THE
Desert
MAGAZINE

NOVEMBER, 1937

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We are more than gratified at the enthusiastic and encouraging response which you and your neighbors expressed when the Desert Magazine was placed on sale for the first time last month. We are convinced that you are proud of the magazine and that you like to show it to your friends.

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THE Desert MAGAZINE

DESERT

Calendar

for November

Civic groups in the desert area are invited to use this column for announcing fairs, rodeos, conventions and other events which have more than mere local interest. Copy must reach the Desert Magazine by the 5th of the month preceding publication. There is no charge for these announcements.

OCTOBER 27—Deer season opens in Kaibab forest. Closes November 15.

OCTOBER 29, 30, 31—California newspaper editors assemble at Lone Pine in Inyo county as guests at three-day program marking the opening of the new Mt. Whitney-Death Valley highway.

OCTOBER 31—Nevada celebrates its 73rd birthday.

NOVEMBER 12—Indian festivities mark observance of St. James day at Tesuque Pueblo, New Mexico.

NOVEMBER 12—Fiesta of San Diego at Jemez Pueblo, New Mexico.

NOVEMBER 14—Season opens for quail hunters in Arizona. Closes December 15.

NOVEMBER 15—Season opens for quail hunters in all California desert areas. Closes December 31.

NOVEMBER 15—Open season for deer, wild turkey and bear closes in Arizona. (Opened October 15).

NOVEMBER 16—Twenty-day season for Elk hunters opens in Arizona. Limited to 300 resident and 50 non-resident permits.

NOVEMBER 17, 18, 19, 20—Spanish Fiesta days sponsored by Elks lodge at Yuma, Arizona.

NOVEMBER 18, 19, 20, 21—Annual Helzapopin celebration at Buckeye, Arizona.

NOVEMBER 22—Annual meeting of Highway 66 association at Amarillo, Texas.

NOVEMBER 27—Opening of 30-day duck season authorized by Presidential proclamation.

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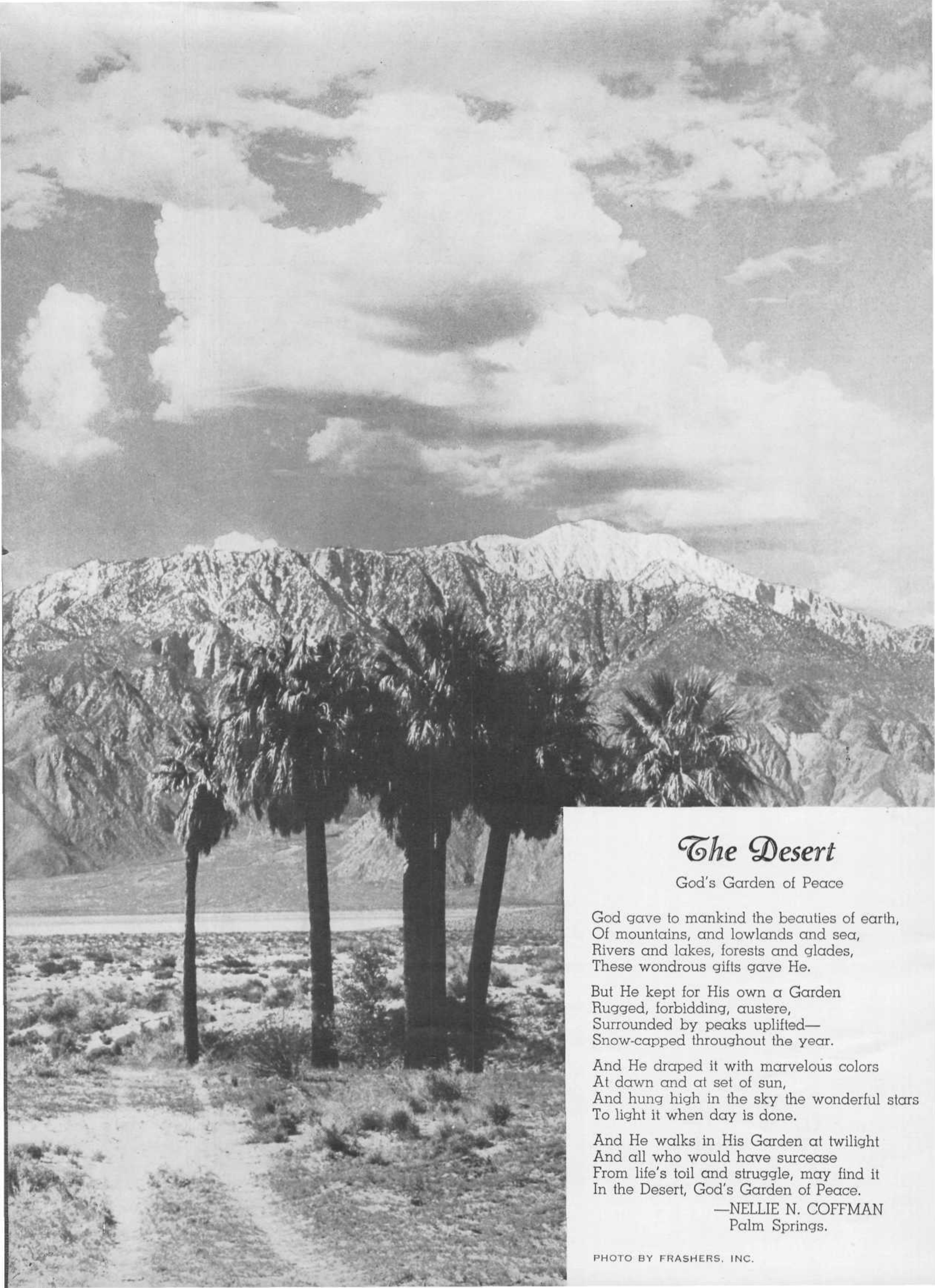


The Desert

God's Garden of Peace

God gave to mankind the beauties of earth,
Of mountains, and lowlands and sea,
Rivers and lakes, forests and glades,
These wondrous gifts gave He.

But He kept for His own a Garden
Rugged, forbidding, austere,
Surrounded by peaks uplifted—
Snow-capped throughout the year.

And He draped it with marvelous colors
At dawn and at set of sun,
And hung high in the sky the wonderful stars
To light it when day is done.

And He walks in His Garden at twilight
And all who would have surcease
From life's toil and struggle, may find it
In the Desert, God's Garden of Peace.

—NELLIE N. COFFMAN
Palm Springs.

PHOTO BY FRASHERS, INC.

There Are Two Deserts

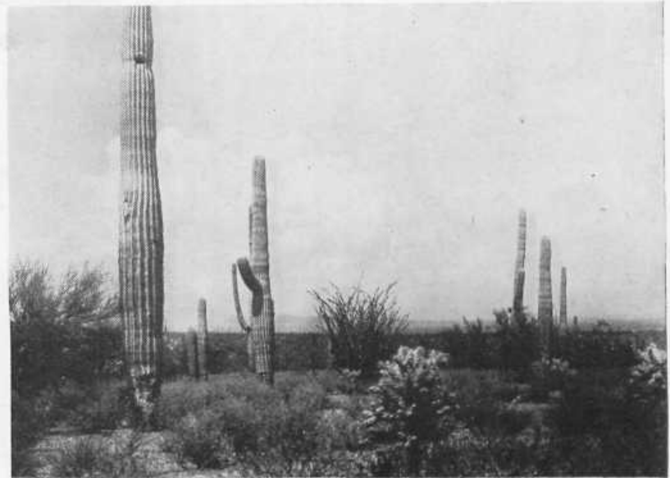
(EDITORIAL)

ONE IS A GRIM desolate wasteland. It is the home of venomous reptiles and stinging insects, of vicious thorn-covered plants and trees, and of unbearable heat. This is the desert seen by the stranger speeding along the highway, impatient to be out of "this damnable country." It is the desert visualized by those children of luxury to whom any environment is unbearable which does not provide all of the comforts and services of a pampering civilization. It is a concept fostered by fiction writers who dramatize the tragedies of the desert for the profit it will bring them.

But the stranger and the uninitiated see only the mask. The other Desert—the real Desert—is not for the eyes of the superficial observer, or the fearful soul or the cynic. It is a land, the character of which is hidden except to those who come with friendliness and understanding. To these the Desert offers rare gifts: health-giving sunshine—a sky that is studded with diamonds—a breeze that bears no poison—a landscape of pastel colors such as no artist can duplicate—thorn-covered plants which during countless ages have clung tenaciously to life through heat and drought and wind and the depredations of thirsty animals, and yet each season send forth blossoms of exquisite coloring as a symbol of courage that has triumped over terrifying obstacles.

To those who come to the Desert with friendliness, it gives friendship; to those who come with courage, it gives new strength of character. Those seeking relaxation find release from the world of man-made troubles. For those seeking beauty, the Desert offers nature's rarest artistry. This is the Desert that men and women learn to love.

. . . one is grim, desolate . . .



. . . one is fascinating, mysterious . . .

NEARLY every creed and industry and locality has its journal—except the Desert. Here, within the boundaries of Arizona, California, Nevada, New Mexico and Utah resides a great family of human beings—the highest type of American citizenship—with a common heritage of environment and interest and opportunity, yet residing for the most part in regions that are remote from the so-called cultural centers.

This is the last great frontier of the United States. It will be the purpose of the Desert Magazine to entertain and serve the people whom desire or circumstance have brought to this Desert frontier. But also, the magazine will carry as accurately as possible in word and picture, the spirit of the real Desert to those countless men and women who have been intrigued by the charm of the desert, but whose homes are elsewhere.

* * *

This is to be a friendly, personal magazine, written for the people of the Desert and their friends—and insofar as possible, by Desert people. Preference will be given to those writers and artists—yes, and poets—whose inspiration comes from close association with the scented greasewood, the shifting sand dunes, the coloring of Desert landscapes, from precipitous canyons and gorgeous sunsets.

The Desert has its own traditions—art—literature—industry and commerce. It will be the purpose of the Desert Magazine to crystallize and preserve these phases of Desert life as a culture distinctive of arid but virile America. We would give character and personality to the pursuits of Desert peoples—create a keener consciousness of the heritage which is theirs—bring them a little closer together in a bond of pride in their Desert homes, and perhaps break down in some measure the prejudice against the Desert which is born of misunderstanding and fear.

It is an idealistic goal, to be sure, but without vision the Desert would still be a forbidding wasteland—uninhabited and shunned. The staff of the Desert Magazine has undertaken its task with the same unbounded confidence which has brought a million people to a land which once was regarded as unfit for human habitation.

We want to give to the folks who live on the Desert—and to those who are interested in the Desert—something that will make their lives a little happier and a little finer—something worthwhile. In the accomplishment of this purpose we ask for the cooperation and help of all friends of the Desert everywhere.

RANDALL HENDERSON,
J. WILSON MCKENNEY.
Publishers.

Creosote bush, or greasewood as it is commonly known, is the hardiest and most common of all desert shrubs. This story of the Creosote is written by Don Admiral to give desert folks a more intimate acquaintance with one of their neighbors of the plant world. Other desert shrubs will be described by Mr. Admiral in future issues of the Desert Magazine.

By DON ADMIRAL
Desert scientist of Palm Springs

No. 1 Adventurer of the Desert

ADVENTURING into lands so arid that no other shrub can survive, the Creosote bush, or common greasewood, is entitled to carry the banner as No. 1 plant of the desert region.

While other members of the great family of desert flora falter and shrivel before the merciless onslaught of heat and sandstorm and drought, the lowly greasewood wages a constant battle of advance and retreat—and generally is the victor.

To the Indians, the Creosote was a medicine for many ailments. But since the white man prefers to buy his healing potions from the corner drug store in capsules and bottles, his arrival in the desert has left the Creosote unmolested except when it interferes with the clearing of homesteads or the building of roads.

Perhaps there should be one exception to this last assertion. The unfortunate motorist who finds himself mired in the depths of a desert sand dune finds the greasewood a rough but ready friend in time of need.

In the hot dry desert outposts the Creosote shrub is small, tough, wiry, and with but few leaves. In more favored localities its vital strength brings forth a large stately bush of wand-like branches covered with shiny olive-green leaves, and in season a multitude of yellow blossoms. The petals, which are turned like the blades of a windmill, give way to fluffy little balls of cotton in which the seeds are housed.

Under exceptionally favorable conditions the Creosote may grow to a height of 12 or 15 feet. More commonly it is from five to eight feet.

Like most desert plants, the Creosote is a rugged individualist. It never crowds its neighbors, nor permits them to invade its own little domain. Visitors on the desert often comment on the comparatively uniform spacing between the plants—almost as if they had been planted. There are scientific reasons for this, having to do with the root systems and moisture supply. We humans might learn something from this desert plant.

Bearing out the assertion that the Creosote is the No. 1 shrub of the desert, the Arizona State Planning board has published a botanical table showing that this bush grows over 37 per cent of the state's area. Sage ranks next with a total area of five per cent. There are some areas of course in which the two plants intermingle. Creosote is found in Arizona from sea level to an elevation of 3,000 feet and is dominant over about 27 million acres of the state.

Larrea divaricata is the scientific name given by Munz now quite generally accepted. The genus name *Larrea* is in honor of a Spaniard, de Larrea. The species name *divaricata* refers to the twined characteristic of the leaves. Previous classifications include *Larrea glutinosa*, Engelmann; *Covillea glutinosa*, Rydberg; *Larrea Mexicana*, Moric; *Larrea tridentata*, Coville.

Creosote bush is the generally accepted common name. Greasewood is also used but is not so distinctive for the reason that this term is also applied to other desert shrubs. Among the Mexicans it is Hediondilla, and Father Font frequently refers to it by this name in his diary of the Anza expedition.

Prehistoric dwellers on the desert found many useful purposes for the shrub. The gum from its twigs was used to cement arrows and to mend ollas. Tea brewed from its leaves was regarded as a cure for stomach disorders and rheumatism, and as an antiseptic for wounds.

Recently, a cowman in the Vallecito region told me that he had seen the old Indians use a concoction brewed from the foliage as a hair tonic. "And did you ever see a bald-headed Indian?" he asked by way of clinching his point.

The Desert Under A Microscope

Dr. Forrest Shreve and his staff at the Desert Laboratory near Tucson are prying into the secrets of desert plant life.

By J. WILSON McKENNEY

HERE, THOUGHT I, is where I can unloose all those stored-up questions about desert life. Here before me is the man who knows all the answers. Questions came flying to my lips.

"Why doesn't the giant sahuaro grow west of the Colorado river?" I heard myself asking.

I had heard this matter of the sahuaros much debated and had always believed that the giant cactus grew only on Arizona soil until I had stalked a few lonely specimens north of Picacho and others along the Riverside mountains on the California side of the river. But as a general rule this picturesque cactus, bearing Arizona's state flower, marches down to the edge of the Colorado River and there abruptly halts.

"They just don't like the California air," the Wise Man answered with a mischievous twinkle in his eye. Then after a short pause during which I blinked my eyes in astonishment, he added, "And then again, it may be that efficient California border patrol."

This was too much. I had come to Tucson to talk with a scientist, scholar, musty pedagog, and here I found a tall, friendly out-of-doors man with a sense of humor. I began to be very glad I had come to see Dr. Forrest Shreve in the Desert Laboratory on the slope of Tumamoc hill.

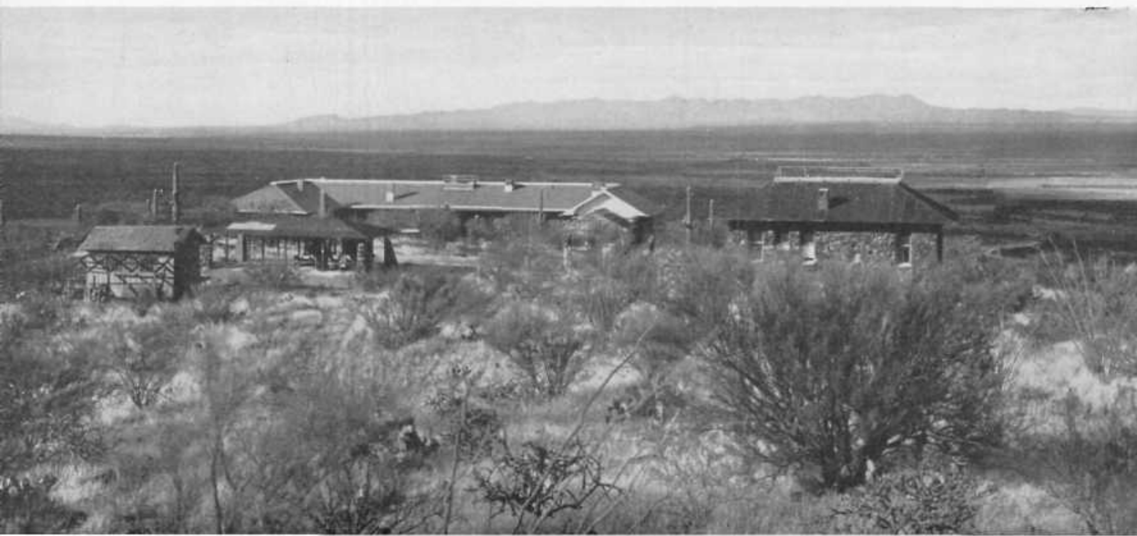
"But seriously", the Director continued, "we believe *Cereus giganteus* will not thrive in the Colorado and Mojave deserts because these regions do not have sufficient rainfall in the hot summer months to germinate the seeds. Some desert plants germinate in the winter, but not the sahuaro. Its seed must have both heat and moisture. In Arizona we have an average of twelve inches of rainfall a year, over half of it in the hottest summer months, while California desert regions get less than four inches a year, very little of which falls in summer. The river simply adds a final deciding barrier over which few of the sahuaros can hurdle."

A friendly vibrant voice this man had —Forrest Shreve, scientist of the desert, who for more than 30 years has recorded his findings on Sonoran plant life in this massive stone house on Tumamoc hill. Tall and thin, he has the head of a scholar and the bearing of an out-of-doors man: he seems somehow to combine the roles of philosopher and prospector.

Dr. Shreve turned from his study table at the far side of a large well-lighted room and advanced toward me quickly. Cordially he seated me and resumed his place before the orderly table, lighting his ancient pipe leisurely, suggesting comfortably that we should have lunch with his wife and the staff before we got down to the serious business of discussing his work at the laboratory.

Arizona sunlight poured through the many windows, falling on orderly rows of bookcases, charts, graphs, photographs, and scientific instruments. Nowhere was there evidence of the cobwebby mustiness which, in the layman's mind, is an essential element of the pedagog's workshop.

I turned toward the spacious windows to look down on the roofs and spires of Tucson and the brown bulk of the Santa Catalina mountains beyond.



Buildings of the Carnegie Institution's Desert Laboratory at Tucson are located on a hillside in the midst of a great expanse of desert, high plateaus, and mountain woodlands.

In a brown stone building on the slope of Tumamoc Hill, men of science have been solving the desert's riddles for the past three decades. Here is an interview with one of the men who knows most of the answers.

What a beautiful site for the Desert laboratory! There before me, less than two miles away, lay the cultural capital of the Southwest and stretching in all directions from its borders lay the beautiful arboreal desert now famous throughout the world.

And this brown stone building—the Desert Laboratory of the Carnegie Institution of Washington—had housed the men who had done most, in a quiet unheralded way, to make these deserts famous. This much every desert dweller has heard. But the idea of a desert laboratory is remote and hazy to most of us. If we give it a second thought, we probably regard the place as a sort of cactus garden where super-gardeners tend their neatly-spaced plots of spiny plants.

