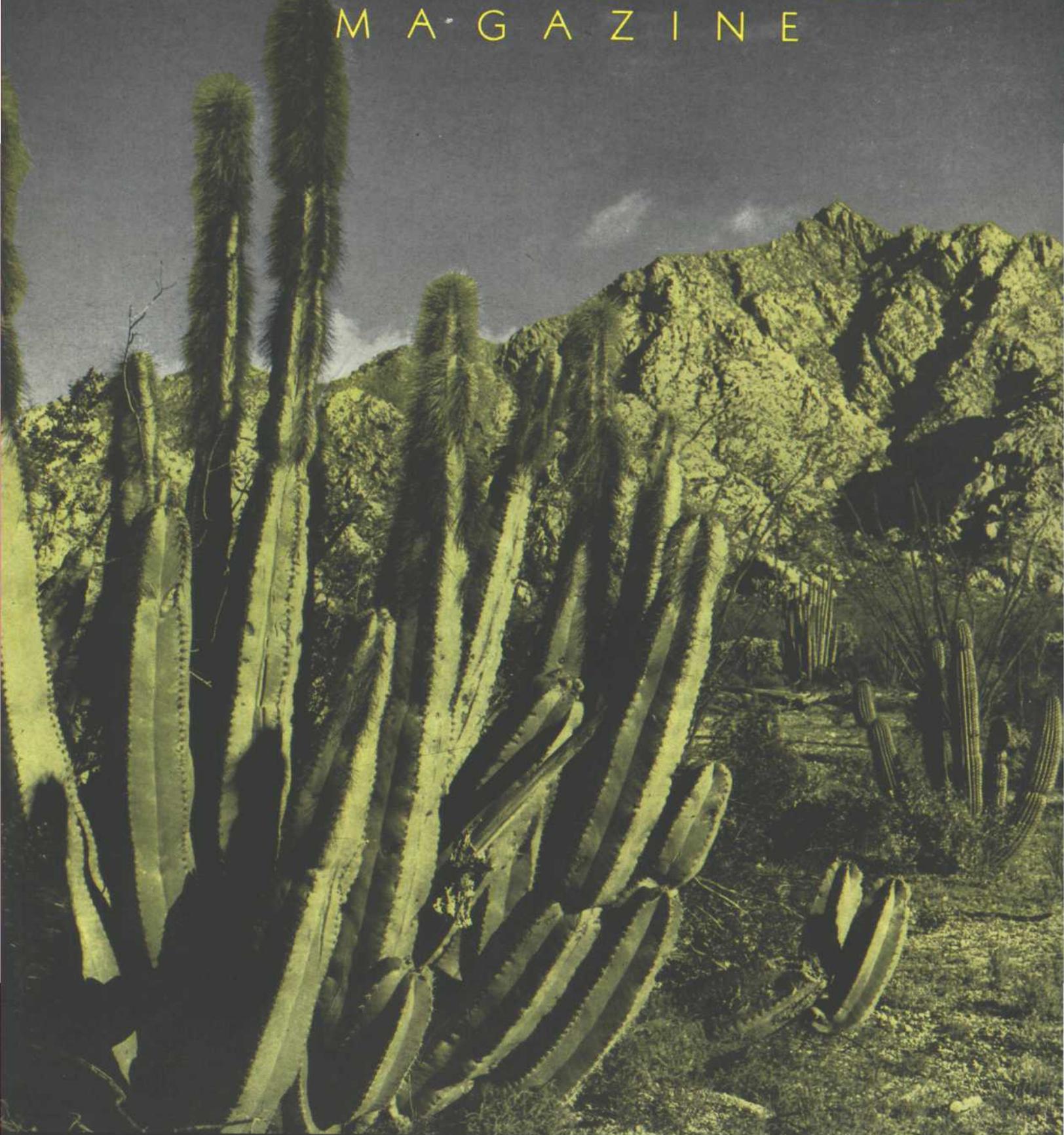


THE

Desert

M A G A Z I N E



OCTOBER, 1947

25 CENTS



By guide... and not by guess!

Counting the new models, there are over 10,500 different lubrication points on all the various cars. That's why—no matter how many times they may lubricate your car—the Union Oil Minute Men never trust their memory. Your car is lubricated by reference to its own individual Stop-Wear Guide Card. **But you get more** than just a good lubrication job from the Minute Men.

They also clean your car from top to bottom! They clean all window glass inside and out until it sparkles! They empty the ash trays and sweep the floorboards. All door hinges are lubricated. The choke, throttle and light switches are oiled for easier manipulation, as are the brake, clutch and accelerator pedals. Mechanical points underneath the car and about the engine are double-checked

for danger signs. Finally, all tires are smartly dressed with a shiny coat of rubber dressing and the entire car wiped off with a soft cloth.

Such extra-special service is typical of *all* Minute Man operations. Every step has been carefully and systematically planned with *you* in mind.

Try the Union Oil Minute Men for real service! Speed. Courtesy. Cleanliness.

Union Oil *Minute Man Service*



DESERT CALENDAR

- Sept.-Oct.—Arts of the Pacific Coast Indians, Special exhibit, Southwest Museum, Los Angeles, California.
- Sept. 28-Oct. 5—New Mexico state fair, Albuquerque, New Mexico.
- Oct., first week—Indian fair, arts and crafts market, Shiprock, New Mexico.
- Oct. 3-4—Apache county fair, St. Johns, Arizona.
- Oct. 3-4—Sierra club, Desert Peaks section, climb of Pinto peak and Cerro Gordo, Inyo county, California.
- Oct. 3-4—Gay Nineties celebration, Ridgcrest-Inyokern, California.
- Oct. 3-5—Cochise county fair, Douglas, Arizona.
- Oct. 4—Annual fiesta and elk dance, Nambe pueblo, New Mexico.
- Oct. 4—Annual meeting, Southern Arizona Pioneer Cowboy association, Mobley ranch, Douglas, Arizona.
- Oct. 4—Gila county fair, Young, Arizona.
- Oct. 8-11—Eastern New Mexico state fair, Roswell, New Mexico.
- Oct. 17-18—Greenlee county fair, Duncan, Arizona.
- Oct. 17-19—Luna county fair, Deming, New Mexico.
- Oct. 24-26—Tombstone Days, Tombstone, Arizona.
- Oct. 25-26—Sierra club climb, Toro peak and Martinez mountain, Santa Rosa mountains, California.
- Oct. 27-29—American Mining congress and International Mining days, El Paso, Texas.
- Oct. 29-31—National Reclamation association convention, Phoenix, Arizona.
- Oct. 31—Nevada Admission day celebration, Carson City, Nevada.
- Oct. 31—Mardi Gras, Barstow, California.
- Oct. 31—Halloween Mardi Gras, Tucson, Arizona.
- Mid-Oct.—Harvest festival and doll dance, Zuñi pueblo, New Mexico.



Volume 10	OCTOBER, 1947	Number 12
COVER	SENITA, or Old-Man Cactus, photographed near Arizona-Mexico border. By Chuck Abbott, Tucson, Arizona.	
CALENDAR	October events on the desert	3
PHOTOGRAPHY	Announcement of August contest winners . . .	4
PERSONALITY	Padre of the Desert By MARGARET PHILLIPS	5
INDIAN LORE	Don't Knock on a Hogan Door By RICHARD VAN VALKENBURGH	9
HUMOR	Hard Rock Shorty of Death Valley	13
NATURE	Its Nose is a Shovel By GLENN E. VARGAS	14
ART OF LIVING	Desert Trails, by MARSHAL SOUTH	15
POETRY	Little Papoose, and other poems	17
BOTANY	These Plants Sponge Upon Their Neighbors By MARY BEAL	18
FIELD TRIP	Field Day for Topaz Hunters By HAROLD O. WEIGHT	19
DESERT QUIZ	A test of your knowledge of the desert	24
ART	Artist of Dos Palmas By JOHN HILTON	24
MINING	Current news briefs	26
LETTERS	Comment from Desert Magazine readers	27
CONTEST	Announcement of October photo contest	28
NEWS	Here and There on the Desert	29
LAPIDARY	Amateur Gem Cutter, by LELANDE QUICK	34
HOBBY	Gems and Minerals	35
INDEX	Annual index, Volume 10 of Desert Magazine	42
COMMENT	Just Between You and Me, by the Editor	46
BOOKS	Current reviews of books of the Southwest	47

Keep your copies of DESERT MAGAZINE in Loose Leaf Binders!

