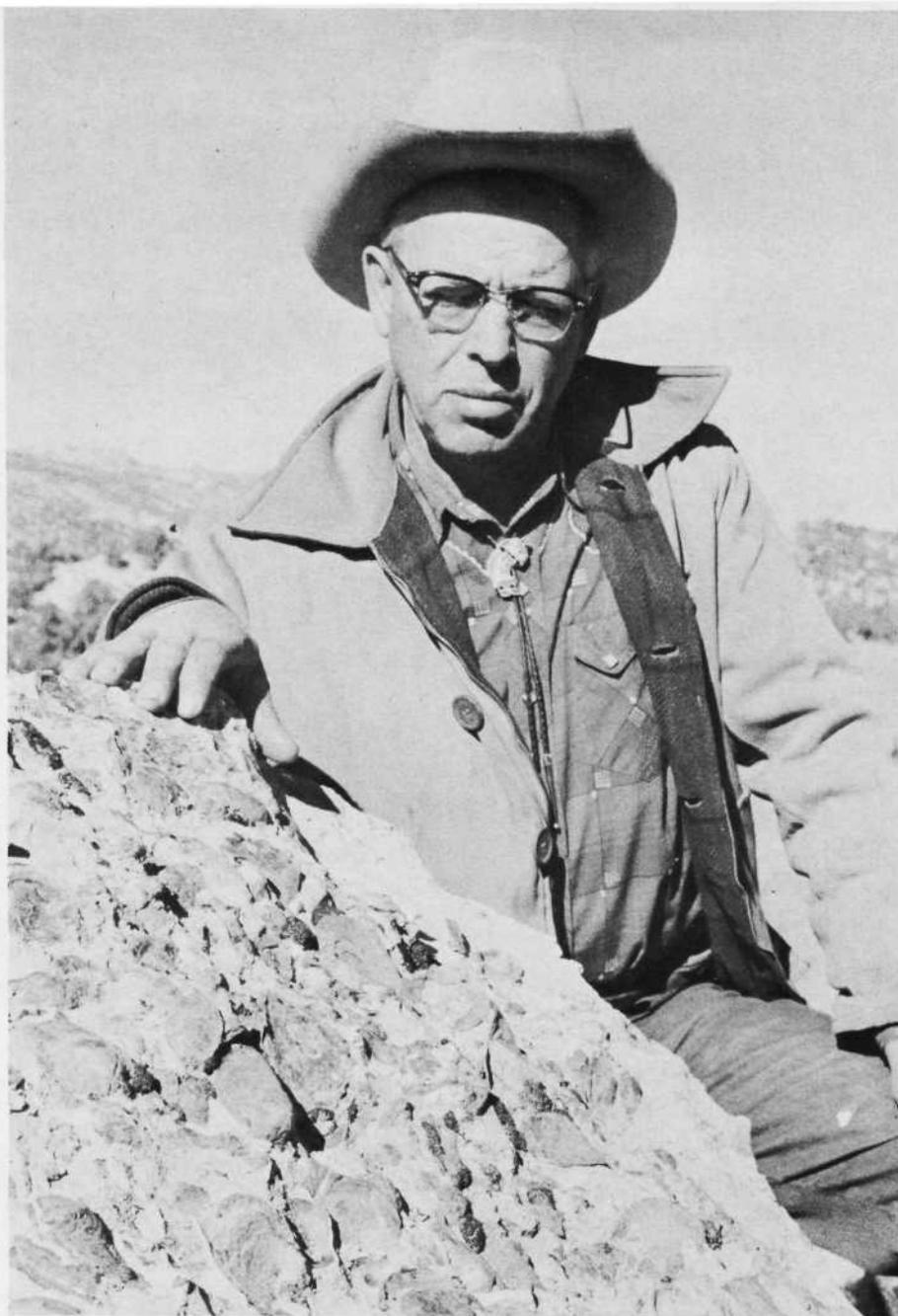
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Where the Rainbow Sleeps

By FRANK JENSEN

Desert Magazine's Utah Travel Correspondent

ON A HOT sticky summer day in 1939, a tall pleasant-looking man stopped his car in front of the dugout that served as the Pleasant Creek Ranch House. A thin veil of dust trailed behind his flivver, partially obscuring the buff-colored cliffs of Capitol Reef. A woman emerged from the hut. "Hey, Pa," she cried, "here comes that man to buy our ranch!"