But as I came up the steep grade to the buildings on the hill I saw no well-tended gardens. In fact the terrain looked just a little wilder than the desert around it, a sort of refuge where cottontails, quail, and lizards frolicked in unmolested freedom and the native plant life seemed more abundant. And this man before me—the director of this famous laboratory—certainly did not look like a gardener.

We had lunch—the laboratory staff, the little lady with the gray hair and voice of a girl, and the reporter. As Dr. Shreve described with the language of a scientist the pecularities of a certain desert plant, I wondered whether the little woman was following him. I had become lost about two courses back. I thought she must be a very brave wife to have lived with this man so long and to have suffered these undecipherable descriptions so well. My doubt changed to admiration when I learned that Mrs. Shreve is a distinguished scientist in her own right and that she is the author of one of the most widely quoted papers listed by the institution!

He Knows Most of the Answers

"What is the Desert Laboratory? Who started it and why? Why was it placed out here so far from the so-called centers of culture? What do they do here? Who works here?" These and other elementary questions I fired at Dr. Shreve.

"Of course you are familiar with the story of Andrew Carnegie," he began, "the immigrant boy who became one of America's richest steel magnates and who left a fortune "to encourage in the broadest and most liberal manner investigation, research, and discovery, and the application of knowledge to the improvement of mankind." Before he died Carnegie had established an institution which divided its scientific investigations into twelve departments in widely separated parts of the country. The Desert Laboratory became one of the outposts of the Division of Plant Biology. The total Carnegie benefaction totaled about $25,000,000."

The late Dr. F. V. Coville, chief botanist of the U. S. Department of Agriculture for more than 40 years, brought to the attention of the Institution the need for investigation in the field of plant life. He and Dr. D. T. MacDougal, then assistant director of the New

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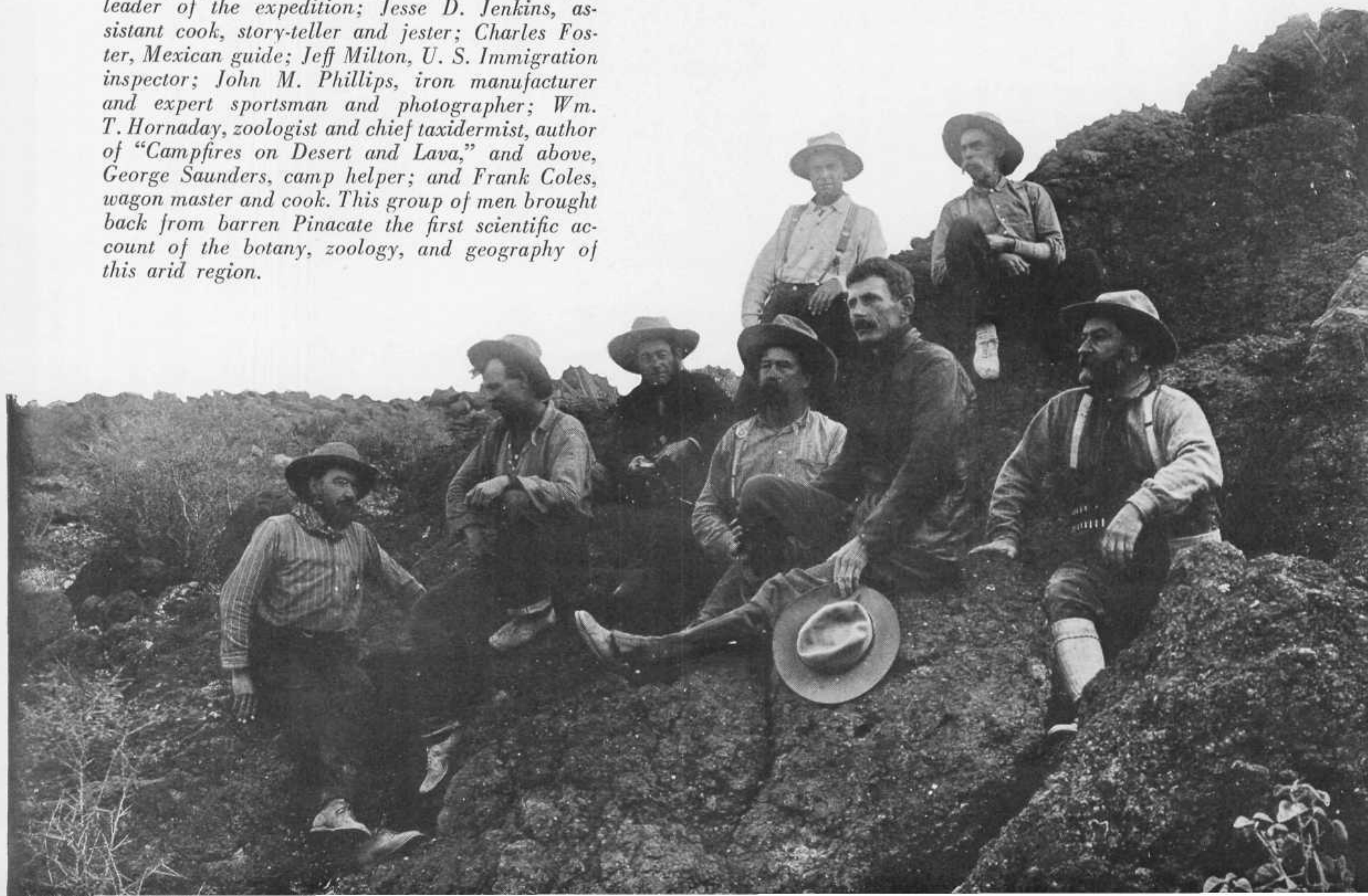
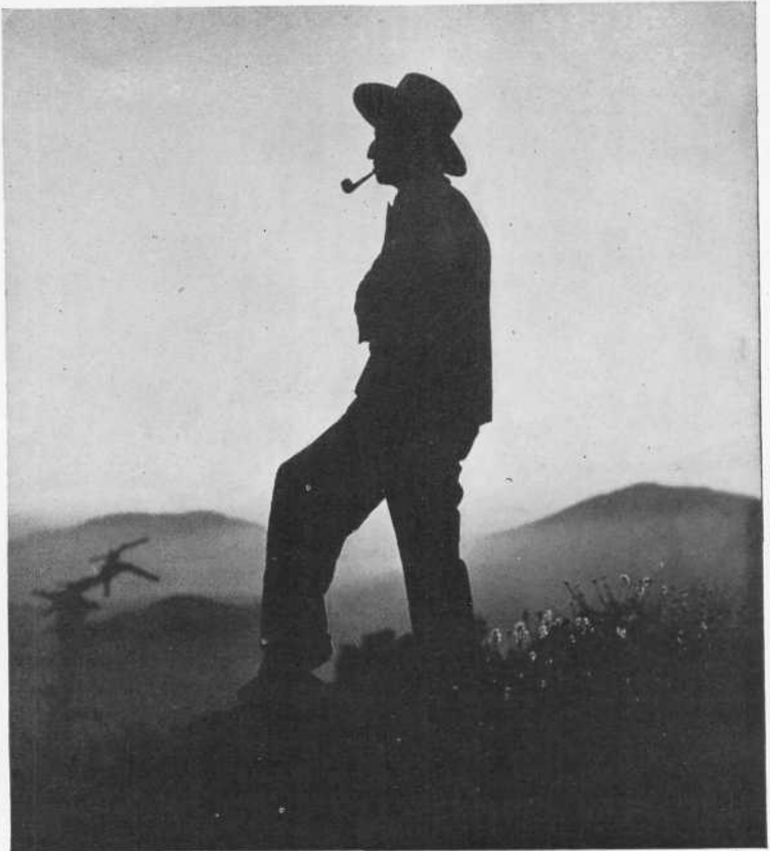


The members of the first major Pinacate expedition of November, 1907. Photograph taken by Godfrey Sykes. Left to right, Dr. D. T. MacDougal, leader of the expedition; Jesse D. Jenkins, assistant cook, story-teller and jester; Charles Foster, Mexican guide; Jeff Milton, U. S. Immigration inspector; John M. Phillips, iron manufacturer and expert sportsman and photographer; Wm. T. Hornaday, zoologist and chief taxidermist, author of "Campfires on Desert and Lava," and above, George Saunders, camp helper; and Frank Coles, wagon master and cook. This group of men brought back from barren Pinacate the first scientific account of the botany, zoology, and geography of this arid region.

He Helps Keep Chuckawalla Desert Dry . . .



"Desert Steve" Ragsdale of Desert Center is the subject of this sketch. He opened a service station on Highway 60 when only two cars a day were traveling that route. But eventually Desert Center prospered and now Steve's son runs the business while he lives on the top of a mountain overlooking the desert and writes bad poetry for recreation. Here's the story of one of the most colorful desert rats in the arid Southwest.

By RANDALL HENDERSON

"YES MA'AM! We used to have lots of rattlesnakes here. The country was alive with them. They crawled around in armies and ate everything in their path. Few people ever got out of the desert alive in those days.

"But they are all gone now. Haven't seen one for years.

"What became of them?

"Well, Henry Ford is responsible. When he got to making all those little cars a few years ago this road across the Chuckawalla valley became so crooked that a cow pony couldn't follow it. Nothing but Fords ever tried to cross this way. They zig-zagged along through the sand and when the rattlers would start chasing them the blankety snakes would break their backs making the turns. They're all gone now."

This is Steve Ragsdale's yarn—'Desert Steve' of Desert Center. Nearly every one who has traveled Highway 60 across the Chuckawalla desert in Southern California has heard of Desert Steve.

He has a story for every occasion. This is the one he told in the early days when timid folks from Eastern centers of tenderfoot culture would stop at the Ragsdale service station to inquire about the danger of Indians, outlaws and rattlesnakes.

The California link in Highway 60 is paved now and thousands of motorists roll along its smooth surface every week without thought of the hazards which once beset the desert traveler.

Broke on 6-Cent Cotton

Steve Ragsdale is one of the pioneers along this highway. He was doing very well as a cotton rancher in the Palo Verde valley until the post-war slump hit the cotton market. He couldn't feed his wife and four children with six-cent cotton, and so he turned the ranch over to the tax collector and announced that he was going to open up a service station at Gruendyke's Well, midway between Blythe and Mecca on the old Chuckawalla road.

Folks laughed at Steve, and felt sorry for his family. The road across the Chuckawalla in those days consisted of two rather uncertain ruts across 90 miles of blow sand and cross-washes. It required nine hours of hard driving to cover the 90 miles. Only the hardiest of motorists would attempt the trip. There were many days when not a single car was to be met along this route. Six automobiles in 24 hours was heavy traffic.

But Mrs. Ragsdale was willing, and the four children were too young to vote on the question—so they loaded up the furniture and went out to rebuild the little cabin which Old Man Gruendyke had left when he proved up on his homestead.

That was in 1921. During the next four years they stuck to the job through summer heat and sandstorms. A little work had been done on the road, and travel was increasing. The Ragsdales had begun to feel that perhaps their pioneering would be rewarded.

Highway Route Is Changed

Then the state took over the highway and engineers decided that the Chuckawalla road should be rerouted to avoid the heavy sand. Gruendyke's Well was to be a mile and a quarter from the new highway.

This was heart-breaking news to the Ragsdales, but they took it like true pioneers. Instead of crying about the injustice of the government and clamoring for damages, Steve went out and helped the engineers locate the new road.

Then he began preparations to move his service station. The main problem was water. It is a scarce commodity in the Chuckawalla valley. With a hand windlass and the help of his family

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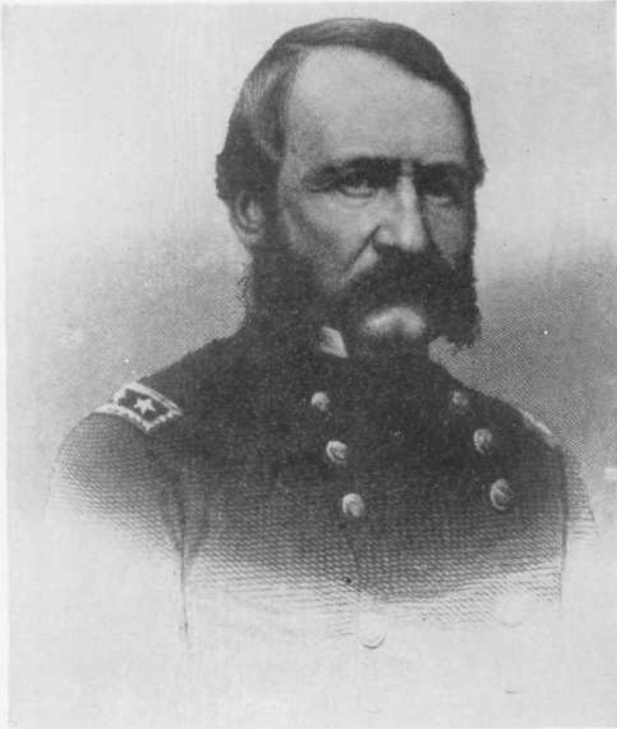
Steve and Mrs. Ragsdale at their Santa Rosa mountain cabin.



"Bold Emory"

... that's what they called him at military academy. But to the world he is known as Lt. W. H. Emory, diarist and mapmaker extraordinary.

By J. WILSON McKENNEY

HALF CHOKED in the dust raised by Kearney's dragoons, a grim young lieutenant rode in silence. He saw no visions of rich cities to be conquered nor was he composing pretty speeches to be flaunted before the vanquished heathen. He was more concerned about his precious instruments.

Jim Early had nearly allowed the instrument wagon to tip over in that last barranca. Confound these drivers! Why must they all drink so long of this New Mexican wine? He could hardly blame the fellow, though. What with the poor grub he gets in this army, the sight of good food and drink in the villages is enough to drive any man to excess. One consolation is that fellow Bestor—he guards the transit and chronometer with his very life.

Thus Lt. Emory mused as he rode in the dust cloud kicked up by the remnant of the Army of the West.

First Lieutenant William Hemsley Emory, chief engineering officer and acting assistant adjutant-general of the Army of the West was his full name and title. His classmates back at the U. S. Military Academy in 1831 had called him "Bold Emory" and he had liked that. Few people called him "Bill," not even Matilda, his wife. His dignity and calm discouraged familiarity. But his associates knew Emory to be sympathetic and generous. Probably too much for his own good. So he covered up with a false front.

There was small time for quiet thinking on this expedition. New problems were always coming up. The biggest troubles seemed to find their center in the head of the General. Not that he would permit himself the slightest disrespect of his superior. But the blunt man so frequently irritated his staff that he moved always in an atmosphere of friction and discord.

After all, this might be an opportunity for a young man. Here he was 35 years old and so far he had not made a distinguishing mark in the army service. This expedition offered a chance for original scientific observation, a lot of high adventure in an unbroken country, and a brevet if he did a good job. And Matilda would be proud of him if he ever reached home again. He forgot for a moment it was his idea making this western trek—not Matilda's. They had been married eight years ago and he had had a difficult time providing for the great-granddaughter of Benjamin Franklin in the style he would like to offer. But here it is time again to rush ahead and spot a campsite. And he must set up for a lunar observation; the General would probably order a full calculation tonight.

Drought on the Desert

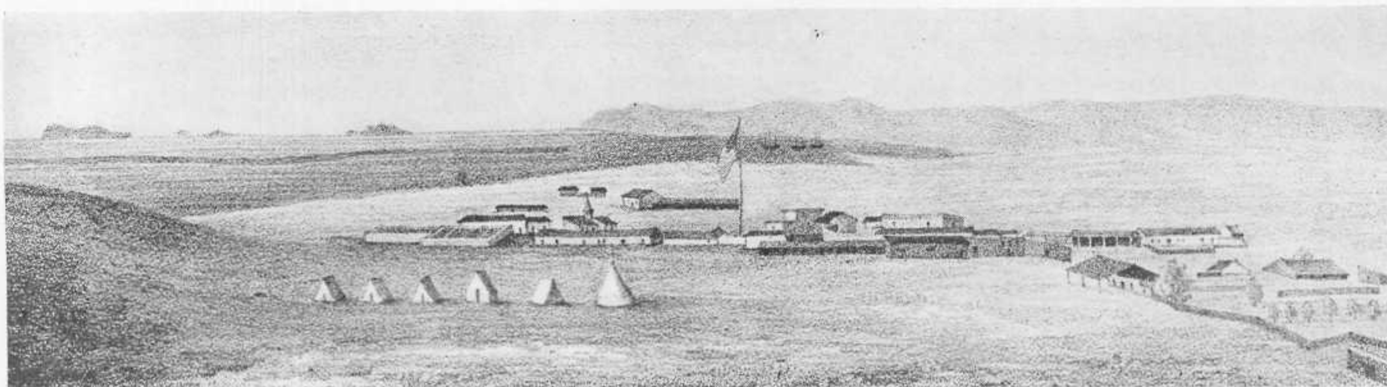
Water was hard to find. It was early October and the tributaries of the Rio Grande were nearly dry. The summer of 1846 had been a severe drought season, the grass was a crisp brown, and the scant water holes were stagnant. It was indeed a bad year for an army of 1,660 untrained infantry and badly mounted cavalry to attempt the conquest of New Mexico and California. But the young chief engineer was expected to find campsites near water every night. So far his luck had held. But the Mexicans had told him about terrible wastelands between the Rio Grande and the Colorado where he would search in vain for water.

The Army of the West, as motley a gathering of volunteers and regulars as ever graced a military expedition on this continent, had mustered at Fort Leavenworth in May and had crossed the prairies of Kansas and eastern Colorado during the summer. The brawny young United States government had declared war on Mexico and was seeking to lay its protective hand on the vast uncharted area known as New Mexico.

The Yankee Dons in far-off California had also proven that the climate and natural resources of the great coastal empire were worth wresting from the hospitable Mexicans. So Kearney and his motley army were ordered westward on a double mission.

Invaders Wined and Dined

The conquest of New Mexico was a farce. After vain sputterings and empty threats, General Armijo had flown south with his tiny army and a sizeable bit of property acquired during his lordly governorship. Kearney entered thte city of Santa Fe with all the pomp and dignity he could muster from his ragged and weary army. Then followed a month of grandiose good-will speeches from roof-tops, a task which the General apparently assumed with relish. The vanquished residents welcomed the



soldiers, offered barrels of wine and flocks of young bullocks.

Kearney concluded his short governorship by dividing his army into several columns, leaving a garrison at Santa Fe, ordering Capt. Cooke's Mormon Battalion to follow westward as quickly as possible, and assuming the lead of Maj. Sumner's 300 dragoons toward the conquest of California.

Here Lt. Emory's real work began. He looked forward to the march with eagerness. Thus far he had made observations in territory much of which had already been described by pathfinding parties. Now he had much new work to do. He was official astronomer, draughtsman, geologist, meteorologist, botanist, diarist, and reporter of the expedition. His maps would give the government at Washington its first authentic information of the deserts and mountains of the great southwest. His sketches and specimens would give scientists their first knowledge of the Indians, animals, plants, and minerals of this vast unexplored region. He prepared himself thoroughly, determined to do a good job, without prejudice or error.

Insubordination was not in Emory's character; he was a good army man. No hint of his private thoughts about his chief crept into his reports. Controversial reports of Kearney at San Pasqual and of the Kearney-Stockton-Fremont incident were never given bias by the engineer. His work was with the immutable laws of Nature, the undisputable position of the stars in relation to his westward journey, and the thrilling discovery of new botanical classifications.

Let the General get red in the face all he wished. After all, a man who had served in the War of 1812 about the time the young engineer was first seeing the light of day was entitled, by virtue of his long military dictatorship on the western frontier, to his rages. Kearney was essentially a strict disciplinarian but his letters to his wife revealed he had another, gentler nature.

San Diego as seen by Emory in 1846, at a point where Oldtown stands now. Reproduced from Emory's Reconnaissance report.

