

THE

Desert

MAGAZINE



JULY 1939

95 CENTS

Writers of the Desert . . .

As a youngster just old enough to know what it was all about, WALTER WILHELM himself lived through the stirring events recited in this month's story, "Dora's Diggin's." The coura-

geous pioneer woman whose experiences are described in this story is Walter's mother.

Wilhelm is not a professional writer. He operates a garage at Yermo, California, and spends his leisure time out on the Mojave desert hunting with bow and arrow and blowgun, collecting mineral specimens and studying the strange habits of the denizens of the sand dunes. He has built a sturdy jalopy that will climb the rocks like a burro—and few men in the southwest know the wildlife of the desert country as well as he.

If any of the readers of the Desert Magazine are curious to know who prepares the questions and answers for the "Desert Quiz" every month, here is the answer. Until this issue, they were com-

plied by the office staff of the DM in El Centro. This month we have a guest "quizzier" in the person of TOM WORTHINGTON, who has been a desert rat so many years he always has sand in his hair. Tom belongs to the school that learned about the desert by sleeping on it—and hasn't much patience with "those blankety-blank tenderfeet who only know what they read in the books."

Will members of the writing fraternity please crowd over and make room for a new recruit—DESERT STEVE RAGSDALE of Desert Center, California. Steve used to write atrocious poetry—and make a profit out of it—so he ought to do very well in the field of prose.

Explaining his venture into the field of journalism, Steve wrote: "I have my trailer home cached in the desert cliffs south of Desert Center. Except when it is too cold or there is rain or wind, I cook, eat, sleep and write out in the open. For the first time in my life I am doing just as I please — and I please to live and think and write in the solitude, away from newspaper, radio, and jitterbug prattle, even from the gossip of my good wife.

"I do not anticipate seeing the major portion of my writing published. I simply can't be bothered. But boy, oh boy! I'm having a helluva a good time writing just what I think and what I believe to be the truth, regardless of standardized concepts or orthodox conventions."

LEO A. McCLATCHY, who wrote about his boss, Frank Pinkley, for the Desert Magazine this month, is regional publicity manager of the national park service, with headquarters in Santa Fe, New Mexico. He received his early newspaper training on the Sacramento Bee of which his father, the late V. S. McClatchy, was for many years the publisher. He did a "hitch" in the British transport service in the opening months of the World War, in India, Africa, and Egypt, and later served with the American 91st Division in France and Belgium.

After newspaper work in Oklahoma, Texas, and Tennessee, McClatchy went to Washington in 1921 as correspondent of the Sacramento Bee. Later he established an independent news bureau in the national capitol where for ten years he wrote national politics and regional news for a group of west coast newspapers. He did publicity work for the State of California during the Rolph administration. He has been associated with the national park service, in a similar capacity, since January, 1926. He is a Stanford graduate.

McClatchy is married and has three children: Rene and Leo, Jr., in Santa Fe High school; and Lorette, a sophomore student in the University of New Mexico

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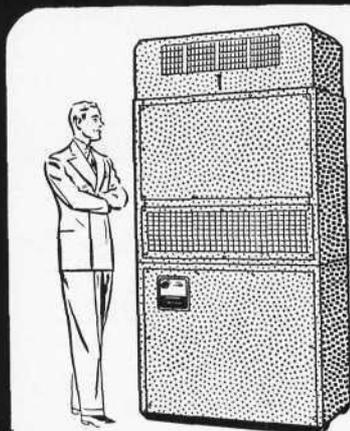
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DESERT Calendar

JULY

- 1 to 4—Frontier Day celebration at Prescott, Arizona.
- 1 to 5—Tenth annual Hopi craftsman exhibit at Museum of Northern Arizona, Flagstaff.
- 2 to 4—Annual rodeo at Silver City, New Mexico.
- 2 to 4—American Legion celebration at Douglas, Arizona.
- 2 to 4—Rodeo at Reno, Nevada.
- 2 to 4—Annual Rodeo, including Rattlesnake derby, at Carlsbad, New Mexico.
- 3 to 5—Annual Pow-Wow and all-Indian rodeo at Flagstaff, Arizona.
- 4—Old-fashioned desert Fourth of July program at Beatty, Nevada. Ert Moore, chairman.
- 5 to 15—Utah Boys' State, sponsored by American Legion, at Camp Williams near Lehi, Utah.
- 6 to 8—Robbers Roost Rodeo at Price, Utah.
- 11 to 12—Fifty-third annual convention of Arizona Wool Growers at Flagstaff, Arizona.
- 13 to 15—Ute Stampede at Nephi, Utah.
- 15 to 30 — Water colors, lithographs and etchings by Gordon Grant on exhibit at Museum of Northern Arizona, Flagstaff.
- 21 to 24—Pioneer day program at Ogden, Utah.
- 21 to 25—Covered Wagon Days at Salt Lake City, Utah.
- 24 to 26—Horse racing program at Beaver City, Utah.

DESERT MAGAZINE TO HAVE NEW QUARTERS

J. Wilson McKenney, who has been associated with the Desert Magazine since its inception, has purchased the Advocate, a weekly newspaper at Legrand, California. His equity in the Desert Magazine has been acquired by Mrs. Bess Stacy and Mrs. Edna B. Clements, newspaper women of Calexico, California. Plans have been announced for moving the magazine and its printing plant to a new Pueblo type building to be erected in El Centro, California, within the next four months. Damon Tedrick of New Concord, Ohio, recently has joined the staff of the Desert Magazine as advertising manager.



Volume 2

JULY, 1939

Number 9

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DAMON S. TEDRICK, Advertising Manager

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THE SPIRIT OF THE DESERT

BY ROWENA MCDANIEL
Denver, Colorado

The spirit of the desert calls to me
And leaves me sleepless, restless, day and
night.
I close my eyes, and always then I see
The magic of its ever changing light.
I see a plain of wind-swept drifting sand
Where shrubs in stubborn desperation
cling;
And distant mountains robed in pastel shades
Stand ageless guard above in lonely land.
I long to go there in the early spring
And stay one day until the last light fades.

The spirit of the desert calls, and I
Give answer from a restless, yearning heart.
I hasten,—and behold the morning sky
Aflame! Colors no artist could impart
To canvas contrast the departing night,
And wake the desert to another day,
That rivals every miracle of earth,
And leaves me breathless in the dawning
light.
Entranced,—I see the rising sun betray
The secret of the desert's radiant birth.

DESERT NIGHT

BY LAURA C. PETERS
Pasadena, California

Forgotten now the desert day,
The desert night is here;
Forgiven is the choking hand.
The sky we thought austere
And harsh in judgment on the earth
While harboring gods of fire,
Is tender now, as one who loves,
And robed in soft attire.
Across a field of midnight blue,
Her drapes, like silken net,
Are woven from the asteroids
To swathe her silhouette.
And where my face was damp with heat,
A cooling breath of spice
She stirs from out reviving sage,
While stars, like bits of ice,
Make cool the night and banish pain,
And soothe my thoughts away
From gods of fire with choking hands,
And I forgive the day.

INDIAN COUNCIL FIRES

BY RUTH WATSON
Taos, New Mexico

Council fires burning bright,
Crimson fingers reaching high,
Twinkling stars lean low tonight,
Gentle desert breezes sigh.
Huddled warriors, bronzed and still,
Draw their blankets close around,
Chief of tribe describes the kill,
No one else dare make a sound.
Council fires glowing red,
Stars are paling in the sky,
Speeches wise and long are said,
Desert night is almost by.

S. O. S.

BY ELLEN DECKER NORTON
Pomona, California

Nature gave us lovely places
On our wind-swept desert trails,
Where one finds unsightly traces
Of fragments thrown from dinner pails;
Bottles, papers, orange peeling,
All are scattered here and there.
Please, dear travelers, have more feeling,
Keep our desert clean and fair!



To a Cactus

BY LOIS FAITH KIRBY
Los Angeles, California

O Cactus Plant, unapproachable,
Product of desert land,
Your life within you unquenchable,
Valiantly you stand.

You are symbolic of mystery,
O rugged Cactus plants,
I admire your brave persistency
And adjustment to circumstance!

PLACE OF TOUCH-ME-NOT

BY S. VOSBURG
Claremont, California

The Devil's Gardens cacti know,
Some tall and lean, some squat and low,
Through ages they have flourished there,
In storm and sun, dark days and fair.

Within this maze of Touch-me-not
The plants that grow in this weird spot,
Defensive stand in sturdy pride
In armor grim, sword by their side.

So, touch them not, this is their home.
Admire their charm, leave them alone.
If you get full of barbed spine
Until you seem a porcupine,

It serves you right, this is the spot
That's known to all as "Touch-me-not."

DESERT VESPERS

BY BESSIE M. MOORE
French, New Mexico

In the golden glow of sunset, cacti, and yellow
sand,
A purple velvet shadow trails across the des-
ert land;
It touches with loving fingers the yucca
candles white,
And lights each waxen taper from a spark of
sunset bright.
The hour is Desert vespers, when silence
alone will say
The prayer of benediction that marks the
close of day.

OUTLOOK

BY THELMA IRELAND
McGill, Nevada

There is a time before sunset
When shadows look distorted.
Some people look at Life that way;
Their minds must be aborted.

DESERT SOLILOQUY

BY DOROTHY L. PILLSBURY
Albuquerque, N. M.

Night pegs down her old frayed tent,
Ragged with star holes worn through;
Hangs a pewter moon by a filament
And talks to herself as wanderers do.

Trailing their blue and purple cloaks
Shadows stay their liquid paces,
Eavesdropping just like mortal folks
Ghosts of tribes and shades of races.

"Land they sought but men still die in cities:
Gold they sought, how pauper poor to-day:
Fame and acclaim, ten thousand, thousand
pities,
The raucous crowds who cheer and slip away.

Beauty is the soul's frontier, unlimited and
flowing,
The gold of seraphim, who giving have the
more,
The loneliness of artistry, serene and glowing
While all the gods stand tip-toe at the door."

SPRING WINDS ON THE DESERT

BY LUCY G. BLOOMFIELD
Toadlena, N. M.

Spring house-cleaning time! Mother Nature
Is sweeping the corners out,
She's huffing, puffing and scolding
And moving things about.

That sand dune she built a year ago
Doesn't seem to suit a bit.
Across the arroyo it must be moved
Before present plans 'twill fit.

When her cactus carpet's been beaten,
And the tumble-weeds whisked away,
She'll dust things over with sifted sand,
Before she calls it a day.

Her methods I can't quite fathom,
But before the job's complete,
She'll wash things off with an April shower.
Then her home will be clean and neat.

SO CALM THE NIGHT

BY ADA GIDDINGS
Laguna Beach, California

At dawn of day, so strong, enthused;
By afternoon, so lost, confused;
But calmly spurning all defeat,
He slept in the shade of an old mesquite.
He awoke to a desert starry night,
And old Polaris set him right.
And since that day, if morning's prime
Is lost in the market slump or climb,
He horns his way through the city cars,
And lays his bed under desert stars.

CREED OF THE DESERT

BY JUNE LE MERT PAXTON
Said the feathery Nolina to the
Spanish Dagger,
"Because you're a Yucca you
need not swagger.
Don't be proud, and don't be
silly,
For my family is also called the
Lily."

Charles Kelly's hobby is the rediscovery and study of old historical inscriptions carved on remote rock faces in many places in the West. Through these inscriptions Kelly has added many new chapters to the meager records of early day explorations in the desert country. Here is the story of a Utah trapper who established the first trading posts in the Uintah basin of Utah—and of the record he left behind on the rocks.

Trapper in the Utah Wilderness

By CHARLES KELLY

"**B**UT killing antelope needlessly was not by any means the worst amusements practiced in Robidoux's camp. That foolish trader occupied himself so often and so long in playing 'Hand,' (an Indian game), that before he parted with his new associates he had gambled away his goods, his horses, and even his wife; so that he returned to Santa Fe much poorer than nothing—since he was in debt."

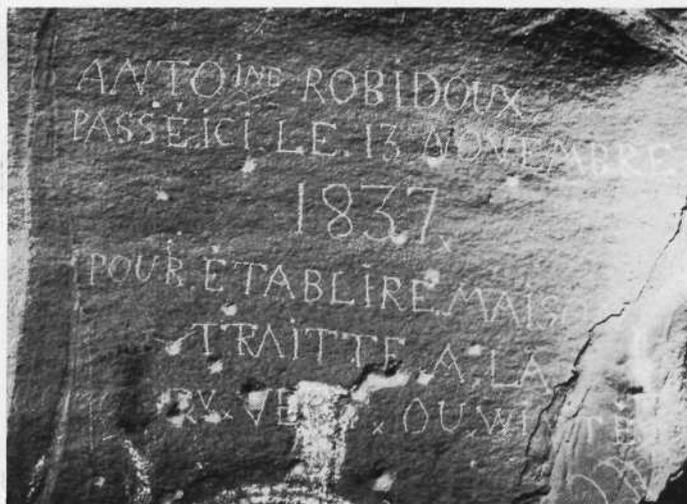
The above description of Antoine Robidoux, French trader, by Joseph Meek, referring to an incident which occurred in or near the Uintah basin of northeastern Utah in the year 1838, is an interesting sidelight on the character of a man who contributed much to the history of the early West. Meek, who was himself no saint, might have been a little prejudiced in his opinion; but even if his statement is literally true, it was merely an incident in the life of a man who left his mark indelibly in the wilderness he helped conquer.

My own interest in this little known trader and explorer began not long ago when a friend loaned me a rare book entitled "History of the Pioneer Robidoux," compiled by Orral Messmore (Mrs. Louis) Robidoux. While the book leaves much to be desired in the way of definite information, it contained one item that immediately excited my curiosi-

The above sketch of Antoine Robidoux is a copy made by Harold B. Hoag of a portrait published in Orral Messmore Robidoux's history of the Robidoux family.



Inscription left by Denis Julien, a French trapper, probably working with Antoine Robidoux, on a rock face along the Uintah river about six miles south of White-rocks Indian Agency, in the Uintah basin of eastern



Utah. His name also appears five times along Green river, dated 1836. On the right is a close-up of the Robidoux inscription, believed to be the first photograph ever made of it.



This photograph shows (right) the cave in which Robidoux camped on November 13, 1837, and the inscription he left at that time, also the painted Indian sun symbol later used by cowboys as a target. This is located in the mouth of Westwater canyon, on the old Larsen ranch, 12 miles west of the Colorado-Utah line and 22 miles north of State Line Service station on U. S. Highway 50, between Price, Utah, and Grand Junction, Colorado.

ty. That item was a short quotation from a Denver newspaper stating that the name of Antoine Robidoux, with the date of 1837, had been discovered "on the Book Cliffs near Fruita, Colorado."

If such an inscription actually existed, of course I had to see it; but the chances seemed slim that any early record of that nature would have so long escaped the notice of historians. The location—"on the Book Cliffs near Fruita"—was so indefinite that there seemed little hope of actually finding it without the assistance of B. F. Thompson, the original discoverer, who could not be located. Book Cliffs extend from Green River, Utah, to Grand Junction, Colorado, furnishing space for an unlimited number of inscriptions, and the town of Fruita was many miles from the base of the cliffs.

But since I was making a collection of all such rock inscriptions of early date I could not afford to pass up any chance of finding one as important as this appeared to be; and so one hot summer day my wife and I loaded our camping equipment and started out to look for the "needle in a haystack."

We left Salt Lake City early in the morning, stopped for lunch in Green

River, then turned east toward Grand Junction through a hot and almost barren desert. At last we approached the Utah-Colorado line and stopped for gas at the State Line service station, owned by two brothers. I inquired if they had ever heard of an inscription in French carved on the Book Cliffs in the vicinity of Fruita. To our surprise and delight they had both seen the inscription and were able to give us exact directions as to how to reach it.

Following those directions we drove back two miles on the highway, then turned almost due north on a dim wagon trail leading toward the Book Cliffs. At the end of 22 miles we came to a small ranch built at the mouth of what is locally called Westwater canyon. Leaving our car in the deserted corral we walked a quarter mile into the mouth of the canyon to a small cave described by our informants. When still at a distance we could see traces of lettering on a smooth panel of rock wall near the cave. Walking closer we were overjoyed to find what I believe is the finest inscription (with the exception of those on Inscription Rock in New Mexico) in the entire West. It read:

ANTOINE ROBIDOUX
PASSE ICI LE 13 NOVEMBRE
1837
POUR ETABLIRE MAISON
TRAITTE A LA
Rv VERT OU WINTE

The translation is: "Antoine Robidoux passed here November 13, 1837, to establish a trading house on the river Green or Uintah."

The letters were large and carefully cut with the sharp point of a knife in the red sandstone. Just below had been painted, in ancient days, an Indian sun symbol resembling a bull's-eye, which has been the target for passing cowboys. Except for bullet marks the inscription was in a fine state of preservation and fortunately undefaced by later markings.

We took the first photographs of this remarkable record and made the first accurate translation. It is located on the old Larsen ranch, 12 miles west of the Colorado line.

Until the publication of Mrs. Robidoux's book, scant attention had been paid by historians to the remarkable achievements of the Robidoux brothers. The family came originally from a French settlement in Canada, but the six Robi-

doux brothers, Joseph, Francois, Pierre, Antoine, Louis and Michel, were third generation citizens of St. Louis by the time of the Louisiana Purchase.