These gold-embossed binders are made especially for Desert readers. Magazines are quickly inserted, and they open flat for easy reference.

Each binder has space for a year's copies. Mailed to you postpaid for . . .

\$1.25 EACH

THE *Desert* MAGAZINE
El Centro, California

The Desert Magazine is published monthly by the Desert Press, Inc., 636 State Street, El Centro, California. Entered as second class matter October 11, 1937, at the post office at El Centro, California, under the Act of March 3, 1879. Title registered No. 358865 in U. S. Patent Office, and contents copyrighted 1947 by the Desert Press, Inc. Permission to reproduce contents must be secured from the editor in writing.

RANDALL HENDERSON, Editor. BESS STACY, Business Manager.
HAROLD and LUCILE WEIGHT, Associate Editors.

Unsolicited manuscripts and photographs submitted cannot be returned or acknowledged unless full return postage is enclosed. Desert Magazine assumes no responsibility for damage or loss of manuscripts or photographs although due care will be exercised. Subscribers should send notice of change of address by the first of the month preceding issue. If address is uncertain by that date, notify circulation department to hold copies.

SUBSCRIPTION RATES
One Year . . . \$3.00 Two years . . . \$5.00
Canadian subscriptions 25c extra, foreign 50c extra.

Subscriptions to Army personnel outside U.S.A. must be mailed in conformity with P.O.D. Order No. 19687.

Address correspondence to Desert Magazine, 636 State Street, El Centro, California.

*Here are the
prize-winning
photographs*



First prize . . .

This picture of Mrs. Tony Yassie and her son, Navajo Indians of Monument valley, won first award in Desert Magazine's August contest. Photograph was taken by Ward W. Howland, Los Angeles, California. Zeiss Ikon Nettar camera. 1/25 second at f.22—midday in June, 1947.

Subject for Desert's October photographic contest is "Desert Clouds." Cloud effects in the sky should predominate in the picture—and the desert offers wonderful possibilities for photographers in this field. See complete rules and prize offer on another page of this issue.



Second prize . . .

Navajo boy in Monument valley. Photograph taken by Hubert A. Lowman, South Gate, California. 1/100 second at f.11. Yellow filter, high speed panchromatic film.



Byron and Walter Jo-Jo Hansen, nephews of Father Crowley, unveiled the monument dedicating Crowley lake in honor of the Desert Padre.

Padre of the Desert

By MARGARET PHILLIPS

Photographs by Curtis Phillips

The desert country owes much to its padres—Garcés, Kino, Escalante, Salvatierra, Ugarte, Font—these are just a few of the many robed knights of the church who blazed trails in the arid Southwest for the trapper, the gold-seeker and eventually the settlers who came to this region at a later date. But while we pay tribute to the Catholic fathers of the 17th and 18th centuries for the zeal and courage of their quest for souls, the heroic qualities they possessed still live in the hearts of succeeding generations and of today. Father Crowley, Padre of the Desert, who met an untimely death in 1940, deserves a niche in the same hall of honor as is occupied by those padres of an earlier period.

gusts of gold and red aspen leaves sailed overhead, thick as early autumn snowflakes, and a sharp breeze ruffled the beautiful blue waters of the new lake. Two little boys quickly drew back the veil, revealing the stone monument dedicated to the memory of the Padre of the Desert.

If the spirit of the Padre looked down on the scene, he must have been deeply touched, for it was just such a ceremony as he himself might have planned. The Padre possessed a supreme sense of the dramatic and the whimsical, and elements of both were to be found in the occasion, with Catholic, Jew and Gentile joining to do him honor.

When the Very Rev. Monsignor John J. Crowley was killed in an auto accident very early in the morning on St. Patrick's day in 1940, his friends of the desert and mountains proposed to carry through to completion his plans for an All Souls Memorial chapel in Death Valley; but they wished to dedicate it to the memory of the Padre of the Desert. The plan was not approved by the Catholic church. It

would be unseemly to pay such tribute to any individual priest, his friends were given to understand. These friends set about to find other ways to perpetuate forever the name and memory of the Padre of the Desert.

When the City of Los Angeles named in his honor the huge new lake formed by impounding waters in Long valley, it was a special tribute to a great man from a great antagonist. Once the representatives of the city had literally shaken a fist in the Padre's face, but he won from them respect and admiration. From his own people he won love.

Probably never before has any man come to our desert and in the space of a few years won tremendous love and devotion from a large and widespread group of people. If you try to learn the reason for this great love, everyone will give you a different answer, according to his own viewpoint, for Father Crowley possessed that universality as a person which Shakespeare possessed as a writer. He was always sincere, always himself, yet as much at home chatting with a blasphemous old stonemason in the desert as exchanging verbal daggers with Dr. Haines, chairman of the department of water and power of the City of Los Angeles.

Born among the storied lakes of Killarney in Ireland, John Joseph Crowley came

to America as an immigrant boy of eleven, one of a large family with little means. He grew up in Massachusetts, attended Clark university, Holy Cross college and St. Mary's seminary, Baltimore. Ordained for the priesthood in the diocese of Monterey, he served for a few months in 1919 as assistant in St. Agnes parish, Los Angeles.

Because he was so obviously fitted by disposition to make a fine husband and father, I once asked him if he missed the family he might have had. In his reply to this direct question, he gave the only admission of loneliness which I ever knew him to make.

"Yes," he said. "No man ever enters the priesthood without the consciousness of a great sacrifice. But if I had a family of my own, I could not possibly be 'Father' to everyone as I am now. I don't even dare to become intimate with any special friends, or some others of my people might feel that my attention was all taken up and that I had no time for their problems."

With a larger than ordinary capacity for love, he poured his affection on the great, austere, dramatic land of desert and mountains around Owens valley. Even before he saw Inyo, he yearned toward it when he heard the call issued for a volunteer priest to go to this lonely and little known place in 1919. The county had never had a resident pastor and the four churches its priest would serve were spread over 10,000 square miles. Young Father Crowley accepted the call. Archbishop Cantwell informed the volunteer that he would not be allowed to stay more than two years, as it would make any man queer to stay more than two years in Inyo.

Little Santa Rosa church in Lone Pine, his headquarters, threw up its spire toward Mt. Whitney, highest peak in the United States. Off to the east, and still in his parish, was Death Valley, lowest point in the nation. The extravagance of nature in putting such extremes into one parish was a constant delight to him, even when everything else was hard.

Irish courage and humor sustained him through the discouraging first days in the field. He had no rectory and "lived in his suitcase" he related, spending most of his days and many nights plowing through sand ruts in a Model T. Sometimes he had a cot in the backroom of one of the churches and sometimes he stayed in a hotel. Services were held alternately at Bishop, Lone Pine, Barstow and Randsburg.

When a permanent priest was placed at Barstow, Father Crowley was asked to return to Los Angeles as assistant to the Bishop of Los Angeles. He preferred to stick to the job he had chosen in Inyo. Every year he was urged to return to the city and each time he declined.

To take care of his large congregation in Bishop, he was authorized to build a new church. The week after it was completed, Los Angeles launched its buying

campaign of 1923-24 in Owens valley. As the ranches were bought by the city, their irrigation water was turned into the Los Angeles aqueduct. All Inyo would be turned back to desert, rumor said. Hundreds of families sold to the city and moved out, while others were ready to fight to stay on their lands. The Padre was deeply concerned over the problems of his people and the empty new churches, with their mortgages now hopeless of payment.

In 1924 Bishop MacGinley appointed him chancellor in Fresno, and he had no choice but to accept. For ten years he served there, winning great honor and recognition, but in 1933 he fell ill from overwork. For eight months he lay in the hospital.

Lying in his bed, he thought over the things that had happened to Inyo with the passing years. Desperate farmers had dynamited the aqueduct in 1927 without doing any good for the country. More and more people moved away, farms returned to the desert, and merchants went out of business. At the end of the buying campaign Los Angeles owned 80 per cent of the valley lands according to area, or 90 per cent according to tax valuation. Citizens saw no hope for home building in the future.