Let modern historians debate on the quarrel between Kearney and Stockton, let them speculate on the guilt or innocence of Fremont, let them argue about the relative merits of the California lance in the hands of expert horsemen and the musket in the hands of weary and half-drunken dragoons. Not one of the recorders of history will question the trustworthy contribution which obscure Lt. Emory made to the lore of the southwest. In fact, few even mention Emory except to quote a sentence or two of his colorful language. For who is interested in the quiet plodding of a scientific man when there is a battle of tycoons in the offing?

Two weeks out of Santa Fe, near the village of Socorro, the company of dragoons met Kit Carson and party, enroute east with dispatches telling of the subjugation of the Californians. Commodore Stockton was reporting that the empire had surrendered without loss of blood and "the American flag floated in every port." Stockton's extravagant optimism caused Kearney to send 200 of his dragoons back to Santa Fe, a third of his original force continuing westward.

Much against Carson's will, General Kearney pursuaded the famous scout to turn back and guide the party to California, a happy accident which extended Kearney's life another two years and saved Emory's reminiscences for the world. Kit Carson's spectacular feat—with Lt. Beale—in bringing rescue to the butchered Americans at San Pasqual is an epic of California history.

Emory's keen powers of observation are evident in his report to the government, a book now difficult to find in print, which was published in Washington in 1848. The title of the narrative is "Notes of a Military Reconnaissance from Fort Leavenworth in Missouri to San Diego in California." No diary ever sparkled more with humorous incident

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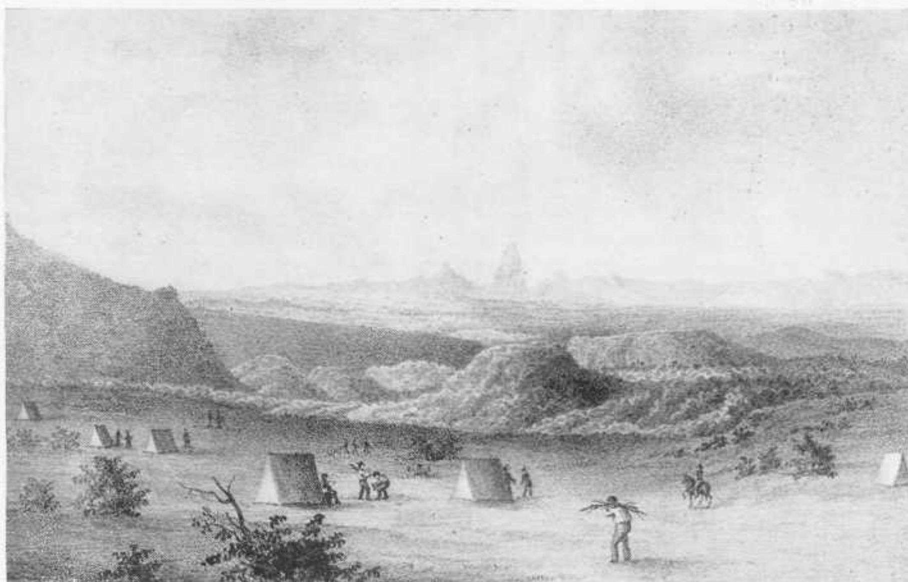

Junction of the Gila and Colorado rivers, as sketched by Emory's artist in 1846. Picacho Peak is in the background. Taken from Emory's report.

Looking Down from Nevada's 12,000-foot Oasis

..A hiker's story of the trail to rugged Charleston peak..

..From the top, in all directions — a pastel colored desert..

By RANDALL HENDERSON

CLIMBING desert mountains in summertime is a vacation idea which may have some drawbacks. And yet, when the trail leads at last to a refreshing snowbank from which one can look down and watch the heat devils stage their mid-summer dance on the floor of Death Valley, such a trip has its compensations.

It was my good fortune last summer—the Fourth of July to be exact — to accompany a party of California's Sierra Club hikers to the summit of Charleston Peak in Southern Nevada.

For the information of those who do not already know, Charleston Peak, elevation 11,-910 feet, is listed as Nevada's third highest mountain. It is one of the few peaks in that area known as the "Great American Desert" where snow remains on the sheltered north slopes through all or nearly all of the summer season.

Charleston literally is a snow-capped oasis in the desert. From its summit, the view is the same in every direction—a pastel tinted desert whose outermost boundaries are lost in the haze of a distant horizon. Perhaps I should mention one exception to this last statement. On clear days the dim outline of Mt. Whitney and the high Sierras may be seen far off across the Death Valley basin on the west.

The desert land which is to be seen from a snow-upholstered gallery seat at the top of Charleston is rich in Indian tradition and scenic charm. Not far from the Eastern base of the mountain the blue waters of Lake Mead slowly are creeping higher up the desert slopes toward a new shoreline which will establish this as the world's largest artificial lake.

Some miles to the northeast is that colorful jumble of rocks known as the Valley of Fire, and the prehistoric Indian ruins of Lost City where M. R. Harrington and his associates of the Southwest museum have been laboring diligently since 1933 to salvage what they can of Indian artifacts and history before the old pueblo sites are submerged forever beneath the waters of the newly formed lake.

Las Vegas and Boulder City are mere dots on the desert plain which extends away to the southeast, and far off across the California boundary to the south are the Providence mountains where J. E. Mitchell's weird caverns of stalactites and stalagmites are to be found.

The trail to the top of Charleston mountain is long, but not difficult. The distance from the Public Camp ground in Kyle canyon is nine miles. It is no ordinary trail, engineered to take the hiker to the summit by the shortest route. I do not know the name of the man who selected this route—but I know that he was a ranger with the soul of an artist. I have been on many mountain trails, but never before one which offered such a variety of panoramas as this one. It seems to me that a landscape artist could spent a life-time of painting along that trail—and in the end report to St. Peter that his job was only half done.

The trail which we took leaves the camp ground near the end of the paved road in Kyle canyon. For the first two miles there is a gentle ascent through a dense thicket of shrubbery which borders a little mountain stream fed by the snowbanks above.

Then a precipitous wall of rock several hundred feet in height closed in on the south side of the canyon and here we encountered our first snow. At this point the trail leaves the floor of the canyon and zig-zags sharply upward into a cool forest of pine and fir.

There is no monotony in this trip. At frequent intervals during the entire distance up to the main ridge we would emerge abruptly from the shadows of the timberland and find the trail leading for a few steps along the crest of a ridge from which we could look down into a snow-filled gorge on one side, and the green slopes of Kyle canyon on the other. Always the desert is to be seen far off in the eastern background.

Eventually we reached the main ridge and here we got our first glimpse of the great Mojave desert that lies between the Charleston mountains and the Sierra Nevadas of California. It is a gorgeous view at sunset.

I could never do justice to that three-mile trail which leads along the crest to the final summit. We were on the rim of a giant escarpment which drops off abruptly to the floor of Kyle canyon on one side, and rolls away in a picturesque series of meadows on the other. Wild flowers were everywhere

Sierra Club hikers from California rest on the cairn at the top of Charleston peak before starting down the trail.

and the trail alternately led across the little meadows and through the fringes of timber which surround them.

The path is located just far enough below the crest of the ridge to afford shelter for the hiker during those periods when biting winds are blowing across the top. Here again the men of the forestry service had in mind the comfort and the enjoyment of their guests.

Many of those who start for the top of Charleston reach the colorful meadows on this gentle sloping plateau—and never go beyond. There is reward enough for the arduous labor of climbing this mountain, in the serene magnificence of this natural mountain park.

I did go to the summit, but that was just sort of an after-climax. The real thrill of the Charleston climb was along the ridge and in those flower-strewn meadows.

I hope they never build a road to the top of Charleston. It would be a crime against heaven to have that mountain park cluttered up with honking automobiles and discarded lunch boxes. That is one spot which should be preserved for those who have earned the right to enjoy its charming seclusion.

The Charleston Peak recreational area is not well known to the public. Many Las Vegas residents have summer cottages in Kyle canyon but it was not until last January that the forestry service started an intensive program of development of the resort area. The Kyle canyon road was paved in 1933, but it was a year later before the trail to the summit was opened.

Boulder dam is situated almost in the shadow of Charleston mountains—and therein probably lies one of the reasons why the scenic attractions of this new Southern Nevada mountain park resort have received so little public notice. The spotlight has been on the Boulder project, and paradoxically, Charleston has remained in the shadow.

The Charleston Mountain division of the Nevada National forest is under the supervision of Ranger R. C. Anderson and a group of assistants who are contributing to the popularity of the area by extending every possible courtesy to visitors.

The Public Camp ground in Kyle canyon has an elevation of 7500 feet, and is reached from Las Vegas by 37 miles of well-paved road. There are

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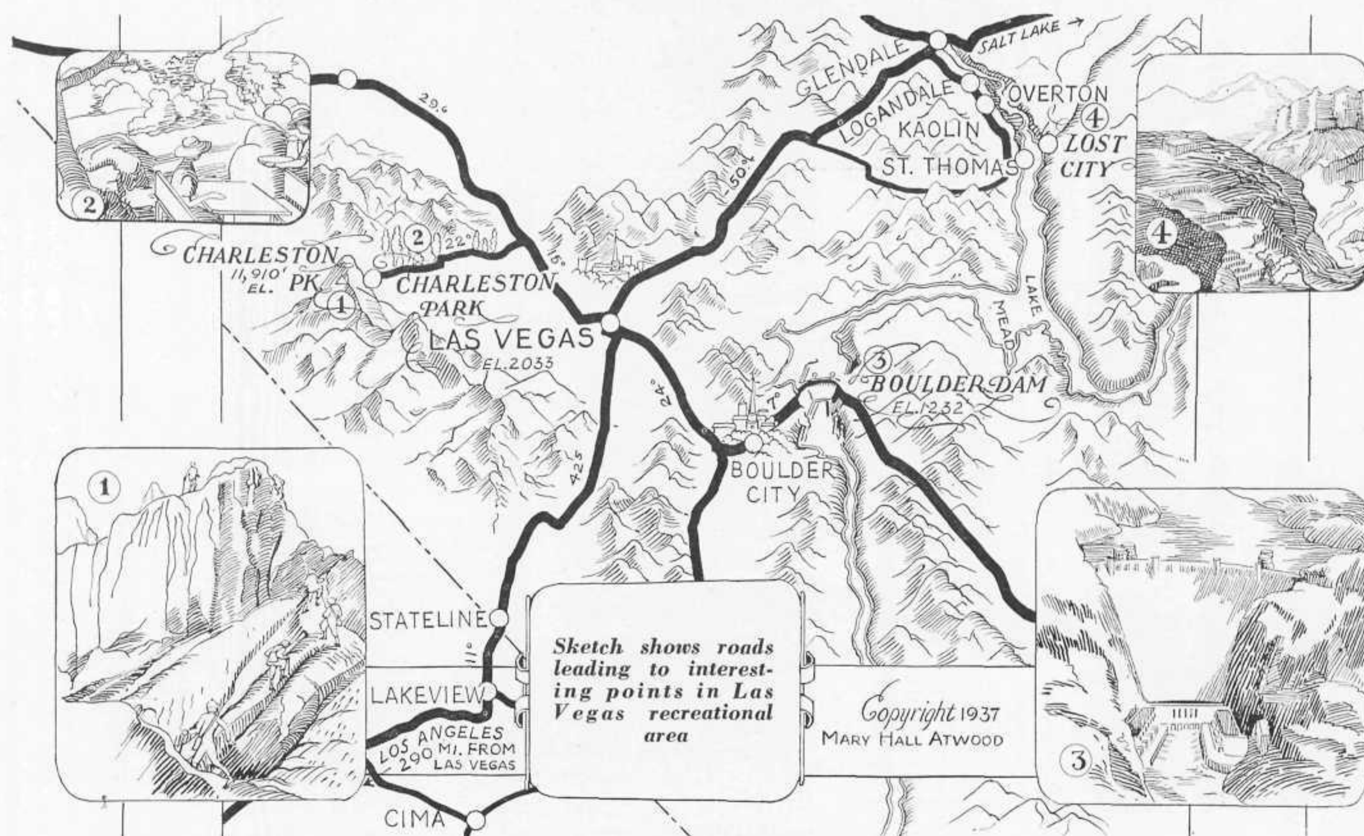


Sketch shows roads leading to interesting points in Las Vegas recreational area

NAVAJO SHEPHERDESS *Photo by Wm. M. Pennington*

DEPENDENCE

ONE WORD expresses the "feeling" of this Pennington masterpiece. To the desert-wise that one word tells the story.

The helpless sheep, frightened by approaching storm, instinctively depend upon the shepherdess for protection from threatening danger . . . The shepherdess and her family depend upon the sheep for the necessities of life . . . Both shepherdess and sheep depend upon the desert grass and water holes . . . Shepherdess, sheep, grass and water holes depend upon moisture from the clouds above.

Dependence implies confidence. Confidence must be mutual. The desert is harsh toward those who abuse it.

Twentieth-century Navajos desired more sheep than their reservation lands could support. Overgrazing destroyed the grass roots when animals became too numerous . . . sheep and goats, without grass and water, either faced or met starvation . . . Navajo Indians—without sheep, goats, water, or grass — faced starvation and the extinction of their race. Moisture from the threatening clouds then became a land-destroying menace.

That is the lesson which Government engineers are pointing out to the Navajo Indians. Millions of Federal dollars are being spent in the effort to restore, in real life, numberless reproductions of the scene photographed years ago by William M. Pennington . . . Competent critics have declared it his best desert photograph. "Just a lucky shot," asserts Bill Pennington.

Feel of the Desert

By JOHN STEWART MacCLARY

HIGH UP on the Walpi mesa a ring of wide-eyed Hopi youngsters gathered around us in the darkness as we tinkered and coaxed in a fruitless effort to bring life to our dead motor.

There was plenty of gas in the tank. The wiring all appeared to be in order. But the pooled mechanical skill of the four of us had brought forth nothing more enlivening than a dying gasp from the starter. Even the lights would not glow.

Our audience—the little brown children of stone-age parents, did not laugh at our steel-age predicament. They were the sons and daughters of a proud line of primitive Americans whose training would not permit them to jeer at another's misfortune.

With courtesy which is characteristic of their parents, they offered to push our stranded automobile. That was the only way they knew how to help us along the trail.

Eventually we discovered the cause of our trouble. A mechanic had forgotten to put water in the battery.

This merely was one of the incidents in a week of adventure in Hopi-land, high up on the mesas of northeastern Arizona. We had come out here for diverse reasons. Will Evans, for many years a trader on the Navajo reservation in northwestern New Mexico, had never crossed the blue mountain range which hid Canyon de Chelley and the land of the Hopis. He wanted to visit these places. My object was the gathering of material for the writer's markets. My brother accompanied us, just for a vacation.

Seeks Rare Photographs

Overshadowing the interests of the rest of us. was the desire of the artist-photographer William M. Pennington to obtain some rare camera studies of a tribe of Arizona desert Indians who held a superstitious dread of the white man's box-with-the-evil-eye. If there had been no other reward for the other three of us the trip would still have been worth many times the hardships, for the companionship of so genuine a man as Bill Pennington.

And that brings us to the purpose of this story—to present to the readers of Desert Magazine the unusual character of a man whose exquisite photography will occupy an important place in future issues of this publication. If you know this man you would love him—as you will love the rare artistry of his photographs.

In 1908, Bill Pennington—young in years, following the then adolescent art of photography—unpacked his equipment and opened a studio in Durango. Colorado. He was a slender young Kentuckian who had come west by way of Texas where he had received painstaking instruction in the finest methods of his profession from an English photographer.

Sixty air-line miles from the city of Durango is the one spot in the United States where four states corner in a single point. Locally the adjacent area is known as the Four Corners. An imaginary circle, drawn from the corners as a center, would include an equal quadrant each of Colorado, Utah, Arizona, and New Mexico.

Land of Ancient Tribes

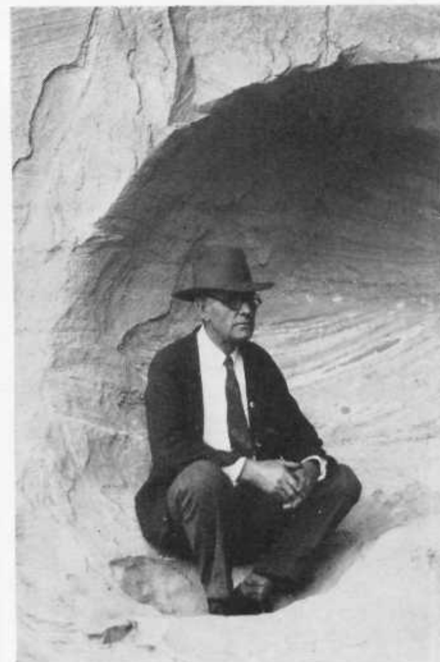
If the radius of the mythical circle were extended to 100 miles, it would include some of the most picturesque and historically fascinating desert scenery in all of North America. The deserted ruins of Mesa Verde, Pueblo Bonito, Chaco Canyon, Aztec national monument, and Ruin Canyon national monument, all made accessible by state and federal governments, are but the most spectacular examples among the innumerable ancient ruins which dot the mesa and line the canyons of the Four Corners region.

But ancient ruins are not the only picturesque subjects to be found. These tribes af modern Indians are quartered on Government reservations within the wide circle: Piutes in southeastern Utah, Southern Utes in southwestern Colorado, Navajos in northwestern New Mexico and northeastern Arizona.

Kentuckian Bill Pennington understood neither customs nor the speech of the desert Indians. But he quickly recognized the artistic values displayed in their handicraft and in their primitive living conditions. Still alive when the artist first came into the desert were individual Indians whose exploits had contributed to Southwestern history. Some day the portraits of such would be of value to accurate historians. But how was a timid white "tenderfoot" to gain the confidence of recently-murderous savages who exhibited superstitious terror of the camera's lens?

Mr. Pennington explains the answer casually:

"I reached the Indians through licensed traders in whom they placed confidence, and by employing as interpreter a young Indian boy who had been to school.



WM. M. PENNINGTON
Art photographer
This picture was taken in the natural cavity at the base of Window Rock in northeastern Arizona.

"The natural poses were achieved by observing the postures and habits of the Indians at times when they did not suspect that I was watching them. They are very self-conscious people and have to be handled very much as children. When you once get their confidence they are congenial and co-operative. But don't try to take pictures against their will. One act of that kind will turn the whole tribe against you.

Here is His Secret

After all. it simmers down to a language which requires no interpreter—and of which Bill Pennington is master: patient understanding. The eyes and voice and manner of the man reveal that quality to all who chance to meet him. The subtle feel in desert photo-portraits, which were made by the artist, is experienced by those who appreciate visible artistic expression and those who know and understand the desert.

In recent years Pennington has made his home in Alhambra, California.

Rights to many of his cherished desert views have been secured for the Desert Magazine. Short sketches explaining each of the series are to be written by John Stewart MacClary, intimate friend of Pennington and his companion on many photographic expeditions. The first of the Pennington series appears on the opposite page.

Elephant trees were reported on the Colorado desert of California many years ago, but the original location as published was erroneous. It was not until last January that Dr. E. M. Harvey of the U. S. Department of Agriculture and Don Admiral, Palm Springs naturalist, rediscovered the trees and furnished a definite record of their location. Dr. Harvey (left) and Mr. Admiral are pictured here standing beside the discovery tree in the Borego area.

Lost Tree in a Lonely Land

By LILLIAN BOS ROSS

"WHEN YOU think you have found it, just stab it with a knife. If it bleeds red, you can be sure!"

We had stopped our car at the Dry Lake Gas Station, on the Julian-Kane Springs highway. Another car, covered with dust and desert water-bags, had been filled up, and the driver was having a little friendly visit with Mrs. Benson, wife of the service station owner.