Six months earlier, Lurt Knee, a traveling salesman of wind-driven generators, had stopped at Pleasant Creek in South-central Utah. "I was told then the prop-

erty was for sale," he reminisced, shifting his weight easily in the wicker chair, "but I didn't commit myself." On Lurt's second visit he told the owners he had found a buyer. "Who?" they asked eagerly. "Well, I guess it's me," was the modest answer.

Lurt Knee's discovery of Pleasant Creek and the rock-bound wilderness known as Capitol Reef was more than mere chance. It was part of a plan that had been forming in his mind nearly four years.

"I'd been working for my brother-in-law, Harry Goulding, who operates a trading

post and motor tours out of Monument Valley.

"I wanted a dude ranch patterned after that of the old master, himself," Lurt said, referring to the expertly-operated Goulding Post.

At first, Knee's neighbors were suspicious of a man who didn't raise cattle or till the soil for a livelihood. He egged them on by casually mentioning that he was "just one step ahead of the sheriff."

Lurt likes to recall the time he was seen by a particularly corpulent citizen of Capitol Reef conversing in Navajo with a wandering band of Indians.

"He hated the winter," said Knee, "and wanted to know the Indian forecast.

"They say it's going to be a bad winter. Much snow,' I told my friend.

"Ask them how much snow,' said the man breathlessly.

"I exchanged more pleasantries with the Indians — we weren't talking about the weather at all—then turned to my worried neighbor.

"They say the snow will be two Indians deep,' I reported.

"My friend tugged at my sleeve. 'Call 'em back, call 'em back,' he cried. 'Ask them if they mean standing up or lying down!'"

When Knee built his ranch house on the rim of the canyon rather than on the creek, the original owner wanted to know why. "For a better view of the canyon," was the reply. "Don't you know," scoffed the man, "you can't eat a view."

Knee proved that he could "eat" the view. In 20 years he has built his tours of the South-central Utah wilderness area into one of the finest motorized excursions in the state.

He offers a total itinerary of 15 trips, covering an area more than 100 miles square. Among the one-, two- or three-day junkets are expeditions into Capitol Reef, with its towering cliffs and murky canyons, the striking panorama of the Circle Cliffs, or the incredible spires of Cathedral Valley.

Ranch guests are housed in modern motel-type units overlooking Pleasant Creek. Each unit also has a picture window view of Capitol Reef that is truly breathtaking.

Dinner time is the highlight of any day spent with the Knees. The guests, who are summoned by an old-fashioned ranch dinner bell, dine family-style around a massive table where Lurt and his equally-amicable wife, Alice, entertain them with stories about the "land of the sleeping rainbow," now a Knee trademark.

The Sleeping Rainbow, according to legend, was the name given by the Indians to the highly-colored rock strata that rings the cliffs of Capitol Reef. Geologically speaking, this terrain is part of the Chinle formation, laid down during an era when the dinosaurs roamed the land. Its colors are due mainly to oxides of iron, manganese, zinc, uranium and vanadium. To the imaginative mind of the Indian, these rocks held all of the colors of the rainbow.

"I got the 'sleeping' part of the 'sleeping rainbow' from an Indian who showed me how the colors dimmed when a cloud passed over," explained Lurt. "When the clouds disappeared, the colors shown brilliantly again. 'See,' said the old Indian, 'how it sleeps, and now how it awakes.'"

The Sleeping Rainbow Guest Ranch is surrounded on three sides by the boundaries

of Capitol Reef National Monument. It is located off the main park road a few miles from the tree-sheltered village of Fruita.

Because of its isolation, Capitol Reef remained comparatively unknown until recent times. Its first white inhabitant was a Mormon settler by the name of Ephraim Hanks who built his cabin on Pleasant Creek in the 1880s.

The outstanding geological feature of Capitol Reef is the Waterpocket Fold (see March *Desert Magazine*), a massive tuck in the earth's crust that extends in a north-south direction for 150 miles. The fold has been sculptured by the forces of wind and water into a line of plunging cliffs that has made Capitol Reef a classic barrier to travel.

The only road through Capitol Reef follows the Capitol Gorge which for four

miles slices its way through the Waterpocket Fold with a canyon so narrow that in places cars have difficulty in passing. Landmarks in Capitol Reef have been given such fanciful names as the Egyptian Temple, Chimney Rock, Dinosaur Rock, and the Twin Rocks. A three-mile hike off the road leads to the Hickman Natural Bridge, sometimes called the "Broad Arch Bridge." This span, which is 72-feet high and 133-feet long, was named for Joseph Hickman, one of those responsible for legislation creating the natural monument in 1937.