The churches which the Padre had built for Inyo had smaller congregations, debts as large as ever, and no prospects of paying them off. He longed to bring back people and welfare to the churches he had founded. Through the bedridden months, plans formulated in his mind. In 1934 Father Crowley was able to be up a bit, and for the sake of his health, he was allowed to choose the field in which he would work. A semi-invalid, he returned to the desert and recovered rapidly.

To bring prosperity and members to his churches, he had two aims, to make the people of Inyo realize that their scenery was now their greatest commercial asset, and to bring about co-operative relations with the City of Los Angeles. If the antagonistic neighbors could become friendly, perhaps Los Angeles would sell back some of its property in Owens valley and the little desert towns could again become self-respecting, home-owning communities.

For a long time the Padre talked his problem over with Ralph Merritt, a close friend and a business man with a brilliant mind. They planned a new organization for the county, to be made up of progressive and forward looking men from each town, men willing to forget the past and plan enthusiastically for the future. Twenty-one men organized as the Inyo Associates, formulated a definite program for community betterment and appointed a number of committees, including one for the improvement of relations with the City of Los Angeles. As representatives of this group, Father Crowley and Ralph

Merritt appeared before the Los Angeles board of water and power.

"The very fact that the people sent their priest down made the board members sit up and take notice," Father Crowley smiled.

The Padre of the Desert was a modest man, but he knew the force of his own personality; and he enjoyed the confusion that his presence created at the board meeting. The board members were surprised by the stature of the man who had come up against them. When they attempted to pass the situation off by inviting the Padre to send them a definite statement, a written outline, of what he wanted, the priest drew from his pocket a well-formulated 13-point program, stating the exact requests of the people of Inyo. The interview closed with sharp words between the Padre and Dr. Haines, chairman of the board of water and power.

The board investigated the Inyo Associates and found them solid business men. It had been taken for granted in Los Angeles that all Owens valleyans were dynamiters, just as it had been taken for granted in the valley that all Angelenos were dirty politicians.

Most important of the requests which Father Crowley presented for the Associates were two: that the city should appoint a single responsible representative to handle the board's affairs in Owens valley so that matters would not be endlessly footballed from person to person and department to department, with promises broken all the way along; and that the city should sell back valley homes to private owners. A great deal of quiet work by Father Crowley and Ralph Merritt began to bear fruit in increased good will, especially as the personnel of the board changed.

In September, 1938, these activities culminated in a tour of the valley for members of the Los Angeles city council and the board of water and power, with a big dinner in the evening where the Los Angeles men could meet personally with the business men of the valley and learn at first hand of the needs of Inyo. The Padre's sense of the dramatic was at its best in playing up the striking and romantic possibilities of such a meeting. The dinner was held around a huge open campfire in the dusk, at Whitney Portal, with the towering rock walls outlined against a starry heaven and the scent of tall pines in the air.

The exchange of wary courtesies began to give way to genuine friendliness. One councilman rose and stated that he did not see why the people of Inyo should worry about purchasing houses when they had for a home the protection of these mountain walls and the beautiful dome of sky overhead. Just then the first drops of a rainshower began to fall.

"Because the roof leaks," the Padre was quick to reply, as pleased with nature's co-



The Padre was beloved for the whole-hearted manner in which he entered into the spirit of every event. When Lone Pine citizens dressed in old time garb for their Mt. Whitney-Death Valley celebration, the Padre found himself the garb of a priest of many years ago and wore his costume all during the week of the festivities.

operation as if he had planned even this detail. The meeting adjourned to the parish hall in Lone Pine.

Late in 1938 the first deed was delivered in Big Pine for the sale of city-owned property back to a private owner. Only town properties were sold, no ranch lands, and the city retained the underground water rights; but this was sufficient to re-establish morale and make the beginnings of a new economic life. The Father could feel that his flock would be provided roofs that would not leak.

Claude H. VanNorman had been given complete charge of the valley affairs for the city and people found that they could depend upon the promises he made. Tax suits with which the county had been annoyed were dropped by the city. An amazing new spirit of cooperation developed.

But, as in all good desert stories, the basic fight was for water. When the mushrooming City of Los Angeles was outgrowing its water supply, engineers felt that Los Angeles needed all the resources of the Owens river watershed to protect the city's million. Obviously, they also felt that the end justified the means.

For a long time some people had contended that building a dam across the

mouth of Long valley, north of Owens valley, would insure an adequate supply of water for both Inyo and Los Angeles. Getting the dam built was essential to the Padre's plans. The city had voted the money and drawn the blueprints but no steps were taken to start the project. One night the city's chief engineer, attending an Inyo Associates meeting, attempted to walk out on a discussion of the dam. In a deadly serious joke, the Padre had the door locked and refused to let him go. Before that meeting adjourned, the city engineer not only pledged that the dam would be built, but he set the date for operations to begin. This is the dam, finished after the Padre's passing, which was named in his honor.

The Padre was supremely proud of the beauties of Inyo and its neighboring county, Mono. If the land could not be turned again to farms and orchards, he wanted to see it made into a playground for vacationers. Working as chairman of the business men's groups, he brought about the organization of a publicity association to tell the world of the country he loved so well. Only he could have brought together in harmony the various sectional groups which had been bickering for as long as

anyone could remember. To the people involved, it seemed a miracle to find themselves doing teamwork with neighbors who had always been quarrelsome rivals.

Calls for the Padre's time were more and more pressing. He was holding regular services in Inyokern, 68 miles south of Lone Pine; Death Valley, 105 miles east, and Mammoth, 104 miles north. Each Sunday he read mass in both Lone Pine and Bishop, with additional regular services in Keeler. His was the largest parish in the United States, and he never failed an appointed service. Weekly he wrote a newspaper column, "Tumbleweed," followed as eagerly by the general public as by Catholics, for its wit and keen dramatic observation of human nature and of Inyo.

He was so sensitive to the remarkable features of the land that he never failed to see incidents which might cause others to notice the country that he loved so well. In 1936 he planned and managed almost single-handedly a ceremony to celebrate the completion of a new road connecting Mt. Whitney and Death Valley. A gourd of water taken by an Indian runner from Tulainyo, the nation's highest lake, was carried successively by burro, man, stage



At his Fisherman's Mass, a special service held early in the morning on the opening Sunday fishing season, the Padre blessed the fishing tackle of Cathrine Byrne. Next in line is Aim Morhardt, Bishop teacher.

coach, auto, train and airplane and poured at last into Bad Water, Death Valley, in a "Wedding of the Waters."

As a prank, he gathered a photographer, a pretty girl, and several fishermen for fishing pictures on Owens lake, widely known to be so mineralized it cannot support fish life. The pictures included one of the Padre ready surreptiously to apply a paddle to the rear of a bending fisherman. He took an altar boy and read mass in the shelter house on top of Mt. Whitney. When fishing season opened on Sunday, he arose to have mass before daylight so that the faithful could save their souls and still be on the streams by sunrise. For good measure, he blessed the fishing tackle that it might bring luck to the fishermen. He accompanied a photographic expedition into the mountains and read his prayer book as the horse joggled him over beautiful Sierra trails.

The warmth and wit and fantasy of all

his Irish ancestors bubbled in him, disciplined by the severe training of the priesthood. A protestant friend, trying to describe his feeling for the Padre, said, "You know, generally, when I see a preacher coming, I'd rather cross the street than meet him. But Father Crowley was different. I liked to shake hands with him."

To have people worship God and at the same time be in communion with the inspiring handiwork of Nature was his special ambition. He planned to erect the 14 stations of the cross, built as rest houses of native stone, for a pilgrimage from Death Valley to Mt. Whitney, symbolizing the ascent from hell to heaven. He had selected spots which gave the most magnificent views of desert and mountain. Some of his friends hope that this project may be carried out in his name.

In this spirit is a little monument of desert rocks, built beside the road where

he died, by usually unemotional C.C.C. boys, as a spontaneous gesture of love.

Sometimes I sat in the quiet church and watched the Padre's heavy, rough, scuffed boots treading firmly under the black surplice as he recited the stations of the cross, his voice weary from many miles and many deeds. Again, in a crowded banquet room, I watched him sparkle, holding the group in the hollow of his hand, guiding them as he willed.