We had been half-drowsing, but, hearing those strange words "stab it with a knife," we were wide awake. My husband nodded "Yes!" and we were out of our car and into the conversation.

The man who had sounded so bloodthirsty was quite courteous. He must have been amused, but he was helpful. He made us a small map of the route to the place, and also a sketch of the Elephant Tree.

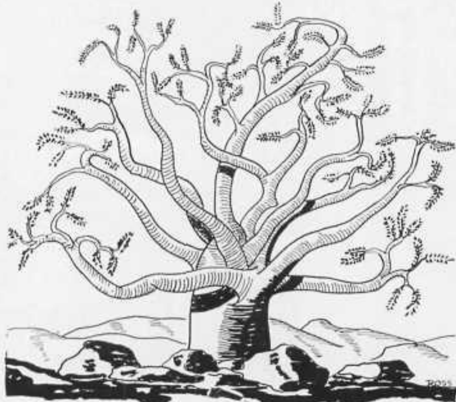
We had heard rumors of a strange tree, high up on an alluvial fan, somewhere on the Colorado Desert of California. It had been reported by a prospector some years before—just an unnamed tree, a different tree.

The rumor had been relayed to the Universities, and a group of botanists had come down to look at the find, but the prospector had already drifted along and no one knew where he had seen the strange specimen.

The tree remained a rumor, nameless, until January, 1937. At that time Dr. E. M. Harvey of the United States Department of Agriculture and Don Admiral, the Palm Springs naturalist, were exploring the Borego Desert to see what they could find that was different. They had the amazing good fortune to find and identify the Elephant Tree.

I had read a short announcement of this discovery in a Los Angeles paper and wondered what an Elephant Tree would look like, in what sort of silent valley it spread its branches, lived its lonely life. Now I was really to see!

"It's a hard trip. You have to walk the last three miles up hill to the tree. Park your car on Fish Creek Wash. You know where that is?"



"Yes," said Dickon, "that's the big Wash leading into Split Mountain."

For two months we had been exploring the odd places in the Borego desert. And so, when our informant warned us that we would encounter some heavy sand, we thanked him with that superior air of a tenderfoot motorist who already has had his initial experience in digging out.

We left Fish Creek arroyo and dashed up Elephant Tree wash with all the confidence of veterans. But we didn't dash far. Then we backed down the wash and tried that firm steady approach which will work in any ordinary sand. The result was the same—three car-lengths up the wash equals one car-depth down in the sand.

We didn't want to give up. For two stubborn hours we battled that wash. It got to be a game. We gathered great stacks of brush and put it under the wheels and built a runway of it ahead of the car—and only got a little closer to China.

My dripping husband looked at the hub-deep car and grinned.

"Well, what do you think?" he asked.

"I think it's three o'clock. If we can get back to Fish Creek wash by three-thirty, let's hike up and find the Elephant."

Safe on the solid sand of Fish Creek, we took long drinks of water and filled a quart flask. I carried it, because I

don't drop things. And we set out eagerly on the last lap of our adventure.

In half an hour I was giddy with heat and fatigue, but buoyantly happy. Beauty, uncanny but positive, is in that wild canyon—somehow as moving as the thought of the world's creation. Strange in that burning place is the wealth of fragile and exotic flowers, luring you on from boulder to boulder. We toiled on, mopping our brows, and taking turns at tipping up the water-bottle.

The first mile we had possibly five little sips of water. That is all you need, a sip; but you feel that you must have that taste of water, your lips and mouth get so dry. It was 104 in the shade, with a hot wind blowing.

We made the second mile before a boulder rolled, threw me, and I dropped the glass flask on another boulder! Dickon was encouraging. "It doesn't make a bit of difference. We are almost there, and it won't be so hot coming back."

We started climbing again, unwilling to pass any bench that could have sheltered an Indian camp site. The naturalist had said the Elephant Tree might have been used by the Indians. We found a few crude flint chips and a few bits of broken pottery, but no evidence of villages. Dickon got one prize, however, a fine specimen of flint knife.

I was very thirsty, my mouth dry, lips stiff and queer. I gave up, and said, "I'm tired, it's late, let's go back to the car and try again tomorrow."

I looked around for Dickon, and saw that he had his newly found flint knife in his hand, and was cutting off the top of a barrel cactus.

"I'm getting us a drink," he said.

He was irritatingly cheerful. I said crossly, "I don't believe you could water an ant with what juice you can get out of that thing!"

"Well, prospectors and writers have said you can." With a smooth stone he was pounding the pulp in the cactus, and it began to make a sloshing sound. He folded a paper trough out of an envelope, and cut a narrow groove in the side of the cactus.

"I'm using the same sort of knife the Indians used for this job," Dickon said, "but this paper is easier than the Indians had it."

He held a paper cup hopefully at the end of his trough, and water really did trickle out of the living water jar.

I was cowardly and said, "You taste it first."

He said it was cool, and wet; I finished the few drops. Immediately the short rest, the finding of water in the arid desert, and the little drink of sweet flat wetness, set me up amazingly.

Fifteen more minutes, and my feet were faltering again. I would go as far as a big rock that loomed just ahead of us. But when we got to the rock I wanted to see what was in the valley beyond it.

The Elephant Tree was beyond it!

My feet were suddenly as light as my heart, as I leaned against the rock and looked at the strange tree.

But my husband had a light in his eye as he fingered his flint knife. He had to be sure!

"When you think you have found it, stab it with a knife; if it bleeds red, you can be sure."

Dickon cut a small sliver of bark. The sap was red as beet juice!

We sat down and looked carefully to see why it was called Elephant. Thickness, strength, solidity, massiveness, were the words it suggested.

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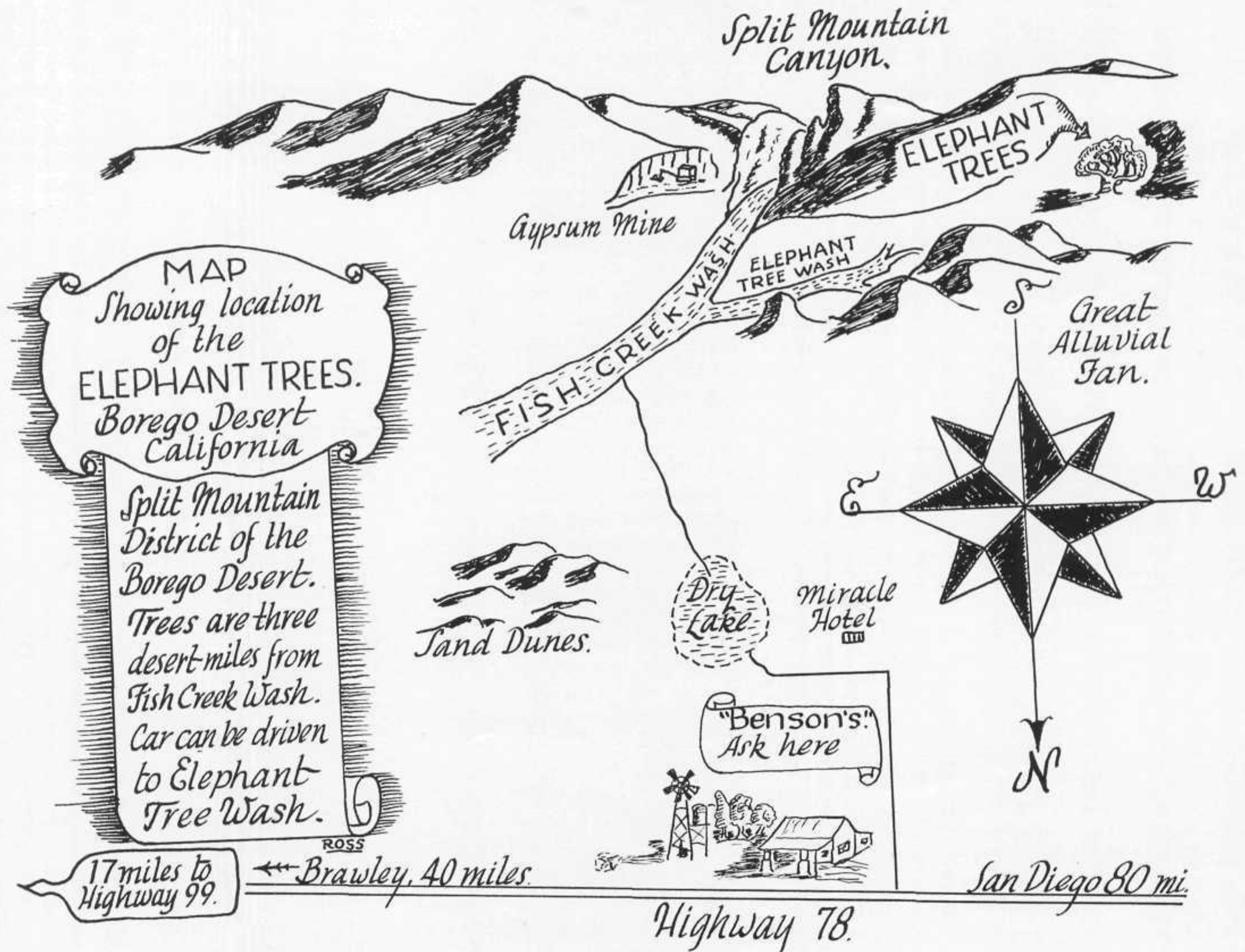

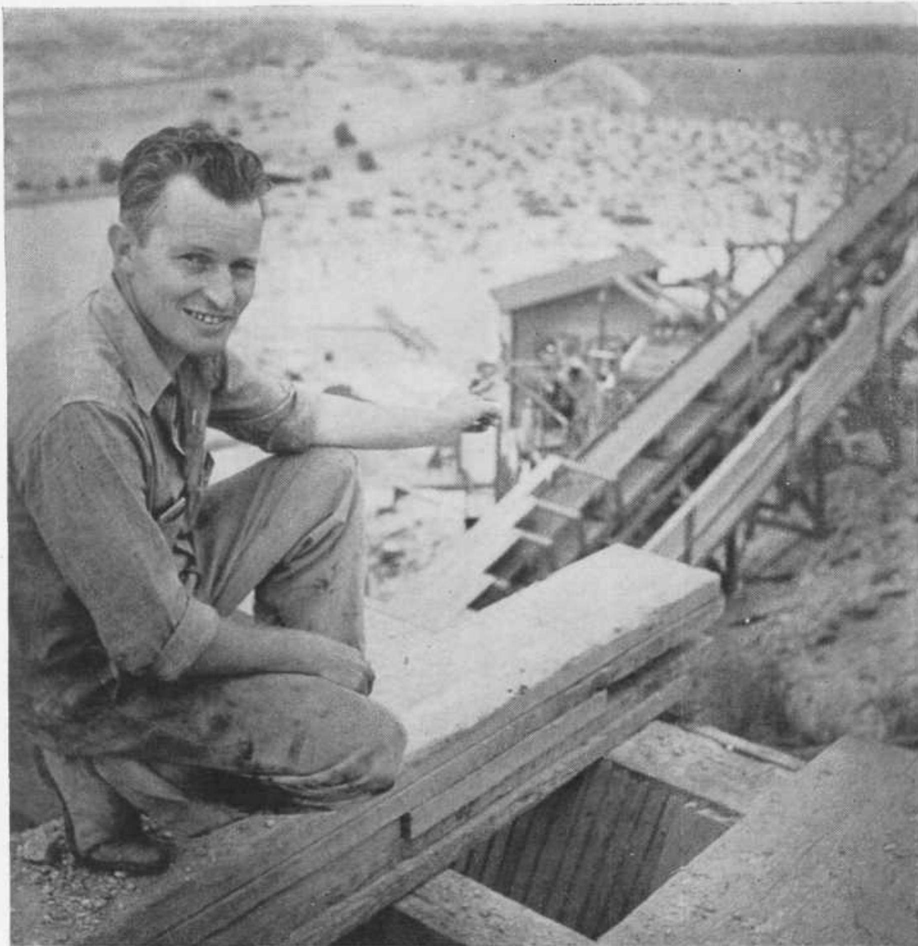

Luck Plus Brains

Kenneth Holmes, young mining engineer, keeps his miner's garb even though he had already made some handsome "strikes."

By JONATHAN BART

"I GUESS we'll pour a $10,000 brick this week," young Kenneth Holmes told me after showing me through the modern gold reduction plant he and his partner, Ed Nicholson, have erected in southeastern Imperial county, California.

I could feel the cool chills chasing each other up and down my spine. What kind of genii, thought I, could extract ten grand from that mass of clanking chains, swirling mud, and howling crushers in a week? Yet that, apparently, was a regular habit. The circulating cyanide plant has been running up scores like that almost every week for more than two years. And there are better scores to come, young Mr. Holmes declares with enthusiam.

Kenneth Holmes is worth anybody's observation. Here is a young man of 35 years, graduate of University of Southern California, technical and practical miner of no mean ability, not at all hard to look at, with no less than a million of Uncle Sam's iron men salted away for a rainy day. Here, I repeat, is a man with all this who prefers to wear greasy overalls and live in a shack beside his rumbling mining machinery. Here is a man with something on the ball.

If you keep up on mining news you have seen the name Holmes running in big letters these past few years. But it is Brother George who gets the public notice, for it was George who found the boulder which led to the discovery of the Silver Queen at Mojave. And the Silver Queen became a bonanza, selling for $3,170,000 five months after its discovery. So George, by the lucky turn of a pick, was awarded the headlines.

Others, however, helped develop the great mine, among them George's father, younger Brother Kenneth, and experienced old Ed Nicholson. All of the men drew rich stakes when the mine was sold and they wisely contracted to leave their forwarding addresses for regular royalty remittances. But gold fever was in their blood. Instead of retiring to a mansion in Beverly Hills and an estate at Palm Springs, they set out for new rock to blast. George rigged up a portable assay outfit and compressor unit, gathered together a crew of mining experts and set out to make a systematic modern search for the Golden Fleece.

Holmes Is Described

Glenn Chesney Quiett in his book "Pay Dirt" describes George Holmes as a born prospector. To quote from the book: "He says he is like the legendary miner who was refused admittance to heaven because the miners already there were causing trouble by digging up the golden streets. "If you let me in," he said to St. Peter, "I'll get rid of them for you." "All right," replied the guardian of the pearly gates as he admitted him, "let's see what you can do." In a few minutes swarms of miners began to rush to the gates, demanding to be let out, and soon there was not one miner left in Heaven except the newcomer. "How did you do it?" asked St. Peter. "Oh, I just told them there was a new strike down in Hell that made this one look like a worn-out placer." So the miner acquired his home in Heaven and the streets were again safe. But in a few hours he was back at the gates. "Let me out," he said. "Why?" asked St. Peter. "I just let you in." "I know it," replied the prospector, "but I've been thinking it over, and maybe there's something in that strike down in Hell after all."

It was late in 1933 when George

Holmes and Nicholson plant near Winterhaven, Imperial county, California.

Holmes chipped a piece of rich ore off a boulder near Mojave in Kern county, California. The new year had hardly begun when it was sold for a fortune. Late in 1935 Kenneth Holmes and Ed Nicholson had bought a string of modern ore trucks and a flock of rich claims in the Cargo Muchacho mountains of eastern Imperial county. They hauled ore a few miles south to U. S. Highway 80, where they built a modern reduction plant near the site of the all-American canal.

Huge tubs were placed on a hillside. New machinery was placed on them and connected in a maze of pipe and platforms known technically as the "flow plan." To the layman it looks like a pile of junk kept in constant turmoil by some mysterious power. But to Holmes and Nicholson and the 35 men who work for them, the plant represents the most modern, most scientific, and most economical method of taking pure gold from quartz rock.

A massive maw with a digestive capacity of 40 tons an hour crushes the ore into small pieces. It is permitted only a light breakfast, however, for it prepares in a half hour enough fodder to keep the plant operating the rest of the day. While the plant now takes care of about 25 tons a day, a few simple changes would step up the capacity to 100 tons a day.

Since the Desert Magazine is not destined to competition with the imminent Mining Journal, it is not essential that this reporter disclose, even if he could, the technical construction and operation of the Holmes-Nicholson plant. But to you and me the personalities and achievements of these men are far more important.

Amazing Careers

They are not ready yet to write their memoirs; meteoric as has been their rise in the mining world, they are still looking for new placers to work, new quartz to blast, new records to break. And perhaps, even before your eye meets this print, you will have heard about some amazing new strike which the Holmes brothers and their associates have made.

There should be a moral in the story of the Holmes's which could be used with satisfaction by every school teacher in the land. For these boys have more than luck: they first studied all available science on mining and then went out to apply their knowledge in the search for gold. That understanding, coupled with my secret belief that they habitually carry rabbit's feet and good luck pennies, is probably the reason for their amazing success.

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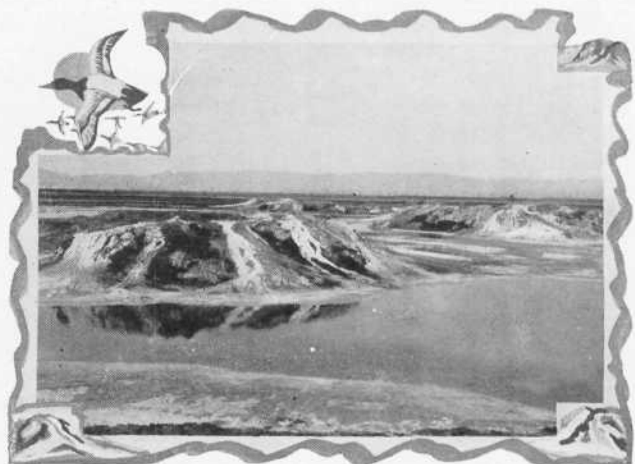
TRAVEL ALLURING DESERT TRAILS OUT OF IMPERIAL VALLEY



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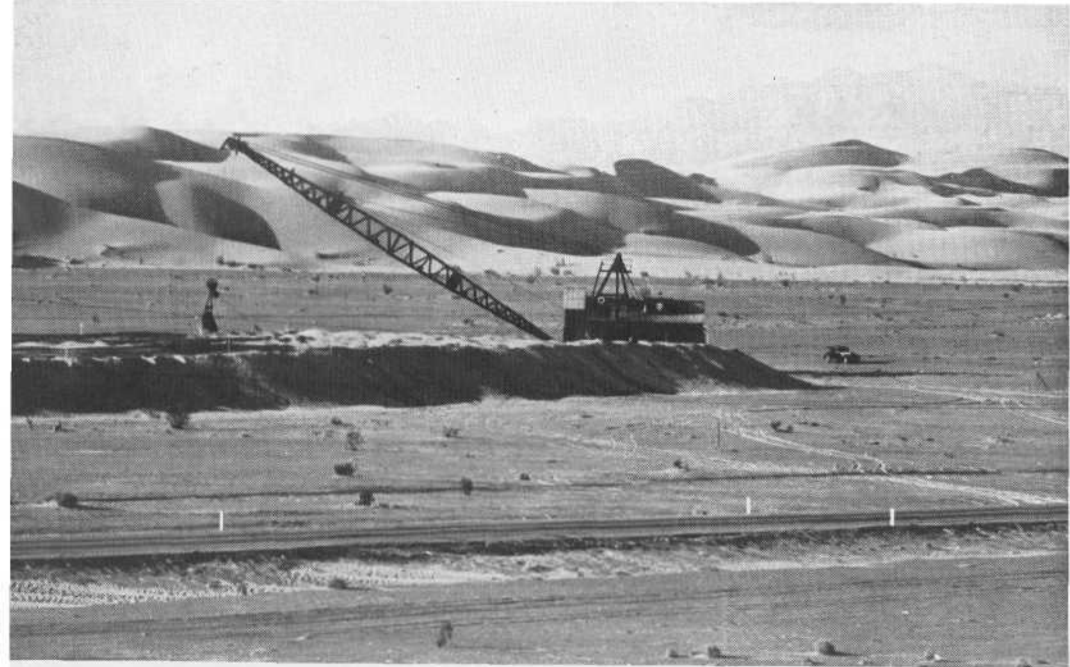


THERE has been a lull in homestead lands have become scarce, and in th withdrawn from entry until water w however, the stage is being set for a few In the great basin of the Colorado rive Washington, and on other projects, work of acres of virgin soil to new settlement. river the all-American canal nears compl half million acres of land which have n panying article, the Desert Magazine pre this new project.