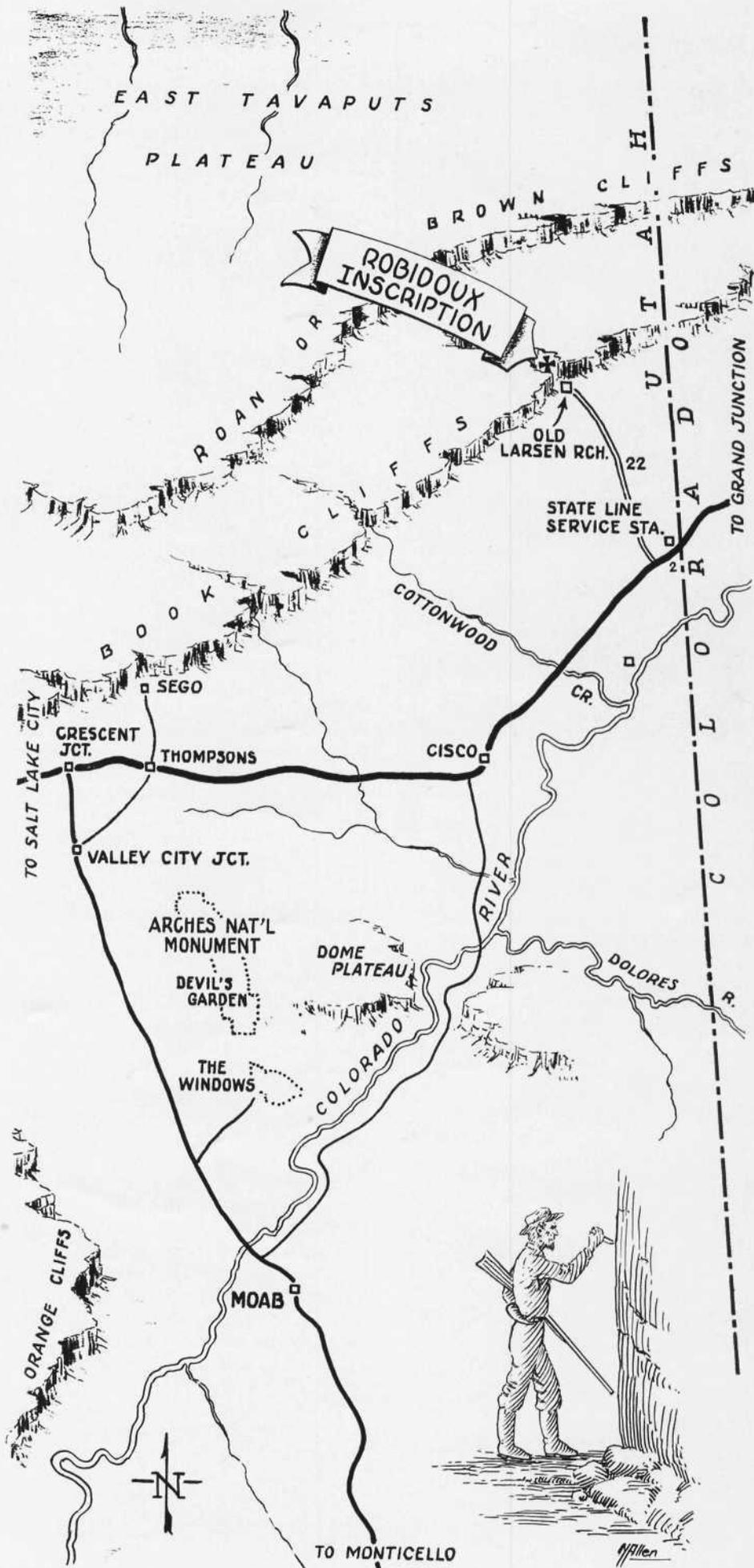
A year before General Ashley started for the Rocky mountains with his famous Fur Brigade, Joseph, Antoine and Louis Robidoux took a caravan of wagons, loaded with trade goods, to Santa Fe, to conduct their trading enterprise. Joseph, as head of the family business affairs, returned to St. Louis and later founded the city of St. Joseph, Missouri. Within a year, or by 1823 when Ashley started west, the brothers had established a branch at Taos and had begun to penetrate the country to the north with their trading caravans.

Back in 1776 Fathers Escalante and Dominguez had made their historic journey from Santa Fe to Utah Lake and return. Their report of the country they had explored prompted the formation of trading expeditions which soon were making annual journeys to the Uintah basin and Utah Lake country over Escalante's route. One adobe trading post was built at the junction of White and Green rivers, the ruins of which I excavated three years ago. Except for that post, which seems to have been occupied only one winter, they never had permanent forts or posts in the Ute country.

While Louis Robidoux looked after affairs in Santa Fe and Taos, Antoine, apparently of a more adventurous disposition, considered the possibilities of establishing permanent posts in the Indian country for all-year trading, thus hoping to monopolize the business. His first outpost north of Taos was built at the junction of Uncompahgre and Gunnison rivers, near the present Delta, Colorado, in 1824 or 1825. From that new base Antoine made trading and trapping expeditions through all the surrounding country, exploring a large territory in which no white man had previously set foot.

In his journal of 1830-31 John Work, a Hudson's Bay trapper, mentions meeting a party of 200 men under Robidoux not far from Malad river in Idaho. He states that they intended to winter on White river. The place was at the junction of White and Green rivers, at what is now Ouray, Utah. That they did winter there and trap in the Uintah basin is proven by Dr. Julian H. Steward's discovery of the name "Denis Julien, 1831" on a rock ledge on the Uintah river near Whiterocks Indian agency. This is the same "D. Julien" whose name appears in five widely separated places on Green river, all dated 1836. Through some early records in St. Louis I was able to learn that Julien was a for-

(Continued on page 25)





Sah-Nee—she doesn't think highly of the white man's school—but she weaves beautiful blankets. Navajo Agency photo.

HERE'S a deep canyon known as Na-Ah-Tee running between reservation roads which lead from Winslow and Holbrook to the Hopi mesas. And here, tucked tightly under the protecting ledge of a high brown wall of stone is the hogan home of Sah-Nee, finest of Navajo weavers in the southern Navajo reservation.

Sah-Nee was born far to the north where Canyon de Chelly cleaves the pine covered mountains, the Luka-chu-Kais, and as a baby her cradle board hung, swayed by breezes that stirred the piñon branches under which the loom of her mother was always busy. Sah-Nee's mother wove the beautiful old-time vegetable dye rugs found today only among the weavers of that section.

Sah-Nee was six or seven years old when her father, Little Gambler, died, and the mother collected her huge flock of sheep, and her baby girl and returned to her own clan in this Na-Ah-Tee canyon country. While the mother set up the loom and wove rugs to trade for food at the nearby trading post, Sah-Nee herded

the sheep and raced over the hills with the sheep dogs. Then a white man discovered her and she was placed in school at Phoenix.

In the Hogan of Sah-Nee, the Weaver

By MRS. WHITE MOUNTAIN SMITH

Two or three years later the mother died and Sah-Nee returned to live with her clan and take charge of the flocks which were now hers. She did not inherit her mother's loom, for it would have been very bad luck to use anything belonging to one gone away, so the loom with its half finished rug was buried under a sand bank with the Navajo woman.

In time Sah-Nee married a man much older than herself, one chosen by her relatives because they thought he would look after the orphan girl and her inheritance. He was a very good silversmith and one of the best "Singers" of the Nine-Day Mountain Chant. Three or four children were born, and the slim girl is now a dignified matron who wears her bejeweled velvet blouse and many ruffled skirts with grace and poise.

I drove my car close to the summer shelter beside the winter hogan and waited for Sah-Nee to approach. She knew I'd never leave the haven of my car while her surly old sheep dog stood waiting hopefully for a bite of the white visitor. Our greetings over and the disappointed dog sniffing at my heels we walked back to her loom strung between two juniper trees, and settled there in the shade on soft sheepskins.

Sah-Nee's green velvet jacket was trimmed with dozens of fancy silver buttons and around and among them many yards of white rick-rack braid, showing that civilization had reached even the remote hogan of this Navajo weaver.

"Sah-Nee, I want to tell white people some of the interesting things about Navajo rugs and because I like your weaving, I've come to you for help. Will you tell me how you weave such beautiful rugs?"

"All right. You play you are a Navajo girl, one that has been away to school

many years and therefore knows nothing!" I gasped a little, but agreed to "play."

"There are many things of importance before the rug can be started. The first thing is to have sheep! Then you must know how to care for your flock. They must be watched and tended and guarded no matter how hot the day nor cold the night. In summer you must be out in the sun and sandstorms and the lightning that crashes around this country. The sheep must have food and water even if you have to drive them over miles of rough trail to find it. In winter when the snow covers all the food, sometimes one must cut branches off of trees and drag them to the starving animals.

"They must be kept safe from coyotes when the lambs are born and shut into corrals at night unless you are brave enough to stay out in the hills with them — just you and the sheep dogs. Twice each year they must be driven to the Government dipping vat and put through the flume of stinking disinfectant. Then, what's left of them must be driven home again. No matter how rough the trail or how weary your feet, the sheep always come first. Do you think you know how important are the sheep?"

I nodded, trying to visualize the life of a Navajo woman bound by necessity and traditions to the flocks of her tribe.

Sah-Nee went into her hogan and I followed. In the center of the hard dirt floor was a fire-pit, and coals glowed dully when she fanned them with a turkey wing. She added a few short pieces of juniper wood, stirred the mutton stew simmering in the iron pot and added a portion of whole grained corn which had been cut from the cob and dried while sweet and tender. I looked about the snug clean hogan. It was eight sided with a doorway facing the east, according to Navajo tradition. The structure was of peeled logs gradually drawn in to form the roof, and in the center a hole

Weaving loom in a typical Navajo hogan. Loops of yarn are seen hanging from the pegs on the left. There's always a stray lamb to be cared for.

—Mularky photo.



was left for smoke and ventilation. Mud filled the chinks between the logs. Bags of shelled corn, great loops of bright colored yarn, a saddle and a cloth flour sack holding the tin dishes for the family were hung on pegs driven between the logs. Strings of dried peppers and ears of seed corn were there also.

The hogan held no furniture except a few wooden boxes and a battered tin trunk, evidently the one Sah-Nee had in school days. She opened this trunk to show me some of the fine silver and turquoise jewelry her husband had made for her. Stored here, too, was her best Sunday blouse of purple velvet heavy with silver trimming, brought out only on important occasions. The floor of the hogan was brushed clean with the turkey wing, and the sheepskins and blankets on which the family slept were airing on trees close to the hogan. A few pots and pans completed the picture. Nothing was here that could not be packed on a horse when it was necessary to move the huge flock of sheep to other pastures or water holes.

We went back outside to find that company had arrived. Skinny Woman from a neighboring hogan, left at home to tend the baby and a stray lamb being raised by hand, brought both of her charges to Sah-Nee's hogan. She wanted to know why the white woman was there, and incidentally she needed the help of her neighbor in stringing the warp on the frame for a rug she was about to start. There was a lengthy conversation in Navajo during which I had a feeling that I was the subject under fire. Then Sah-Nee turned to me:

"Skinny Woman says you may help her string this frame if you like!" I felt about as useful as a crutch at a jitterbug party, but with Sah-Nee acting as interpreter we did very well, I guess. Skinny Woman kept up a running fire of information about rug weaving. Sah-Nee added a word now and then as she turned the Navajo into English. The frame was

four feet wide and six long and was simply four smooth strong strips of wood fastened at the corners. The two side strips were to be removed when the warp was placed in the loom holding the frame. The tightly spun and twisted wool warp was strung up and down, under and over, crossing in the middle. It was pulled tightly so there would be no sagging when the heavy wool woof was pounded in. Sah-Nee was talking as we worked:

"There are four main things to remember in making a good blanket." (No Navajo calls her product a rug. To her the woven covering is a blanket.) "Choosing good wool from the back of the sheep where it is longer and cleaner; carding, spinning and washing it well, using good dyes for coloring and beating the woof in evenly and tightly so that the warp cannot be seen shining through when the rug is completed. When you see one of those woolly looking blankets it means that the weaving was uneven and loose and that the trader took cards and roughed up the yarn to cover the defects." Oh, so that's why some of them look like they need a shave! Skinny Woman chimed in:

"The way the wool is taken from the sheep has lots to do with nice smooth yarn. This white woman won't know anything about shearing so tell her that the sheep must have all four feet tied together while it is being sheared. The wool from the back must be cut off first and laid aside by itself, and the other wool can be put in a sack for the trader. If she wants to make a good blanket take

only wool from a native Navajo sheep. The government keeps bringing in fancy long-haired animals that are too stupid to hunt food or water for themselves, and if a coyote barks at one of them it just lies down and dies. The wool on these new sheep is longer and thicker and silkier but it catches all the dirt and trash the sheep touches, and it is harder to spin and weave."

The women went on to tell me that after the wool is taken from the sheep's back it is pulled apart with the fingers and all the burrs and bits of trash picked out. Then yucca root is pounded into a lather and hot water added. In this foamy mixture the wool is soured up and down without twisting it any more than necessary. Then it is laid in the hot sand or hung on sage brush to dry.

Then comes the carding with what looks like a pair of curry combs and the wool is left in long loose rolls ready to spin. It has never been possible to convert the Navajo to spinning wheels. In the first place most of the spinning is done by the women as they follow their sheep about all day long, and they can carry the light native "spinner" with them. The clumsy wheel would be an embarrassment loaded on a horse when it was time to move the sheep to fresh pastures, and so it is ignored by the weavers, just as the potter's wheel is an unknown object among pottery makers in the Southwest. The spinning really takes more time than any other detail of the wool preparation, but if the yarn is left loose and lumpy then it's necessary



Spinning yarn with a native spindle. —Fraser photo.

to disguise the imperfections by carding the finished blanket.

Sah-Nee took a smooth oak stick about 18 inches long thrust through a round thin board perhaps six inches across and five inches from the bottom of the stick. She wet a finger and fastened the end of a carded roll around the stick. Then bracing it against her leg she gave the spindle a brisk twirl, at the same time stretching the yarn and twisting it as the stick spun. Then she spun the stick the opposite way and wrapped the yarn around just above the board. This went on until the spindle was full and then that yarn was removed and wound into a loose ball while the spindle was filled again.

Skinny Woman had been occupied with her charges, both of which seemed equally hungry, and she watched Sah-Nee with a critical eye when she was free to return to us. Sah-Nee went into the hogan to stir the stew, giving me an amused wink as she laid down the spindle. It was snatched up instantly by Skinny Woman and how she made it twirl and hum as she filled it quickly with tightly spun yarn. She would show the younger women how to really do things! When Sah-Nee came back I told her to ask Skinny Woman if the Navajos

learned weaving from the Hopi Indians. That practically started a civil war.

"Hopi! Zuni! Their women can't weave. The men do all the work for the women. They make all their blankets and even the dresses their wives wear. They couldn't teach a Navajo anything!" She wrinkled her nose in a gesture of disdain and dismissed the Pueblos. "The Navajo learned to make blankets from the Spider Woman. She taught us how. And until you white people made us stop we always left a spider hole in every blanket we wove. That was a place for all the thoughts we have as we weave to go out and not get twisted up in our brains and make us crazy."

It is true that until a few years ago this spider hole was left in every blanket but when white buyers objected to the imperfection traders induced the weavers to stop leaving it. Now they bring a gray thread from somewhere in the rug out through the border and to the edge so evil thoughts and devil spirits will follow that thread and not break the warp or tangle the yarn used in weaving the blanket.

Now and then a foolish woman makes a lightning design in a blanket or copies a sacred sand painting and then the Medicine men have to hold a "sing" to take the curse off of her. She is placed in the

center of a sand painting and the Medicine men run the pains down to the ends of her toes where a cotton string is tied. Then the twisting pains brought on by the lightning design hop right into the string and it is burned. That always takes care of the weaver's troubles.

The warp was strung to the frame by now and the midday meal of stew was set from the fire. Sah-Nee made bread of flour, baking powder, salt and water and kneaded it into a stiff ball. She put an iron skillet with lots of grease in it on the fire and when it was hot, pinched off bits of the dough, flattened them between her palms and fried the cakes until they were golden brown. A can of tomatoes was opened, probably in honor of the white woman, and the meal was ready. Portions were served on tin plates, the tomatoes poured in tin cups to take the place of the usual coffee. I asked if the children would be there to eat and Sah-Nee explained that they had taken the sheep across the canyon too far away to leave them.

"They drank lots of water before they went away this morning and I gave them fried bread and dried meat for their food. They will be all right until they bring the flock back at sundown." I wondered what eight and ten-year-old American girls sent out on such a task would think and do.

The eating finished, Sah-Nee cleaned the stewpot and made ready to dye some yarn. It was the brownish black fleece just as it came from a sheep's back. At least a third of the Navajo sheep are either black or brown, and while the brown color is all right to be used "as is" it is necessary to deepen the color of the black fleece.

The white wool is used after it is washed. Gray is made from spinning black and white together; the brown needs no dyeing, and the red used in 90 per cent of the blankets sold is bought in packages at the trading post. I thought Sah-Nee had bought black dye for this wool she proposed to color but she put in a brew made from sumac leaves and twigs and combined with it a mixture of yellow ochre melted in piñon gum. The wool went into the pot with sufficient water to cover it and soon it came out a shimmering black that would withstand years of wear and exposure to sun and rain.

The day of making their own dyes has passed for most Navajo women. They sometimes made their yellow dye which is a favorite color, from the rabbit brush (*Chrysothamus*) to which is added native alum. But only around the Chin Lee country do the Navajo women produce the old vegetable dye blankets in numbers sufficient for marketing.

The yarn is not dyed until it has been

spun into the desired weight and texture. It is then tied into loose loops and dyed and hung in the sun to dry. Most of that is done during the winter when the flocks are kept close to the hogan and the hogan-wife can keep an eye on them and her weaving at the same time.

More than a million dollars worth of Navajo blankets are sold each year by the Navajo tribe. They last a lifetime with ordinary care and can be used for floor coverings, car rugs, blankets, wall decorations, pillow tops, couch covers and saddle blankets. The price runs from \$1.00 a pound to ten times that amount for a specially fine sand painting or so-called ceremonial blanket. Prices are based on fineness of weave and design, uncurled corners and even width.

"How many hours will it take Skinny Woman to weave that blanket four feet wide and six feet long?" I asked.

"That all depends. She is a fast weaver, but if she makes a fancy design it takes time to beat in each color and change to another. Then if the sand blows or it should rain she can't weave outside and will have to leave it for awhile. You see this frame is tied inside a bigger frame lashed to two juniper trees. We can't weave more than an hour at a time without getting up and moving around to keep from getting shooting pains. Not long ago one of the traders had the fastest weaver in his neighborhood come to the post and weave a rug. All that was done in advance was to cut the wool from the sheeps' backs. He kept count of her time while she cleaned, carded, spun, dyed and wound the yarn, set up her loom, strung the warp and lashed the frame into place. Then while she wove he counted the hours. He paid her at the rate of twenty-five cents an hour and she wove a beautiful rug three feet wide and four and a half feet long. She used brown, black, white, gray and red in the design. Do you know what that blanket cost the trader? Of course he paid the weaver 20 cents a pound for the wool when she brought it in for the blanket."

"I have no idea what the cost of the blanket was. You tell me."

"He paid her \$43.00 for the wool and her work, and he sold the blanket to a tourist for \$12.00. That was what it could be bought for at any trading post!"

At that rate I estimated a Navajo woman actually receives about eight cents a day for her work after deducting for the value of the materials put into a blanket. Think of that next time you are tempted to offer a trader half price for a \$20.00 blanket.

Sah-Nee waved to me as I left, and went out to open the corral gate for her home-coming flock of sheep.

DESERT QUIZ

If you think you know your desert rather well try this test. It includes geography, natural history, archaeology, botany, history and the common lore of the desert country. If you get 10 correct answers you know more than the average student of the desert, if you score 15 correct you are entitled to call yourself a "Desert Rat," and if more than 15 are answered correctly you will be given a privileged niche in the Hall reserved for Sand Dune Sages. Answers are on page 31.