Capitol Reef is also in the heart of a scenic cross-section of Southern Utah that includes such little known out-of-the-way places as Goblin Valley, Land of the Standing Rocks, and the Lower Sinbad Desert.

Capitol Reef is easily reached by U.S. Highway 89 and Utah 24, both paved roads.

Information about Sleeping Rainbow tours may be procured by writing to the Land of the Sleeping Rainbow, Torrey, Utah. The tours are scheduled from March through November.

On June 18, the Canyon Country River Marathon will be run from Green River to Moab—Utah's biggest boating event of the year. ///



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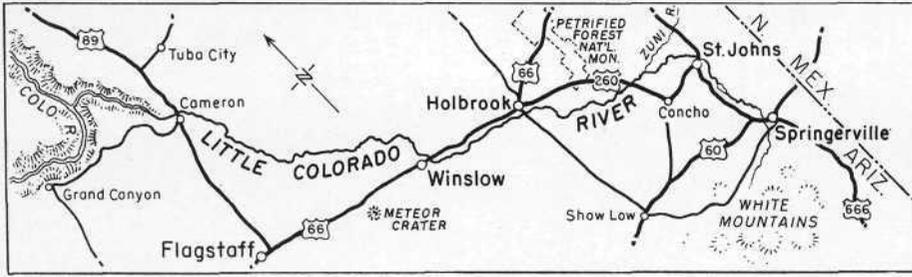
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Along the Little Colorado

By THOMAS LESURE

Desert Magazine's Arizona Travel Correspondent

PRACTICALLY ANY traveler can tell you about the *Big* Colorado River and the way it cuts a spectacular gorge across northern Arizona. Not so well known outside the Southwest, though, is the land of the *Little* Colorado—region which, for its first 100 miles or so, presents an especially appealing summer vacation-land.

Like so many notable rivers, the Little Colorado rises amid impressive mountain scenery. Its West Fork takes form in the Mt. Baldy Wilderness Area, where peaks jut above 11,000 feet, southwest of Springerville. The entire surrounding White Mountain area—conveniently reached via U.S. 666, State 273 and State 73—abounds with holiday pleasures.

Rugged mountains, tall pine and aspen forests, somnolent meadowlands, fern-fringed creeks and sparkling lakes create a vacation bonus—a wealth of ideal summer hiking or riding trails, trout fishing, boating, camping, picnicking, scenic motor trips and other outdoor fun. A wide range of accommodations — from rustic sportsmen's lodges to ultra-modern motor hotels—add built-in comfort for travelers not wanting to bed down in a tent. And the continuing projects of the Apache Indians—developments of new lakes, accommodations and other facilities—mean added bonanzas in this section of natural beauty. (For more information on Apacheland, write to: White Mountain Recreation Enterprise, P.O. Box 218, Whiteriver, Ariz.)

As the Little Colorado meanders away from the White Mountains—following first a northerly course and then skeedaddling westward—the change of pace becomes captivating. Extinct volcanoes and rugged lava beds pock and goosebump the land south of St. Johns. A short distance westward from this community, the town of Concho—started as a cattle center—is a real gone ghost with many adobe buildings. It looks substantial enough, but only a handful of residents remain and most of the structures are weathered shells.

Past its confluence with the Zuni River, the Little Colorado—which may or may not have much water flowing between its banks (it all depends on rainfall)—bypasses Petrified Forest National Monument and its section of the Painted Desert. Since the detour is relatively short, however, there's no need for travelers to follow suit.

Indeed, this national preserve is a "must" on anyone's list since its magnets of stone trees lying down, banded mesas, and ancient Indian ruins never seem to get monotonous even on repeated visits. New roads and the relatively recent enlarged Rainbow Forest Museum make sightseeing even more enjoyable. And old favorites like Newspaper Rock, the Agate Bridge, Jasper and Crystal Forests and Painted Desert seem to reveal new facets with each reacquaintance.

Holbrook, with its fine motels and restaurants, is a logical stopping point right on the banks of the Little Colorado. It's also a tempting excursion center—for drives northward into the scenic Navajo and Hopi Reservations or southward to Sitgreaves National Forest and Mogollon Rim vistas.

West of Holbrook, the Little Colorado parallels U.S. 66 to Winslow where it, too,

takes off for the Navajo Reservation and points reached only by four-wheel-drive or horseback. However, Winslow—like Holbrook—kindles a desire to explore the nearby countryside. Westward, just south of U.S. 66, lies huge Meteor Crater, one of the world's largest pits of its kind. Southward, State 65 rambles toward the Mogollon Rim and the lakes district of Coconino National Forest where the pines are tall and cool, and nature often seems idyllic. Northward, a new road is being pushed into the Navajo and Hopi domains, bringing those sections ever nearer.