By LARRY D. WOLMAN

For this 'Army of the West' ---8000 Grubbing Hoes

OUT on the California desert, a few miles from the Colorado river, "Red" Davis spends eight hours a day pulling levers and pressing buttons in the cabin of a huge dragline dredger.

Out in front of "Red" on the end of a 150-foot boom is a gigantic shovel, and each time the boom swings around the half circle from the bottom of a newly excavated ditch to the high sand bank on the opposite side of the dredger, the $30,000,000 All-American canal is 16 yards of sand and gravel nearer completion.

During the last two years there have been more than a score of "Red" Davises strung out along the 80-mile route of the new canal. They have been working in shifts, 24 hours a day. Their job is nearly finished. The contractors expect to have the excavation work in the canal completed before the end of this year.

There still remain several months of work to be done on the new diversion dam in the Colorado river, the desilting plant and minor structures. But according to present schedules the "seasoning" of the new canal preparatory to putting it in service will be underway by the end of 1938.

Then the Colorado river will be turned into the new channel, and the pioneer residents of Imperial Valley who have been looking forward for more than 20 years to the time when their irrigation and drinking water will flow through a canal located entirely on American soil—rather than Mexico—will no doubt stage a glorious jubilee to celebrate the fulfillment of their dream.

As far as the owners of the 500,000 acres of land now under cultivation in Imperial Valley are concerned, the arrival of water in the All-American canal will mark the end of a long struggle to secure an adequate water supply.

But that merely is one phase of the project. "Red" Davis and the other operators on those big Bucyrus-Monighan dredges are digging a canal to carry 10,000 second feet of water—enough for a million acres of land. Imperial Valley will use only half of the canal's capacity.

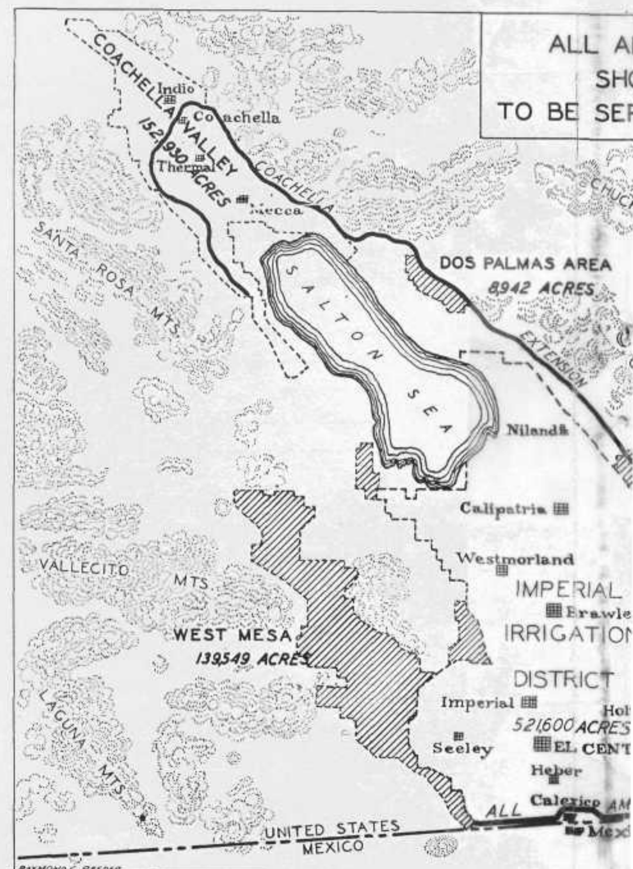
What of the other half million acres? Where is it located? Who owns it? When and how will the additional acreage be brought under cultivation—and who will be the farmers on the land?

Not all of these questions can be answered with mathematical precision at this time. But some of the answers are known, and it is possible, in the light of reclamation history, to make a fairly accurate guess as to the others.

First, where is the land located?

According to estimates prepared by the engineers who originally planned the construction of Boulder dam and the All-American canal, the acreages to be served are as follows:

Area	Acres
Imperial Irrigation district	521,600
Coachella Valley	152,930
Dos Palmos area	8,942
West mesa, adjoining Imperial Valley	139,549
East mesa, adjoining Imperial Valley	217,471
Pilot Knob area	20,815
Total acres	1,061,307



ding activities in recent years. Good
he desert area large tracts have been
vas available for cultivation. Today,
vival of opportunity for homesteaders.
er, and in the Grand Coulee area in
is in progress which will open millions
. In the basin of the Lower Colorado
letion. It will carry water to nearly a
ever known the plow. In the accom-
sents some interesting facts regarding

C. A. Colon, all-American canal construction foreman, inspects a relic of the days when a trip from El Centro to Yuma was a nightmare—and this was the only 'waterhole' on the route.

Insofar as prospective homesteaders are concerned, the land in the Imperial Irrigation district is out. Most of it was homesteaded many years ago. Also, a very large portion of the Coachella Valley acreage is now patented or subject to prior claims which will make it unavailable for new entry.

Of the remaining area, the greater part of it is still in the public domain. Sections 16 and 36 in each township were deeded to the State as school lands, and have largely passed into private hands through sale. The federally owned public lands within this project were all withdrawn from entry by order of the Secretary of Interior, acting for the President, in April 1909. There are a few entries made previous to that date which may be revived as valid priority claims when the land is again restored for public settlement. For the most part, however, the 400,000 acres which remain ofter the Imperial Irrigation district and deeded land in Coachella valley are subtracted, are still in the public domain and subject to entry when the Secretary of Interior lets down the bars.

Not all of it is good land. Some of it can be watered from the new canal only through pump lifts. There are sand dunes and barrancas in some sections which would make the cost of reclamation almost prohibitive. Making a liberal discount for these areas it may be estimated that there will be between 300,000 and 350,000 acres of fertile and tillable land available for new settlers —8,000 forty-acre farms, perhaps.

So much for the location and present status of the land. And now we come to a phase of the question which is largely speculative: When and how will these lands be made available for settlement?

The Secretary of Interior will determine the date, acting under the authority of the President. One point is quite certain—there will be no land opening until water is available for settlers. According to present estimates water will be flowing in the All-American canal some time during 1939.

It is also quite certain that when the water supply has been assured there will be a tremendous pressure on the Secretary to hasten the opening date. This pressure will come not only from war veterans and others who are eligible to file on the land, but from agencies interested in the profits which will accrue through widespread commercial channels from a colonization project which will create many thousands of new farms in Southern California.

Under the general land laws a homestead is 160 acres, or in special instances 320 or 640 acres. The public lands to be served by the All-American canal, however, will be governed by reclamation law under which the Secretary may determine the size of the farm unit to be allotted to one person.

Turn to Page 32

SUMMARY OF VETERANS' HOMESTEAD RIGHTS

Circular 1264, General Land Office, explains the preference rights of war veterans in the following paragraph:

"On the opening of public or Indian lands to entry or restoration to entry of public lands heretofore withdrawn from entry, officers, soldiers, sailors, or marines who have served in the Army or Navy of the United States in war, military occupation or military expedition, and have been honorably separated or discharged therefrom or placed in the Regular Army or Naval Reserve are accorded a preferred right of entry under the homestead laws, if qualified thereunder, except as against prior existing valid settlement rights and preference rights conferred by existing laws or equitable claims subject to allowance and confirmation, for a period of 90 days before the general opening of such lands to disposal."

Veterans with not less than 90 days' service may deduct all or part of their enlistment period from the 3-year residence requirement necessary to prove up on a homestead. Rules governing these deductions are set forth in General Land Office Circular 302, and are summarized as follows:

An ex-serviceman with 19 months or more military service must reside on the land 7 months during the first entry year.

With more than 12 and less than 19 months, he must reside on the land 7 months of the first year and such part of the second as, added to his excess over 12 months' service, will equal 7 months, and must cultivate one-sixteenth of the area the second year.

With 7 and not more than 12 months' service, he must reside on the land not less than 7 months during each of the first and second years, and cultivate one-sixteenth of the area the second year.

With 90 days and less than 7 months' service he must reside on the land 7 months during each of the first and second years, and such part of the third year as added to his service will make seven months. He must cultivate one-sixteenth of his area the second year and one-eighth the third year.

The 90-day service requirement does not apply to veterans discharged for disability incurred in line of duty, and the entire enlistment period of such veterans may be deducted from residence requirements.

The above also applies to Red Cross workers who were identified with the military and naval forces.

KING'S

EL CENTRO

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Who Knows the Story of this Arizona Landmark?

How Well Do You Know Your Desert?

ONE OF THE objectives of the Desert Magazine is to help Desert folks become better acquainted with their own land of fascination and mystery.

Scattered over the desert country from California to New Mexico and from the Mexican border to Nevada and Utah are literally thousands of scenic and historic objects—picturesque canyons, crumbling ruins of historic buildings, relics of Indian civilization, weird natural formations, and obscure oddities.

In order that these places may become better known and that the facts and history of them may be available for our readers, the Desert Magazine each month will print the photograph of one of these mystery spots together with a prize offer to the person who is most thorough and accurate in identifying and describing the subject of the photograph.

Above is reproduced the first picture in the series. This illustration shows an important building in Arizona. Do you know its story and location? Let us hear from you.

PRIZE OFFER

TO THE FIRST person who sends to the Desert Magazine an accurate identification of the above landmark, together with the best story of not over 300 words telling the location, the rail and highway routes by which it might be reached, and the historical facts surrounding its construction and use, a cash prize of five dollars ($5.00) will be paid.

To be eligible for the prize, answers must be in the office of the Desert Magazine at El Centro, Calif., by November 20, 1937. The name of the winner together with the text of the prize-winning reply, will be printed in the January issue of the magazine.

Writers should give the source of their information, stating whether the facts quoted are a matter of authoritative record or merely hearsay.

Answers should be written only on one side of the page and addressed to Landmarks Department, Desert Magazine, El Centro, California.

Sez

Hard Rock Shorty

OF DEATH VALLEY

By LON GARRISON

"SHUCKS, I must be gettin' old," gloomed Hard Rock Shorty, as he asphyxiated a passing bug with a cloud of pipe smoke and then leaned back on the porch bench waiting for more victims.

"I was just thinkin' about it today, an' it's twenty-five year ago this July that old Bags Bagoon froze to death over on Freeze Up Gulch. Seems just like last week! Old Bags was an old-timer in the Panamints, but he'd been gettin' kind o' childish, dreamin' about Minnysota or some heathen place. Then one Fourth of July as he was hikin' into town, why a regular buster of a windstorm come up. Old Bags knowed enough to get out o' the wind an' cover up his head, but he hadn't rightly figgered on the Pilgrim with the load o' popcorn. This newcomer was headin' into the town of Inferno with this little dab o' corn figgerin' to sell it to us boys to while away the long winter evenin's with when this storm catched 'im.

"He clumb out under the wagon all right, but the sun was so hot she popped all the dang corn an' the wind blowed 'er away. Old Bags woke up an' found himself buried about seven foot deep in the stuff an' them dreams o' Minnysota blizzards got 'im. He froze to death! We like to never got 'im thawed out enough to bury proper."

YUMA, ARIZONA—

Norval Enger has been transferred from the Pine View dam project near Ogden to assume the post of division engineer for the Gila river project. He takes the place of Paul Jones, who was transferred to Glendive, Mont.

LANCASTER, CALIFORNIA—

Antelope Valley has just celebrated its seventh annual Alfalfa festival, acclaiming a $2,000,000 industry on the southern edge of the Mojave desert. The celebration marked the fifth and final alfalfa harvest of the season—a 16.600-acre crop.

In the Desert

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Lost Tree in a Lonely Land

Continued from Page 17

While virtually unknown to the average amateur botanist, the Elephant Tree has been known for many years by scientists. Although its California habitat is limited to the Borego and Vallecito areas in the Colorado desert, it has also been found in Arizona, Baja California, and Sonora. It is, however, a rare tropical plant.

W. L. Jepson, famous California botanist, had the tree classified as *Bursera microphylla* in his "Manual of Flowering Plants of California" in 1923. Other botanists also credit Joachim Burser with original classification of the tree.

J. H. Rose, eminent cacti authority, is responsible for the more descriptive term *Elaphrium microphyllum.*

The massive main trunk of the tree is only about four feet high, but it is almost as broad. The main branches are curiously twisted and interwoven, very like an elephant's coiled and upraised trunk, and these branches are themselves the size of a good big tree. Off the main branches come limbs such as an ordinary tree of good growth would put out. These secondary branches are not the leaf carriers. The dainty oval leaf, about an eighth of an inch long, grows in fern-like clusters on yet a subbranch. These cover the tree so closely that one does not at first realize the massive dignity of this desert rarity.

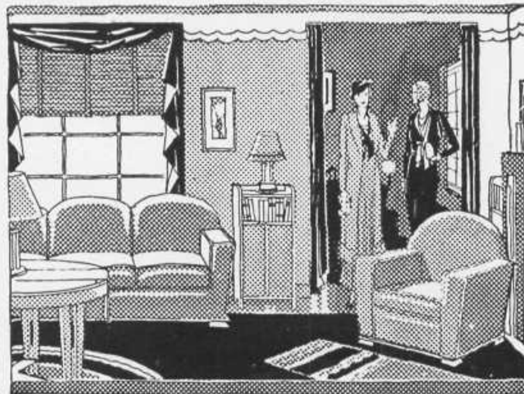
The outer bark of the tree is the color and texture of fine parchment, one thin layer over the other. This golden bark, as it dries, curls back in transparent thin layers, and exposes a bright green bark underneath. The leaves and twigs of the tree have an aromatic fragrance much like that of cedar. The seedcones are ripe and very hard. They are about the color, size and shape of a small blue huckleberry. I found one berry not yet ripe. It was flame-colored and had a waxy, flesh-like texture.

The Elephant Tree valley was as silent as the valley I had visioned, but not lonely. It was filled with a vast warm quiet—a majestic living silence.

We sat happily, left reluctantly.

A white star burned above Split Mountain. And the Elephant Tree, standing like a solitary prophet in the valley, slowly became a dark silhouette against the darkening sky.

MODERNIZE.



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DESERT PICTURES

Prize contest announcement

TO THE amateur photographer who sends in the best photographic print each month the Desert Magazine will pay cash prizes of $6.00 to first place and $4.00 for second place winners.

There is no restriction as to the place of residence of the photographer, but prints must be essentially of the desert.

Here are the subjects which will be favored by the judges:

Close-ups of desert animal life.

Close-ups of desert flora.

Unusual personal or candid camera pictures.

Desert homes and gardens.

Strange rock formations.

Exceptional pictures of desert water-holes and out-of-the-way scenic places.

While other types of pictures are not excluded, the above will be given the preference.

Rules governing the contest follow:

1—Pictures submitted in November contest must be received in the office of the Desert Magazine by November 20.

2—Winners will be required to furnish original negatives if requested.

3—Prints must be in black and white, 2¼x3¼ or larger.

4—No pictures will be returned unless postage is furnished.

For non-prize-winning pictures accepted for publication $2.00 each will be paid.

Winners will be announced and the prize pictures in the November contest published in the January issue of Desert Magazine.

Address all entries to

CONTEST EDITOR, *Desert Magazine*
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Sandstone Home

Just ordinary sandstone—the most worthless member of the rock family. But these desert folks gathered a few truck loads from the nearby hills and built a comfortable and unique home. Here is their story.

Sketch by TOMMY TOMSON

BROWN desert sandstone, tons and tons of large flat slabs, were brought from the nearby ancient beachline of vanished Lake Cahuilla to build the unique desert home of Mr. and Mrs. T. M. Montgomery at Niland, California.

Comfortable, spacious, and solid, the home demonstrates what can be done with native materials, plus much labor and planning. Set in a backdrop of desert vegetation, the rough exterior walls harmonize with the surroundings. The wide front porch identifies the house as early California style with modifications planned by the owners to make it an ideal desert home.

Although the house is built to accommodate a small family, a separate guest house provides sufficient additional sleeping quarters and emphasizes the effect of spaciousness.

Foundations of concrete are deep and huge reinforced blocks support it on bed clay. Walls are uniformly 18 inches thick. A huge eucalyptus log supports rustic rafters on the front porch. The same wood is used for the rustic pergola terrace at the rear. An outdoor fireplace adds charm to the terrace. The same sandstone which went into the walls is used on floors of terrace and porch.

The roof is finished with hand-split cedar shakes. Heavy redwood railway ties were used for lintels, then antiqued. The beautiful interior fireplace is topped with a polished ironwood mantelpiece. Windows are large, providing complete air circulation.

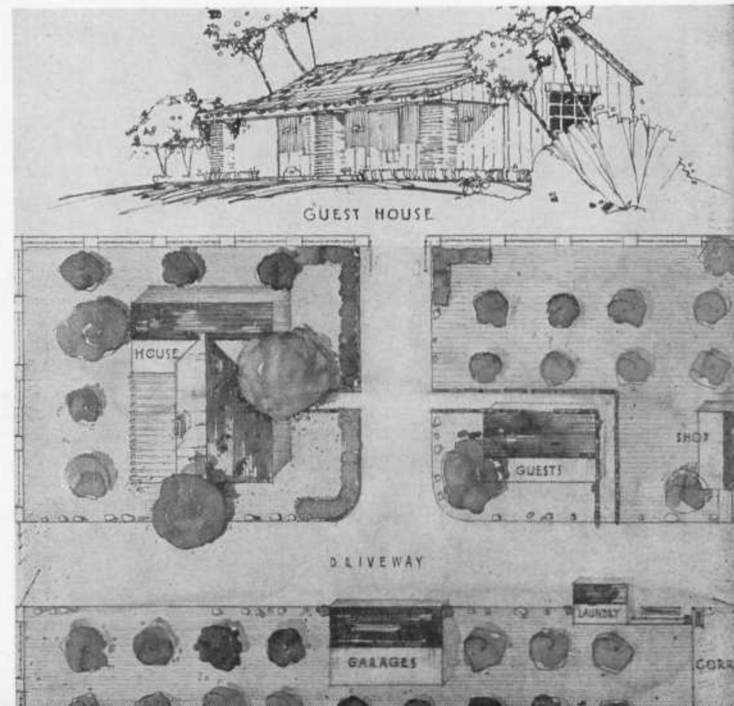
Floors are of three-width pegged mahogany on a pine subfloor. The ten-foot ceiling is antiqued with heavy beams and ironwork.

Walls are finished light and woodwork is stained dark. The early California motif is carried out in all interior finish.

In addition to the principal building, Mr. and Mrs. Montgomery have a two car garage, tool house, three-room guest house, laundry house, and corrals on the large lot, the whole surrounded by a sandstone and redwood picket fence. Athol trees and oleander form a conspicuous part of the landscaping plan. Young citrus trees are set out. Rocks line the graveled driveways.

Total floor space is approximately 1800 square feet in the main house. A carload of cement and 20 barrels of lime were used in the construction. Principal cost in this type of home is consumed in labor.

Kenneth A. Gordon, Pasadena, was the architect.