- 1—Cotton was first cultivated on the desert by—
The early Mormons..... Spanish colonists.....
Prehistoric Indians..... Apache Indians.....
- 2—Among the Navajos, chief interest is in raising—
Horses..... Mules..... Cattle..... Sheep.....
- 3—The Colorado desert is mostly in—
Utah..... California..... Colorado..... Nevada.....
- 4—The Turkey Buzzard of the western deserts is so named because—
It struts like a turkey..... Its head resembles a turkey's head.....
It belongs to the turkey family..... It is a native of Turkey.....
- 5—Most of the petrified trees in the Petrified Forest of Arizona most closely resemble our present day—
Pines..... Sequoias..... Palms..... Cedars.....
- 6—Prehistoric Pueblo Indians and Cliff Dwellers subsisted mainly on—
Meat diet..... Wild grains and berries.....
Vegetables..... Combined diet of all three.....
- 7—The Desert Ground Owl—
Digs its own burrow..... Occupies a rodent's burrow.....
Lives in a nest..... Roosts in brush or trees.....
- 8—The locale of Harold Bell Wright's "Winning of Barbara Worth" was in—
New Mexico..... Death Valley.....
Imperial Valley..... Northern Arizona.....
- 9—The Amargosa desert is in—
Nevada..... California..... Arizona..... New Mexico.....
- 10—The Painted Desert of Arizona is so called because of—
Indian rock paintings..... Colored vegetation.....
Colorful landscape..... Hazy atmosphere.....
- 11—Desert varnish is a—
Paint pigment..... Natural mineralized rock surface.....
Volcanic deposit..... Artificial polish.....
- 12—Desert Indians usually bury their dead facing the—
East..... South..... West..... North.....
- 13—A Navajo hogan is a—
Dwelling place..... Water hole.....
Farming plot..... Ceremonial chamber.....
- 14—Timber rats which nest in scrub cedar on the desert ridges place cactus leaves in their nest structure to—
Give it strength..... Prevent coyotes from digging them out.....
As reserve food supply..... Make nests waterproof.....
- 15—The Green, Grand and Gunnison rivers are tributaries of the—
Rio Grande..... San Juan..... Sacramento..... Colorado.....
- 16—The Roadrunner is sometimes called the—
Cuckoo bird..... Chaparral bird.....
Lizard hawk..... Ground pigeon.....
- 17—Kangaroo rats are so named because of their—
Ability to jump..... Resemblance to a kangaroo.....
Shape of their heads..... Manner of carrying their young.....
- 18—Among desert Indians the normal duties of the Medicine man are—
To placate the gods..... Conduct ceremonials for rain.....
Insure bountiful crops..... Heal the sick and injured.....
- 19—The dwarfed growth of desert vegetation is due mainly to—
Lack of moisture..... Poor soil.....
Heat of the sun..... Hot winds.....
- 20—The first "Mountain Men" who came to the Southwest deserts were—
Seeking adventure..... Chasing Indians.....
Searching for gold..... Trapping beaver.....

This month John Hilton takes the gem and mineral collectors into a field that has been little explored—the field of petrified wood. Millions of tons of fossilized wood are scattered over the southwestern states, and no two specimens ever are alike. Many species of trees are found in petrified form—and the sharp-eyed collector will discover interesting facts about life on this earth during the prehistoric period when these trees were turning to stone.

Trees that Turned to Stone

By JOHN W. HILTON

ONE of the most common minerals in the average collection—and one of the least understood—is petrified wood. The collector acquires a few specimens with pretty coloring and perhaps some rather striking physical variations—and that is all. Too seldom is thought given to the species, the geologic age, the chemistry, or the fascinating story revealed by studying the wood with relation to the place where it is found.

The truth is that petrified wood is found in so many different places and in such a great variety of form and color and chemical composition that a very large and interesting collection can be made within this one field of minerals.

An approximate idea of the variations in petrified wood may be gained by citing a partial list of the minerals occurring in this form. Silica of course leads the list. Almost every variation of quartz found in the earth's crust, with the exception of rose quartz, had been identified in petrified wood, either as the petrifying substance or as crystal linings in the cavities of a hollow log or limb.

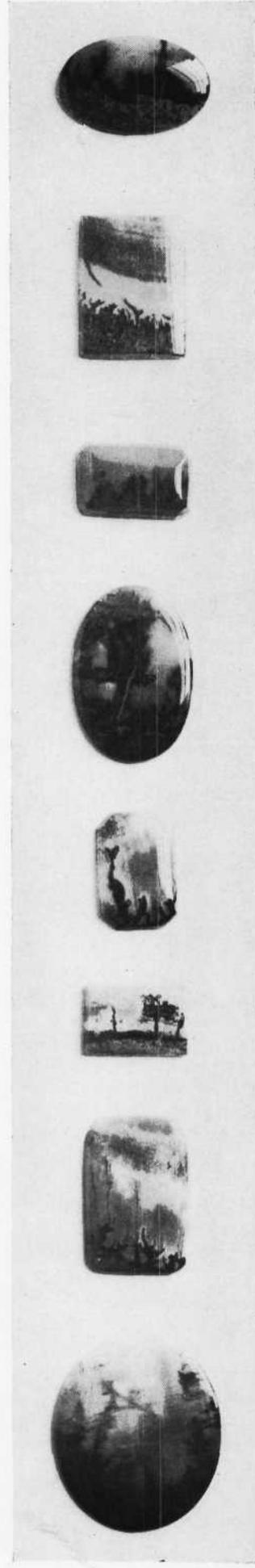
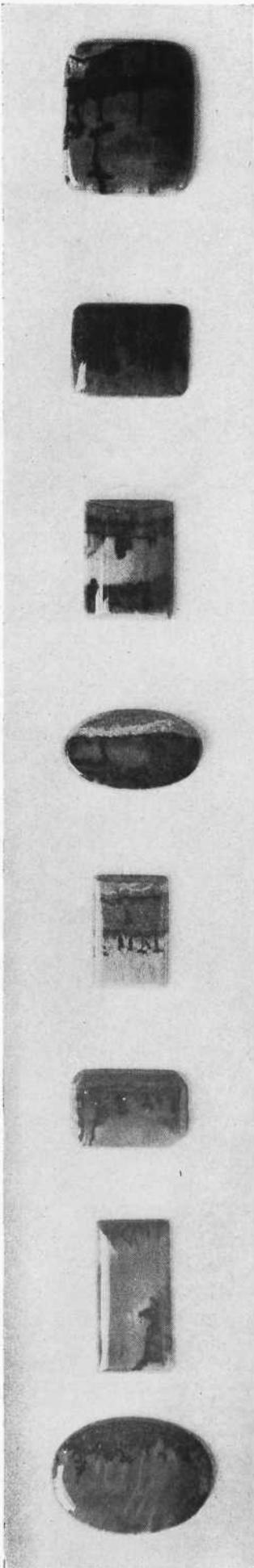
Some of the gem varieties of silica which appear frequently in mineralized wood are common and precious opal of almost every known type, agate or chalcedony, all colors and types of jasper, amethyst, smoky quartz, and clear quartz crystals. The last three are usually found lining the cavities.

Many metals and rare minerals are also known to occur in petrified wood. For instance a silver camp in Colorado at one time milled the wood for its silver and gold content. Samples of wood containing copper ores are rare but not unknown. In some localities complete logs have been found in which the texture was replaced by iron in its hematite or limonite form.

Traces of almost all the other metals have been reported and in some rare instances fossil logs have proved to be the source of the world's rarest element—radium. Replacements of wood by aragonite, calcite, gypsum, barite and all conceivable combinations of these minerals and the other substances already named, would run the possible varieties of petrified wood into almost astronomical figures.

The chemistry of petrified wood of course varies with the type. The replacement of wood structure by calcite or other minerals soluble in water is comparatively simple and can be carried on experimentally in a laboratory. It is possible that some of the silicified types are secondary replacements of silica

Cabochons reproduced on this page are from the beautiful picture rock collection of L. R. Douglas of Long Beach, California.



Famous Agate bridge in the Petrified Forest of Arizona. Adam Hanna, standing on the log, was unofficial guide in the forest a half century ago. Photograph, courtesy Mrs. White Mountain Smith.



after the limestone. This is known to have happened in the case of marine fossils, and could conceivably account for the silicified wood so abundant in our desert country. Along the Colorado river are a number of petrified wood areas where the lime content is high although the structure is primarily silica.

Where there is direct replacement of wood by silica it is reasonable to believe the petrifying agent was some alkaline silicate in solution. When sodium silicate, which is known to be a byproduct of many volcanic ashes and muds, comes in contact with any organic acid such as would be produced by rotting wood, a jell is formed. This jell is silicic acid and except for an excess of water is of

the same composition as opal. The slow drying of silica jell is the source of most of the opal found in the world. These facts may explain how a log of wood may be replaced cell by cell, preserving the entire structure in stone.

As partial proof of this theory I have allowed porous pieces of wood to soak until they have become "sour" and then immersed them in a weak solution of sodium silicate. The weak acetic and tannic acids produced by the fermentation had so completely filled the pores in the soft wood that in a few days they were well impregnated with silica jell. When dried, this became a form of soft chalky common opal.

Of course this was silica impregnation

rather than replacement, but I have no doubt that with the elements of time and pressure such as existed through the geologic ages, opalized wood could be produced by this process. Unfortunately, the finest chemists and the best equipped laboratories in the world cannot compete with Nature to whom time means nothing. And perhaps after all, that is just as well for it would be no fun collecting gem specimens which any chemist could produce with a test tube and a melting furnace.

One of the most interesting angles in the study of petrified wood is the factor of geologic age. I believe I am safe in saying that every geologic era has produced its mineralized wood — at least



"Old Faithful," located near the museum in the Petrified Forest national monument, is a popular photographic subject for park visitors.



These flattened logs, graphed in the Petrified Forest national monument, are evidence of tremendous pressure at some early time when the wood still was in a pliable form.

every era since plant life evolved to the point of primitive trees.

The specimens in your cabinet may include palm or cycad woods that grew on this earth a hundred million years ago, along with twigs from one of the lime-bearing springs where the petrifying process is going on today.

The number of species of fossilized wood available to the collector is almost as great as that of the living woods found in the world today. Conifers seem to predominate, with pine, fir and redwoods in the lead. Large forests of petrified hardwoods are known, however, and in certain places in Humboldt county, Nevada, I have collected sticks of petrified sagebrush that were almost identical as to bark and grain with the shrubs now living in that same desert region.

Many of our desert plants are of extremely ancient lineage and have changed little through the ages. Notable among these are the Joshuas and yuccas on our Mojave desert, and they have been found in petrified form. On the other hand, cactus with a woody core which would seem to lend itself to the petrifying process, does not seem to occur in any of the fossil beds. This may be explained by the fact that cactus, as we know it today, is a comparatively recent member of the plant world. Its ancient ancestors were fleshy tender things growing mostly on the trunks of tropical trees with ferns and orchids.

The polished surface of your specimen, or a microscopic slide from it, will aid greatly in comparing the grain of the wood with the living material, thus making it possible to determine the genus or general group to which the specimen belongs. Once this is known, the collector can reconstruct more accurately

his mental picture of the conditions prevailing at the time and place the wood was submerged. The character and grain will give definite clues as to whether the specimen grew in a dense tropical jungle, on a cool wooded highland, or on the arid brush covered mesa.

Other interesting clues for the collector to study are the surface markings on the bark and the borings or evidence of fire or decay that occurred before the petrification set in. Animals in prehistoric times behaved much as they do today. Twigs have been found perfectly petrified with the tooth marks of some rodent of the muskrat type plainly visible. Bears and cats scratched their claws on the bark of trees to sharpen them, as they do today, and marks have been found on the fossil logs to verify this assertion. The bark of new specimens should always be studied carefully because many interesting bits of information may be gleaned. Lichens and mosses sometimes leave their imprints in the bark of petrified trees. In other instances one side of the log may appear to be flattened due to decay on the underside of the log before the remainder of it was preserved by the petrifying process. Sometimes it is possible to see the pattern of the fungi involved in the decaying process.

In some forests all or part of the bark had been burned away and the charred appearance of the partially burned log has been preserved to bring down to us the picture of what occurred. In the opal fields of northern Nevada are remarkable examples of petrified trees that had been damaged by fire. Here the logs were caught in the flow of volcanic mud and carried some distance from their source,

later to be replaced by the opal silica contained in the mud.

The story of what took place in the lava flow is all very plain to one who has worked in the opal mines as I have done. Layer after layer of the wood-bearing mud has been deposited there, sometimes separated by beds of volcanic ash, and occasionally by sandstone of sedimentary origin.

Finally the entire area was covered by a layer of black trap rock—apparently the result of the final eruption. Only certain ones of these layers contain opal of commercial quality, but all of them carry some form of petrified wood, and in some instances bones of prehistoric animals.

Once the sandy surface is removed, the volcanic character of the deposits is evident. All through the clay are scattered bits of pumice and charcoal. The latter has been unaltered through the passing of time, and can still be burned. Here and there are found bits of volcanic rock which must have been red hot when they were catapulted into the mud, for the path of their downward progress is visible as a porous streak, due probably to steam generated at the time. Through all this material are scattered bits of opalized wood in all stages of petrification. It is not uncommon to find pieces of wood with common or even gem opal appearing in one end of the specimen and the other end tapering into pure charcoal.

In connection with the surface markings on petrified wood it might be well to clear up several points. Some forests are of the driftwood type, having been washed up on the shores of ancient lakes or seas or buried in the sandbars of prehistoric rivers. In other places trees have become fossilized where they grew and

the stumps are still in their original upright position with the roots extending below the surface and sections of the limbs scattered over the ground about them.

Visitors in the petrified forest areas, especially in the Holbrook, Arizona, field where large numbers of full-length logs are to be seen lying on the ground, invariably comment on the fact that the logs frequently are broken into sections of more or less uniform length. Presumably this was caused by erosion of the soil on which the log rested. As the foundation was removed at the exposed end of the log the weight of the sector suspended in air became so great that it broke off. Since long trunks are usually of rather uniform composition, the continued undermining of the log by the forces of wind or water eventually caused another sector of about the same length to break. The process was repeated with the result that today one finds rows of these rather uniform pieces lying in an orderly line across the desert.

This phenomenon has given rise to a bit of campfire fiction concerning a race of prehistoric men who sawed the logs into tidy lengths, in some cases even leaving piles of petrified sawdust.

One of the current stories in Nevada concerns a Basque sheepherder who occupied his leisure time by carefully cording a pile of these logs of the same length. He even went so far as to use petrified tree limbs as the stakes in which his "cordwood" was racked. Finally the day arrived when a tenderfoot from San Francisco appeared on the scene and was shown this pile of cordwood—racked up by a thrifty aborigine so many millions of years ago that the wood had all turned to stone. The stranger gasped his amazement and promptly returned to his home city and passed his hot tip along to a newspaper reporter. The reporter rushed out to Nevada with notebook and camera—and then his face turned red. The hardy Basques of that region still chuckle over the incident.

Although by no means common, I have seen petrified logs containing the little tunnels of wood-borers and other insects. In most cases only the holes remain, but specimens have been found in which the mummified remains of the borers themselves encased in the chalcid-filled ducts are still to be seen.

Another interesting occurrence is the presence of woodpecker holes in petrified limbs. Specimens have been found containing the cavity in which the bird had its nest. Along the Colorado river are a number of small petrified wood areas in which these cavities occur. While I am sure that not all the holes found in petrified wood were made by prehistoric woodpeckers, I have examined speci-

mens in which the cavities appear to be the work of some member of the bird family.

One cannot travel far in any of our desert states without encountering specimens of petrified wood. Often the collector makes the mistake of passing up fields where there are no bright-hued colors or where gem material seems to be lacking. All petrified wood is interesting, and even in the drab-toned specimens there are fascinating discoveries to be made by the real student of mineralogy and geologic history.

The Nevada field probably has produced the most remarkable specimens of opals found in any petrified forest area. One gem from this area weighed sixteen and three-quarters ounces and was nearly as large as a building brick when discovered. It proved to be the largest and most perfect black opal in the world and was appraised by Geo. F. Kuntz at \$300,000. It now reposes in one of the country's largest collections and probably sets an all-time high for a petrified wood gem specimen. Other gems I have seen from this field have sold for as much as \$1000.

From the standpoint of economic importance the famous petrified forest near Holbrook, Arizona, holds first place. Thousands of tons of wood have been carried away from this area and made into gems, beads and art objects. Great slabs of it have been cut and polished to decorate the rooms of palatial homes. Fortunately, the federal government has taken charge of this field and it is now well protected. Despite the large amount of wood removed before federal custo-

dians were sent there, the forest today is a vast depository of beautifully-colored stone logs and stumps and fragments—a gorgeous collection which all the prowess of man could never duplicate.

A large amount of wood from Arizona continues to find its way into the jewelry and novelty markets, but the supply is now gathered by Indians and ranchers from areas not included in the national monument reserve.

One of the most beautiful types of material from the fossilized trees is called "picture wood." These specimens usually have a red or gray background on which appear tree-like designs in black. When the background is of brilliant red or orange it takes little imagination to see the trees silhouetted in a raging forest fire. Other stones resemble the desert landscape at sunset, with giant cacti standing in bold relief against a vivid background.

Generally it is the history of mineral specimens that they become lower in price as they gain wide distribution. This is not so in the case of petrified wood, however. Today there is greater demand for polished slabs, bookends and jewelry fashioned from this material than at any time since its discovery.

I can suggest no more interesting objective for the summer vacationist than a visit to the high plateau of Arizona or Utah or the coastal or mountain region of California and Oregon where a start may be made toward the securing of a petrified wood collection. A shelf or a cabinet of well selected fossil wood has both beauty and infinite possibilities for study in the realm of the prehistoric past.



"Hub! They must think they own these roads!"

—By SID MILLS



ARTISTRY

Photograph by Wm. M. Pennington

'Feel' of the Desert

By JOHN STEWART MacCLARY

Even in the days of Coronado the Zuni women's pottery drew expressions of admiration from white-skinned invaders. Without even a primitive potter's wheel to aid in shaping the ware, Zuni women fashion clay utensils of amazing symmetry. Decorative designs add fascinating contrast to even the most formal background.

The making of pottery is an ancient art among the Zuni. Their ancestors may have acquired it from—or have taught it to—other ancient tribes of Pueblo Indians. Who knows?

Well-informed persons say the source of clay used in the vessels is guarded in tribal secrecy. That fact should preserve the rare artistry from mechanized exploitation and mass production.

"That's no place for a woman," the old desert rats told Dora Wilhelm when she announced she was going into the Piute mountains to develop a silver mine. But Dora had not been through Goldfield and other boom mining camps for nothing—and so she hitched her mules to a buckboard and headed into one of the most barren regions on the Mojave desert. In the story of this courageous woman you will get an intimate picture of the problems and hardships involved in pioneering the west a half century ago.

Dora's Diggin's

By WALT WILHELM

"YOU told me one time that a mine was just a hole in the ground owned by a damned liar," the prospector said, "but I've really struck it rich, and I'm here to keep my promise. You'll probably back out on wanting the claim though, when you find out where it's located." He was talking to Dora Wilhelm, a woman who had spent years developing mines.

"Back out nothing," she answered, "I didn't back out at Goldfield and that was a tough camp. I didn't back out in Idaho. I snowshoed to the Thunder mountain strike." Then as she examined his samples under her mineral glasses she said, "This is rich ore, Jim. Where is your prospect located?"

"Down in the Piute mountains near the silvery Colorado. One of the hottest and driest spots on the Mojave desert of California 17 miles from the railroad, no water, and rattlesnakes by the thousands."

"Water or no water, snakes or no snakes I'm ready to look at your claim. You have to take your mines where you find them."

Several years before Dora had befriended the prospector at Goldfield, Nevada. In return for her kindness he promised to give her first chance at any claim he discovered. He kept his promise and as a result a very rich silver camp was named after a woman.

"Perhaps I'd have more money today," Dora Wilhelm said, "if I'd promoted and sold mines, but I can't do that. What I always want to do is produce. Give employment to miners and watch them dig. The prettiest money in the world is the kind you dig from the ground with your own hands."

By train they traveled to Milligan, a siding on the Santa Fe's Parker cutoff line. The remaining 17 miles through the cactus wilderness was made astride the prospector's burros. It took nine hours to make a trip one way. At the property Dora found that development work hadn't progressed beyond the grass roots. The small cut where the prospector made the discovery wasn't any larger than a badger hole, but Dora liked the formation. She believed there was a mine in that mountain. She made a deal for the claim then and there.