When I first came to Inyo and heard the Rt. Rev. John J. Crowley called "The Padre," I begrudged him the name. The padres belonged to a vanished race of giants, I felt. They were men of vision, empire builders, beings at the same time of the earthiest earth and the most sublime heavenly devotion. The title was a sacred one to which no man of our generation had the right.

As I came to know him, this man became in my heart, too, "The Padre."

If your motor trip takes you into the Navajo country, you will have more pleasant dealings with these nomad tribesmen if you understand some of the essentials of what they regard as good manners. Their code is different from our own—but it is none the less sacred to them, and if your approach is with sympathy, dignity and honesty you'll find they have a fine sense of humor and the capacity for genuine friendship. Out of his experience of many years among the Navajo, Richard Van Valkenburgh offers some suggestions to those who would like to know these tribesmen better.

If the door of the hogan is open one is welcome to enter. But no one ever knocks when the door is closed for "only the mischievous and evil winds do that."



Don't Knock on a Hogan Door

By RICHARD VAN VALKENBURGH
Photographs by Milton Snow

EVERY time I receive a letter asking suggestions for dealing with the Navajo, my memory shifts back through the years to one night when I was warming myself by the great fireplace in the long dining room of the old Wetherill ranch at Kayenta, Arizona.

Softly the authoritative voice of Louisa Wetherill was weaving into my mind an indelible pattern of her lifetime of experience in dealing with the Navajo, which started when she and Hastin John established their trading post in the wild mesa country of Chief Haskenini at Moonwater, Utah, in 1906.

"At times, wasn't it lonesome and dangerous for you folks way up there all alone—with only primitive Navajo for neighbors and 100 miles of trail between you and your nearest white settlement?" I asked when she had finished.

Mrs. Wetherill smiled. She seemed to be deliberating before she answered, "Van, your first year with the Navajo will be one of confusion and wonder. But as time passes you will discover what I have learned in over some 40 years with the People. Treated right the Navajo become humorous, dignified, and loyal friends.

"Of course everything depends upon

the Navajo reaction to your behavior. As a guest in a land where most white men are regarded with suspicion, always remember that your acceptance by the People will depend upon your ability to accept with dignity, sympathy, and honesty the way of Navajo life."

And with this seasoned advice always in the back of my mind I have had reasonable success. The results of my experience which I am passing on to the readers of *Desert Magazine* are my own impression and in some points may not agree with authorities on the subject. Nevertheless, I hope what follows will serve as realistic and applicable introduction to these American Indians.

As suggested by Mrs. Wetherill, my first year with the Navajo was one of wonder and confusion. My most difficult problem was to descend from the lofty pinnacle of fancied Anglo-super-civilization to what I believed was John Navajo's lowliness. I learned the hard way . . .

My first rebuff was when I learned that asking questions of a strange Navajo resulted in a summary "*Hola, Who knows?*" which is the prefix of the courteous phrase *Holabotza*. At the same time I learned that

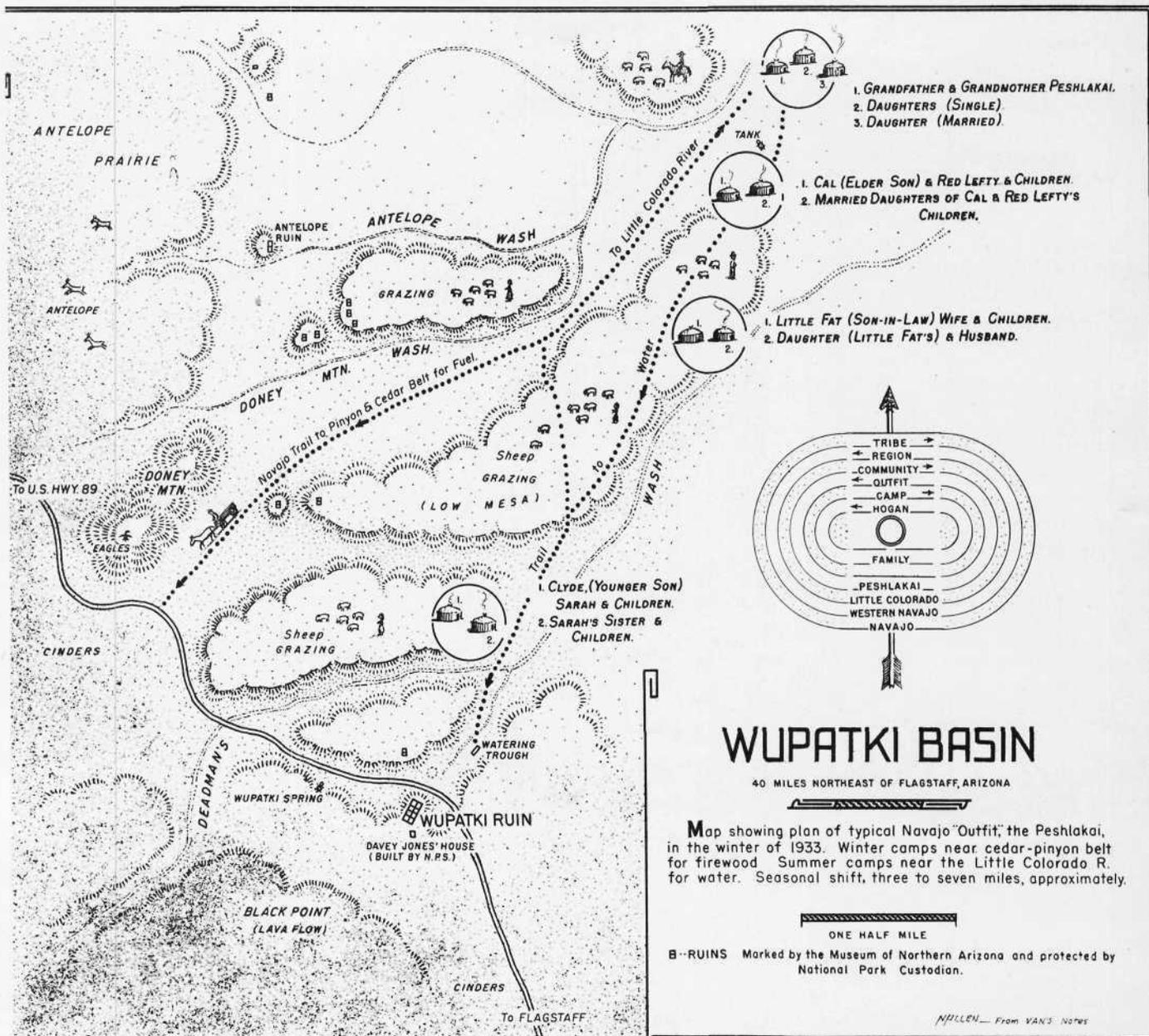
slight acquaintance gives no one the privilege to be too inquisitive or nosy . . .

Generally there are three safe channels through which to approach the Navajo. Some Indian service employes have connections and will help. Then there are missionaries who are influential. Added to these are the traders who operate over 100 posts in the 16,000,000-acre reservation.

I believe that the most satisfactory introduction to the Navajo is through the kindly auspices of a trader. Among the most cooperative are, Bill Wilson at Navajo Mountain, Harry Goulding at Monument Valley, Utah; Cozy McSparron at Chinle, Arizona; Roman Hubbell at Winslow, Arizona; John Kirk at Gallup, New Mexico, and Mrs. Stokes Carson south of Farmington, New Mexico.

With a 75-year tradition of service to the People such as dispensing medicine, giving first aid, mediating family quarrels, interpreting and writing letters, burying the dead, creating markets for Navajo products, and extending seasonal credit the Navajo naturally confers with his favorite trader regarding strangers.

Good fortune in the guise of an archeological job made it possible for me to start my acquaintance with an extremely conservative Navajo "outfit." The Peshlakai dwelt in the jumbled malpais, buffred sandstone and cinder belt of the Wupatki Basin, 40 miles northeast of Flagstaff, Arizona.



By an outfit, I mean a group of closely related hogans or camps. The Peshlakai comprised the camp of Grandfather and Grandmother Peshlakai on the lower Antelope Wash; that of Cal, the elder son, nearby; the family of the son-in-law Little Fat on Deadman's Wash, and the hogans of Clyde, the younger son near Wupatki ruin.