For most travelers, the next rendezvous with the Little Colorado is near Cameron where it cuts through the high plateau to form a good-size canyon prior to joining the big Colorado. But that section, impressive as it is, remains a bit far afield from the region through which the Little Colorado spends its early days. So, it's back to the highlands—to the streams and lakes, the flowered meadows, rolling grass hills, lonely trails and forested mountains—a bonnie summer land if ever there was one.

On June 16-18, the city of Globe holds its annual Junior Rodeo. ///

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The Arizona Civil War Centennial Commission (mailing address: c/o Arizona Pioneers' Historical Society, 949 East Second St., Tucson) is now taking orders for illustrated covers commemorating eight events that occurred in far-off Arizona during the War Between The States. These illustrated covers will be mailed for each event on the day it is re-enacted. The covers will have special cancellations and appropriate commemorative stamps.

Covers for any single event can be ordered for 50c each; the complete set of eight covers will be mailed to any U. S. address for \$3.

The eight events, their dates and place of re-enactment:

July 4, 1961: The Cross-Mowry duel (Tubac).

August 1, 1961: Col. John R. Baylor's proclamation establishing the Confederate Territory of Arizona (Tucson).

February 14, 1962: Territory of Arizona formally admitted to the Confederacy (Tucson).

February 28, 1962: Confederate troops reach Tucson.

April 15, 1962: Battle of Picacho Pass between Union and Confederate troops—the most westerly engagement of the Civil War.

July 15, 1962: Battle of Apache Pass between Union troops and Apache Indians.

February 24, 1963: Arizona Territory joins the Union (Tucson).

January 22, 1964: Establishment of the first Territorial Capitol (Fort Whipple).

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A June Visit to Jarbidge

By PEGGY TREGO

Desert Magazine's Nevada Travel Correspondent



THIS IS the month to pack up the camping gear, the rock collecting paraphernalia, the fishing tackle, the camera, and the expectations—and head for Jarbidge, Nevada. All the above-mentioned impedimenta will come in handy, for Jarbidge lives close to an exciting past in a setting of truly marvelous

beauty. In June, it adds impossible perfection with high-country wildflowers.

Far north in our state, Jarbidge is only a few miles from the Idaho border. At 6200 feet elevation, its seasons are delayed. It is always startlingly green. Along the clear, sparkling Jarbidge River the grass and brush is pure emerald; limber pines, junipers, aspens and other trees climb the steep slopes of the Crater Range. And in June, color blossoms right up to the dumps of once-fabulous mines, and flashes against the weathered sides of old mill buildings.

The town itself is a few picturesque buildings set in the bottom of a narrow river-cut canyon deep among towering hills. Throughout these hills are the million-dollar mines of wonderful name—the Long Hike, Bluster Consolidated, Legitimate, O.K., Pick and Shovel. Somewhere, too, in this steep rugged country is one of legend's great "lost mines," and fact says there might even be treasure buried just north of town.

Jarbidge is a small town, even as towns go in Nevada; the population this time of year may reach 30. Because of its setting, only spectacular routes lead to Jarbidge. And because it is really remote, you'll have to provide for yourself when you get there. The trip is well worth cautious driving, and the Forest Service has set up truly fine camping facilities in this area. Just be sure to bring food supplies (Jarbidge offers a gas station, but no stores, hotels or restaurants) and be sure, too, to bring what is needed to combat chilly nights in camp. At this elevation and latitude nights are cold even when the sun makes the days shimmer.

There are two main entry roads to Jarbidge—one over Bear Creek Summit from the south; the other from Rogerson, Idaho, that dips in from the north. From U.S. 40, two routes connect with the Summit Road; the easiest is Nevada's Route 11 leading northward 51 paved miles from Elko. Four miles above North Fork, a good dirt road leads easterly from Route 11 to the long-gone camp of Charleston, and then begins the Summit climb. The Summit Route is a glorious road, and one to respect. It seems to reach the very top of the world before it winds down 2000 feet into Jarbidge. An unpaved road also leads to Charleston from Deeth on U.S. 40, a somewhat shorter but slower way than by Route 11. However you come in from the south, it is wise to ask in Elko about possible late-season snow on Bear Creek Summit.