The long ride home passed quickly because these two vet-



Dora Wilhelm is past 70 now, but she loses no opportunity to go into the hills on a prospecting trip.

crans of the desert talked each other's language. "How did you happen to prospect in this part of the country?" Dora asked him.

"A Chemehuevi Indian used to sell silver trinkets to tourists on the train. A squaw told me that he got his pretty rocks from that section so I've been looking for the spot ever since."

"How many years have you spent prospecting?"

"Well, about 20 all told, but that means that I've only looked for mineral about five. I've spent five of the 20 years lacing high top boots, and the other ten looking for my loosed burros."

Dora was eager to get back to the property and prospect it thoroughly. At that time the automobile wasn't safe for desert travel, so in August 1911 Dora and one of her young sons started for the claim by mule team. There were no roads. They followed the trail along the railroad—a trail that camel caravans had traveled 40 years before.

Near the little station of Amboy one of the mules was bitten by a rattlesnake. Dora cured the animal with a remedy well known among Indians and desert folks. The treatment



Here is a recent picture of Dora Wilhelm with Jim Moorman, one of the hard-rock crew who worked for her years ago in the Piute silver camp.

consists of juice from the greasewood plant mixed with salt.

At Cadiz junction where the Parker cutoff leaves the main line they were delayed again, due to the fact that wild burros chased their mules away. Dora recovered them after she killed the ferocious wild jack leader of the herd with her Winchester.

Johnnie McIntosh, section foreman at Milligan protested when Dora told him she was going to prospect alone in those dry Piute hills.

"That's no place for a woman," he told her. "That's a man's size job. Suppose you'd fall over a cliff, or a rattler bites you while that lad is gone two days after water. What then?"

Dora hadn't made the long trip across the desert just for the ride, and she had no intention of turning back. "I'll have miners when the time comes," she told the foreman, "but for prospecting that property, I'll do that myself."

The nearest source of supplies was Murphy Brothers at Ludlow, but the Santa Fe was efficient and would stop a train any time to put off the smallest parcel. After Dora made arrangements to buy water from the railroad company she headed her buckboard wagon toward the rugged Piute range.

At their first camp at the mine they were harassed with giant rattlers and were forced to move. "It seemed like all the snakes and their families moved in on us," Dora declared. "It wasn't particularly appetizing to have to shake our blankets every night, and to find a dia-

mondback in the grubbox in the morning."

She prospected all fall. When she was satisfied with her exploration activities she brought in material and mule teams to haul ore and water. Then as soon as bunk tents were erected and a cook shack was ready she hired a gang of "Hardrocks."

She didn't start them on the small discovery vein. What she did was to go farther up the mountain where she put them to work on one of the richest silver deposits ever found on the desert. It was a new ledge she'd discovered herself.

Work progressed smoothly all winter, but when the hot season came on it was another story. The mule teams freighting ore always had a back haul of water, but pulling the heavy wagons through deep sand was a task and they had to have water several times enroute. Water really means something in a country where the thermometer jumps to 115 at midday, and remains near 100 all night for months at a time. The miners said operations would have to be suspended during summer. But Dora had other ideas. She would develop water near her diggin's, or look for a spring in the mountains.

On her prospecting jaunts she had seen desert quail and other game. The only known water at the time was a spring 10 miles over the mountain. She didn't believe the wildlife traveled that far for water.

"Hardrock" Byrd Duncan, her foreman, said, "Quail and the big horn sheep get their water from natural tanks that

are found all over the desert, but you'll never find a tank large enough to supply this camp. The formation ain't right for water out here. If there were any springs around you'd see Indian trails leadin' to 'em."

Dora knew that Indians had lived in that country for she had seen petroglyphs in many places. The steps to her tent were metates she had lugged to camp from old Indian caves. This didn't mean much as far as water was concerned for an Indian rarely camped near a spring—it didn't mean much to the Indian men either for the squaws always carried the water.

Rather than chance the digging of a well she decided to look first for a spring. She trudged for many days and found nothing. Then one day as she was coming down a hillside she found a swarm of bees. She knew that bees never stray far from water and she was elated. Dora had seen her boys find caches of honey by following the line of flight of bees when they left water. She wondered if the trick wouldn't work the other way around. Would the bees lead her to water? Next day she returned to the hive with a small sack of flour. She dashed the flour among them. The flour-coated bees looked like snow balls as they darted among the rocks. She could easily follow their line of flight.

"I wore out a perfectly new pair of boots following those creatures around the mountain," Dora explained, "but was handsomely rewarded when I found seepage below some large rocks. As I climbed among the rocks the little bees swarmed around me. Was I happy? My little friends had led me to water. Back under the rocks was a steady drip. The flow wasn't large and it took several hours to fill my canteen, but my miners blasted a great cavity in the hillside. After we laid a five-mile pipe line that was packed over the mountain on the backs of mules we had plenty water to supply the whole camp through the hottest season."

For four years Dora shipped silver ore to the Utah smelters. In 1915 she abandoned the property when the ore petered out entirely. All buildings and most of the pipe line have long since vanished from the old camp. About all that remains are the diggings and the name. The miners called the camp "Dora's Diggin's", but it's on the map as Wilhelm camp. Dora is past 70 now, but she spends much of her time out at Yermo and Barstow, California, where her sons are living, and loses no opportunity to go into the hills on a prospecting trip.

Saguaro

By TAD NICHOLS
Route 2, Box 194
Tucson, Arizona

This photograph was awarded first prize in the judging of pictures submitted in the May contest of the Desert Magazine. Taken with a Conley View camera, Conley anastigmat 6.8 lens, one second, f64, red filter, late afternoon sun.

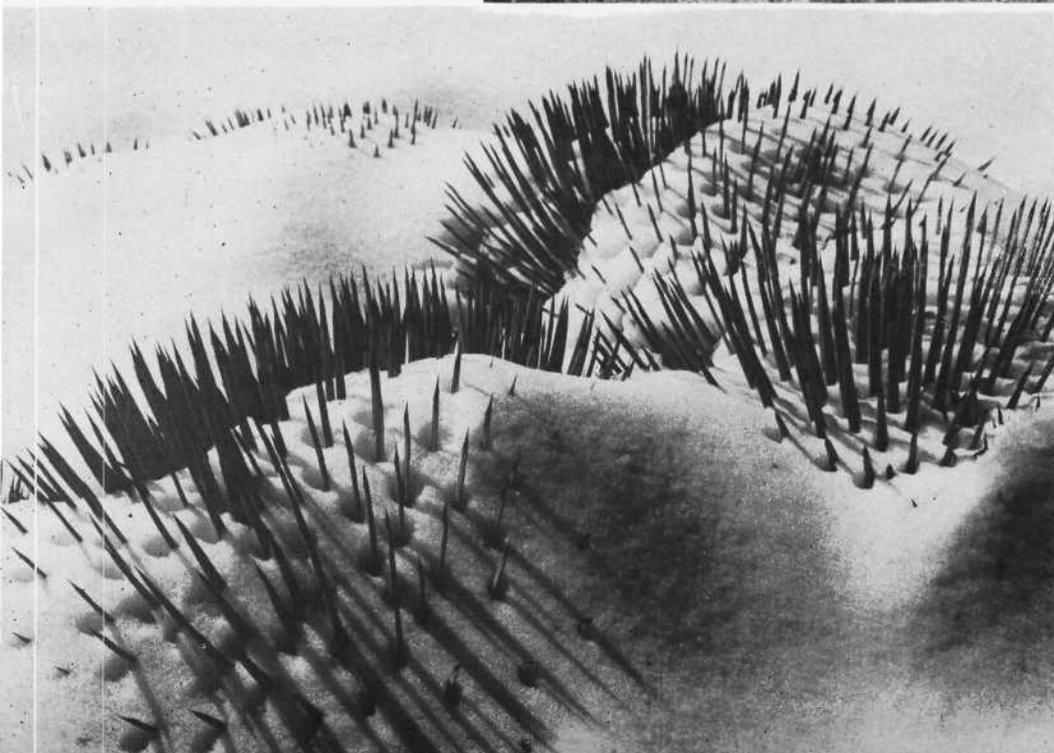
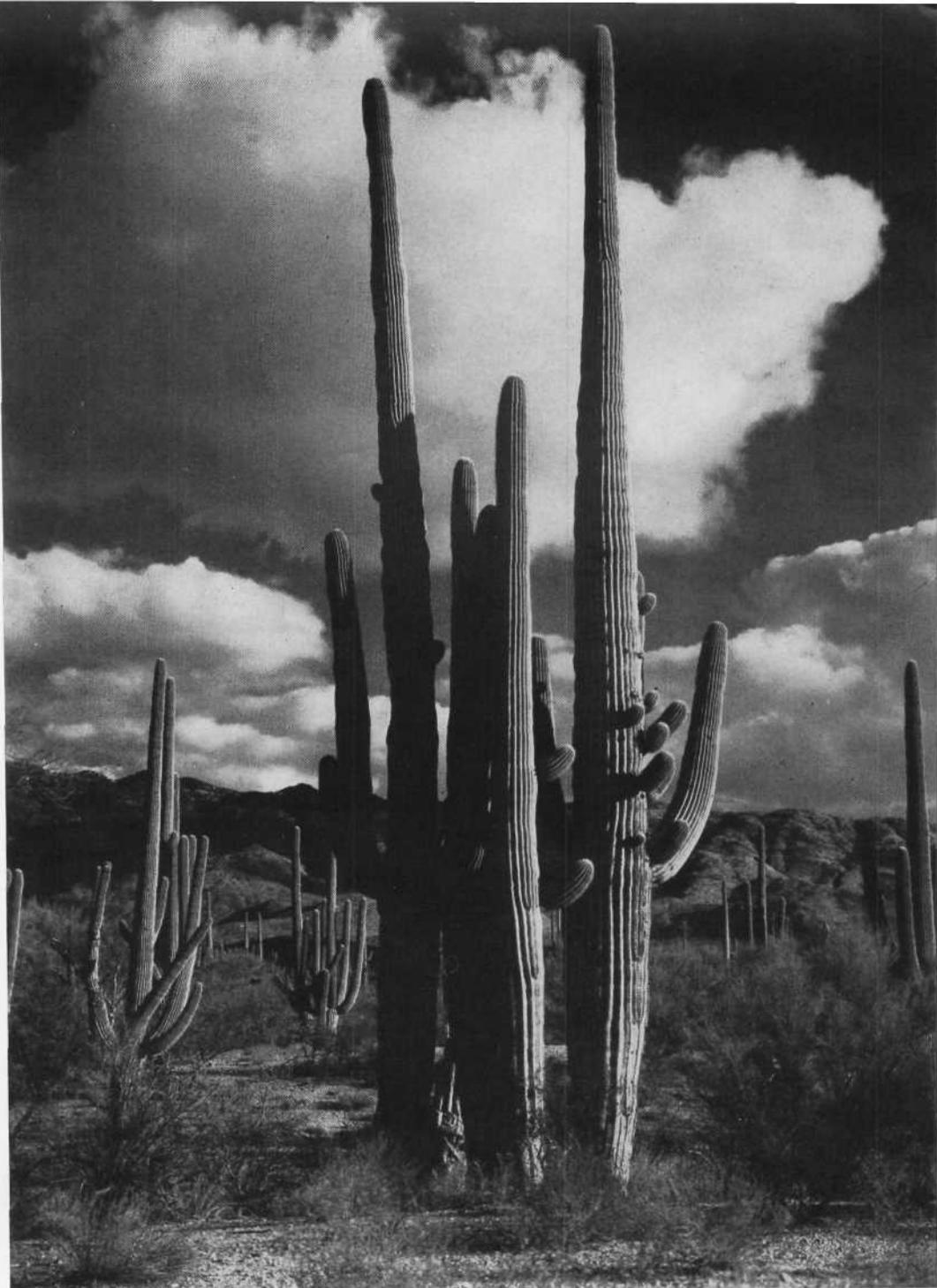
Special Merit

The following entries submitted in the May contest of the Desert Magazine were given an "exceptional quality" rating by the judges.

"Arizona — Trail to Tonto Cliff Dwelling," by Alice Marie Roberts of Los Angeles.

"End of the Trail," by Jim Leonard of Los Angeles.

"Saguaro Cactus," by M. E. Bemis of Phoenix, Arizona.



When Snow Comes to the Desert

By FRED HANKINS
226 Mt. View Avenue
Taft, California

This picture was awarded second prize in the May contest of the Desert Magazine. Taken with an Eastman View camera, panatomic film, 1/25 second at f22 with K1 filter. This pattern is formed by yucca spikes showing through one of the rare snows which fall in the desert country.



To the men in the U. S. Park service Frank Pinkley is generally known as "the boss."



Casa Grande ruins as they appear today, protected by a roof erected by the U. S. Park service.

Frank Pinkley came out from Missouri nearly 40 years ago to become Uncle Sam's caretaker at the ancient Casa Grande Indian ruins in Arizona. He has been there most of the time since—but today his title is Superintendent of Southwest National Monuments and he is the chief guardian of 26 of the historic and scenic federal park reserves in the states of Arizona, New Mexico, Utah and Colorado. Here's the story of a public official who isn't afraid to poke fun at the "brass hats" in Washington.

'The Boss' at Casa Grande Ruins

By LEO A. McCLATCHY

FRANK PINKLEY, custodian of a group of Uncle Sam's prehistoric ruins in the Southwest, was reminiscing about his desert experiences.

"About the only thing I ever did that was really smart," he said, "was to go out in the desert and pick a darned good ruin, and sit down by it for 30-odd years. Eventually a lot of other folks decided it was a good spot and built a railroad and a paved highway and some telephone and telegraph lines out to my pet ruin. Finally they started a town near by—and now we have all the comforts of civilization plus many thousands of visitors every year."

And that is just what happened. It was about 40 years ago that young Pinkley came west from his native Missouri and pitched a tent on the Arizona desert near crumbling walls of the prehistoric Indian pueblo known today as Casa Grande ruins.

He had been employed by the general land office as caretaker at the ruins. It was midsummer and he found the inside of a tent at that season of the year was about as habitable as a Turkish bath room. He sought refuge in the old ruins, under what remained of the roof, but the owls which had established their homes in the dark recesses of the ancient temple resented his intrusion and used their sharp beaks and talons to express their disapproval.

Of course the rules of the federal government required that "encouragement and protection" be given to all wildlife. And so he moved back to the tent. But that was unbearable, and when he had perspired away all but his last 100 pounds of weight, he hitched his two Indian ponies to the buckboard and started

for Florence. There, with some of his own funds, he bought enough materials to build a comfortable cabin. In his monthly report to Washington he described his new home as "a one-room house."

In due time, congratulations for his initiative came from Washington, and he was advised that the rent would be \$5.00 a month. So that he might devote full time to his caretaking and not be required to set up a bookkeeping system, he was informed it would not be necessary to send in the rent money every 30 days—Washington would take care of that by deducting the amount from his \$75 monthly pay check.

As years passed he enlarged his cabin—and every time he added another room the federal government added another \$5.00 to his rent. Eventually he was paying \$20.00 for the privilege of occupying a house built with his own hands with materials bought out of his own savings. Fortunately, Frank Pinkley had a sense of humor—otherwise he might not today hold the title of Superintendent of Southwestern Monuments.

When he wasn't tacking additional rooms on his cabin, Pinkley spent his hours familiarizing himself with the ruins, and became deeply interested in the subjects of archaeology and geology. Before long he had acquired a fund of knowledge which provided an interesting lecture for visitors. When the tourist business lagged he took his buckboard and drove over to Florence to get them. If they didn't want to see the ruins, at least they could come to Casa Grande to see the place where Uncle Sam collected rent from a man living in his own house.

Today Frank Pinkley has 26 national

monuments under his supervision. They are located in the states of Arizona, New Mexico, Colorado and Utah, and comprise about one-third of the national monuments in the United States. Although his time is now largely occupied with administrative duties, in past years he has personally guided nearly a million people through the interesting areas in his jurisdiction.

His administrative building is at the Casa Grande ruins, near Coolidge, Arizona. The government has erected a modern structure for him and the headquarters staff—and charges him no rent for the use of it.

Originally the Casa Grande pueblo was a four-story building, constructed of "caliche", the sub-soil of that region. It was erected between 1300 and 1400 A. D. and probably served as a watchtower for the Indian village of which it was part. Fr. Francisco Kino visited it in 1694, and noted that it was then abandoned and in decay.

"When I first arrived here," said Pinkley, glancing at the modern equipment of his office, "there was little evidence of the white man's culture. An old bachelor had homesteaded the section south of me and a widower was camping in an ancient adobe in the section to the north. There was another old man who had driven horse-cars in New York City in the early '60s. We comprised the white population of this region.

"Another old-timer lived four or five miles west of the ruins. He came past my tent occasionally on his way to town and moaned over the fact that the 'govment' would give a kid like me \$75 a month while he, a veteran who had 'fit with Grant in the swamps around Vicksburg,' couldn't even get a pension. I felt sorry for him until one day another veteran told me the last notation in the old coot's record reported his desertion from the army.

"The Casa Grande-Florence stage formerly passed this way and Jim Rogers the stage driver could neither read nor write. When he had no passengers I used to ride out along the trail with him and read and write his letters for him. He was in love with a girl who was part Mexican and part Indian—but the romance was later broken off. That shows what a poor writer I am."

As a matter of fact, Pinkley's writings today are perhaps the most lucid and entertaining records to be found in any of the government publications.

His "Ruminations by the Boss" in his monthly printed reports sparkle with humor and original expression. He pokes fun at the "brass hats" in Washington, deals frankly with his own predicaments when he finds himself in "the official

How many of these Monuments have you visited?