Knowing that Grandfather was righteously embittered over the confiscation of some mesa land on which he had squatted in the 1870's, under local white men's laws, we moved cautiously in our efforts to make friends with any of the Peshlakai.

For some days, even though the Peshlakai flocks watered near our camp at Wupatki spring, our presence was ignored as completely as if we had been sandstone slabs along the canyon wall. Our break came through Slim Woman, Cal's 8-year-old daughter and her small nephew Bahazhun, the Cute One.

One evening while the children were

watering their sheep at the spring I saw an opening. Noticing that they were suffering from impetigo, I offered them a can of soothing salve. With their eyes as round as black marbles they watched as I demonstrated that it should be rubbed on and not eaten.

And right there I learned that most Navajo children do not like to be handled by over-demonstrative *Bilakana*, no matter how fine the intentions. Shying away from my cautious move to apply the salve they finally did come close enough to grab the shiny can and then scoot off up through the cinders and over the rim toward home.

That night I was somewhat apprehensive as to what might be the reactions of Cal and his wife, Red Lefty. Bright and early the next morning I got the answer when their wagon pulled up and crunched to a stop by the spring. I walked over and was surprised by Cal's genial, "Y'd'd'taa ci-kiss, Good, my friend."

After shaking hands with the entire

family, which was not a hearty pumping, but a gentle hand-clasp, I came to the daughter Hunuzbah whose school name was Lulu Smith. Casting her eyes down so as not to look me in the eyes, for this is considered discourteous by the Navajo, she murmured in broken English:

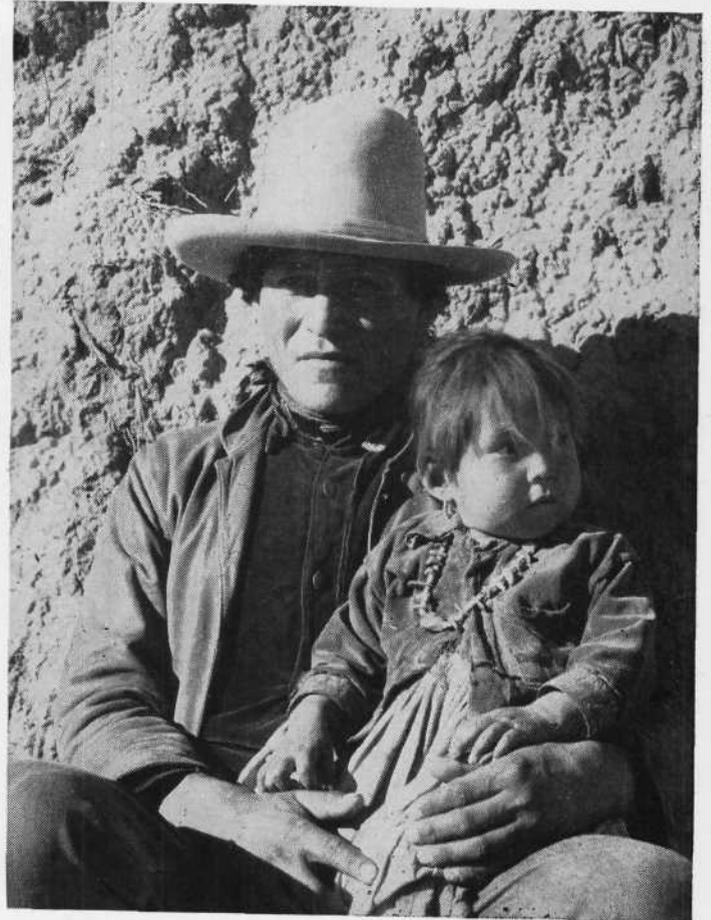
"My mother says it was good to give the children healing medicine. Sleep came to their eyes last night. And this morning we came over here to tell you a thing. Should you come to our camp which lies under the Twisted Rock on Antelope Wash, welcome will meet you."

Thus through a small kindness, which could have boomeranged, I found welcome at Cal's camp. Through this contact all of the Peshlakai soon became my friends. I might add that candy for the children, trinkets for the ladies, cigarettes for Cal, and rides in my Model T to the trading post at Leupp helped.

Every visit opened the Navajo door a little wider. I soon learned that personal



Dignity, loyalty and a fine sense of humor are the outstanding characteristics you will find in the Navajo when you get to know them. And they appreciate dignity and honesty in others.



This little Indian girl is content in the arms of her father, Everett McCabe of Tolani Lakes, Arizona, but like other Navajo children she would not want to be fondled by Bilakana or White people.

names must be obtained indirectly and never from the owner. Generally the People have three or four names, i.e., the trader's nickname; the government census name, their "outfit" name, and their ceremonial name.

For instance, Cal Peshlakai (or Smith) was known to the government officials as "Mark Anthony" and to his "outfit" as *Peshlakai atsidi alangi begai*, The Eldest Son of the Silversmith. In addition he had a ceremonial name which I never learned.

Possibly it was a war name such as *Biyal ch'inya*, Bent on War, etc.

As nearly as I can determine ceremonial names are secretly given by the mother in childhood and are seldom disclosed for fear some person with evil intent might gain power over the owner. Should someone unwittingly divulge the name they would be required to make a gift as assurance that no harm was meant.

It is my observation that many visitors make the mistake of attempting to delve

into Navajo religious life without basic preparation. Ceremonialism is a most intricate as well as touchy subject and should be, one might say, a post-graduate course in Navajo.

Of course this does not mean that one should refuse to accept an invitation to a sing. But leave your camera home, put away your note book and sketch pad, dress comfortably, and find out from your sponsor just what might be a suitable present for the medicine man.





The most accessible dance to whites visiting Navajoland is the Squaw dance. Men accepting an invitation to the dance should have plenty of change in their pockets for the Navajo belles have a way of selecting a Bilakana for a partner and then making him pay for the privilege.

Upon reaching the sing one should locate his sponsor before entering the ceremonial hogan. Don't barge in. For there are times where and when not to enter a ceremony. Proper entry should be made between the prayers, which usually run from four to 12 verses.

Should you attend the night ceremony you will not see sand-pictures, for these are destroyed before the sun sets. Generally the sponsor will arrange for a visitor to be present throughout the night and until the afternoon of the following day. For sleepy heads this is bad, for in some sings no one is allowed to sleep.

The summer visitor to the Navajo country will not view any of the more spectacular major ceremonials. The *Dzilkedji b'adji*, or 9-day Mountain Chant, and the *Kledji Hatal*, or Night Chant, are not held until after four frosts whiten the tips of the sacred mountains.

But during the summer there are a number of healing ceremonies lasting from one to five days, such as the Life Way, Flint Way, Bead Way, Wind Way, and many others. The major and most accessible to the whites is the *Anadji*, or Enemy Way, which is commonly known as the 'ntab, or Squaw dance.

Once a purification ritual for warriors returning from a raid, the 'ntab (Squaw dance) is now predominantly a social affair. White gents attending the dance should have plenty of small change in their pockets. For the unmarried Navajo belles have a habit of selecting a *Bilakana* as a dancing partner and making him pay well for the pleasure.

But prior to getting an invitation to a sing one surely will have gained the confidence of someone of influence in the outfit which is sponsoring the ceremony. And in gaining this trust one will have to demonstrate that they have learned some of the simple rules of "hogan etiquette."

Generally the interior of the hogans are similar. After stooping through the low eastern door one sees a circular floor of hard packed earth with an open fireplace forward of center and under the open smoke vent. One never walks over the fire or around food, but along the sides—men to the left and women to the right.

Arranged around the wall are trunks, boxes, and rolls of blanket and sheep pelt bedding. Above them hang clothing which usually indicates the section of the hogan which is the sleeping place of an individual. For instance, the head of the family

has his possessions under the west wall, the men along the south, and the women and children along the north.

Once I followed the *Bilakana* custom of knocking at the door of Grandfather's hogan. No one answered. Believing that the old man was gone I went back to my Model T. But just as I was starting to wind it up Grandfather poked his head out and motioned for me to come back.

As soon as I was inside and settled he kindly told me, "If the door or blanket of a friend's hogan is open—walk right in. But if it is closed—never knock. Make some noise outside so we will know it's a man there. For we believe that only mischievous and evil winds knock at doors. And it would have been bad luck for me had I looked outside and found no one."