The loop down from Rogerson is less precipitous than the Bear Creek Summit road, and almost as spectacular. It follows, roughly, the original stage route to Jarbidge, and it brings you in past the fantastic rock pinnacles just north of town. The pinnacles are almost worth the trip in themselves, rising in some places hundreds of feet above the road. They are eroded columns of ancient lava that take every possible shape: towers, castles, giants—whatever your imagination fancies. They seem to change with every minute's light, and no one with camera can resist trying to catch this show on film.

There are other roads into Jarbidge from the west (Mountain City) side that aren't on the ordinary map. For these it is wise to have a rugged vehicle, lots of local information, and plenty of time. They aren't easy travel, but they are worth the effort.

The Jarbidge country was known as a prospector's promise as early as 1870, but it wasn't until the first decade of this century that interest in its gold and silver potential really flourished. By early 1910 Jarbidge was everything a boom camp

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JARBIDGE IN JUNE HAS A POPULATION OF 30

should be, blooming with tents, crowded with fortune seekers and sounding to the racket of building, digging, teaming. The next year its population leveled off at 1200, and the outward flow of wealth began. In 1919-1921 Jarbidge produced more gold than any other Nevada camp, and by the late 1930s its total output was conservatively estimated at \$9,439,176. Some mining went on into the early 1940s, but most of the Jarbidge district wealth has been found in comparatively shallow Tertiary formations that are of brief richness. Past the early 1920s, Jarbidge dwindled, but it is far from being a ghost town even today. Just stick around for the annual Fourth of July "fish fry" and barbecue, and you'll see what I mean.

Although Jarbidge's history is generally peaceful, it has one whopping crime in its past—the last holdup of a stagecoach in America took place just north of town in December, 1916. Some say the \$4000 taken from the stage is still buried near the robbery site, and you are welcome to look for it. That holdup, which took the stage driver's life, also made legal history. It was the first case in which a handprint was admitted into court evidence, and that bloody handprint was enough to send a man to prison for life.

Somewhere northeast of town the hills still hold the secret of the Lost Sheepherder Mine—a lode that disappeared in the 1890s along with the only two men who ever saw it. A skeleton marks its site, so they say, and someone in Jarbidge is always willing to tell you the story and perhaps even to help you search for the lost mine.

Easier going is a trip up Jack Creek a few miles north of town to find agates—an open claim hospitably known as "The Rockhound's Dream." What's left of the original Crippen Grade from Idaho joins the modern road at Jack Creek; its steepness is something for marveling and not for modern cars, though the stage used to make it in the old days.

Everywhere are trails into the far country, and there is always someone around town willing to do a little guide work for longer trips than one afternoon's hiking. A guide is good to have if you plan to peek into the back country, although all it takes to see the closer mines and mills is a little legwork.

Maybe all you'll want to do is fish and stretch your eyes. The fishing is excellent, and the looking is even better. By all means keep your ears open. Jarbidge's old-timers can't resist coming back for the summer and they like to talk of the early days. Once you have dwelt even a little while in Jarbidge's past history and present beauty, you'll know what they mean. You'll come back, too.

June events in Nevada: June 3-4: Archery Tournament, Fallon. June 9-11: Silver State Stampede, Elko. June 10: Carson Valley Days, Minden. June 16-18: Annual Reno Rodeo. June 24: Miss Nevada Pageant, Reno.

Neighboring California has these June specials: First four days of the month: Cherry Festival at Beaumont. June 16-18: Fandango at Big Pine. June 18: Antelope Valley Kennel Club's Sanction Match, Lancaster. June 23-25: Paiute Indian Fair, Bishop. June 23-25: California Federation of Mineral Societies 22nd annual convention and show, Los Angeles County Fairgrounds, Pomona. ///



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By RANDALL HENDERSON

ONE WEEKEND LATE in April I had the privilege of camping in the Sierra Juarez Mountains in Baja California with a group of undergraduate students in biology from Southern California colleges. This was Dr. Edmund C. Jaeger's first Young Naturalists' Palaver—a sort of campfire seminar attended by 40-odd science majors.

The students slept on the ground, cooked their own meals, and—equipped with butterfly nets, snake sticks, plant presses, binoculars, etc.—spent the two days climbing a nearby mountain peak and combing the pinyon forest for insect, reptile and rodent specimens to be taken to the school laboratories for study. Saturday evening we gathered around a campfire and listened to informal lectures by high-ranking scientists in geology, entomology and zoology.

Some of the technology was over the head of a mere journalist—but I understood enough to realize that the studies and research of these young men, and countless others in schools all around the world, will have an important bearing on the food supply and human survival in the years ahead as this earth becomes more crowded with men, women and children, and the depletion of basic natural resources continues at an accelerated rate.