Here are the 26 Southwestern national monuments under jurisdiction of Frank Pinkley:

Monument—Postoffice	In Charge	'38 Visitors	Acres
1—ARCHES—Moab, Utah	Harry Reed, cust.	1,448	33,680.00
2—AZTEC RUINS—Aztec, N. M.	T. C. Miller, cust.	20,214	25.88
3—BANDELIER—Santa Fe, N.M.	Geo. Sholly, act.-cust.	14,619	26,026.20
4—CANYON DE CHELLY—Chin Lee, Ari.	Ted Cronyn, cust.	1,573	83,840.00
5—CAPULIN MOUNTAIN—Capulin, N.M.	Homer Farr, cust.	30,200	680.37
6—CASA GRANDE—Coolidge, Ariz.	A. T. Bicknell, cust.	33,761	472.50
7—CHACO CANYON—Chaco Canyon, N.M.	L. T. McKinney, cust.	6,271	21,512.37
8—CHIRICAHUA—Douglas, Ariz.	Frank Fish, cust.	9,145	10,694.80
9—EL MORRO—Ramah, N.M.	R. R. Budlong, cust.	3,208	240.00
10—GILA CLIFF DWELLINGS—Cliff, N.M.	no custodian	105	160.00
11—GRAN QUIVIRA—Gran Quivira, N.M.	George Boundey, cust.	3,113	610.94
12—HOVENWEEP—Cortez, Colo.	T. C. Miller	168	285.80
13—MONTEZUMA CASTLE—Camp Verde	Earl Jackson, cust.	10,645	520.00
14—NATURAL BRIDGE—Blanding, Utah	Zeke Johnson, cust.	741	2,740.00
15—NAVAJO—Tonalea, Ariz.	J. W. Brewer, Jr., rang.	411	360.00
16—ORGAN PIPE CACTUS—Ajo, Ariz.	no custodian	6,200	330,670.00
17—PIPE SPRING—Moccasin, Ariz.	Leonard Heaton, act.-cust.	2,245	40.00
18—RAINBOW BRIDGE—Tonalea, Ariz.	no custodian	222	160.00
19—SAGUARO—Tucson, Ariz.	no custodian	20,422	63,284.00
20—SUNSET CRATER—Flagstaff, Ariz.	David Jones	6,922	3,040.00
21—TONTO—Roosevelt, Ariz.	G. G. Philp, rang.	4,985	1,120.00
22—TUMACACORI—Nogales, Ariz.	L. R. Caywood, cust.	15,289	10.00
23—WALNUT CANYON—Flagstaff, Ariz.	Paul Beaubien, Jr., arch.	13,526	1,873.00
24—WHITE SANDS—Alamogordo, N.M.	Tom Charles, cust.	110,805	142,987.00
25—WUPATKI—Flagstaff, Ariz.	David Jones, ranger.	2,754	33,865.00
26—YUCCA HOUSE—Cortez, Colo.	T. C. Miller	172	9.60
TOTALS		319,164	760,907.46

dog house." Certain it is that no other government official is as outspoken as he.

For instance, in a notation directed to the park rangers who serve as guides at the various monuments, he said: "We have no cause whatever to look down on any class of visitors. If there appear to be dumb ones among them now and then I am willing to bet two to one the fault lies with the man who is talking to them. At least, that was the way cold logic worked it out in those cases when the speaker couldn't reach his party—and I happened to be the speaker."

He recalls, with a laugh, his own inability to give a satisfactory answer to a question asked by a woman from Texas. She had just completed a tour through some of the ancient houses where prehistoric Indians had lived.

"Why on earth do you suppose they made their homes away out here so far away from the railroad?" she wanted to know.

A school teacher, evidently day-dreaming on a tour of the Casa Grande ruins, was told that when the archaeologists were working there a few years before, they found the body of an Indian boy 18 or 20 years of age buried beneath the floor.

"Oh, how interesting!" she exclaimed, "and - er - was he dead?"

Pinkley's jurisdiction now includes a domain of more than 1,000 square miles, scattered over four states. During the past year, over 300,000 people visited these 26 southwestern monuments, and there

were about 27,000 field and museum trips guided by rangers. A ranger not only has to be a walking encyclopedia—he must serve as a portable first-aid station. Recently, in New Mexico's El Morro national monument, two girls sat down on porcupine quills they were carrying in hip pockets of their slacks. The ranger used a pair of heavy pliers in the removal proceedings.

"The Boss," as Pinkley is known throughout the southwest—and in Washington, too—now has a considerable force of rangers. All of them, like himself, are civil service employes under the national park service.

A ranger has to live in whatever quarters happen to be available at the monument where he is stationed. At the Wupatki ruins in Arizona, Ranger David Jones and his wife have been living in rooms that were built about 1100 A. D. It is believed to be the oldest house in the world to be now occupied by white people.

"It makes me smile," said Pinkley, "whenever they revive that old controversy between Santa Fe, New Mexico, and St. Augustine, Florida, as to which has the oldest house in the United States. These Wupatki walls were built while old men were still talking about their part in the last crusade."

Rangers in some of these ancient areas have to be constantly on guard to ward off treasure-hunters.

"Recently," explained the Boss, "there

was a party digging for \$49,000,000 in gold bullion just west of the Tumacacori Mission in Arizona. They are being directed by a person who gets his information through an Indian spirit who, despite his long sojourn in spirit land, talks a garbled version of our modern slang from the streets of Los Angeles.

"At Gran Quivira national monument in New Mexico, there is a story about the padres digging down through the sanctuary floor of the old church 40 or 50 feet through solid rock. There, you will find a passage going to the east under the hill. At the end of the passage will be a bell. Sight through a hole in the bell-clapper to find the location of another passage where a plug is lifted, and there in a little room all the bullion is buried. It is not explained why the hard-pressed priests dug a hundred thousand dollars worth of tunnels to bury the treasure when they could have gone out in the freshly turned earth of the garden and done a better job of hiding it. I don't believe the padres were half as dumb as some of these treasure stories credit them with being."

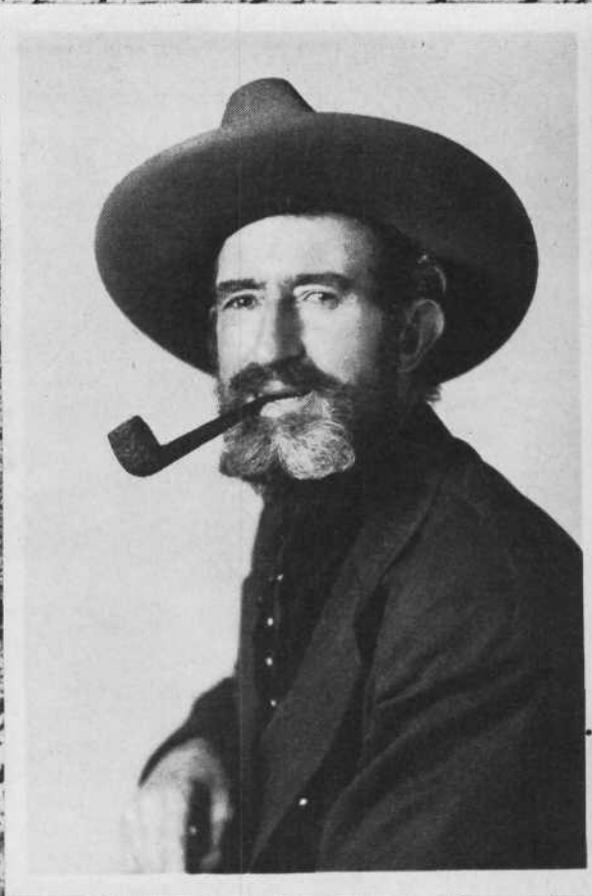
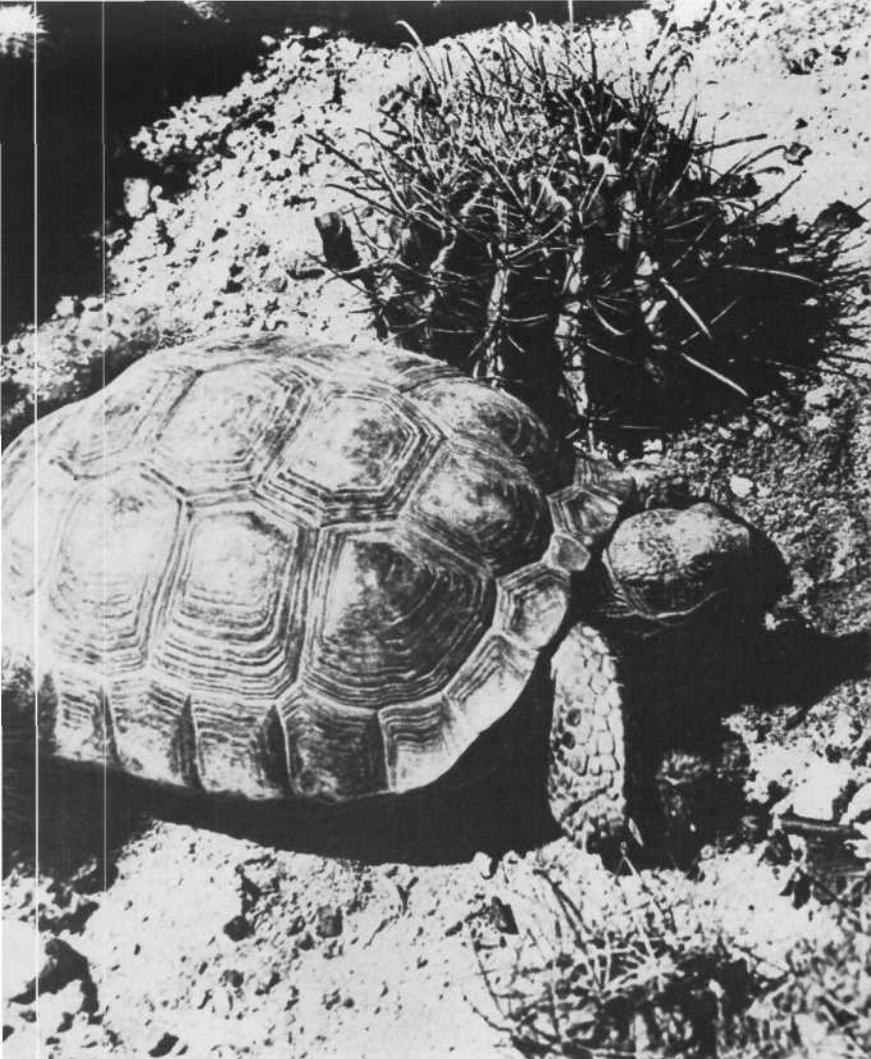
You're probably wondering what happened to that house Frank Pinkley rented from the government. Well, Pinkley doesn't live there any more.

"The government finally decided to buy it," he explained. "It had cost me \$1,200 and was appraised at that price, but I told the Secretary of the Interior he could have it for \$600, since I didn't want to gouge him on the deal. A bill was introduced in Congress for the \$600, but they filled two or three pages of the congressional record fussing about it. I remember that, because Carl Hayden read one of my letters into the record, in which I offered to play them Seven-Up for the darned house, winner take all. Congress didn't take me up on that, and finally paid the \$600. Since I moved out of the house into other quarters, some years ago, my part of the deal is closed. But it works out that I built the house, sold it to the government for half the appraised value, and paid them about five times its cost in rent."

The place continues to be regularly occupied, and is producing monthly rentals to the government.

Asked whether he plans to retire shortly, and possibly try his hand at building another home, the Boss laughed heartily.

"After all is said and done," he emphasized by slapping his table desk, "handling the public is a grand game and one I never tire of. In our work, we find visitors easy to interest, and the interest once aroused, easy to maintain. I may retire one of these days. I don't know whether I'll build a home or not. If I do, I'll try to keep the government from finding out about it."



My Friend, the Tortoise

By DESERT STEVE RAGSDALE

MY 30-odd years' residence on the desert, studiously observing all living creatures, both wild and domesticated, including that half-baked quadruped called Man — who, having learned to walk on his hind legs is now a biped—has convinced me that the desert Tortoise is not only the most interesting, but the most harmless and therefore endowed with the greatest wisdom of all God's creatures.

If Man would pattern after the Tortoise there would be no murderous wars, no destroying of his own species, no more heartaches for those bereaved. Uncontrolled passions with accompanying evils would no longer exist. It would seem that man, having completely failed in promoting his own true well-being, and having lost the art of true living—if he ever possessed it—now enviously seeks to destroy from the earth, the sky, and the sea all the living creatures which in their natural environment continue to observe Nature's laws.

The only real enemy of the Tortoise—we people of the desert call them dry land turtles or terrapin—among all predatory animals, is Man.

With merciful wisdom, Nature provided the Tortoise with an almost impregnable shell—a sort of portable house—and therefore the Tortoise is always at home, morning, noon and midnight. Protected from the cruel talons of the hawk, from the fangs and claws of the coyote and bobcat, the desert turtle had little to fear from the carnivorous beasts of his habitat.

But not so when civilization moved in and brought that boastful, so-called Christian creature who tortures and kills, not for food, but for the mere pleasure of shooting a gun or driving a speeding automobile.

Many times after a rain, I have stopped along the desert trail to remove desert turtles from the highway, only to find that several of them had been shot or crushed. The car tracks plainly showed

I will pay One Hundred (\$100.00) reward for conclusive proof of deliberate torture, crushing or killing of a Desert Tortoise within a radius of 100 miles of Desert Center, California, if accompanied by indisputable proof of the identity of the guilty party, provided he is of legal age.

(Signed) DESERT STEVE RAGSDALE.

that the driver had swerved the wheel deliberately for the purpose of running over the harmless animal.

We desert natives, because of our intimate knowledge of the tortoise, hold them sacred. We study them and admire and love them and we resent the thoughtlessness or wanton cruelty of those who kill them, or what is often worse, pick them up and take them out of the warm desert sand of their natural environment and hold them captive in the humid fog and mucky weather of the city areas, forcing them to subsist on unnatural food or starve.

Were I the head man of the Desert Turtle clan I think I would try to acquire the defensive habits of my cousin, the water turtle, and clamp my jaws down on the meddling fingers of those humans who tried to pick me up—and then hang on and listen to my tormenter roar with pain. That seems to be the most effective way to make man pause and think.

Some of the thrill-drunk crowd from

the big city wanted to go in partnership with me and hold a tortoise race at Desert Center. I was to supply the racing stock and they were to guarantee fabulous gate receipts.

My answer was "No! d — — — it, no!" And I wanted to plant a kick on somebody's pants for emphasis. I may get down so low as to rob banks—but heaven help me if I ever need bread so badly as to win it by exploiting these helpless little creatures of the desert.

To the readers of the Desert Magazine who are not acquainted with the desert tortoise family, I would like to tell something about my little neighbors in the Chuckawalla valley.

During our short desert winters they hibernate, burrowing into the warm dry sand, kicking the sand out behind them as they work their way in, and then closing the portal against cold air.

They propagate in early summer by laying eggs, similar in size and shape to pigeon eggs, then covering them with two or three inches of sand. By natural incubation in about 14 days the young are hatched, and immediately dig their way out to the sunshine which is necessary to toughen their shells.

When hatched, they are about the size of a half dollar and can move as

fast as when fully grown. They double in size annually for the first few years, depending on the food supply. After they reach four or five inches in size the growth is slower. Observing tortoises which I have identified by marking their shells, I have learned that in some instances they gain as little as one or two inches in 10 years.

Before paved highways came to the desert, 25 or 30 years ago, I frequently met healthy old tortoises 15 inches across the back. In recent years I have seen few over eight or ten inches. One of them is casually feeding on desert vegetation near my trailer car beside a rocky butte three miles from Desert Center, as I write this.

At first he came close to my writing table and remained motionless for 10 minutes. He looked up at me with an expression that might have been either pity or contempt. He seemed to be saying, "You old fool, why are you thus wasting your time? We turtles need no written precept to keep us out of jail, nor any written word to tell us how to enjoy the gifts of Nature's God."

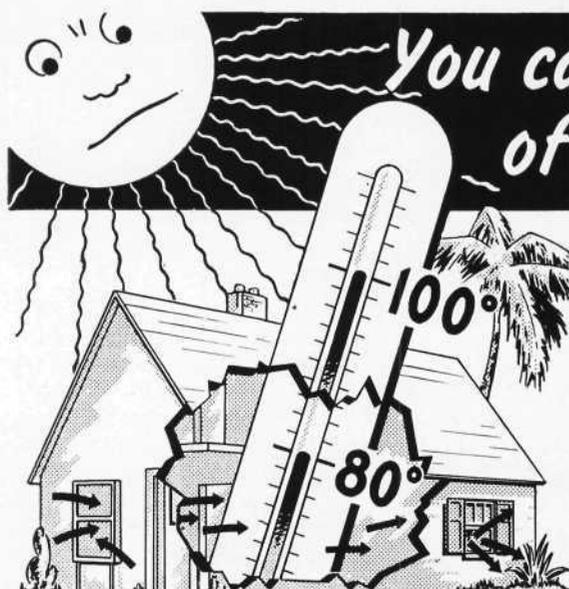
I tried to argue with the little fellow. I told him what a superior creature I was. He nodded his head from side to side, opened his mouth in a skeptical

grin and then turned and left, casting a look of pity in my direction as he departed.

There are a dozen lizards scampering among the rocks, a couple of chuckawallas feeding at my feet, some birds chirping in the ironwoods nearby, and a whole colony of ants busily excavating their summer home—and I suspect that the whole menagerie shares the turtle's pity for my futile efforts.

In my tramps over the desert I have found tracks which indicated that coyotes and other predatory animals had mauled and rolled tortoises over the sandy desert—but I have never found one that appeared to have been injured from any cause except the hand of man. They are vegetarians and secure both food and water from the green plants that grow in the sand—and apparently live to a ripe old age. In their natural haunts they appear to be immune to sickness or disease.

In my humble opinion the measure sponsored by Assemblyman Paul Richie of San Diego, and enacted by the 1939 California legislature for the protection of the desert tortoise is more important than nine-tenths of the bills offered in either the state or national capitals in recent years.



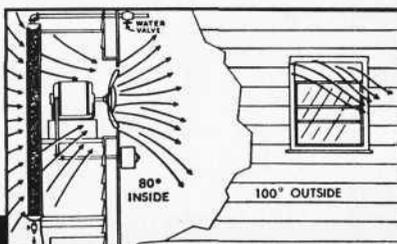
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Mystery of Silver Lake

The desert of the Southwest is a land of many lakes—but most of them are dry. Storm water from the adjacent mountains fill them occasionally, but the thirsty earth and the evaporative power of the sun soon absorb their moisture. Here is the story of a desert lake that has broken all known precedents. Not only has it retained its water for over a year, but strange to say, it is filled with fish.

By WALTER FORD

ON one morning last fall residents of the little desert village of Silver Lake, California, awoke to find a strange phenomenon at their doorsteps—a lake teeming with fish whose only apparent source was the flow of rainfall from barren hills and sandy washes. The lake itself was no novelty. Since the floods of March 1938 the former dry-lake bed had been filled with water, and also on two other occasions within the memory of some of the old-timers living there, but never to their knowledge had the waters held fish.

I had visited the lake several times since March 1938 and although I had heard stories about fish being seen in the lake, none of them could be substantiated. On one of the trips while stopping at Baker, the answer I received to my questions from an old resident would qualify him for a life membership in any Tall Story Club in the land.

"Sure there are fish in the lake," he

replied. "Came down with the rains last March. I saw it rain frogs down in Texas when I was a kid but I never thought I'd see the day when fish fell out of the clouds!"

A short time ago I visited Mrs. Gus Johnson, who runs the general store at Silver Lake, and obtained authentic information concerning the lake. She stated that none of the residents of Silver Lake knew fish were in the lake until after a heavy west wind had blown the water from the lake into depressions above the normal water line and left hundreds of catfish and perch floundering in its wake. Mrs. Johnson traced the origin of the fish to trout hatcheries in the San Bernardino mountains, approximately 125 miles away.

During the heavy down-pour of March 1938 the rain-swollen streams which feed the Mojave river rushed down from the San Bernardino mountains, followed the ancient river bed to Soda Lake, thence

across the highway at Baker and into Silver Lake. As one stands at the level of the present Silver Lake and gazes toward Soda Lake to the south, his immediate impression is that the latter is many feet lower than Silver Lake, despite the fact that the connecting wash between the two lakes clearly indicates the flow as having been from Soda Lake to the north. This illusion, Mrs. Johnson stated, makes it difficult for visitors to believe that Silver Lake was actually filled from the Mojave river.