"BOLD EMORY"

Continued from Page 11

and quick grasp of essentials. Tables of astronomical figures, of little interest to the average reader, are safely tucked away in the appendix, leaving the narrative free for lucid description and crowning incident.

First Reporter of the Desert

A review of Emory's notes would be an exhaustive commentary on the manners, morals, and foibles of the people he met, a vivid description of his company and the land through which he passed. He told a coherent story of a historic march without apparent attempt to draw biased conclusions. He was a reporter, not a critic. His reports of the battles fought in the "second conquest" of California are accepted as authentic.

Emory was one of the busiest men in the company during the ten weeks' journey from Santa Fe to Warner's Ranch. The greater part of the trip was made in deserts which had never been mapped. The motorist who now travels the same distance in two days will find it difficult to understand the rigors of desert travel in 1846. Learning that Emory had time to observe an oak tree which now bears the name *Quercus emoryii* and that he took voluminous notes on other desert plants, the modern will increase his appreciation of Emory's talents.

The weary company finally passed through the California sierras and arrived at Warner's, sensing that its journey was near an end. Emory joined the festivities and welcomed the entertainment and hospitality of Sailor Bill. He woke long before dawn on the fateful morning of December 6, 1846, to ride with General Kearney at the head of a battered column of fighters into the camps of Andres Pico's California lancers. Surviving the two-day slaughter which marked the Golden State's only disastrous military battle, he helped nurse the wounded and bury the dead. He carefully found time to take nightly observations of latitude and longtitude for his precious reports.

When Kearney was severely wounded in the first encounter, it was Emory who led the charge on "Starvation Hill" in San Pasqual valley, the strongest position held by the Americans during the battle.

Aid from San Diego

Carson and Beale slipped through the Californian's picket lines and brought back aid from San Diego. The shattered remnants of the Army of the West finally reached the edge of the Pacific and the end of their journey. Kearney reported the death of 18 men and the wounding of 13 more in a battle within a day's walk of the port. And he had traveled more than eight months for this inglorious humiliation!

After a little delay, Commodore Stockton accompanied General Kearney with reinforcements of Navy men for an overland attack on the pueblo of Los Angeles. Emory joined the movement to make observations of the southern California terrain, reporting the two minor encounters with General Flores' Californians.

Fremont signed a peace treaty with Pico on January 13, to the discomfiture of Stockton and Kearney. Before the three-cornered fireworks had sputtered toward the explosion point, Emory had completed his preliminary plans for a fort in Los Angeles and had hurried back to San Diego, where he took a ship bound for the Isthmus, with his notes, sketches, and observations.

Five days after Emory embarked, the ragged, exhausted Mormon Battalion, the company of 500 men under Capt. F. St. George Cooke, arrived in San Diego. Traveling on foot from Fort Leavenworth as a part of the Army of the West, the Mormons had been left far behind and did not sight the land they had come to conquer until two weeks after the ink was dry on the peace treaty.

Emory Given Promotion

Lt. Emory's reconnaissance report ended at San Diego but his achievements in the southwest did not. The year his report was printed he was appointed by the President as chief astronomer of the boundary survey. In 1854 he received full power to establish the international line under the Gadsen Purchase. In three years he had completed the survey of the 46,000 square miles of desert in southern Arizona which marked the extension of United States territory.

The engineer climbed in rank rapidly after that, receiving in succession commissions as major, lieutenant colonel, brigadier general, and major general. He retired from the army in 1876 after a service of 45 years.

No doubt as an old man of 75 years, W. H. Emory often reviewed the dramatic and adventurous days with the Army of the West. If he could have lived to see the agricultural wealth on the upper Gila, canals, highways, and railroads traversing the deserts he crossed, treacherous Salton Sink turned into verdant Imperial Valley—he would have been amazed and gratified.

The thousands who are now reclaiming the desert areas he first mapped should place the name of Emory high among the men who "found" the southwest.

•

Steve Ragsdale—

Continued from Page 9

Ragsdale dug nine holes—all of them dry. Then he brought in a well drilling outfit and found water at 423 feet. It cost $12,000 to develop the new well. His difficulties in raising the twelve thousand make a story more thrilling than fiction.

A new location called for a new name—and so Desert Center was born.

Today an average of 500 cars a day pass through the little settlement on the Chuckawalla desert. It is a one-man town. Desert Steve not only owns all the real estate, but he is also the law. For many years he has been a deputy sheriff not only in Riverside county, but also in San Bernardino and Imperial counties.

No Cocktail Parties Here

At one time he thought of subdividing his 700-acre homestead and selling part of it. But he wanted the deeds to carry restrictions against liquor, gambling and wild women. He wanted them drawn so that a man could not even take a drink of his own beer on a lot bought from Steve Ragsdale. The lawyers said that was going too far. It couldn't be done. So the elegant plans which the engineers and architects had prepared were shoved into a pigeonhole—and are still there.

Steve isn't a pink tea reformer. There are notches on his gun, put there under justifiable circumstances. But he regards liquor, gambling and prostitution as unnecessary vices, and they will never be tolerated on his domain. When thousands of men came out to work on the Colorado River aqueduct which is routed near Desert Center, Ragsdale was offered $5,000 for a beer garden concession.

"I turned it down," he explained, "because no person could afford to pay so high a price for the privilege of selling beer at Desert Center. I knew how they intended to get their money back if they obtained the lease. I will not have any honky-tonks at Desert Center—not at any price."

Ragsdale's antipathy toward commercialized vice is natural. It is a carry-

over from the days when he was a parson. He was born in Coffeyville, Kansas, but spent most of his early life in Missouri where he went to theological seminary and became an ordained minister of the Methodist church.

That was in the old fire and brimstone days—and Steven Ragsdale was a young volcano in the pulpit. In his inner heart, however, he never could quite accept the idea that the mountains and rivers and forests were made literally in six 24-hour days. And since, in his time and place it was heresy to believe otherwise, he finally resigned his pastorate and went into the lead mines to make his livelihood.

In 1908 he moved with his wife to California and in 1909 filed on a homestead in the Palo Verde valley.

Steve's Weakness Is Poetry

Despite his religious schooling, Desert Steve has two vices. Those tall yarns with which he entertains the tenderfoot visitors at Desert Center constitute one of them. The other is—poetry. He writes the world's worst verse.

The irony of it is that while there are countless numbers of fine poets whose genius goes unrewarded, Desert Steve makes money out of his rhymes. He uses them for advertising purposes. There is a homely philosophy in Steve's doggerel which appeals to folks despite its bad technique.

One incident in Ragsdale's experience throws a great light on the character of the man. His life's desire was that his children should have a thorough education. Business in Desert Center has prospered in recent years, and there were ample funds to carry the young Ragsdales through college.

When the time came for Stanley, the youngest boy, to take his advanced training, he rebelled. Before the first semester was finished at Riverside Junior College, he returned home and told his parents that he had enough. He wanted to go to work and "do something useful."

Steve and the boy's mother urged and pleaded—but that was that. Finally the elder Ragsdale called his oldest son, Therman, into the conspiracy to help put Stanley back in school.

"Dad, why don't you go to college?"

This was Therman's suggestion. Dad did not know whether to laugh or get mad. It is not pleasant to be ridiculed by one's own children.

"I mean it," insisted Therman. And he finally convinced his father that he did mean it, and that the suggestion offered a possible solution to the pro-

Turn to Page 37

Visit CALEXICO ON THE BORDER

Palms in Nearby Canyons

Save miles and see more interesting desert wonders on the new cutoff road through Calexico. This route is the shortest distance from Yuma to San Diego and offers a variety of tourist attractions. Travel westward on U. S. 80 highway, see the great All-American Canal along the international border, sample the tourist accommodations and entertainment at Calexico.

Calexico is the center of a picturesque desert area. Sunshine and mild temperatures make it an increasingly popular winter playground. Dozens of scenic points within easy motoring distance hold enchantment for the lover of the desert.

Hunters find dove and quail abound during open season in nearby areas, while plentiful duck and geese on the river delta lands have made it a sportsman's paradise. The famed totuava fishing on the Gulf of California annually draws hundreds of fishermen to Calexico.

Just across the international line is Mexicali, capital city of Baja California, Mexico. Here is colorful Mexican life, federal buildings, and enchanting cantinas and cafes.

Accommodations of all classes are available for tourists in Calexico, from first class hostelry to economical trailer camps.

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DESERT UNDER A MICROSCOPE

Continued from Page 8

York Botanical garden, were appointed to make an investigation of sites for a study of vegetation in arid lands. In 1903 they recommended Tucson because of the richly diversified character of desert vegetation in the vicinity and because of its accessibility to other desert areas.

Dr. MacDougal was named director of the Desert Laboratory but during the three years required for him to finish his work at New York, Dr. W. A. Cannon was made resident investigator at Tucson. Other scientists who have made valuable contributions to the world's knowledge have spent some time at the laboratory, but Dr. MacDougal was for twenty years the driving force, inspiring projects of scholarly brilliance.

Retired from the laboratory ten years ago, Dr. MacDougal is now a resident of Carmel, California, where he is continuing his work with the Division of Plant Biology. Short of stature, solidly built, Dr. MacDougal has the brusque forcefulness of his Scotch ancestors. Yet he inspired unflinching loyalty and respect from the men who worked with him on the desert.

29 Years at Laboratory

Dr. Shreve came to the Desert Laboratory in 1908, two years after MacDougal took charge, and was placed in charge when MacDougal retired. Yet Dr. Shreve is not a commandant; he is rather a fellow student and colleague to the men who work under him.

Asked abruptly about the ranking of the four men now working at the laboratory, Dr. Shreve said, "We don't want a man here who doesn't know what he is doing. Each man has his own interest and he can usually keep busy without specific direction from me."

There is earnest-eyed young Dr. T. D. Mallery, who at 36 has the highest scholastic degree as a result of his studies on the osmotic movement of sap in *Larrea* (creosote bush). The factors he has formulated have a bearing on all desert plant life. With a physical build along the lines of a varsity halfback, this youthful scholar is human and practical in his attitude toward life in general and his work in particular. Twice a year "Tee Dee" takes a trek of several hundred miles over the desert to inspect his "string" of rain gauges. These gauges, located in isolated places, hold the secret of important data on rainfall and climate.

Then there is another young fellow, W. V. "Bill" Turnage, who has no

Dr. Forrest Shreve reading an instrument which records changes in circumference of cacti trunks to which it is attached. Daily and seasonal variations are due to changes in water-balance.

scholastic degree but uses the scientific vernacular like a veteran. And a veteran he really is, because he has been studying at the laboratory for seven years. Starting as a laborer on a concrete gang nearby, this young fellow who looks like a college sophomore read his own paper on desert climate to a distinguished session of the American Association for the Advancement of Science at Denver this summer. And just to fill in time while he worked "on the hill" these past seven years, Turnage completed his university course and crammed in a few graduate courses. He can squint at a cloud, tell you how high it is, where it came from, whether it will bring rain and any other data you may request. I concluded he would be a good man to have around on a summer camping trip in Arizona.

There have been as many as four or five men—and occasionally a woman scientist—working at the laboratory at one time. But for several years Dr. Shreve "held the fort" alone. Special investigators, men whose work is supported by a scientific foundation or great university, sometimes spend from a few days to a few years at the laboratory. They each work independent of the other, yet each is aware of the other's course.

Casual Visitors Not Encouraged

Of the thousands of winter visitors who come to Tucson annually there may be a dozen or so who will inquire about the way to the Desert Laboratory. Chances are they will have to ask a half dozen Tucsonians before they secure correct directions for the two-mile drive. Obviously, casual visitors on Tumamoc hill are not encouraged. The scientists prefer comparative isolation in order to preserve the fine balance of plant and animal life within the 800-acre tract.

It may be pertinent at this point to inquire why the layman, the average American citizen, should be interested in the work of the Desert Laboratory. Dr. Shreve admits frankly he does not believe his work of any interest to the layman. "But to the super-layman and interested student," he added, "we have a unique institution, designed and intended for investigation of desert plants and conditions which surround them. There may be no immediate practical utility in the work we are doing but we are laying the groundwork for a new science, a mass of knowledge concerning a large portion of the earth's surface about which we have hitherto known very little.

"This laboratory is unique in that there is no other like it in the world," the director said. "Although there are more than 200 marine laboratories in the world, created for the study of oceanic life, there are only three desert laboratories. One established and maintained by the Russian government at Repetek, Turkestan, has for its principal purpose the study of sandy soils from the standpoint of agricultural use. Another, maintained by the French government at Beni Unif, Algeria, is interested only in date culture. This Carnegie Institution Laboratory, then, is the only place where desert vegetation is studied in its native state from a purely scientific standpoint."

Yet, while Dr. Shreve minimized the contribution of the laboratory's work to the improvement of the desert dweller's way of living, a perusal of the titles of the many papers prepared by the staff is evidence enough that there is great practical value there. For instance, Dr. Shreve wrote for the Headwaters Engineering Conference at Washington last year a paper describing the conditions and patient labor necessary to improve grazing on desert lands. His knowledge of the keen balance of life, of soil moisture, rainfall and runoff, climate and wind movement all contribute to a basic understanding of soil erosion. Indirectly, many of the other studies pursued at the laboratory will eventually aid agriculture and stockraising and improve living conditions on the desert.

Information Given to World

More than 360 papers (a scientist's term comparable to the newsman's "story" and the magazine man's "article") have been produced by staff men at the laboratory. These articles describing work at the laboratory appear in magazines, scientific journals, school textbooks, Carnegie Institution news releases and books, and government publications. They are not always purely technical but they are usually "slanted" well above college essays.

For instance, one of the first works published by the Institution was a large volume by MacDougal and Coville called "Botanical Features of North American Deserts" which embraces 115 printed pages in describing areas of the southwestern deserts. The findings recorded in this book emphasized the timely and strategic location of the Desert Laboratory at Tucson.

Another monumental scientific work by MacDougal and associates was a book published in 1914 describing the Salton Sea Basin. And Shreve published a large volume describing the vegetation of a mountain range as conditioned by climatic factors. These and similar studies are the result of patient physical labor and ardous mental toil.

One of the productions in which Dr. Shreve displays much pride is the four-volume work by Britton and Rose on "The Cactaceae" which gives "descriptions and illustrations of plants of the cactus family." This monumental contribution has become the cornerstone for a nation-wide cactus and succulent hobby and the foundation for all works on the classification of cacti.

Many of the papers deal with water relations in desert plants, the rate of intake and loss of moisture and the mechanism of control which makes it possible for plants of arid lands to withstand years of drought.

Time Means Nothing on Desert

"Desert plants know how to mark time," Dr. Shreve said. In that one short statement is a world of wisdom. "The plants we study have so adapted themselves to conditions that they can remain dormant during unfavorable conditions and then take advantage of every opportunity when moisture does come. These plants are so constituted that they can radically change their response to wide ranges of light, moisture, and temperature conditions. In fact the plants of our southwestern deserts have no descent relationship with the plants of any other desert in the world; they are the product of their own environment."

"Our job, then, is to find out where these plants came from. If they are found in no other part of the world, they must have come from surrounding advantageous areas and gradually crept into the arid lands as they were able to adapt themselves to the more extreme conditions. What changes took place when they came from their original home? What physiological adjustments took place? We are gradually linking the evidence togther to give us an increasingly coherent answer to these questions."

Dr. T. D. Mallery reading the long-period rain guages. Light oil is used in the guages to prevent evaporation of captured rain-water.

The scientists of the Desert Laboratory are not stay-at-home bookworms. Much of their time is spent in the field, traveling several thousand miles a year in studying desert vegetation from the great basin of Nevada and Utah to the high plains of the Mojave region, into the rocky fastnesses of the Chihuahuan desert, and into the arid regions of northwestern Mexico and Baja California.

Trip to Pinacates

One of the first great expeditions of the laboratory staff was taken into the Pinacate region of northern Sonora in 1907. Dr. MacDougal was leader of the party of nine men, which included Godfrey Sykes and Dr. W. T. Hornaday. Sykes remained with the laboratory for many years and although he formally retired from active service in 1929, he is still actively pursuing hydrologic investigations along the Colorado and other southwestern streams. Dr. Hornaday died last March after a life dedicated to wild life conservation. He was the author of a penetrating and human book, "Campfires on Desert and Lava," which is an account of the expedition into the Pinacate region.

This still partly unexplored area, named for a small beetle of the desert, embraces about 700 square miles of lava flow and more than a hundred craters of extinct volcanoes. Several craters, which now bear the names of members of the party, are more than a mile in diameter and have steeply precipitous sides. From this weird and fascinating desolation the party of explorers brought a story both novel and startling, one of the treasures of southwestern desert lore.

Since this memorable expedition, scientific parties have gone into the region a number of times, the most recent led by Dr. Shreve in the spring of 1936. Perhaps one of the reasons why the area remained unexplored for so long—and is incidentally an index of its aridity—lies in the fact that in an area of seven thousand square miles in which Pinacate peak is the center, there is a total population of less than fifty persons!

The Desert Laboratory is only thirty-five years old, a new-born babe in the eternity of desert time. And the men who labor there, seeming to realize the immensity of the work yet undone, have chosen a life of research and study both intense and far-reaching. Here the desert is truly under a microscope and its closely guarded secrets are being brought to public view. Not now, perhaps, but soon, desert dwellers will give fervent thanks for the foresight of an immigrant boy and for the tenacity and intelligence of these desert men of science.

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Here and There ... ON THE DESERT

PIOCHE, NEVADA—

Marked revival in mining activities in this district is evident as a result of the recent completion of transmission lines bringing Boulder dam power to Pioche. A celebration which attracted visitors from all over the state was held here September 25 as a formal inauguration of the new power service. Publisher E. L. Nores issued a special edition of the Pioche Record in honor of the occasion.

PHOENIX, ARIZONA—

Horse Thief basin park, recreational area in the Bradshaw mountains, maintained by the City of Phoenix, drew more than 5,000 visitors during the past season, according to the report of Manager Ray Patton.

CALEXICO, CALIFORNIA—

According to the report of Mexican engineers, 70 miles of the new railroad which is to connect Calexico and Mexicali with a new port on the Sonora shore of the Gulf of California, has been completed. Completion of this line will give American sportsmen a new short route to the famous deep-sea fishing waters of the gulf.

AJO, ARIZONA—

Clarifying the Wheeler-Howard act insofar as it applies to the Papago Indian reservation, President Roosevelt has signed a bill restoring these Indian lands to exploration and location for mining purposes. The Papagos will be compensated for any damages or loss of use or occupancy due to mining operations.

29 PALMS, CALIFORNIA—

Publishers Bill and Clint Underhill of the weekly newspaper "Desert Trail" recently moved into a newly constructed building which houses not only their office and printing plant but provides additional space for other commercial purposes.

YUMA, ARIZONA—

For the proptection of a dwindling number of mountain sheep and deer in the Kofa and Castle Dome areas of Yuma county, the U. S. Biological survey has asked for a presidential withdrawal of 700,000 acres of public domain as a game refuge. Mining and prospecting in the area will not be restricted by the withdrawal order.

PRESCOTT, ARIZONA—

At the annual convention of Arizona Mohair Growers' association here, R. H. Whitehead of Kirkland was elected president. J. A. Medd of Skull Valley is vice president and Mrs. Roy Cooper of Kirkland, secretary. At 60 to 70 cents a pound, Mohair growers are receiving the highest price in years.

YUMA, ARIZONA—

Wallace F. Beery, high ranking movie star, is reported to have bought a 320-acre tract of desert land 12 miles east of Yuma in the Gila project.

ELY, NEVADA—

At the annual meeting of International Four States Highway association (Montana, Idaho, Nevada and California) here September 18, H. E. Wells of Whitefish, Montana, was reelected president and Robert Hays of El Centro, California, secretary.