One of the speakers expressed an opinion which I suspect is shared by many other Americans. He questioned the wisdom, as national policy, of spending hundreds of millions of dollars trying to put a man in orbit when there are so many critical unsolved problems here on earth. One of these unsolved problems involves an economical process for the de-salting of sea water.

As I noted the enthusiasm with which these young students welcomed the opportunity to flex their muscles on the steep face of the mountain, and to explore the rock crannies in this virgin wilderness, I compared this scene with another student gathering I had witnessed earlier in the month. This was the annual Easter week influx of vacationing students to Palm Springs. Over 4000 of them came to the desert resort city this year.

Amply supplied with money, many of them driving their own sports cars, they cluttered the traffic, and for seven days were a headache to the police and a nuisance to the community. Over 100 of them were arrested for petty violations and more than 1000 traffic citations were issued. They were not criminals. They were spirited young men and women of average intelligence—seeking escape from the boredom of a week of idleness.

It was reported that one young playboy picked up for questioning by the police, was found to have \$1500 in cash in his pockets. The police, in line of duty, put in a long distance phone call to the boy's father in Los Angeles to

verify the source of the money. The father's reaction: "Well, what of it? Hasn't he got enough?"

What a godsend it would be if there were two or three Edmund Jaegers in every high school and college—not necessarily scientists, but teachers of physical education, domestic science, shop or any subject—who would organize Easter week treks into mountains and desert where the students could face the challenge of primitive living in a natural environment. No policemen would be necessary. These young people, I am sure, would respond to the disciplines of early reveille and good camp housekeeping in the right spirit. In close association with the things of the natural world they would glimpse a set of values quite alien to those of the artificial environment from which they came. Under enlightened leadership they would gain a new reverence for life—all forms of life.

* * *

Everett Ruess, the nomad artist-poet who disappeared in the Utah wilderness in 1934 and whose fate remains a mystery to this day, once wrote: "Where I go I leave no sign."

This also is the rule of Dr. Jaeger on his camping expeditions. As part of the campfire program, he gave us these instructions: "This is a magnificent pinyon forest where nature is in perfect balance. We want to leave it just as we found it. Before we break camp, let us bury or take away every scrap of paper, bottle or can and even cover the ashes of our fires with sand. If we leave only our footprints, the wind and the rain soon will obliterate them."