In this seeming sportsman's paradise, I wondered at the complete absence of fishermen until Mrs. Johnson supplied the answer: "The fish will not bite!" As I stood on the shore and noted the frequency with which they jumped above the surface a far simpler method of catching them seemed to be to just wade out and scoop up what one needed.

The old Arrowhead Trail lies under several feet of water at the north end of

the lake. In former days it was the only connecting link between Southern California points and Salt Lake City but since the advent of the paved highway through Baker it has been used but little. With the traveling time between Silver Lake and coast cities now a matter of a few hours it is difficult to realize that only as far back as 1924 the required time was 17 hours. That, Mrs. Johnson said, was the minimum time over roads so sandy that at times it was necessary to deflate tires to get sufficient traction. She tells of one trip from Los Angeles when

her car broke down between Garlic Springs and Silver Lake. With her three small children she started to walk and made the distance of 18 miles to Silver Lake in 11 hours.

Until the Boulder dam transmission line was started, the little settlement of Silver Lake was merely a station on the Tonopah and Tidewater railroad. During the construction period of the line when the population was augmented by hundreds of workmen, it took on the aspects of a thriving community. Today it appears to be dozing in the desert sun

waiting for the era of prosperity due to arrive with the construction of a second Boulder dam power transmission line. "After that," Mrs. Johnson laughingly exclaims, "I shall probably give it back to the Indians!"

There are conflicting stories as to when Silver Lake last held water but local residents give the date as 1922, and the only previous time within their memories as 1916, when the Tonopah and Tidewater railroad which ran across the lake bed was forced to rebuild on higher ground. The former roadbed may still be seen extending above the level of the present lake. Estimates as to when the lake will dry up are many and varied, ranging from a few months to several years. The original depth in March 1938 was 12 feet and although the lake has survived one summer, the rate of evaporation is so rapid that unless there is some inflow from storms it may soon vanish completely. Undoubtedly, in future years it will fill again but the strange phenomenon of fish in a "dry" lake may never be repeated.

WILLIAMS TO RETURN TO FIELD ENGINEERING WORK

Roy B. Williams, assistant commissioner of the reclamation bureau at Washington, has been named chief construction engineer of the important Friant division of the Central valley project in California, and Harry W. Bashore, construction engineer of the Kendrick project in Wyoming, is taking over Williams' duties in the Washington office.

Weather

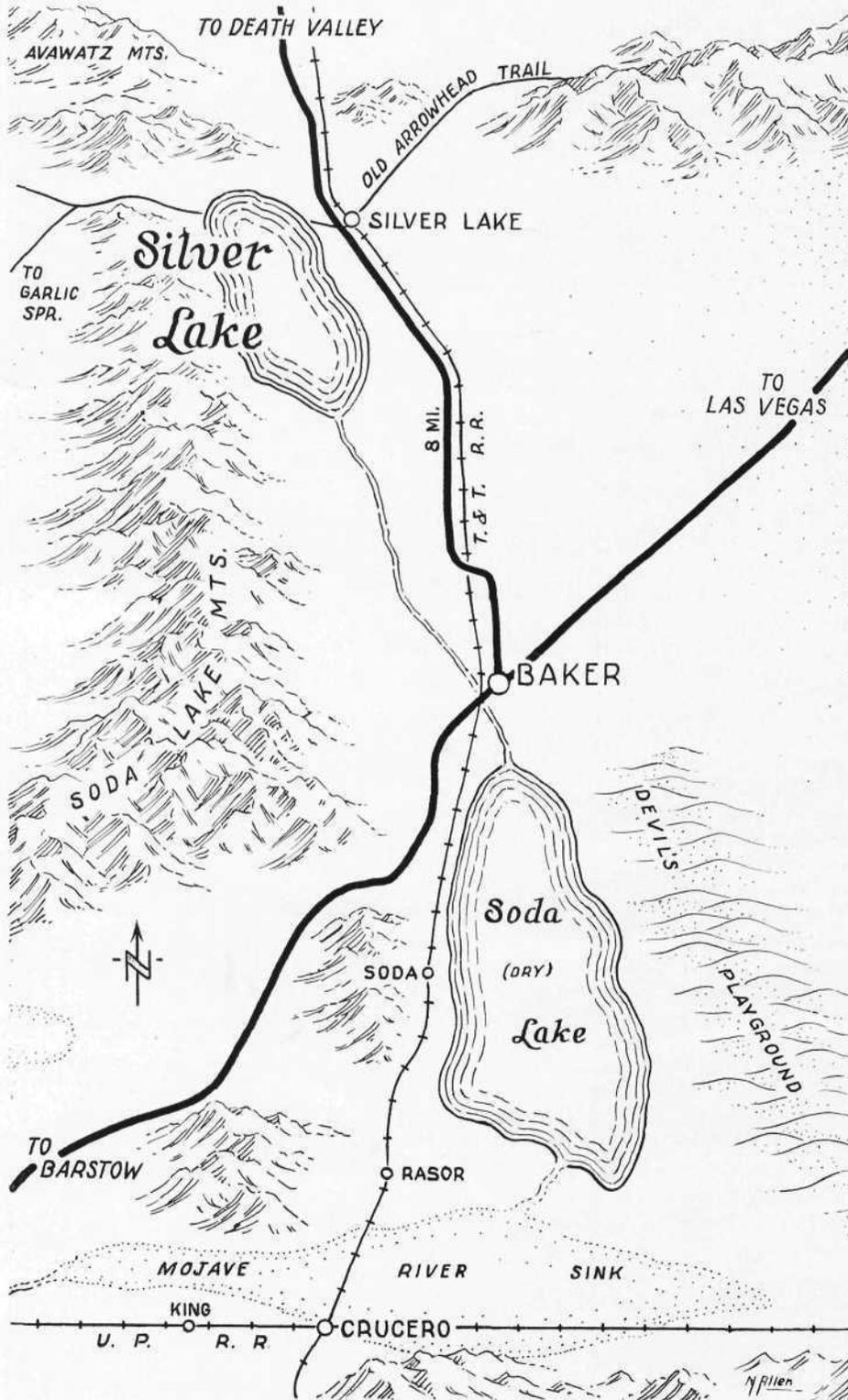
MAY REPORT FROM U. S. BUREAU AT PHOENIX

Temperatures—	Degrees
Mean for month	78.8
Normal for May	75.0
High on May 29	105.0
Low on May 24	56.0
Rain—	
Total for month	00.0
Normal for May	0.12
Weather—	
Days clear	23
Days partly cloudy	5
Days cloudy	3

G. K. GREENING, Meteorologist.

FROM YUMA BUREAU

Temperatures—	Degrees
Mean for month	79.0
Normal for May	76.2
High on May 29	107.0
Low on May 12	57.0
Rain—	
Total for month	00.0
69-year average for May	0.04
Weather—	
Days clear	29
Days partly cloudy	1
Days cloudy	1
Sunshine, 429 hours of sunshine out of possible 430 hours.	
Colorado river—May discharge at Grand Canyon 2,424,000 acre feet. Discharge at Parker 567,000 acre feet. Estimated storage behind Boulder dam 23,500,000 acre feet.	



Trapper in the Utah Wilderness

(Continued from page 5)

mer resident of that city and had taken out several licenses for trading expeditions of his own. No doubt he was working under Antoine Robidoux in 1831 when he left his name on the cliffs along the Uintah. It may be that Robidoux had been in that section earlier, but if so he left no record. Another Frenchman, who gave his name to Duchesne river, probably was another of Robidoux's men.

Unfortunately, Antoine Robidoux left no written records of his explorations and what little we know of his activities is gleaned from the journals of other contemporary trappers. Although he traded and trapped in the Uintah basin as early as 1831, he apparently had no permanent post there at that time or for several years after. Denis Julien's trapping expedition along Green river in 1836 was probably very successful, and may have been a factor in Antoine's decision to establish another trading post in the basin.

For that purpose Antoine returned to Santa Fe and got together a big outfit of supplies and trade goods, which he transported by mule train over the Old Spanish Trail. After crossing Grand river on

his northward journey he traversed a wide dry desert before reaching water at the foot of the Book cliffs. In the mouth of Westwater canyon he found a fine camping place, one he probably had used on many other occasions. There was water, wood and grass, besides a small but comfortable cave in the walls of the canyon for protection against the November chill. For some reason Antoine felt the urge to leave a record of his passing at this place, and using the point of his hunting knife he carefully cut the letters of the inscription shown in the accompanying photograph. He inscribed not only his name and the date, but his probable destination and the purpose of his journey. So far as known, Antoine Robidoux's name appears nowhere else in all the vast territory he explored.

Records of several explorers and travelers of that period indicate that Fort Uintah was an important establishment and enjoyed a very profitable business among the Utes and Shoshones. Although Joseph Meek represents Antoine as a reckless gambler, his profits mounted and he was known in Santa Fe and Taos as a very wealthy man. In Santa Fe he married Carmel Benevides, an aristocratic Spanish widow.

Fort Uintah was built of logs for purposes of defense, but there is no record of any Indian trouble until shortly after Col. Fremont passed there in 1843, when

it was attacked by the Utes and all but two or three of its occupants massacred. Antoine was in Santa Fe at the time. It is not known what caused the trouble, but after this massacre both Fort Uintah and Fort Robidoux were abandoned. The fort, contrary to Fremont's report, was not burned, and was still standing in 1849 when two young men mentioned in Manly's "Death Valley in '49" camped there for several days.

In 1845 Antoine Robidoux, with his Spanish wife and stepdaughter, returned to St. Louis. When Gen. Kearny left Ft. Leavenworth for California in 1846 with a body of troops, his guide was Antoine Robidoux. In the famous battle of San Pasqual, Antoine was so severely wounded that he never entirely recovered. He died in St. Joseph, Missouri, on August 29, 1860.

Although the Robidoux brothers have been neglected by historians, principally for lack of written records, they occupy an important place in early western history. The family name has been perpetuated in St. Louis, St. Joseph, Missouri, in Riverside, California, in Nebraska, and in Colorado, by streets, mountains, mountain passes, rivers and towns. The six brothers were all prominent in their respective fields, but most of the actual work of exploration was done by Antoine, whose only known record is this remarkable inscription of 1837.

Prizes Offered to Amateur Photographers

Each month the Desert Magazine offers two cash prizes for the best camera pictures submitted by amateur photographers. The first award is \$5.00 and the second \$3.00.

Pictures are limited to desert subjects, but there is no restriction as to the residence of the photographer. Entries may include Indian pictures, rock formations, flowers and wild animals, canyons, trees, water holes—in fact anything that belongs to the desert country.

Following are the rules governing the photographic contest:

- 1—Pictures submitted in the July contest must be received at the Desert Magazine office by July 20.
- 2—Not more than four prints may be submitted by one person in one month.
- 3—Winners will be required to furnish either good glossy enlargements or the original negatives if requested.
- 4—Prints must be in black and white, 2¼x3¼ or larger, and must be on glossy paper.
- 5—Pictures will be returned only when postage is enclosed.

For non-prize-winning pictures accepted for publication \$1.00 will be paid for each print.

Winners of the July contest will be announced and the pictures published in the September number of the magazine. Address all entries to:

Contest Editor, Desert Magazine, El Centro, Calif.

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There are three divisions in this contest. You may submit fact fishing articles with photos, fishing fiction or "tall" tales, and fishing pictures. Literary skill and photographic technique do not count. The story's the thing, and a good, clear photo that tells a story, or is in some manner unusual, has just as much chance of winning as submissions from those who are skilled in the craft.

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Desert Place Names

Magazine is indebted to the research work done by the late Will C. Barnes, author of "Arizona Place Names;" to Frances Rosser Brown of New Mexico, to Margaret Hussmann of Nevada, Hugh F. O'Neil of Utah, and to James A. Jasper of Los Angeles.

For the historical data contained in this department the Desert

ARIZONA

GLOBE

Pinal county
Elev. 3507 ft. County seat. Originally Globe City. Important copper mining center. Named for Globe mine, located in 1873 by Anderson brothers. First mines were silver and very rich. At a point on Pinal creek now called Radium, a prospector picked up a large globe or ball of silver, perfect in shape, and about 9 inches in diameter. It was 99 per cent pure, and valued at over \$12,000. From this the camp derived its name. "This is the commonly accepted story of the origin of the name Globe," says Barnes. However, he believes a more likely story is that one of the prospectors when asked as to its extent, said: "Why man, she's as big as the whole globe." The Silver Belt of May 2, 1878, says: "The town was laid out in 1876 by Surveyor A. J. Pendleton and officially designated by the name of Globe on May 1, 1878. At first they sought only for silver, throwing aside worthless ore later proved to be copper of high values."

GREENBACK PEAK

Gila county
Elev. 6505 ft. Also creek and valley in Tonto basin. Valley lies northeast of butte at head of Greenback creek. Called locally Green valley. Barnes was told that U. S. troops scouting in the vicinity found a roll of greenbacks at an abandoned Apache camp. Supposition was that Apaches had found the money on the body of some murdered settler and had thrown it away, not knowing its value. Harry A. Hancock, Phoenix, wrote to Barnes: "It was in Greenback valley in the spring of '65, that my father, Wm. A. Hancock, a lieutenant of Arizona volunteers, with a band of Pima scouts from Fort Reno, crossed the Tonto north of Roosevelt dam and proceeded up a narrow valley. Coming on an abandoned camp, father picked up a bit of paper and started to light his pipe with it when he saw it was a hundred-dollar greenback. It was suggested the valley be named Greenback valley and the creek Greenback creek. It was officially so called from then on."

CALIFORNIA

WAUCOBA (mt. and lake)

Inyo county
From the Indian name for Owens lake. Name applied to original Owens lake by C. D. Walcott, former director of geology, California survey. This lake once occupied all of Owens valley. Its shore line can be traced some 3,000 feet above the floor of the valley. Waucoba mine was active about 1872.

WILSIE

Imperial county
W. E. Wilsie was a prominent pioneer, who rode into Imperial valley on a bicycle in 1901. Farming on 300 acres of land, in 1902 he shipped four carloads of barley and wheat, the first cut in the valley. Later he became county horticultural commissioner.

PALM SPRINGS

San Diego county
Going north from Carrizo station, writes James Jasper, we find Palm Springs station nine miles out, named by John Butterfield, on the stage road between Vallecito and Agua Caliente. On most maps it is still carried as Palm Springs, and a sandy road

still leads to the site, taking off east of Agua Caliente. The name was derived from native desert palms growing at the springs. Two of the old palms were standing, Jasper remembers, when he installed a watertrough there in 1901, but vandals have cut them down since then.

NEVADA

DOUGLAS COUNTY

Named in honor of Stephen A. Douglas, political leader (1813-1861). One of the nine counties created by the territorial legislature in 1861 when Nevada was first subdivided. At time of Mormon settlement it was a part of Millard county and later of Carson county. Area 806 sq. mi., about one-eighth of which is contained in Lake Tahoe.

GARDNERVILLE

Douglas county
Founded 1860 by Lawrence Gilman, pioneer of the early 50s. Named after John Gardner, nearby rancher, often erroneously supposed to be its founder. Ruins of the Gardner cabin are on the O. L. Hussman ranch near Gardnerville.

NEW MEXICO

HATCHET MOUNTAINS

Grant county
Big and Little Hatchet ranges are in the southwestern corner of New Mexico, where the San Luis and Animas mountains form the northwestern terminus of the Sierra Madre of Mexico. The Hatchets are less closely connected with the main Sierra Madre, but chiefly are occupied by the same species. The Big Hatchets are a steep, rugged desert range, running northwest to southeast, tilted upward very abruptly toward the west. Highest peak, near the northern end of the range, is 8,000 feet. Toward the southern end of the Hatchets the range divides and nearly surrounds a small open valley. James says there is no permanent water, not even temporary "tanks."

UTAH

VIRGIN

Washington county
First settled in 1857 by Nephi Johnson, Anthony Stratton, A. J. Workman, James Bay, Samuel Bradshaw, William Haslam, Carl Shirts and Henry Barney. There are several versions of the origin of the name: (1) that it derives its name from the Virgin river, near which it is situated; (2) that it was named for Thomas Virgen, a trapper who frequented the region in the 1820s and (3) that the name is of Spanish origin. This settlement was known first as Pocketville, because the Indians called the narrow valley by a name meaning "hole" or "pocket."

YELLOW CAT

Grand county
Located in the neighborhood of the Arches national monument; said to have been named by miners when a yellow cat walked into camp, which was at the time 50 miles from the nearest settlement.

SMOKING MOUNTAIN

Garfield county
Named because of the large number of steam vents and hot water pools from which steam continually rises. From a distance the mountain seems literally to be smoking.

When a Hopi Indian dies his spirit goes to live in another world where he is rewarded or punished according to his conduct on earth. It is a concept analogous to the white man's idea of heaven and hell. Indian children learn about this mystical realm that lies beyond the grave from the legends repeated by their elders. Following is one of these legends, quoted as it was told to Harry C. James by old Chief Tewaquap-tewa many years ago.

A Journey to Skeleton House

(A Hopi Legend)

As told to HARRY C. JAMES



AT Oraibi in the old days there lived a young man who was wise and thoughtful as many chiefs. Often he would be found standing on the edge of the mesa waiting for the sun to rise. Often he watched the sun set back of the mountains of the Katchinas. He thought of many things, but mostly he thought of those people who had died and who were buried at the foot of the mesa just below where he watched the day born and die.

Many times he talked with the old chiefs of Oraibi, asking them: "Is it true when one dies one's spirit goes to some spirit-land to live, as our wise ones say it does?"

The old men would reassure him with many words, but still he half believed and half doubted what they said.

One day he secured some specially prepared corn meal. He went to the mesa edge and sprinkled the meal and made a prayer to Sun, saying: "Oh, Sun! You travel far across the land. Have you ever seen the spirits of those that are buried there?"

Day after day for four days he made his prayer. The last day he had just said the words when he saw someone approaching. It was Sun!

"Why have you called for me?" Sun asked the youth.

The young man replied: "I have prayed to you for many days. I am always thinking about those people whose bodies are buried there below us. Is it true, oh Sun, that they are living some other life somewhere away from here?"

"Yes," Sun replied, "they are indeed alive. Are you really desirous of seeing them?"

"Yes! Yes, indeed!"

Sun then gave the young man some magic food. "When you prepare to sleep this evening, you are to eat some of this, but you must tell your mother and your family about it, else they will think you are dead in the morning."

That night the youth did as Sun had instructed him. He

had no sooner eaten of the magic food than he fell into a deep slumber. Fortunately, he had told his parents. If he hadn't done as Sun had instructed they surely would have thought him dead.

As he slept, his spirit started on the trail to Skeleton House. He followed a plain, well-marked trail, until he came to the entrance to Sipapu,—the edge of the great abyss the white men call the Grand Canyon.

The young man had gone but a short distance along the trail when he met a man whom he recognized at once as the spirit of a man whose body had died at Oraibi quite a long time before. The spirit was sitting by the trail. As the young man came up, the spirit spoke to him. "Please carry me at least a few steps and then set me down. I have lived a bad life and now I am being punished! . . . I would not listen to the words of the chiefs and now I am allowed to go only a few steps at a time along the trail to Skeleton House. I have no shelter but a few sticks. Until I arrive at Skeleton House I am to suffer as you see me!"

The youth was sorry for the spirit, but knew that he must not help him. He left him and went quickly on the trail.