When eating with the Navajo, which usually will be with the head of the family, there are things that should be observed. Unless you wish to distress your host by the possibility of your having sharp pains in your tummy never stick food with a knife—slice it.

Be prepared to be invited to eat soon after you enter the hogan of friends. That's a rule of Navajo hospitality. Usually the food will be barbecued mutton ribs or

stew, unleavened bread, and coffee. But be prepared for anything from roasted prairie dog to Vienna sausage.

Once after eating I pulled out my cigarettes for an after-dinner smoke. Pointing the pack toward Grandfather I offered him one. But he surprised me by averting his eyes and saying, "Never point the tip of anything toward a friend. Don't you know it means he is going to be bitten by a snake!"

A word of caution should be inserted here about drinking water. After a two weeks' sojourn in the Ganado hospital as the result of drinking polluted water from a spring, I have since carried my own supply. Should you drink with the People note that they never leave any water in the dipper or cup, but pour it out.

Should you sleep in a hogan your place will probably be a pile of sheep pelts just to the right of the head of the family. And there is no need to worry about the proprieties. For the men simply shuck off down to their long calico pants, while the women merely loosen their clothing and remove their moccasins.

To some overly squeamish white folks the intimacy of hogan life in which an entire family eats, sleeps, works and meets the crises and necessities of life is revolting. But soon one become conscious of the innate modesty of the People. The only time I have ever observed a "long hair" or conservative Navajo expose his body was during a ceremony.

And while it may surprise some white folks, the Navajo do not credit the *Bilakana* with too much delicacy, owing to the increasing appearance in their country of white women rigged out in scant sunsuits and men in shorts. It behooves us who strive for Navajo respect to avoid making spectacles of ourselves in either dress or behavior.

Another aversion is too strong perfume. While the younger generation indulges in cheap scents of the dime store variety the old folks detest the smell of anything sweet, as illustrated when Grandfather once chided, "A dead dog smells bad—but what really makes me want to vomit is the smell of that oil smeared on your hair."

A minor breach in Nava'o etiquette by a *Bilakana* is overlooked with condescending good humor. As Grandfather once put it, "What can you expect from a tribe which has only one God and then swears by his name." But there are some things that are not overlooked and can result in John Navajo drawing up his blanket and erasing you from his landscape.

Once I almost ruined my good relations with the Peshlakai by repeating a question four times regarding historical information that Grandfather was kind enough to give me. I wished to expand certain points. But he believed I was questioning his word which is an insult to a Navajo of character.

Picture-taking in the Navajo country

is no problem if properly handled. Never steal a picture. Possibly the first time your subject might not mind. On the other hand, you might come up against an old Navajo who would resent your obtaining the "power over him" that the image might give you. And the result could be an unpleasant few moments and a broken camera.

Occasional pictures of ceremonials, particularly sand-pictures, filter out to publication. Most of these are posed and not taken during an actual ceremony. In one case, according to the Navajo, they were stolen and the People were sure that the photographer was punished by the Gods when he lost his car in a flash flood.

To facilitate picture making one should make arrangements with the Navajo before even showing the camera. An agreed sum should be paid, part in advance and part on completion. And to clinch the deal, definite arrangements should be made for the return of prints by way of the trader.

The most serious trouble I ever encountered in the Navajo country was heaped upon me by the malicious meddling of a student whom I was sponsoring in the Fort Defiance, Arizona, region. I had repeatedly warned him never to pot-hunt or disturb any burial cairn or *bokai*, the "fear hogan" in which death had occurred.

My first inkling of his activity came like a stroke of Male Lightning when Old Sam,

a medicine man friend, stalked into my office and spoke with quiet scorn, "That boy who you said was a good one is a witch. Two days ago Hastin *Bakaib* saw him dig some turquoise from a grave near Fluted Rock!"

There was only one answer. I called in the ghoul, and after making him replace the stones I insisted that he pack and leave. It was the only thing that would appease the Navajo. And he was lucky that he left with his hide. For he had committed the most serious of all Navajo crimes—the disturbance and robbing of a Navajo grave.

And thus by the succession of experiences that started in the camps of the Peshlakai by the barren terraces of the Little Colorado river, and through the *Dinebikeyab* of Navajoland, to the hogans of the Toledo in the pinyon-fringed rincons of the Continental divide, I began to know the People.

Near 20 years with the Navajo is only the beginning. No white man's life is long enough to give him the wisdom that lies within the four sacred mountains. And each succeeding year teaches the sincere how little they really know and how much there is to learn. But for those who are willing to view with sympathy, dignity, and honesty the way of the People, the door of Navajo understanding will begin to open.

Hard Rock Shorty of Death Valley . . .



"Sure they's lots o' rubber plant round here," said Hard Rock Shorty, tilting his chair a little farther back to avoid the sunlight slanting in under the sagging porch roof of the Inferno store. "Some folks call it Y-oooley, but it's jest plain rabbit bush t' us. Chock full o' rubber—chaw it an' your spit'll bounce. But them auto tire factories ain't th' first t' use it. No sir!"

He adjusted the creaking chair again, clamped off a chunk of cut plug and ruminated with his eyes closed.

"Did you make rubber out of it?" prodded the tourist.

"Not me," said Hard Rock. "I'm strictly a gold man. But I'll tell yuh who did. Oncet I wuz follerin' a streak o' color way up in th' Panamints an' I come acrost a band o' big-horn sheep. Soon's they saw me, they

started arunnin' till they come up t' the edge o' a cliff.

"Now when them wild sheep is cornered, they jumps right off a cliff, landin' on them big curvin' horns like on a rockin' chair. Well, when these here sheep hit on them horns, durned if they didn't bounce.

"Yuh can jest bet I laid off huntin' gold an' started studyin' them sheep. An' I found they wuz livin' on a isolated range with nuthin' but rabbit bush t' eat. They'd et so much o' that rubbery stuff them big horns o' theirs wuz all solid rubber."

Hard Rock plunked his chair down on the porch and poked the tourist's vest with his forefinger.

"An' yuh know what? Them animals wuz smart 'nough tuh know what they had, all right. Soon as they saw a man with a rifle, them sheep all started walkin' backwards, usin' them rubber horns to e-erase their tracks!"



Snakes of this genus are very small in size and of a retiring nature. One may reside on the desert a life-time and never see this fellow.

Its Nose is a Shovel . . .

By GLENN E. VARGAS

LATE spring and early summer in the desert is the time when wild life hunts food with its greatest vigor. Evening twilight brings the period of activity for nocturnal animals. At this time in the sandy regions of the deserts of southern California, southern Nevada, and western Arizona the Banded Burrowing Snake, *Sonora occipitalis*, may be found. This snake, no more than a foot in length, may be encountered crawling with a peculiar worm-like thrashing across the open areas. If threatened with danger, it will tunnel under the sand and can burrow almost as fast as it crawls on the surface.

The coloration of this snake is basically of alternate black and yellowish-white bands across the back, encircling the body in the region of the tail. In some variations there is also a bright orange band dividing the white band. The belly is yellowish or white. The snout is long, flat, and shovel-like, which explains the ease of burrowing. This burrowing is accomplished by raising a small quantity of sand with the snout and forcing the head into the space opened. This action repeated allows the snake to advance underground with astonishing rapidity. Specimens have been taken from over a foot below the surface of sand dunes.

As an additional protection, the underjaw closes inside the upper so that sand cannot enter the mouth while the snake is

burrowing. Habits and foods have not been studied thoroughly, but the little snake is known to eat soft-bodied grubs and small scorpions, and lizards and their eggs are suspected to be an item of its diet.

Captive specimens show a vicious nature. They will courageously stand their ground and strike at objects put to them. It is very interesting to watch a snake about eight inches in length and about as thick as an ordinary lead pencil repeatedly strike at its captor's hand and retreat only when bodily moved back.

The genus *Sonora*, commonly known as Western ground snakes, includes seven other species according to the classification of William Stickel. These are: South Texas ground snake, ranging in southern Texas and adjacent Mexico; Great Plains ground snake, ranging in Kansas and Colorado south through Texas and New Mexico; Arizona ground snake, ranging in Great Basin from southern Idaho to Arizona and Utah; Blanchard's western ground snake, ranging in Brewster county, Texas, and adjacent Mexico; Gloyd's ground snake, confined to the Grand Canyon of the Colorado; Vermilion ground snake, ranging from southern Idaho to Arizona; Vermilion-lined ground snake, southern Nevada, Southern California and into Lower California.