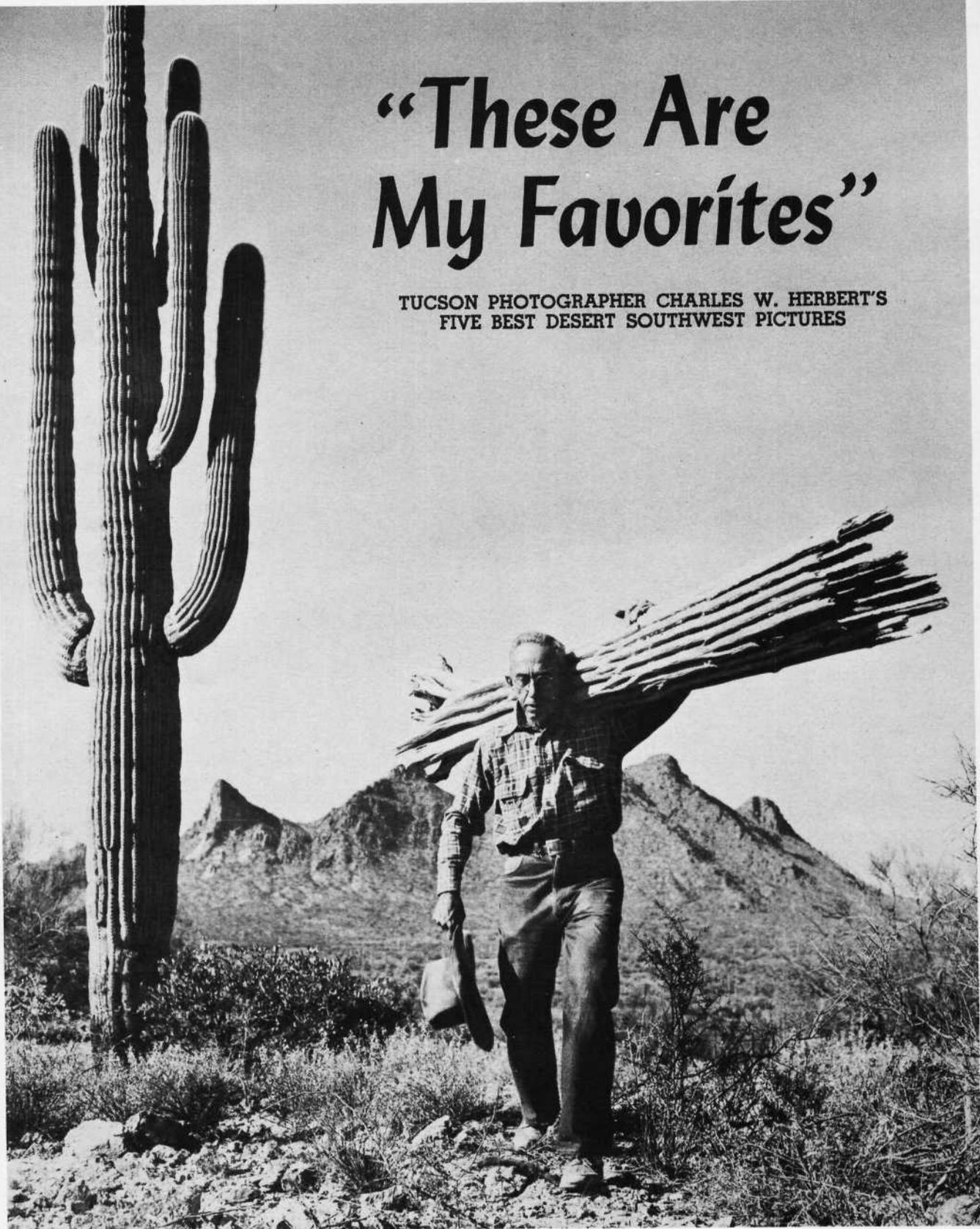
* * *

In her book *Our Southwest*, published many years ago, Erna Ferguson wrote:

"The arid Southwest has always been too strong, too indomitable for most people. Those who can stand it have had to learn that man does not modify this country; it transforms him, deeply. Perhaps our generation will come to appreciate it as the country God remembered and saved for man's delight when he had matured enough to understand it. God armored it, as the migrating Easterner learned to his anguish, with thorns on the trees, stings and horns on the bugs and beasts. He fortified it with mountain ranges and trackless deserts. He filled it with such hazards as no legendary hero ever had to surmount. Much of the Southwest can never be made into a landscape that will produce bread and butter. But it is infinitely productive of the imponderables so needed by a world weary of getting and spending. It is a wilderness where man may get back to the essentials of being a man. It has magnificence forever rewarding to a man courageous enough to seek to renew his soul."