Some little distance on he came upon a woman walking, first forwards then backwards. On her back she had a basket with hard and heavy stones in it. A bow-string around her forehead supported the heavy weight of the basket. The string had cut deeply into her head.

As he went further along the trail, he saw a great column of smoke rising in the distance. As he approached, he was met by Skeleton Woman, a guardian of the dead. She explained that the smoke was from a huge fire into which were thrown many of the wicked people of the villages. "There," she said, "they are utterly destroyed! They exist no longer in any form. You must keep to this main trail. You must not run the danger of approaching the dreadful fire."

When the young man finally arrived at Skeleton House, a huge village on the top of a gigantic and beautiful mesa rising sheer out of the great depths of the canyon, he found only a few children playing. As he walked along the street, however, the people noticed him and thought that he might possibly be one of their friends but lately arrived from the world above. They gathered around him. "Who are you?" they asked the young man.

"I am the village chief's son," he replied. "I am from Oraibi."

The people pointed out to him where all the Bear Clan people lived. "There are the people you want to see. There are your ancestors."

The Skeletons showed him a ladder leading up the side of the house, but when he tried to climb up he found that the rungs were only of sunflower stalks and they broke beneath his weight. He called to his clan people. "I will have to stay down here! Please bring me food!"

The Skeletons of the Bear Clan brought him food—melons, corn and other good things which he ate greedily. The Skeletons watched him eat and laughed because they ate only the spirit of the food. That is why the Skeletons are light and can climb the ladders with rungs of sunflower stems. They were

amused to see him devour the material of the food. Also, that is why the dead are light and can be transformed into clouds for their journey to Skeleton House.

The youth lived at Skeleton House for some time. The life lived by the Skeleton People was very much like the life they had lived on earth. The houses the people lived in were in rows just as in the Hopi villages, but they were built like enormous flowers. In one part of Skeleton House he found many people carrying heavy burdens and others with huge bundles of cactus on their bare heads. These persons had done wrong in the life above and were being punished for their wrong-doing before they finally were allowed to take up their regular life at Skeleton House.

When the time came for the young man to return to this life, the Skeleton Chiefs counselled him to have the people make prayer offerings for the Skeleton people and they in return would help bring the rain and good crops of corn to the living Hopi. The old Skeleton men then said: "Now, you must return to your own people. Your mother and father are mourning for you. You must go back."

The youth had no adventures on the way home to Oraibi. When he neared his house, his body, which had been lying

under a blanket (like the body of one whose spirit had really gone to Skeleton House) began to move. As he entered, his body came awake and he sat up. His parents rejoiced. They set food before him and many of his friends gathered to hear his story of the journey to Skeleton House.

Sez Hard Rock Shorty of . . . Death Valley

By LON GARRISON



"I just been readin' in the paper here," commented Hard Rock Shorty, "about the government depreciatin' the currency. Reminds me of the time old Bill Featherstone had some o' his money depreciated, an' it nearly broke his heart."

Hard Rock squiggled his back a few times against the post at the shady corner of the store porch and settled back to his narrative.

"Old Bill wasn't any fonder o' money than he was his right arm. But one time when he was cock-eyed or had et too much, or just got married or somethin', he loaned five bucks to Skinny Ennis. Skinny didn't have it to pay back right away, but that didn't keep old Bill from dunnin' him ever' time they met. Bill used to moan an' cry about that five dollars like Skinny'd done 'im out o' his mine, his store teeth, an' his britches.

"Bill was threatenin' to go to law about it, when one day he met Skinny out by that alum water spring on Gene Bank's place. He begun about his five bucks again, an' Skinny just happenin' to have some money with 'im, dug down an' handed over a five dollar bill. Well, sir—that just about floored old Bill. He was examinin' the money like it was probably counterfeit, when the wind come up quick, an' a little puff blowed that bill out o' his hands an' over into the spring.

"Bill jumped for it quick, but that alum water was quicker. Before he could get it out, that five dollar bill'd depreciated down so small there wasn't more'n a nickel's worth of it left."

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Before his mysterious disappearance in the Utah wilderness in the fall of 1934, Everett Ruess was a vagabond artist who followed the desert trails wherever fancy led. In his letters to his family and friends he gave fascinating glimpses of the country through which he passed, and also of the day to day incidents in his unusual mode of existence. The original story of the life and last jour-

ney of this young adventurer was told by Hugh Lacy, friend of the Ruess family, in the *Desert Magazine* issue of last September. These letters have been appearing each month since January. This one was written to his brother, Waldo, from Kayenta, Arizona, near where Everett was employed with a group of University of California archaeologists in excavating ancient Indian ruins.

1127 A. D. in Arizona

By EVERETT RUESS

Illustration by G. A. RANDALL

Kayenta, Arizona
August 19, 1934

Dear Waldo:

Your letter of July 17 reached me about a week ago at Skeleton Mesa. As you know, I was with the expedition for some time, assisting in the archaeological work. It was most fascinating, working in high vaulted caves far above the lonely canyons. The last night's work was done by firelight. Huge shadows played on the orange wall of the cave, which reaches upwards into the darkness. Outside, rain hissed down, and once we heard wild geese honking as they flew south. The last job was sawing beams and sticks for tree-ring data, to establish the dates. We have one date already—1127 A. D. The cave I worked in before was about 500 A. D. but the tree ring calendar has not been pushed back that far.

I managed to sell a few pictures while I was with the group, and then I left it to follow a dramatic trail over the Comb ridge. I stopped at White Dog cave, where an enormous sandstone block fell down and crushed the inhabitants at their work, some hundreds of years ago. Two dogs were found with them. I found a white arrowhead there myself.

Yesterday I went for a ride through Monument valley with a friend of mine who paints, and we had a great day, winding up with a swim in Kayenta creek. This afternoon I am starting for Black mesa. I intend to cross it and reach Hotevilla in the Hopi country in time for the snake dance.

I have seen more wild country than on any previous trip. I almost lost one burro in the quicksands—he was in up to his neck—and the other fell over backward in trying to climb a cliff. I myself had endless difficult climbs and descents—like one time when three of us came down a cliff by moonlight, using old worn-out hand holds. Yesterday morning I found a big centipede in my pack.



When I walked to Rainbow Bridge at night I found a six-inch scorpion beside my bed at dawn. I have been working away, painting, but I get exhausted and discouraged at times. This is certainly magnificent country, not easy to paint.

My plans are not definite, but I think

I shall go to the Grand Canyon from the Hopi country, and maybe spend the winter exploring around Thunder river or the Kaiparowitz plateau and Straight cliffs.

I hope you have a good trip North.
Love from Everett.

BOOKS OF YESTERDAY AND TODAY

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

BEHIND THE MASK OF THE NAVAJO INDIAN

A woman who has studied the Navajo way of life for many years, who lived among these nomads—speaking their language, learning their weaving, serving apprenticeship to a medicineman—has now made the Navajo family almost as familiar and understandable as our own neighbors. Dr. Gladys A. Reichard, professor of anthropology at Barnard College, who a short time ago wrote the invaluable NAVAJO SHEPHERD AND WEAVER, is the author of a new book, DEZBA, Woman of the Desert, published in May by J. J. Augustin, New York. Although the individual characters and their family relationships are fictional, they represent composite types known to the author. In

essence, all details, incidents and characters are true to Navajo life.

Dezba, mother, grandmother, craftsman, herd-owner, is the center about which her people's lives revolve. "Dezba's family was representative of the transition between the old and the new . . . Dezba was proud of her enamelled stove, but she would not have given up pit-baking. She used a food-grinder, but her daughters were all expert at grinding meal with metate and mano. Dezba herself preferred to sleep on a pile of sheepskins, but she did not criticise when her daughter used cots with thin mattresses."

With an exquisite sense of balance, Miss Reichard has presented the Indian problem with an understanding rarely achieved. As the family of Dezba is gathered at the annual sheep-dipping,

we learn of the misunderstandings arising from the current stock reducing program. From the Indian viewpoint it interferes with the established way of life.

The abyss between the spiritual worlds of Navajo and white man seems to have hopeless depth until we meet the interminable patience and sympathy of a white teacher like Red Woman and the selfless ambition of a man like John Silversmith. As John discusses his future with his first teacher he tells her:

"There are many things I would like to do that I think I can do. I think that the Navajo social system works better than the system you have. But I don't think the white people understand it, and I should like to investigate it and write it up so they would. And then there is the religion! There is so much to do about that! I want to get the ideas of the old men down in their own words, and show what they really think, for their religion is not nonsense. It contains all their artistic life, art, music, poetry. . . . The first thing I would do would be to work with the medicine men to try to get them to give up some of the harmful things they do, and adopt certain medical principles . . . I would not do as others who have become Christians have done, tell them that everything they do is wrong and they ought to cut out all the sings. The Navajo believe in them and get a great deal of comfort and pleasure out of them. If I had a chance, I would not be in a hurry to change. Changes would have to be a slow growth."

The book is important not only for its literary quality, but for its value in presenting a major Southwestern problem with sensitive feeling and intelligence. DEZBA is a valuable successor to the first in this publisher's Indian series—Ruth M. Underhill's portrayal of Pueblo life in FIRST PENTHOUSE DWELLERS OF AMERICA.

Again, Augustin has produced a book of unusual beauty. Bound in buckram, it is illustrated with 56 full page photographs, credited chiefly to the author's sister Lilian Reichard. (\$3.00)

LUCILE HARRIS.

AUTHOR TELLS HOW THE DESERTS WERE CREATED

Desert, as defined by Gayle Pickwell, professor of zoology at San Jose, California, State College, is "where water is always an outstanding problem. Water there may be, but if it is salty or unevenly supplied, its use by living things is a problem, the problem of the desert."

In his new book DESERTS, just off the press of the Whittlesey House in New York, Dr. Pickwell presents the story of the little-known world where

Story of the Desert -- IN BOOKS

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living things, in a stubborn fight for life, assume beautiful and unusual forms.

North American desert areas, the author points out, are not limited to the inland arid region of the Southwest. Desert conditions exist in the sand dunes bordering the Great Lakes, and along the sea coasts and estuaries where water may be abundant but where its salt content forbids the development of normal plant life.

Dr. Pickwell discusses the broad aspects of the term "desert," and then presents in some detail the more common forms of plant and animal life found in the arid regions. The text matter is illustrated with 64 full-page photographs which display in intimate detail the subjects under discussion.

The book is written in easy informal terms which can be understood by the most elementary student of desert phenomena. Dr. Pickwell's desert has interest and beauty—without the glamorous halo which fiction writers and poets too often attach to the subject. (\$3.50)

R. H.

ANSWERS TO DESERT QUIZ

(Questions on page 9)

- | | |
|---------------------------------------|--------------------------------------|
| 1—Prehistoric Indians. | 11—Natural mineralized rock surface. |
| 2—Sheep. | 12—East. |
| 3—California. | 13—Dwelling place. |
| 4—Its head resembles a turkey's head. | 14—Protect them from coyotes. |
| 5—Sequoias. | 15—The Colorado river. |
| 6—Combined diet of all three. | 16—Chaparral bird. |
| 7—Occupies a rodent's burrow. | 17—Resemblance to the kangaroo. |
| 8—Imperial Valley. | 18—Heal the sick and injured. |
| 9—California. | 19—Lack of moisture. |
| 10—Brilliantly colored landscape. | 20—Trapping beaver. |



DATES
from a
desert
oasis

Write R. C. NICOLL, Prop. Thermal, Cal.

The Desert Trading Post

Classified advertising in this section costs eight cents a word, \$1.60 minimum per issue—actually about 10 cents per thousand readers.

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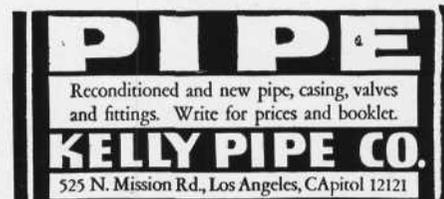


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Betatakin Ruin

Winner of the \$5.00 cash prize offered by the Desert Magazine in May for the most accurate

and complete description of the old Indian cliff dwellings shown in the accompanying picture was Julia Folsom of Window Rock, Arizona. Her story giving the location, history and highway directions for reaching the Betatakin ruin is printed below.

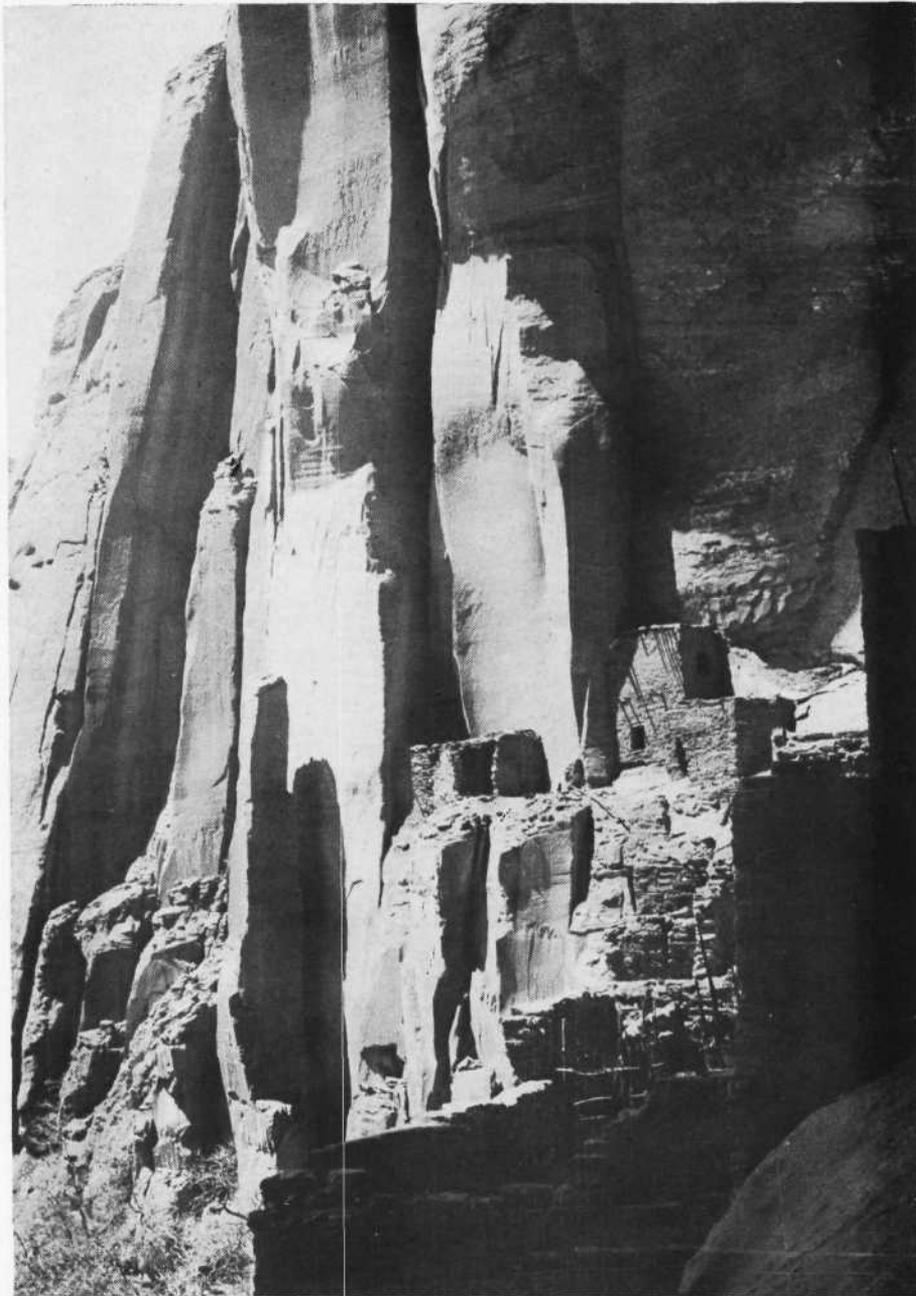
national museum repaired a section of Betatakin some 15 years ago.

Betatakin is 140 miles northeast of Flagstaff, Arizona and the Santa Fe railroad. The traveler follows the pavement north on U. S. Highway 89 to the Tuba City-Kayenta junction. Between this junction and Tuba City lie the well known Dinosaur tracks. At Tuba City, built 65 years ago by the Mormon colonizers of northern Arizona, one may see the Navajo agricultural high school and the quaint Hopi town of Moencopi. (Gasoline, food, and lodgings). Tonalea standing by Red Lake and the sand dunes is passed and the turn off is made 30 miles north of Tuba City. (Fine Navajo blankets at Cow Springs and Shanto). After Shanto day school and trading post are passed, 14 miles of dirt and stone road (impassable in wet weather) lies between you and the head of the trail that winds down into the Segi. A one-mile walk brings you to the impressive walls of Betatakin.

For those hardy souls who wish to walk or ride, Betatakin can be approached over an eight-mile trip up the Segi. This trail starts where the canyon opens at Marsh pass some ten miles west of Kayenta on the main road. Horses and outfitting can be usually obtained from Wetherill and Colville at Kayenta (Gasoline, food, and lodging). This is a thrilling trip.

Hosteen (John) Wetherill of Kayenta was one of the first white men to see Betatakin. The full time Ranger is Jim Brewer, formerly of Wupatki, Hovenweep, and Aztec national monuments. Jim is a good guide to show you Betatakin and the Tseki country, for he knows it, and takes real pleasure in telling about its features.

Visiting and viewing Betatakin in its vari-colored red sandstone cave at the end of a colorful and interesting journey across the wild mesas and deserts of Navajoland is truly a breath-taking experience. It is a trip for those willing to endure some hardships. The roads are rough, hiking and riding are strenuous, but to those who can really "take it," the journey to Betatakin can be made the highlight of a fascinating vacation to Navajoland.



This picture of Betatakin ruin, taken by Ralph Gardner of Tujunga, California, was awarded first prize in the monthly photographic contest of the Desert Magazine last July.