Like a prospector looking for a legendary gold mine, Marshal South has returned again and again to a mountain canyon near the old Vallecitos stage station in California's Anza Desert state park in quest of a spring rumored to be located there. He doesn't find this spring on this latest trip—but there is always drama in secluded places for a poet, and Marshal's trail leads to other interesting discoveries.

Desert Trails

By MARSHAL SOUTH

JUDGING by the height of the morning sun it must have been about ten o'clock when I came around the corner of the low rock, where the squaws had done their grinding, and entered the old camp ground.

It hadn't changed much. Several years had elapsed since I had last seen it. But despite progress and automobiles—including now the insatiable ramblings of jeeps—the Spirit of the Desert holds pretty tenaciously to its own. It was that veteran prospector, Charlie McCloud, I believe, who drove the first car through the creosotes and into this old Indian campsite many years ago. Many people have followed the tracks that Mac made. All the storage ollas that once were cached among the rocks on the mountainside have gone. Also most of the smashed pottery fragments that at one time littered the ground among the huge boulders that dot the camp area. But the lash of hard summer thundershowers still uncovers shiny black fragments of obsidian that fell from the hands of ancient arrowmakers. And, once in a while, with great luck, you will find a perfect arrowhead.

The deep-worn mortar holes in the rocks, however, defy the hands of both Time and souvenir hunters. And the sloping, polished rock, down which I have always liked to imagine the youngsters sliding, is still there. Maybe the ghosts slide down it yet, on moonlight desert nights. I know that I would, if I were a ghost. It is tempting. But then, of course, some people don't believe in ghosts.

There was an empty pop bottle on the flat rock beside the biggest mortar hole. And, before I sat down to fix the thong of my rawhide sandal, I gingerly took it away and hid it deep under some debris behind a boulder. Empty pop bottles are, I suppose, perfectly all right in their way. And in the centuries to come—when Time will have blotted our present age and all its works—some scientist will probably dig them up and exclaim over them. But at present, somehow, in the desert—and especially in silent lonely places that have a more or less sacred feel to them—pop bottles jar me. I once took a friend who was an archeologist to one of the undisturbed, forgotten old desert campsites. He could pick up the old grinding stones, laid there by fingers long since turned to dust, and describe the women who had last used them.

I didn't try that with the pop bottle. I didn't want to. Somehow my imagination is too vivid.

I spent a few minutes sitting on the grinding rock and fixing my sandal. The knot through the sole, under the big toe, had worn off and I had to slide the thong forward through the loops and re-knot it. A Yaqui sandal, if it is properly made, is one of the simplest things in the world to mend—and also the most comfortable to wear. But you have to get used to them—both as to feel and as to looks. Most feet—and people—are too civilized to countenance them.

It was warm, sitting there in the sun. But not too warm. A friend, when I had set forth on my expedition, told me that I was slightly crazy to go on walking trips in the desert in July.



The deep-worn mortar holes of ancient Indian dwellers defy the hands of both Time and souvenir hunters.

And when I told him that I liked the desert heat and that, as far as I was concerned, it never really got too warm, he retorted that that was because I had lived there too long and had gotten all dried up and cracked "like all the rest of those desert rats."

For which I thanked him—and then made a few edged remarks about the enervating heat of his allegedly cool pine-clad mountains. My friend and I understand each other very well.

I finished my sandal repair, shouldered my light pack and canteen and started up the canyon. I would have enjoyed basking longer amidst the sunlit hush and peace of the old boulder-pillared camp ground, but some slight twinge of conscience goaded me on. After all I had supposedly come out to look for a spring hadn't I? I ought, therefore, to make some effort to find it—even though I didn't expect to. Rider and I had searched for this same spring very thoroughly years before. And had just about convinced ourselves that it was a myth. But my credulity—in the matter of springs—is colossal. And I had heard a new rumor. I really didn't believe it. But the excuse it gave to go searching was too strong to be resisted. So here I was.

The canyon was familiar ground. Years before—before we had settled on Ghost mountain—we had penetrated its depths and had been halted, suddenly breathless with something like incredulous awe, at the spot where, through a gap between the tumbled walls of savage rock, all the mystery of the blue and purple badlands—leagues distant and far below—had burst abruptly upon our vision. The same view, today, halted me again. And for a long while I stared at it with the same fascination. Some places hold us with shadowy chains. We know not why, but they are home. They belong to us.

This view out over the distance phantomed reaches of the Vanished Sea—which is now Imperial Valley—has always held me. Whether it be from the summit of Ghost mountain or from any other vantage point the effect is always the same. I can forget the towns and the highways and the cultivated fields and the irrigation canals that I know are there, hidden by the haze of distance. I do not see them or sense them. I can see only the sea—the sea that is there no longer. In the changing light its

ghostly waves heave and the tide-rips make grey ripples around its rocky headlands.

I spent several hours exploring the lower reaches of the canyon. That is to say I employed my time in clambering up over and between titanic boulders the size of houses, that lay jumbled in the mountain gash like heapings of marbles some giant schoolboy had flung into a ditch.

The ravines which rare floods and the wind-storms of ages have worn in the flanks of these desert mountains are fearsome places which, if not haunted by demons, hobgoblins and malignant spirits, as they sometimes seem to be, are at least under the spell of an awful desolation and thirst. The sides of the mountains, as you work down into the drier fringes of the lowlands, become increasingly barren and more sun-blasted. Bare, heat-blackened rocks cling ominously to the slopes and ridges in positions which appear to defy the laws of gravity. At any moment, it seems, they might turn loose and fall thundering into the canyon depths. And many of them have so fallen—the inferno of stone monsters which choke the gorge depths is testimony to that.

Between these grim masses are chinks and dark crevices through which, by squirming, an active human can sometimes make his way. But it is a cautious business. For always there are dark holes underfoot that yawn into blacker and more mysterious depths. The winds of thousands of years have howled through these rocks and scoured them in places to the slippery polish of ice. To lose footing and go plunging down into one of these subterranean death-traps would be all too easy.

Of course there wasn't any spring. At least I didn't find it. Sometimes I think that old timers—especially when they have passed a certain age—are a little unreliable. Not intentionally. But they get their geography mixed and superimpose Arizona, Utah, New Mexico and California locations one upon the other. So that the resultant picture is a bit fuzzy. I hunted in vain for the "three big boulders, leaning together" with a dead juniper tree "just about a hundred yards to the east." Maybe it's there. And maybe not. Anyway I abandoned the search and began to make my way back along the ridges toward the old Indian trail that runs to Vallecitos.

It's a rough trail and poorly marked. But I had traveled it several times before. Just as I reached the first old Indian trail-marker however I was surprised to meet a mountain sheep. We almost ran into each other as I turned the corner of a clump of rocks. For an instant he stopped, startled. Then with a bound he swung aside and fled nimbly up the precipitous slope, skipping from boulder to boulder as only a mountain sheep can. He was a big ram and I felt pretty certain he was the same one that I had seen two years back on the other side of Pinyon peak. Meeting him here seemed to lend color to the possibility that there might be a spring in the vicinity after all. But it is slim evidence. Mountain sheep range a long way from water. In fact in the Pinacate mountains, in Mexico, south of the Arizona border, they are reputed to get along without water entirely—possibly subsisting on the moisture contained in the bisnaga cacti.

The day was edging toward twilight when I broke free from the cluttered desolation of rocky ridges and headed across the ocotillo-staked desert toward the old Vallecitos stage station. I had sudden evening company, too. For, happening to glance aloft, I was aware of a streaming flight of buzzards passing above me, headed for the sunset tinted heights of the distant southwestern sierras. There must have been hundreds of them. They flew slowly, in an irregular, streaming formation, like a cloud of ominous warplanes. What the reason is for these buzzard migrations I do not know. They are not a regular occurrence. It is only at long intervals, in this particular desert section, that all the wandering birds that are usually so solitary, congregate. Only a few times during our long residence on Ghost mountain have we seen such mass flights. And they are not always in the same direction. If they were more regular they would be more explainable.