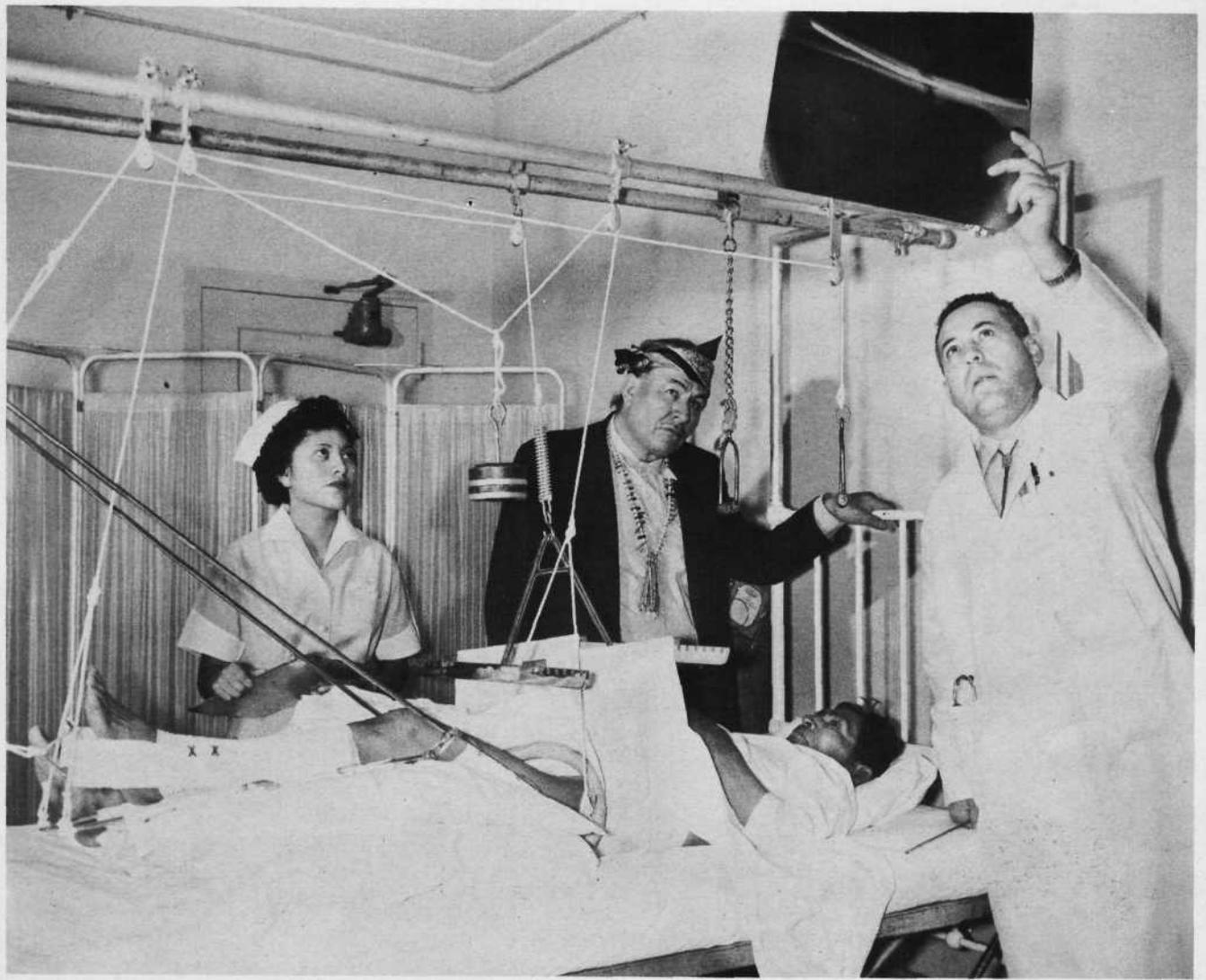
"These Are My Favorites"

TUCSON PHOTOGRAPHER CHARLES W. HERBERT'S
FIVE BEST DESERT SOUTHWEST PICTURES



There is a story behind this picture of a man carrying saguaro ribs that makes it important. Herb Wood came to the desert with a broken back, a family to support, and ten dollars in his pocket. He set up a tent on a piece of land, built a home out of rocks, and fashioned furniture out of cactus skeletons. Neighbors admired this unique furniture, and some asked Herb to make pieces for them. Soon a profitable home furniture business was launched. This photograph has action, and also shows the live and dead saguaro so essential to "Cactus Herb's" story.

CONTINUED



Here is a forceful story—a Navajo Medicine Man stares at the magic picture of his patient's broken limb spliced together with a silver rod. The facial expressions plus the fact that we can "read" the X-Ray in this photo, are the essentials for this dramatic presentation of fact. The young Navajo nurse adds still another ingredient to the drama captured by the camera.



THE PHOTOGRAPHER:

Charles W. Herbert has been a photographer without plan or schooling since 1924 when he found himself with a newsreel camera after losing his savings and two months of hard work in an ill-fated Gulf of Mexico expedition. He started shooting newsreels and was accepted into the fold after Pathe purchased some of his efforts. Herbert specialized in features, and worked up to staff cameraman for Magic Carpet of Movietone and The March of Time. He turned to still photography in 1946, following a stint with the Army, and established Western Ways Features in Tucson. His work has appeared in most major American publications.

CONTINUED

Charles Herbert's Favorite Photos

Continued from preceding page

I believe this photo of a worker hand-pollinating a date palm has a news-worthy angle: Man helps nature propagate healthy dates suitable for Man's consumption. The camera angle puts the picture in the

out-of-the-ordinary class, and gives the viewer the feeling that he has a front row seat. Shadows add drama and realism.



These people loading a massive petrified palm trunk onto their vehicle adds an impressive angle to rock-hounding. That's real treasure! Something universally understood.

The setting is dramatic; the people furnish life and action. But, such a picture needed a lot of pre-planning and staging before the shutter was clicked.



CONTINUED



Census taking is a monotonous and sometimes unpopular business. This picture of Mrs. Hurd and old Albert Copelan shows an interesting phase of this operation. Copelan lives in a prospector's shack in the Santa Catalina Mountains. Using his home for the background helps set the scene for this photo. ///



THISTLE SAGE
SALVIA CARDUACEA
artist: Henry Mockel
(SEE PAGES 22-23)