By JULIA FOLSOM

THE section of cliff dwelling pictured in the May issue of Desert Magazine is the well known but seldom visited Betatakin ruin. It is located in a side canyon of the Segi canyon in the Navajo national monument in northern Arizona. This cluster of rooms was built by the Pueblos between 1260-

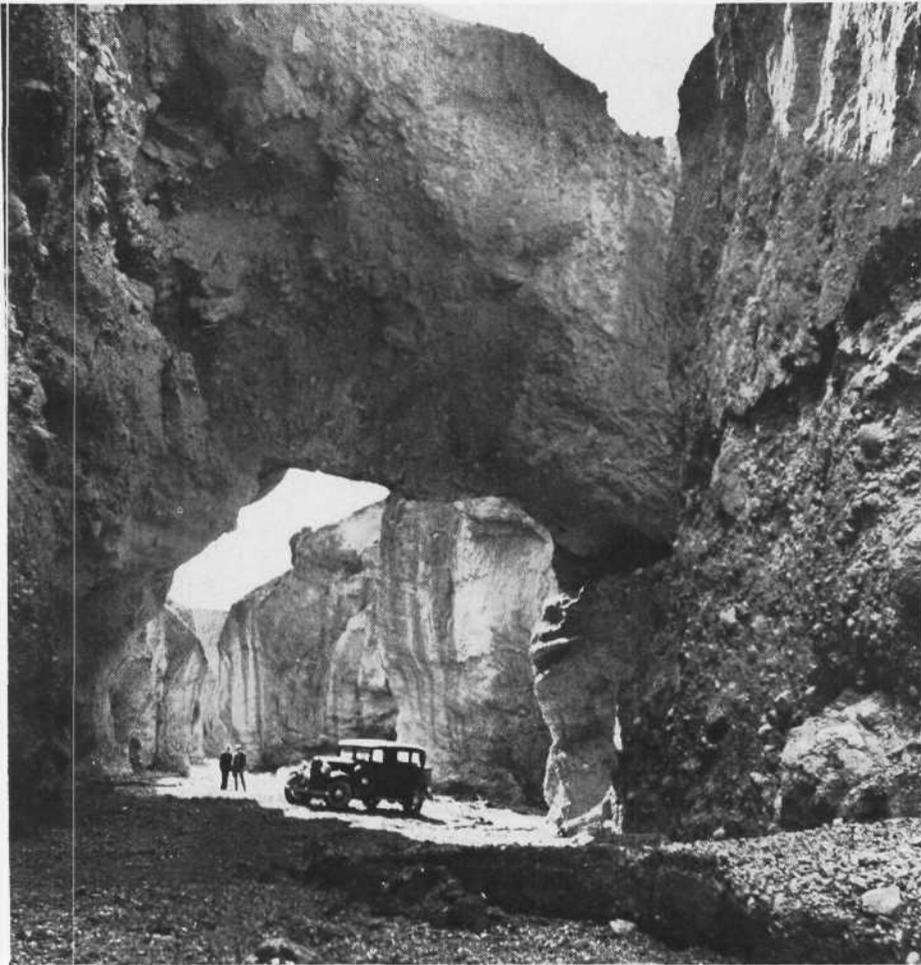
1277 A. D. Betatakin is second in size to the 350-room Keet Seel ruin, which is the largest ruin in the monument. Southwestern archaeology grew into maturity around Betatakin with such names as Wetherill, Kidder, Cummings, and Colton associated with investigation and study. Dr. Neil Judd of the United States

HUGE PROJECT PLANNED IN DELTA OF COLORADO

Of interest to all water users in the Colorado river basin will be the report from Sonora, Mexico, that Governor Roman Yocupicio is making plans for the reclamation of 150,000 acres of delta land for Mexican colonization. Engineering plans, which have been in progress for some time, contemplate the installation of nine low-stage pumping plants to raise the water from the channel of the river.

NATURAL BRIDGE IN CALIFORNIA

Who can identify this landmark?



Prize Announcement for July

If you were motoring along the floor of a desert canyon and came to such a striking formation as the natural bridge shown in this photograph, you would probably do just what these people did—stop and take a picture of it.

This bridge, formed by the erosive forces of Nature over a period of hundreds or perhaps thousands of years, is located in California in the mountainous terrain adjacent to one of the most famous desert valleys in the world. Many motorists have taken the short side-trip necessary to view this natural wonder.

Desert Magazine readers will want to know more about this scenic spot. In order that all available information may be obtained for use in a future issue of the magazine a cash prize of \$5.00 will be paid to the person who sends in the correct name and the most accurate data regarding the bridge. Answers are limited to 500 words. They should give the location, distance by highway from the

nearest settlement, character of the road, and any additional information of geological or historical interest which may be secured.

Entries should be addressed to Landmark Editor, Desert Magazine, El Centro, California. The judging of the contest will be July 20, 1939, and the winning manuscript will be published in the September number.

• • •

NEW DAM ADDS TO WATER SUPPLY IN ARIZONA

U. S. reclamation bureau has completed near Phoenix the world's highest multiple arch dam in the world. It is Bartlett dam, 826½ feet high, three city blocks long, cost \$5,200,000 and took 2½ years to build. Reservoir capacity is 65 billion gallons of water, insures supplemental supply for 25,000 acres on the Salt river project. Verde river floods are harnessed.

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Here and There

... ON THE DESERT

ARIZONA

Window Rock . . .

Navajo Indians call radio "wind that talks." They like it. Short-wave broadcast for 26 receivers scattered over the vast reservation attracts listeners who ride as much as 50 miles to enjoy the programs. Agency headquarters received this appeal from the physician in charge of a reservation hospital: "I must have a radio installed in the hospital. Otherwise the patients get up and walk or ride to the nearest receiver."

Winslow . . .

Crown princes and kings of Europe, and for that matter, European affairs of any kind, do not greatly concern Joe Se-ka-ku, recently interviewed as crown prince of the Hopi Indians. "My people," Joe said, "have heard what George Washington said about keeping out of European monkey business and minding our own business. And my people think that is a pretty good idea." When Joe was asked to define "Americanism," he thought hard and long. "By golly, you got me, mister," he said.

Prescott . . .

When Clyde Welch released 14 of his racing pigeons on the desert 43 miles from here for a test flight back to their loft, the pigeons were attacked by a big hawk. At

first the pigeons scattered, then formed v-shaped airplane squadron alignment, sped to battle. Hawk, astonished, fought briefly, then retreated. Next day two pigeons were still missing, failed to regain their home, were believed killed or badly crippled.

Phoenix . . .

Proposal to add 380,000 acres of land in southwestern Maricopa county to the Papago Indian reservation failed when county supervisors turned down the project. U. S. interior department asked the county to consent to enlarging Indian lands with the Gila Bend district. Property of O. L. and O. A. Bender would have been bought, public domain in Bender grazing allotment made part of the reservation. Supervisors oppose extension of federal land holdings.

Kingman . . .

During April 39,484 automobiles entered Arizona through inspection stations. U. S. highway 66, with entry ports at Kingman and Holbrook, topped all travel arteries with 15,200 cars; U. S. 60 (Ehrenberg, Solomonville and Globe) was second with 13,541; and U. S. 80 (Yuma and Benson) was third with 10,667. While the grand total is only slightly higher than 1938, Kingman traffic stepped up 20 per cent.

Phoenix . . .

Cards presented to tourists at border courtesy stations bear this legend: "Welcome to Arizona, heart of the sun country." Maximum temperature here now ranges from 104 to 108 or thereabouts.

Tucson . . .

Fifty years ago the federal government imported 74 date palm offshoots from the Algerian Sahara, Egypt and Maskat. Ten of these offshoots were allotted to Arizona. Today Arizona has nearly 80,000 standard plants and date seedlings. From 1900 to 1908 at Tempe and Yuma 1180 imported offshoots were planted. Most of the original 10 offshoots set out in 1890 are alive today at Tucson. Only a dozen of 105 varieties planted at the Tempe experimental farm developed into commercial use.

Nogales . . .

Supervisors of Santa Cruz, Pima, Maricopa and Yuma counties have adopted resolutions asking the state highway commission to designate the road between Nogales and Yuma by way of Tucson and Gila Bend as El Camino de los Padres, in honor of the early day priests who traveled that highway. Markers will be erected along the route, if highway moguls say OK.

Flagstaff . . .

Ranger Bill Brown planted a garden in Long Valley, built a scarecrow to keep wandering elk from eating his vegetables. Elk ate the scarecrow.

Grand Canyon . . .

Berle C. Putnam, Prescott mail carrier, took a postman's holiday. National park officials talked him out of a hike from Bright Angel Point to Lake Mead, 140 miles of unmapped country. Berle compromised by loading a 40 pound sack, set off along the abandoned Grand View trail, to cross over the Tonto plateau and return by Bright Angel.

Phoenix . . .

Three Chicago youths sold their possessions, quit jobs in a packing house and fared westward to search for the fabulous Lost Dutchman mine in the Superstition mountains. They landed in jail here when a deputy sheriff found one of the boys carried two loaded pistols, bought they said "to kill Indians."

CALIFORNIA

Brawley . . .

Control of predatory animals, especially in national parks; a five-day pheasant season in Imperial valley, and a winter season for bass fishing in the Colorado river are urged in resolutions adopted by the Imperial county Fish and Game Conservation association.

Indio . . .

Governor Olson has signed a bill to protect petroglyphs and other objects of archaeological or historical interest, both on private lands or in any public park. The legislation was sponsored by Assemblyman Nelson Dilworth and Senator John Phillips at the request of the Coachella Valley Pioneer Society.

San Bernardino . . .

Wild burros roaming the Mojave desert must get along without help from county supervisors. Answering protest that herds of these descendants of prospectors' pack animals are being slaughtered by manufacturers of dog food, supervisors said they had no right to forbid their destruction. Ranchers told the board they considered the burro as big a pest as the coyote. "In a few years there will be no room left on the ranges for our cattle," one cowman said.

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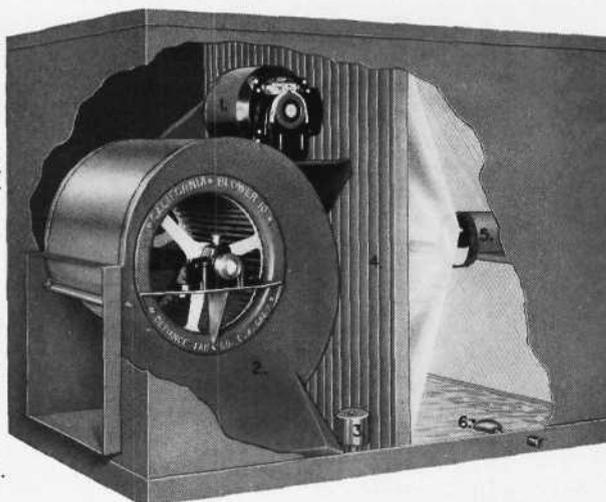
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Borrego . . .

Two San Diego gliders recently took off from Dry lake in Borrego valley, ascended 9600 feet, crossed over the Cuyamaca mountains, floated above the famous old mining camp of Julian and landed safely, one at Camp Kearny and the other at Escondido. John Robinson and Dick Essary were pilots of the motorless aircraft. Both carried altimeters, but because their gliders were not equipped with barographs, they are cheated of an official world's record. They topped the high of 6800 feet, by Richard DuPont of Wilmington, Del., were in the air three hours. Point of departure is 50 miles from landing place.

Independence . . .

Four Sierra Club members have deposited a cast aluminum record box on Telescope Peak, whose 11,045-foot snow-capped summit dominates the distorted heights of the Panamint range in Death Valley. Leland Chase, Bob Rumohr, Bill Roberts and Chester Versteeg were members of the party. The peak was first climbed by W. T. Henderson in December 1860. A prospector, he made the ascent from Bennett's well on the floor of Death Valley.

Alturas . . .

Scientists are investigating one of the largest meteorites ever found in the United States. Discovered in the barren lava beds of Modoc national forest, the solid metal body weighs between one and three tons. It is composed largely of iron.

NEVADA

Boulder City . . .

Score one for Hoover dam with map publishers. Rand, McNally's new map says: HOOVER DAM (BOULDER DAM). Since 1933 the company has used Boulder as the name of the project. Under either name, the dam is earning \$300,000 monthly for Uncle Sam. Since 1936 \$5,000,000 has been paid to the government for power.

Las Vegas . . .

"An oasis in the desert" is the description applied to Charleston mountain, in a booklet for the forest service issued by the federal department of agriculture. A map of the area and numerous pictures of famous points in the range are used in the pamphlet. Headings include: "a botanical laboratory," "animals and birds," "legends of the Indians," "recreation in summer," "winter playgrounds."

Reno . . .

Livestock ranges in Nevada on May 1 were best in the west, according to a report by U. S. bureau of agricultural economics. The state average is 90 per cent of normal, compared with an average of 78 per cent of normal in 17 range states. Montana and New Mexico rank next in order, 88 per cent of normal. California percentage is 67 per cent. Nevada prospects for calf crop are good. Nevada sheep, lambing and shearing, are moving to summer range in the mountains.

NEW MEXICO

Santa Fe . . .

New Mexico's health department will prepare a report on the use and effects of peyote, the cactus-derived narcotic which Indians believe has divine origin. Used in certain Indian religious rites, peyote has a history dating back to long before Columbus discovered America. Cactus from which it is made does not grow much farther north than the Mexican border, but traffic in the drug has spread to Colorado and Utah. Effects are obtained by chewing or swallowing

pieces of peyote or by drinking a tea brewed from it. One authority says "There is a sense of excitement, followed by contentment and a friendly attitude toward the world in general." "Delightful scenes" pass before the eyes, but they may be followed by scenes not so delightful.

Tucumcari . . .

An automobile driven by Mrs. R. L. Payne, returning from a fish fry near Eagle's Nest lake, was attacked by three buffalo. Passengers escaped unhurt, but the bison smashed the car's headlights, dented a fender and damaged the top of the car. The buffalo belong to a herd owned on the Gallegos estate.

Santa Fe . . .

This is the first city in New Mexico to make a start toward a housing project. Funds will be allotted to Santa Fe, Albuquerque, Las Vegas, Clovis and Roswell, for slum clearance, if these cities apply to the federal housing authority. Units to care for groups with income of \$75. per month or less will be financed 90 per cent by the government, the community to supply 10 per cent in land for building, or in other grants.

State College . . .

Hugh M. Milton, 15 years a member of the faculty, was installed May 23 as president of State College. Milton came to State from Texas A & M to teach in the school of engineering, where he served as dean from 1929 to 1938.

Albuquerque . . .

After a White House call, Representative Dempsey reported that President Roosevelt will approve allocation of \$250,000 for the celebration in 1940 of the 400th anniversary of Coronado's arrival in New Mexico.

Carlsbad . . .

David L. Cole of La Fonda at Santa Fe was elected president of the New Mexico Hotel association in annual convention here. Other new officers: H. T. Anderson of Carlsbad, vice president and Mrs. Helen M. Kentner of Taos, secretary-treasurer.

Gallup . . .

In 57th annual session New Mexico Medical Society picked Dr. G. T. Colvard of Deming as president; Dr. L. B. Cohenour, Albuquerque, secretary-treasurer; Dr. Walter P. Martin, Clovis, vice president.

UTAH

Salt Lake City . . .

Rustlers drove to the gates of a local zoo, cut padlocks, loaded five elk into their truck and got away. Police believe the stolen bull, three cows and seven-months old female calf will be taken to the midwest, where the thieves will try to sell them to a zoo.

Fort Duchesne . . .

Uintah basin's annual industrial convention and Indian Fair will be held here August 23, 24 and 25. An art exhibit, including paintings, sculpture, carvings and photography by Uintah basin people will be featured.

Monticello . . .

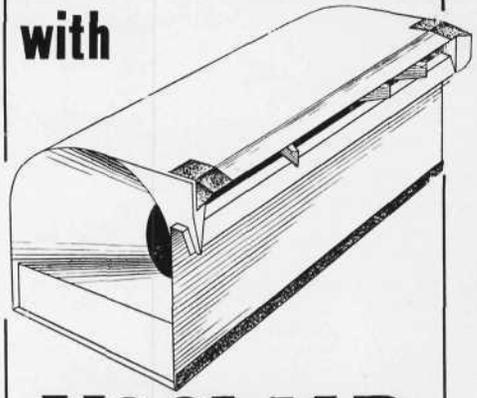
Seventy-year-old Zeke Johnson, veteran custodian of Natural Bridges national monument, 50 miles west of Blanding, was due for retirement. But he passed an almost perfect examination and the national park service has reappointed him for another two years.

Milford . . .

Dates for Beaver county's fair have been set for September 7, 8 and 9, advanced a week because the state fair will be held September 16 this year.

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Just Between You and Me

By RANDALL HENDERSON

ONE of the most informative bulletins that comes to my desk is the monthly report of Frank Pinkley, superintendent of Southwestern monuments. Frank is a "colyumist," but the public never sees his column—it is only for the park rangers and the chiefs in the department at Washington.

Several months ago he announced that the word "dude" is no longer to be used by rangers under his jurisdiction. I hope it is no violation of confidence to quote the reasons for his taboo. Said Frank:

"I lay no claim to being a purist and I am free to admit that I am no expert on the English language, but we are going to take one word out of the dictionary as far as the Southwestern monuments are concerned.

"That word is 'dude.'

"I find that the late Mr. Webster, in his interesting little book, says a dude is a kind of dandy or exquisite, especially one characterized by an ultrafastidious dress and manner and other affectations; loosely, a fop.

"This is not the meaning of the word as used by the Park Service.

"Originally, as I understood its development in our Service, the people at Yellowstone felt the need for some technical terms which would describe certain types of people within the park. The company driver of the big bus was known as a 'gear jammer'. The temporary ranger was named a 'ninety-day wonder'. The visitor who came in his own car—Pa, Ma, four kids and the goat, along with a camping outfit, easily assumed the name 'sagebrusher'. And the visitor who came by train, put up at the hotels, and used the company transportation, was a 'dude'.

"Thus used, the word carried no derogatory idea but was simply a technical term to designate a class of visitor. As it has come to be used more generally, however, it does have a derogatory sense and if you listen closely you can almost catch the inference 'damned dude'. This will not do, and since we cannot clear the term of this pitch with which it has become defiled, we will just quit using it altogether.

"So the word 'dude' is taboo from now on among Southwestern Monument folk."

* * *

If you don't think it took a heap of time and patience to get the tortoise to poise for that picture on the cover of this month's magazine, just try it on the next *Gopherus agassizi* you meet out on the desert. The tortoise has learned one important lesson—never stick your neck out when you are among strangers. Just how Fred Hankins induced this reptile to break his life-long rule I haven't learned—but anyway it

is an unusual picture of one of the most harmless animals on earth.

* * *

We've been boasting that the Desert Magazine had subscribers in every state in the union—and now we're on the spot. We had only one in South Carolina—and we've lost him. He moved to another state or something. So this is an SOS for another paid up reader in South Carolina. We've got to keep the record 100 percent. Thanks for all suggestions.

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For the desert's most loyal citizen this month I want to nominate Dr. June McCarroll of the Coachella Valley, California.

"Doc June," as the old-timers know her, decided that something ought to be done to protect the Indian petroglyphs and other archaeological treasures in the desert region of California. With the support of the Coachella Valley Pioneer society, the Women's club of Indio, and the federated women's clubs of Riverside county she asked that a bill be passed making it a penal offense to deface or destroy any object of archaeological or historical interest in the state. She not only asked for it, but she used a lot of time and gasoline and telegrams to convince the law-makers it *must* be passed. And now the bill has been signed by the governor and is on the code books. This is just one of many worthwhile achievements to the credit of the Coachella pioneer.

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Writing in This Week magazine, Dorothy Canfield says: "Our modern lives are threatened by the subtle poison of safety, comfort and the hours of leisure—such as no generation before ours ever dreamed of . . . The virtue we need terribly at present is endurance to face the *absence* of material hardships."

What a world of truth there is in that observation. Most humans spend their lives working for the means with which to buy luxury and soft-living—the things that have destroyed every civilization since the beginning of history.

Thank heaven, soft living has not yet come to the desert. Nature has decreed that there shall be no perpetuation of life here without hardship and self-discipline. I believe it is a subconscious realization of this truth that causes strong men and women to love the desert, and to turn to its rugged expanse for the courage and inspiration which cannot be found in the decadent social life of the cities.

I hope our desert never becomes too civilized.

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And now, if the spelling class will hold a special session and inform me which is correct—Katchina, Kachina, Katzina, Katsina, Kachsina, or any of the many other forms used to designate those colorful little imps that come from the Hopi mesa—I'll be forever grateful.