EL CENTRO, CALIFORNIA—

Bringing promise of a new industry for Imperial and Coachella valleys, the Holly Sugar company of Santa Ana has contracted for the growing of more than 6,000 acres of sugar beets in these desert areas during the winter season.

PHOENIX, ARIZONA—

Arizona's copper and black auto license plates which have been in use since 1932 will give way next year to a combination of yellow and black, according to recent announcement of the motor vehicle department. Arizona law stipulates that drivers must apply for new plates before January 1.

HOUCK, ARIZONA—

Poisonous herbs caused the death of two Navajo Indian children recently, a boy aged three and his five-year-old sister. According to the report of reservations authorities the children devoured herbs which their mother had ground on a stone for external application to the broken arm of an older sister.

CROWNPOINT, NEW MEXICO—

S. F. Stacher, for 28 years superintendent of the eastern Navajo reservation headquarters here, has been transferred to the superintendency of the Ute reservation at Ignacio, Colorado.

PRESCOTT, ARIZONA—

Current wage scales in Arizona as announced by the National Re-employment Service office are as follows: Carpenters $1.125 per hour, bricklayers $1.50, electricians $1.125, machinists $1.20, brush painters $1.00, spray painters $1.25, plasterers $1.50, powdermen $1.00, stone masons $1.25, plumbers $1.25, sheet metal workers $1.125, cooks $.75, truck and tractor operators $.75 to $1.25, dragline operators $1.50, diamond drillers $1.125, unskilled workers $.625 to $.65.

QUARTZSITE, ARIZONA—

On the daily trip from his camp to his placer claims in the Plomosa district, E. D. Ring has killed 18 rattlesnakes during the past season.

INDIO, CALIFORNIA—

Field work has been resumed by U. S. Reclamation bureau engineers in preparation for the construction of the 130-mile extension of the All-American canal. H. R. Voris recently has been transferred from Yuma to Coachella valley, where he has established headquarters for the field parties.

GALLUP, NEW MEXICO—

David Jones of this city has been named custodian of the Wupatki and Sunset crater national monuments north of Flagstaff. He will make his headquarters at Wupatki. Jones is a graduate of the University of Arizona, where he has specialized in archeological research.

VICKSBURG, ARIZONA—

One of the largest herds of mountain sheep reported in Yuma county in recent years was seen by John Ramsey, local prospector, recently. He counted 25 animals in one group near the Plomosa range. This area is included in the Federal game refuge which is now being established.

PALMDALE, CALIFORNIA—

Equipped with a 3100-foot runway, an air field is being established a half mile south of the clubhouse of Antelope Country club. The field will be used mainly by sportsman pilots in the Los Angeles metropolitan area who have purchased desert estates in this district.

GLOBE, ARIZONA—

Wild life in Arizona is worth $20,000,000 according to estimate of State Game Warden S. L. Lewis, who spoke before the chamber of commerce here recently. Game conditions in the state are better than they were 10 years ago, Lewis said. They can be further improved, he added, by taking the problem of game conservation entirely out of the political system and putting the state game department under civil service.

MECCA, CALIFORNIA—

One of the best-known landmarks on the Colorado desert of California changed hands recently when Mr. and Mrs. J. W. Barnes purchased the 80-acre tract which includes Dos Palmos springs. This was one of the water-holes along the old Bradshaw stage route. Frank Coffey, veteran prospector, resided at the palms for many years and raised fish in the pools below the springs. Since his death two years ago the property has been unoccupied. Mr. and Mrs. Barnes have been making their home on adjoining property, and plan to preserve the historic old landmark.

PHOENIX, ARIZONA—

Cotton farmers in the irrigated district of Arizona, New Mexico and California are not getting a fair break under the present soil conservation program of the Federal government. This is one of the reasons given for the recent formation of the Arizona Cotton Growers' association. Carl Miller of Buckeye is chairman and L. G. Vinson of Phoenix is secretary-treasurer.

PHOENIX, ARIZONA—

Ray Lawhorn of the United States biological survey, migratory bird division, recently was assigned here to open a permanent office for work in Arizona. He will work in cooperation with state game wardens.

FLAGSTAFF, ARIZONA—

Honoring the state's senior senator, citizens of Flagstaff are planning to restore and preserve the old Ashurst home, one and one-half miles east of Ashurst lake. The home, built in the 'seventies, is one of the oldest in northern Arizona.

SAFFORD, ARIZONA—

Graham county farm bureau has adopted a scale of 75 cents per hundred pounds for the picking of short staple cotton this season.

SALT LAKE, UTAH—

Citing the case of a man who drove his new car from New York to California and had to pay $7.00 in fees to get through one state, Russell Singer told representatives of the American Automobile association in conference here that there is danger in the growing tendency of western states to interfere with inter-state travelers. More courtesy and less obnoxious restrictions are what we need, said Singer.

TUCSON, ARIZONA—

Dr. C. T. Vorhies of the University of Arizona has traded a Gila monster of the desert for a flying lizard from Siam. The exchange was made with Dr. Lucias C. Bulkley of California, who plans to take the monster to Siam to be placed in a museum there.

PALM SPRINGS, CALIFORNIA—

At a recent meeting of civic leaders plans were initiated for the incorporation of this city. Petitions carrying the names of 25 per cent of the property owners must be secured before the county board of supervisors can call an election. According to tentative plans, the ward system will be adopted and the boundaries of the seven wards have been outlined.

PARKER, ARIZONA—

The long-standing feud between California and Arizona over the division of the waters of the Colorado river was forgotten here on September 25 when high ranking officials from both states met to take part in a colorful celebration marking the completion of the new $134,000 motor vehicle bridge which spans the river. Clara Osborne Botzum, secretary of the Northern Yuma county chamber of commerce, cut the ribbon which formally opened the bridge to traffic. With the completion of the new span, the ferry and pontoon bridge operated by Nellie and Joe Bush for many years passed into the discard.

DOUGLAS, ARIZONA—

Investigating the possibilities of a trip of exploration into the wild mountain area along the Chilhauahua-Sonora border where descendants of the savage Apaches are said to live in a primitive state, Dr. Helge Ingstad has spent some time in this city recently. The expedition will be made mainly for ethnological purposes.

LAS VEGAS, NEVADA—

Construction of a western extension of Highway 64 by way of Boulder dam and Las Vegas and across the southern tip of Death Valley to Bakersfield, California, and the Pacific coast is being sponsored by civic leaders in the communities along the route. An association is to be formed to promote the project.

BIG BEAR, CALIFORNIA—

Discovery of a graphite deposit assaying 40 per cent and estimated at five billion tons was reported here early in October by Mark Hart and John Ragan. In the pines of the Van Dusen canyon district, just off the Mojave desert, lies great wealth in the new black gold, according to geologists.

The Desert Market Place

Buy, sell or exchange desert craftwork, art, or property in the new classified section of the DESERT MAGAZINE.

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For This "Army" – 8000 Grubbing Hoes

Continued from Page 21

When the Yuma project was opened in 1909, the homestead unit was forty acres. Whether or not this precedent will be followed in the colonization of the All-American canal project is a matter of uncertainty. Veterans of the reclamation service generally regard this as a fair allotment.

When the Yuma Valley was thrown open, those seeking homesteads were permitted to file applications for the tracts of their selection. Then a drawing was held among the applicants for each separate parcel to determine the winner.

Experienced Farmers Wanted

Compared with the madcap free-for-all land rushes which marked some of the earlier land openings in American history, the Yuma drawing was orderly and equitable. But it failed to discriminate between qualified farmers who were seeking honestly to acquire land for farming purposes and speculators who thought they saw a chance to pick up a few easy dollars.

It generally is assumed that when the All-American canal lands are thrown open to the public there will be a new deal in land openings, with the element of speculation almost if not entirely removed.

One of the old-timers in Imperial Valley recently expressed a view on this subject which is suggestive. He said: "The Reclamation Bureau has erected a Boulder dam which is a monument of beauty and efficiency. The Bureau has laid out and developed a townsite—Boulder City—as a model which might well be copied by town-builders everywhere. The same superb planning and management have been evident in the building of the All-American canal. It is unthinkable in the light of this record that the Bureau would permit the final phase of this great Colorado river project—the opening of the new lands—to take the form of an inglorious lottery in which merit would be put on the same level with fool luck."

That is something for Commissioner John C. Page and his co-workers to think about, if they have not already done so.

Veterans of the American wars will have a 90-day advantage over other applicants for these new lands. That point is established by act of congress which neither the Secretary of Interior nor the President can change.

However, in addition to being an ex-service man there are certain other qualifications required of veteran applicants. An entryman under the reclamation homestead act, on a Federal reclamation project, must possess good health and vigor, and have at least two years' actual experience in farm work. Also, he must have $2,000 in money over all liabilities, or the equivalent in livestock, farm equipment or other assets.

Rare photograph of a desert thunderstorm over the sand dunes of the Colorado desert.

What will these veterans grow on the lands? Here we enter the field of controversy. If the Department of Agriculture has its way, no farming will be undertaken on the sandy soil of these desert mesas until after a selected group of expert farmers have had an opportunity to carry on exhaustive experiments.

The Reclamation Bureau also believes in the experimental idea, but would carry on this work on a smaller scale and without too much delay.

B. A. Harrigan, agricultural commissioner for Imperial county, who can readily qualify as an expert in such matters, believes that the new lands are ideal both as to soil and climate for deciduous fruits. He would encourage the planting of deciduous orchards as a main source of revenue.

"The conditions are right," he points out, "and the output of these orchards would not compete with the crops of other desert farmers in the Imperial, Yuma, Palo Verde and Salt River valleys."

Large areas within the new reclamation project can be watered and brought into cultivation with comparatively small expense for leveling. There are many sections, however, where sand dunes must be moved and barrancas filled before the land will be ready for farming.

The native flora consists mostly of greasewood and burrowweed, with an occasional mesquite or ironwood. Generally speaking, no timber is available either for building or fuel purposes. Well water for domestic use may be reached at depths varying from 35 to 100 feet.

Pioneering Job for Owners

There are old-timers who have gone through the homesteading game who will tell you that the best forty acres in the west isn't worth the work and worry of reclaiming it for irrigation. They have traveled the road that begins with the dream of "a little home in the west donated by Uncle Sam" and leads through hard work, disappointment and privation to that day when the government issues a final patent to the land. They know that in the long run the homesteader in an irrigation country pays dearly for his little plot of ground.

But the blood of the pioneer still flows in the veins of Americans. There will be no lack of applicants for the new lands.

One of these days, perhaps two years, probably longer, the old call will be broadcast: "Come and get it!" And the veterans will come trekking in from all the 48 states to take their places

Turn to Page 33

Agave Furnished Food, Clothing for Indians

To the Indians who occupied the American desert area before the white men came, the most useful native shrub was agave or mescal. This is the conclusion of A. A. Nichol, assistant professor of botany at the University of Arizona, in his recent book "The Natural Vegetation of Arizona."

From the agave the Indians obtained food, soap, a mildly intoxicating beverage, a sugar-substitute, tonic and chest-compress, and material for clothes, baskets and summer homes.

The University recently published Prof. Nichol's work as a bulletin. It covers the scientific classification of the state's many kinds of vegetation and is an unusually valuable source book of information in this broad field.

HEARD MUSEUM IN PHOENIX OPENED FOR SEASON

Desert visitors will be interested to know that the Heard museum at 22 East Monte Vista road, Phoenix, has been opened for the winter. This is one of the most interesting collections of Indian art and relics in the Southwest, and during the last winter season attracted 5,341 visitors. A reference library in connection with the museum contains several hundred books on archeology and kindred subjects.

Open hours for the season are from 10 a.m. to 4 p.m. daily except Sunday and Monday. On Sunday it will be open from 1 to 4 p.m.

Mrs. Dwight B. Heard is president of the Board of Trustees and Mrs. Allie Walling Brame is curator.

KEEP DESERT CLEAN

Though the following poem has appeared in both the Nature Club of Southern California bulletin and the quarterly schedule of the Sierra Club, we think the sentiment expressed is worthy of repetition.

Friend, where you stay, or sit, and take your ease,
On moor or fell, or under spreading trese,
Pray, leave no traces of your wayside meal;
No paper bags, no scattered orange peel,
Nor daily journal littered on the grass.
Others may view these with distaste, and pass.
Let no one say, and say it to your shame,
That all was beauty here until you came.

—The Surrey Anti-Litter League.

ANDREAS CANYON NOW OPEN TO VISITORS

One of the most picturesque canyons in the Palm Springs area has been opened to the public as a result of the recent completion of a new road leading to the palm trees at the mouth of the arroyo. The work was done by members of the Agua Caliente tribe of Indians and a road crew under the supervision of H. H. Quackenbush, reservation superintendent, and W. C. Seaton of Palm Springs.

A small lake will be formed as a result of the nine-foot road embankment near the entrance to the canyon. There is a dense grove of native Washingtonia palms in this canyon and an ancient Indian cave nearby.

For This 'Army of the West"

(Continued From Page 32)

in the line. Their reward, if they win, will be more than merely a plate of beans or a 30-dollar-pay-check-less-deductions. For those who can qualify, the prize will be a 40-acre farm.

Then the war will be on again. For the old life in the trenches, in retrospect, will sometimes seem like a bed of roses compared with the job of making a bushel of potatoes or a load of pumpkins or a lug of apricots grow where only a lone greasewood bush is to be found today.

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Looking Down from Nevada's High Oasis

(Continued from page 13)

63,410 acres in this forest division, much of it timber land. The entire area is a federal game preserve, and the estimated 250 deer, 42 elk and 20 Nelson mountain sheep in the forest are guarded jealously by the rangers. Other species of wild life, including sage grouse, wild turkey and Hungarian partridge are to be released in the area soon.

Plans are now in progress to add winter sports to the attractions of this mountain resort. Alf Engen of national ski fame has been directing a crew of CCC workers during the past three months in the construction of ski jumps, toboggan slides and other facilities for snow sports.

Ranger Anderson told me that a new trail is to be built to the summit by way of Lee canyon and Deer creek. This will enable the hiker to take a loop trip over the mountain, ascending by one route and descending by the other. The scenic beauty of the new route even surpasss that of the present trail, according to the ranger's opinion.

I failed to mention the fact that our Sierra climbing party was caught in a hail storm on the return trip from the summit—but even pelting hail stones failed to dim my enthusiasm for those picturesque meadows along the ridge. And besides, I was snugly sheltered in the hollow trunk of a huge tree while the storm passed over.

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THE PROSPECTOR

By JEFF WORTH

"Neither Parson Priest nor Rabbi
Proclaim the "Way to God,"
Where flaming Yucca blossoms
Spring from the desert clod."

SO SINGS the true "desert rat" as he pitches camp beside the water hole.

Content with his lot, he finds companionship with his faithful burros. The cares and troubles of his city brothers worry him not at all.

Wandering from the frozen wastes of the northland to the burning reaches of the southern border, he follows the trail in search of the unknown "just over the hill."

A meagre camp, spuds, beans, bacon, flour and coffee—and the world is his. Of physical comforts he knows nothing, and has no regret. Prospecting for precious metal or just hitting the trail from here to there, his life is complete. The glories of the star shot heaven, the gorgeous desert sunset, the thrill of a mountain cloudburst, the majestic grandeur of snow crowned peaks—these supply his spiritual needs.

Inspiration, religion and a profound confidence in a Supreme Power come to him from the forces which he sees exemplified day by day. Contact and observation give him a knowledge of Nature's laws, secrets and ways that are not to be learned from books nor in any other school.

Greed, ambition and artificial culture are alien forces and have no place in his scheme of things.

When old age and infirmities finally exact their toll, he oftimes pitches his final camp near some isolated desert spring where the coyotes and wolves sing a requiem over his bleaching bones as one who not only knew and loved the desert wilds but who also recognized his kinship with the things of the desert and with the little people of the brush lands who venture forth as the brilliant stars burn bright o'erhead.

GOD OF THE DESERT

By Tom Hughes

Great brother of the sky!
When early-streaming shafts of eager light
Strike your far, frosted brow; when morning winds
Come from the stars to kiss your rosy face;
When your wild brooks turn silver in their flight;
When all your soaring crags leap into flame
As standing there you look across the sands,
With the shadow of you reaching to the sea—
Then do we taste of awe, then do we thrill
With wonder and o'erwhelming mystery.

Great sainted Hyacinth, whence did you come?
What wild debauch of beauty set you there?
What sky-born ecstasy conceived your lines?
Whose chisel etched the tracery of your spires?
Whose brush laid on your summit's morning fires?

Your noble visage all the answer gives:
Up from the burning sands a winged god
Once spurned this mortal earth, then pity felt,
And stayed to make his home there 'gainst the sky.

WEATHER

September report from U. S. Bureau at Phoenix

Temperatures—	Degrees
Mean for month	86.9
Normal for September	82.7
Highest September 9	106.0
Lowest September 26	66.0
Rain—	Inches
Total for month	1.17
Normal for month	.75
Total Jan. 1 to date	4.96
Normal Jan. 1 to date	5.61
Weather—	
Number days clear	24
Number days partly cloudy	5
Number days cloudy	1

W. B. HARE, Meteorologist.

From Yuma Bureau:

Temperatures—	Degrees
Mean for month	89.6
Normal for September	83.7
Highest September 14	112.0
Lowest September 30	61.0

This was the warmest September recorded in 60 years.

Rain—	Inches
Total for month	1.71
67-year average is	.35

Sunshine—346 hrs. out of possible 371 hrs.

Colorado River—

September discharge at Grand Canyon was 467,000 acre feet. Discharge at Parker, 532,000 acre feet.

Estimated storage behind Boulder dam October 1—15,220,000 acre feet.

JAMES H. GORDON, Meteorologist.

BOOKS OF YESTERDAY and TODAY

—a monthly review of the best literature of the desert Southwest, past and present.

THEY KEPT FAITH WHEN THE RAIN GOD WAS ANGRY

IN HOPI-LAND, rain is god. To propitiate the god, the dancing feet of the Hopi katchinas have tapped the rain rhythms for centuries untold, on the high arid mesas of Arizona.

Winters the people spend in dancing ritual to bring down summer rain on their crops. If the bean feast is observed punctiliously with dance and song in the kivas of the Hopi villages, the great cloud house will open its doors and spill the life-giving water on the thirsty mesa.

Of this annual rhythm of winter ritual and summer harvest, John Louw Nelson writes in his book "Rhythm for Rain" (Houghton Mifflin Co., 1937). In leisurely narrative, enriched with authentic detail of a culture that is slowly giving way to the white man's sophistication, the author tells the story of a Hopi boy who grows to manhood in the communal life of the pueblo.

The writer has lived for many years among the Hopis and he knows how these mystic, intuitive people feel about their nature gods and the exacting rites that must be observed to bring rain. For once the people offended the gods and for three endless years no rain fell. Then came months of desperate dancing, the katchinas in their masks of gods imploring rain, rain, rain.

The brazen sky was pitiless and famine fed on the bodies of the faithful, so that the shrunken corpses hardly appeased the wolves that skulked in the village streets. Some of the tribe emigrated, leaving the weaker ones to canibalism and grave robbing. The children were sold as slaves to the Mexicans.

But at last the gods relented and rain came. Life flowed back to the people. Like Job, they kept faith through their tribulation.

Author Nelson is director of research with the Museum of the American Indian Heye foundation. His descriptions of dances and rituals are authentic accounts of what he has seen many times in eight years spent among the Hopi people. Photographs of pueblo subjects and paintings of Indian artists add to the interest of the book.

Though the writer's interest lies primarily in anthropology and folk ways, he is so impressed with the faith and philosophy of these primitive people that the sympathetic reader will likewise be impressed.

OLGA COSTELLO

WHEN BIGHORN SHEEP WERE FOUND IN THE PINACATES

CAMP-FIRES ON DESERT AND LAVA, by William T. Hornaday. Published by Chas. Scribner's Sons, New York, 1908. 336 pp—72 photographs.

Although this book has been out of print for many years and the available copies are mostly in the hands of librarians and private collectors, it is an invaluable addition to the desert lover's library.

Hornaday, nationally known zoologist and wild-life conservationist, joined Dr. D. T. MacDougal, then director of the Desert Laboratory at Tucson, in a one-month trip into the lava-swept Pinacate region of northern Sonora, Mexico in 1907. The book is a human and entertaining account of the party's adventures and achievements.

The author died in New York early this year and Dr. MacDougal is now in retirement at Carmel, Calif. Godfrey Sykes, handy man of all jobs who delights the reader with his exploits, is still associated with the Desert Laboratory.

Here is as fine a group of sportsman-scientists, and as entertaining an account of their outing as will be found in the desert any time or any where.

Although the party went out primarily in search of mountain sheep, the men of science of course had their eyes, ears and minds open. In simple style, Hornaday introduces the plants and animals found along the way and presents a fascinating picture of the colorful craters and massive lava formations in the Pinacate region. Exceptionally fine photographic reproduction adds to the interest of the book.

While the destination of the party was northern Mexico, Dr. Hornaday presents an interesting picture of Tucson as it was in 1907, and describes the animal and plant life of the southern Arizona desert in striking detail.

This is a valuable book for the hunter and conservationist as well as the geographer and scientist. For this was one of the last great stands of *Ovis canadensis*—the Big Horn sheep. And the Pinacate region is liberally dotted with volcanic craters which would receive voluminous tourist-bait publicity if they were nearer a well-traveled highway. But if they were more accessible this book would never have been written.—J. W. M.

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They Helped Launch the New Magazine - - -

No. 1 Subscriber

JASPER L. TRAVERS

Every publication has a first subscriber, but not all of them can claim as canny a Scotsman as Jasper Travers of El Centro, California, as its No. 1 patron. Jasper heard rumors about the Desert Magazine several months before it was officially announced. He liked the idea, and his offer to pay a year's subscription came unsolicited at a time when the publishers themselves were not just sure about the date of the first issue. However, they took his money. That was December 14, 1936.

Travers is a pioneer building contractor who inherited enough industry and thrift from his highland ancestors to acquire a comfortable nestegg during the 30 years he has resided in the Imperial valley. The publishers of the new magazine regard it as a good omen to have a hard-headed Scotsman at the head of the subscription list.

A few days after Travers paid for his subscription, Paul Cook, Jr., of the Capital Fuel and Feed company of Phoenix, Arizona, sent in his check. Number 3 on the list was another name that has a Scotch twang to it—Mr. and Mrs. Argyle McLachlan of Calexico, California.

No. 1 Advertiser

JOHN BURKE

In these days when nearly every business executive is literally besieged by advertising salesmen from all kinds of good, bad and indifferent media, it is refreshing to have a prospective advertiser send in his contract unsolicited.

And yet this is the manner in which the Desert Magazine acquired its Number 1 advertiser. John Burke, manager of that picturesque border hostelry at Calexico—the Hotel de Anza—learned about the proposed new publication early last January, and wrote for an advertising rate card.

Rates had not yet been established, and no cards were available. But the publishers did not keep Burke waiting for long, and on February 25, three days before the Desert Magazine was officially launched, the signed contract of the De Anza for 12 monthly insertions was received.

"You are pioneering in a new magazine field," wrote Burke, "and I believe your project will have surprising success. Desert people will welcome such a magazine, but I believe your biggest circulation eventually will come from distant places among people to whom the desert is still an unexplained mystery."

20-Day Deer Season in Kaibab Opens Oct. 27

Regulations which will govern the 20-day deer hunting season in Kaibab national forest from October 27 to November 15 this year have been announced as follows:

Each hunter is entitled to one deer, which may be either buck or doe.

Hunters must have both an Arizona state hunting license and a federal government agreement. Licenses and agreements may be purchased at any of the four established huntings camps.

The four camps which will be hunters' headquarter are: Moquitch, managed by Jack Butler; Pine Flat, managed by Slim Waring; Big Saddle, managed by Hades Church. These are on the west side of Kaibab. On the east side will be South Canyon camp, managed by Bob Vaughn. To prevent overcrowding and accidents the number of hunters at each camp will be limited. It will not be necessary to make reservations, however.

Hunting will be done under Arizona laws and the regulations of the Arizona game and fish commission, and under the federal regulations of the Forest service. Deputy Game Wardens and Forest Rangers are to be stationed at each camp.

Saddle and pack horses will be available for hire at each camp. Saddle horses will be $3.00 a day and pack animals the same rate. Guides will be available at $5.00 a day, a guide party being from two to four persons.

Meals will be available at all camps. Hunters should bring their own bedrolls. However, a few beds will be available at all except South Canyon camp.

Complete information together with supplies will be available at Jacob Inn, Buck Lowrey's lodge and the V. T. Ranch.

Only guns using a bullet weighing 87 grains or heavier will be permitted. Shotguns, revolvers and bows and arrows are not allowed. Automatic rifles are permissible but are not favored.

There will be no shooting within a quarter mile of the camps, or from automobiles along the roads. Automobiles must be left in camp when passengers are hunting.

An airplane landing field is available for hunters at Fredonia.

Metal tags will be attached to each deer killed.

Arizona hunting licenses cost $2.50 for residents and $25 for non-residents. The Forest service agreement will cost $1.25 additional.

"Desert Steve"

Continued from Page 27

blem which was confronting the Ragsdale family.

The outcome of it all was that when the next semester opened at the Riverside college, Mr. and Mrs. Ragsdale and their youngest son were all enrolled for classes. Father Ragsdale, 53 years of age, reported for astronomy, psychology, English and philosophy. Mother Ragsdale took art and astronomy.

Unfortunately, the younger member of the family was taken ill and could not carry on through the course. But Pa and Ma lugged their textbooks to school every day until the last examination was given.

"It was the greatest experience in my life," declared Ragsdale afterward. "The thing which I appreciated more than all else was that throughout the entire time we were in school there was not the slightest hint of discourtesy or ridicule from either student or teacher. No one can tell me there is anything wrong with the younger generation of Americans. I put them to the test, and I know the answer."

Recently Mr. and Mrs. Ragsdale bought 560 acres of fine timber on the top of Santa Rosa peak, and built a big log cabin where they spend much of their time while Therman runs the business at Desert Center and supervises the operation of branch stations at Utopia and Cactus City, which are also Ragsdale towns on Highway 60.

Steve's mountain domain is posted with placards advising visitors that

"DECENT FOLKS ARE WELCOME; ENJOY BUT DON'T DESTROY"

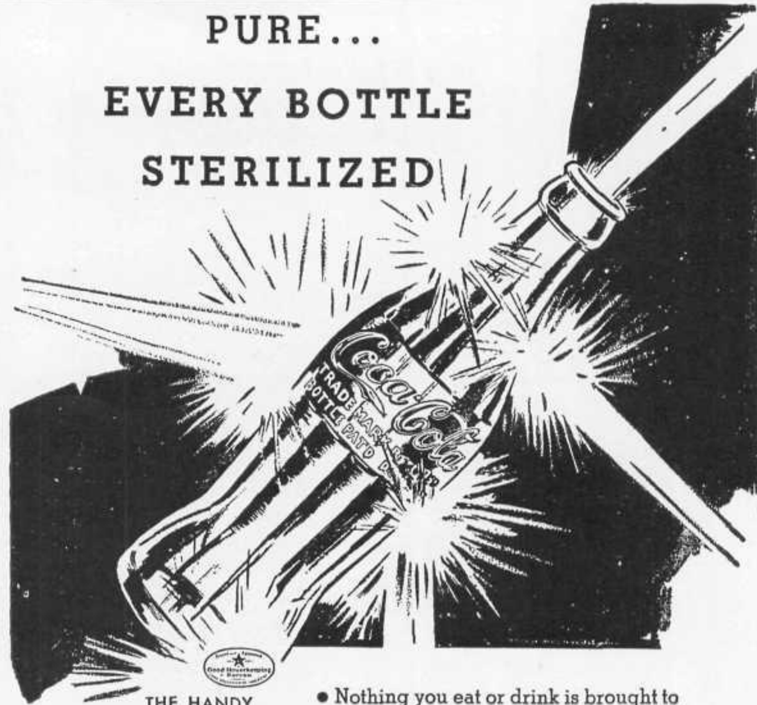
Beneath these black-faced lines are a few lines of Steve's own poetry. "But the blankety-blank souvenir hunters keep stealing the poems off the trees," complains Steve.

DESERT WHIRLWINDS

By Louise Eaton

Far in the distance the "dust devils" dance—
Dervishes whirling in wildest abandon.
Now they're retreating and now they advance,
Choosing their footing, and bowing at random.

Where do they come from and where do they go?
Genii attempting their earth-hold to sever.
So do we humans in our little show
Whirl for a moment than vanish forever.



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Ice-cold Coca-Cola is pure refreshment . . . pure as sunlight. Buy it in the handy 6-box.

ICE-COLD COCA-COLA IS EVERY PLACE ELSE, IT BELONGS IN YOUR ICE-BOX AT HOME

COCA-COLA BOTTLING CO.

EXTRA COPIES of the DESERT MAGAZINE

are available for mailing to your friends, relatives, and acquaintances who are interested in the desert country.

They will appreciate your thoughtfulness in sending them the No. 1 copy of this new illustrated magazine of arid America.

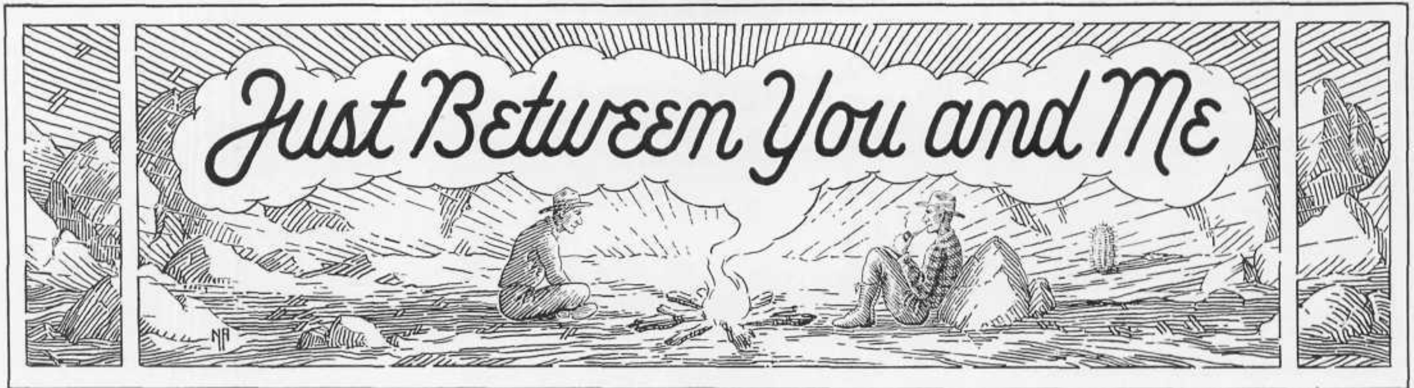
The gift magazines will be wrapped and addressed and the postage paid to any address in the United States for the regular newsstand price of 25 cents.

Just write the addresses on the blank spaces below and send the list together with 25 cents for each name to The Desert Magazine, El Centro, California.

To Desert Magazine, El Centro, Calif.:
Please send copies of the first issue of your new magazine to:

Name .... Name ....
Address .... Address ....
Name .... Name ....
Address .... Address ....

Enclosed is 25 cents for each of the above.



By THE EDITOR

HAVE YOU ever experienced that glorious relaxation which comes after a long day's hike over mountain or desert trail and toward evening arrive at a spring of cool water where camp is to be made for the night?

Well, that is the sensation I am enjoying just at this moment. All the rest of the copy for this first issue of the Desert Magazine has gone to the printers, and there remains only the pleasant task of sitting by an imaginary campfire and chatting with the companions of the trail.

For that is what this page is to be—just the informal kind of talk which you would expect from an old friend. You'll disagree with what I say sometimes, and perhaps think I should be locked up in the crazy house. But who would want to have a friend, or be the kind of a friend who never took issue on any question? The old world would grow stagnant on that kind of friendship.

Figuratively, the first day's trek is ended. Literally, Wilson McKenney and I have been plodding along for many months wrestling with problems of circulation and advertising, of art work and photographs and text matter. And now we can relax for a moment, knowing that tomorrow we must resume the trail which leads to another issue of the magazine, and to many others.

Being amateurs in the business of publishing a magazine, this has been a great adventure for us. We've fretted and argued over problems which any professional magazine publisher could have answered in three ticks of the clock.

But there are some compensations in being novices in a new game. We have received hundreds of manuscripts from those who would contribute to the magazine. We've read them all—and found it a fascinating pastime. Not being bound by the precedents that govern veteran magazine publishers, we rejected or accepted each one with a personal letter—instead of using those stereotyped rejection slips which editors usually send out. I have a lot of those slips in my trunk—and I vowed long ago that if I ever became the editor of a magazine I would at least tell the aspiring writers why I could not use their stories. Perhaps when I am older in the game I will become crusty and tell the printers to run off some of those cold-blooded little notices of rejection. But so far, my resolution has not wavered.

* * *

However, I do wish that the writers would realize this is not a wild and wooly western magazine of the pulp type. They keep sending in those red-hot thrillers in which the hero carries a gun on each hip and speaks a language which was invented in Hollywood. The Desert Magazine simply is not in the market for that kind of fiction.

While I do not want to claim too much modernism for desert folks, I would like to present them through the pages of this magazine with some degree of accuracy—that is, as men and women who speak good English, who read books, and who act and think like intelligent Americans of the present generation.

The truth of the matter is that the real people of the desert are warm-hearted and generous and thoroughly civilized—but not too civilized.

* * *

The poets have been our most liberal contributors. They have literally deluged us with verse. There seems to be something about this desert atmosphere that inspires poetry. Much of it is good, too. But I have had to return the greater part of it for the reason that the pages in this magazine are limited—and we have to keep some of the space for prose and pictures and advertisements. At that, there is enough poetry in the files now to last three generations of Desert Magazine publishers.

I really haven't any grudge against the poets and their poems. I wrote one myself once—the world's worst. We would still be a world of savages but for the creative art which finds expression in poetry. And so my hand is out in friendship to the poets and I hope they will not feel hurt when we do not publish all their offerings.

* * *

Well anyway, we are about to close the forms on the first issue of the desert's new magazine. "Mac" and I and the other members of our staff have appreciated the hundreds of messages of interest and goodwill which have come to us since our project first was announced many months ago.

We want it to be understood that this magazine is to be published for all the desert of the Southwestern part of the United States. Within the limits of our space and ability we will give recognition to every constructive interest in this great desert expanse. We are working on our own capital and have no alliances or obligations other than to serve and entertain those who live on the desert, or who are interested in the desert.

We would like to feel that these pages will impart to their readers some of the courage, the tolerance, and the friendliness of our desert—that this issue and every issue, will be the cool spring of water at the end of the hard day's trek—and that you will go with us along the desert trail and find the journey worth while.

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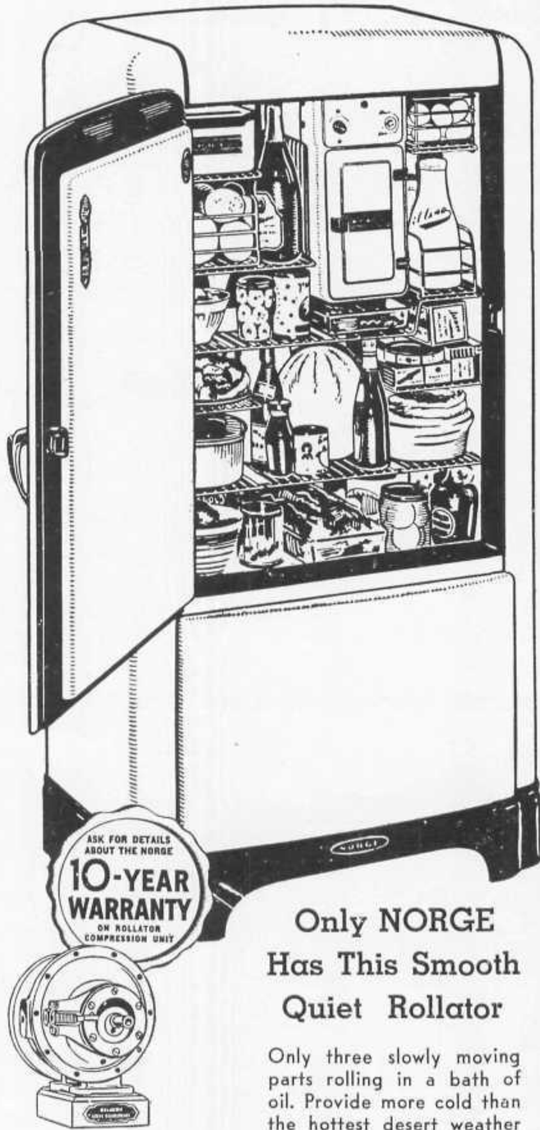

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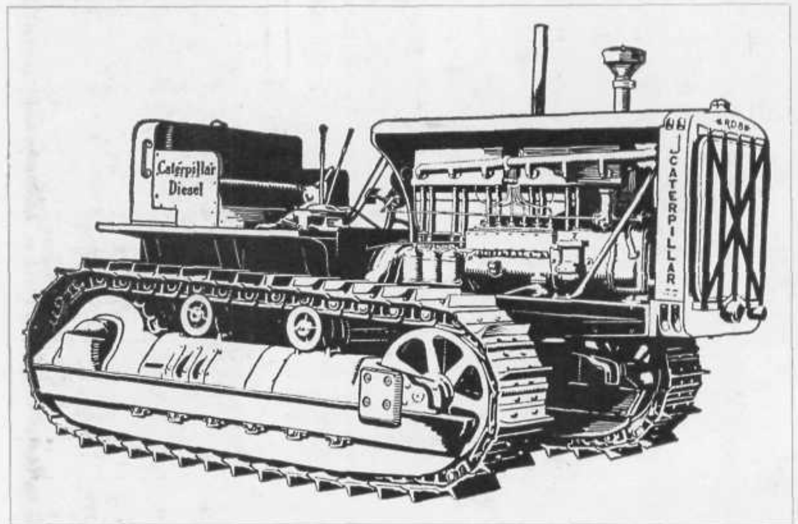
Let's Get Acquainted...

WE ARE proud of Caterpillar products and of the service organization we offer in the Imperial and Yuma valleys. Our products have proven themselves in this desert country for durability and economy of operation. Caterpillars may be seen in action in all parts of these valleys. And a Ben Hulse service store is within an hour's drive from any section of this vast area.

There is an interesting and dramatic story behind Caterpillar and the organization which represents it in the desert. The story begins in a great factory at Peoria, Illinois, and reaches its climax in the local farmer's fattened bank account.

Hundreds of patrons and friends have seen the Ben Hulse Tractor and Equipment Co. grow from a small agency to one of the largest and most stable sales and service organizations in the southwest. To them and to other hundreds we should like to tell our story.



We plan to unfold a comprehensive account of our products and their manufacture, our service and what it can mean to equipment users. It will appear from month to month for the next year in the Desert Magazine. Won't you follow it with us? . . . let's get acquainted.

Ben Hulse Tractor and Equipment Co.

EL CENTRO BRAWLEY CALEXICO YUMA