The old stage station was deserted, and in the dusk the shadows lay heavily across the lonely tule marshes which border it. I spread my single light blanket on the ground beside one of the adobe pillars and, after a long drink at the pump—which now makes the waters of the spring accessible—I stretched out to watch the bats flittering around the treetops and to look for the diamond points of the stars as they appeared one by one through the growing velvet of the night. Far away beyond the tule marshes a coyote yammered and the sound quavered lonesomely across the whispering dark.

Desert trailing, on foot, has many advantages—provided you know something of your territory. The desert is no place for foolhardy stunts or for the taking of long chances as to water—especially in summer. But, with reasonable caution, there is much to recommend walking. Walking, in these days of automobiles and frantic haste, is almost a lost art, it is true. And that is a pity. Because in no other way can you gain such an intimate acquaintance with any region. Walking is cheap and healthful and to all those who are outdoor-minded I would most heartily recommend it. Carry a notebook—and a sketchbook too, if possible. They will add to your fun. But—and this is a serious warning as regards the desert—be sure you know something about your territory before you start. Don't try to cross long, unknown stretches of waterless country. There are plenty of easy trips.

TIME!

*Here, in the silence and the heat, where Time steals past on
slipped feet,*

*They, who before possessed this land, have left their trace on
every hand—*

*A shattered jar, a lonely grave, old campsites where the grease-
woods wave—*

*Trails, dimmed by years and sandstorm's blast—these left as
record "They who passed."*

*Who owns the land? Beneath the sun, in blots of indigo and dun,
The shadows of the clouds move by, beneath the arch of
turquoise sky.*

*Sunlight and shade in patterned change across the wasteland's
endless range—*

*Time—on soft feet. And who shall find, the records we shall
leave behind?*

Aged Canyon Explorer Bids Cheerful Farewell . . .

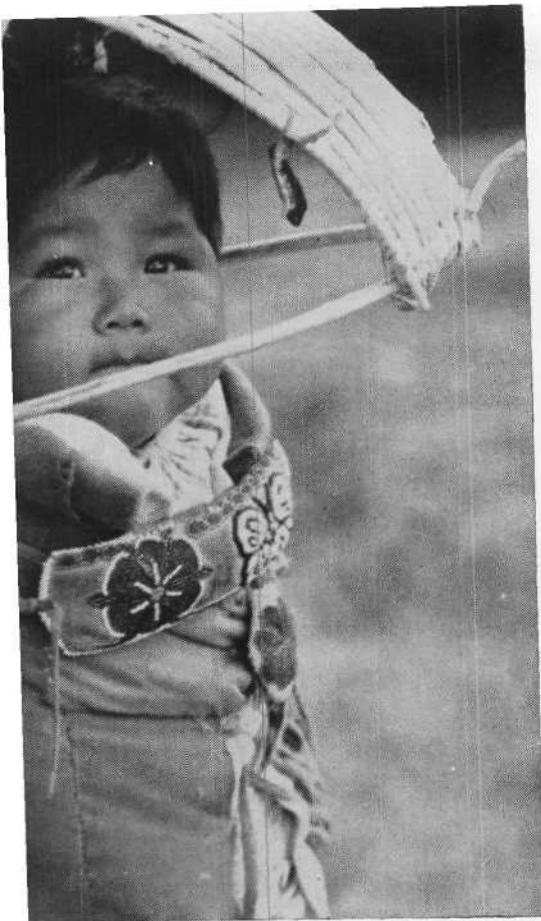
Julius F. Stone, 91, pioneer Grand Canyon and Colorado river explorer, died at his home in Santa Monica, California, on July 25. Friends scattered over the nation received cards with the verse:

*"With a ripple of merry laughter,
A smile and a gay good-bye
To all who made life worth living;
Back to the dust go I."*

On the card was the picture of a burned out candle. Stone left the cards with orders that they be mailed on the day he died.

Stone first saw the Colorado river in 1877. In 1909, with Nate Galloway he made a successful voyage down the river from Green River, Wyoming, to Needles, California. He published an account of his trip in 1932 under the title *Canyon Country*. In 1938, in his eighties, he made another voyage on the river and was planning a third when ill health overtook him. During his life he collected a large library of material about the river, including original journals of men in the two Powell expeditions.

He was a retired Columbus, Ohio, industrialist, and was an amateur astronomer and geologist in addition to his interest in the Colorado river.



This little papoose is Ippuits, son of Joe Pickyavit of the Pabvani Utes in Utah. Photo courtesy Frank Beckwith.

Little Papoose

By C. FRANKLIN LYEN
Cypress, California

On his mother's back he swings,
Quite secure from harmful things;
And the shawl wherein he cleaves
Is of wool the squaw so weaves:
It is warm and strong to hold
Papoose there within his fold;
And the little one so quaint
Seldom moves or makes complaint.

What a joy is simple health;
Innate love his truest wealth.
His is not to cry or whine;
Heart that's kind, yet leonine!
Who can bear the pain of strife,
Pay for freedom even with life.
We have need for such as he,
Makers of true charity.

When the race of life is done
Who shall say that they have won?
Only victory is true
When the sky for all is blue!
Tiny babe, fair Nature's heir,
Nurtured by her tender care,
You shall be our emblem yet
Ere the sun on you shall set!
Child of freedom,
Live, live on!

SWEETWATER

By HELEN L. VOGEL
Indio, California

Gently, sweetwater, from mountain fastness
pour;
Sparkling, sweetwater, bejewel the desert floor.
Kiss it, sweetwater, and cradle it in green,
Flashing and glowing, a lovely tourmaline;
Flow on to vineyards and quench each thirsty
root;
Make lush the green bud; enrich the purpl'ing
fruit.
Flow on, sweetwater, that blushing brides may
wear
Blossoms of orange as crowns upon their hair.

Hold fast your passion of floodwaters in spring.
Spend your desire in the waterfall's wild fling,
Forcing your madness through gorge and can-
yon maze,
Peaceful again through the lands where cattle
graze.

Gently, sweetwater, bedeck the desertland;
Green grows the verdure where you have
touched the sand.
Clear pools and green trees and peace beneath
the shade,
White gold, sweetwater, for which all men
have prayed.

DESERT NIGHT

By ELMA ROBERTS WILSON
Phoenix, Arizona

The white stars lean so low, it seems that one
Might brush their luster with uplifted hand;
The scrubby creosote, day-drenched with sun,
Still pours its pungent perfume over sand
That stretches in a muted, waveless sea
To scour the calloused heels of distant hills;
With each breeze-lilt, the palo verde tree,
In trembling showers of gold, her blossoms
spills.

The night seems dedicated to an oath
Of boundless silence and pure reverie
No man would dare to violate—then both
Are gloriously shattered. Suddenly
The mockingbird gives voice to rapturous song
He must have learned at heaven's parapet,
And all seems righted that was ever wrong
For, briefly, paradise on earth is set.

A WESTERNER'S PRAYER

By JEAN ROGERS
Albuquerque, New Mexico

Give me this land,
This stage of changing scene—
Snowy peak and desert sand,
Turquoise sky and meadow green
Blend in perfect tone.

Give me this sea
Of grassland wide and deep
That rolls yonder, in the lee
Of craggy mountain steep,
As do the breakers on the shore.

Give me this air,
Clear and blue and free—
Fresh from plain and summit bare,
From silver stream and pinyon tree,
Its tangy breath is pure and sweet.

Give me these, O God, I pray,
And let me here forever stay!

DESERT SANDS

By HAROLD J. GREENBERG
Santa Barbara, California

The desert is an ageless mystery:
Deep, silent shadows steal across the sand,
As if inspired by some huge, unseen hand
In dazzling lines as far as eyes can see;
Shadows and light, fantastic in design,
Space without end, with freedom in its wake,
A promise of romance in every line,
A dream of beauty for the world to take.

NIGHT WIND

By WINIFRED OWENS
Fountain, Colorado

The night wind sweeps the desert floor
With a swish of his great giant broom.
He dusts each sage as he passes by
Across the great wide room.
While high up in the star-filled sky
The moon looks down and smiles.
He knows this world is free and clean
For miles and miles and miles.

DREAMER

By BESSIE SAUNDERS SPENCER
Pueblo, Colorado

A mellow voice came calling me
To leave my fragile cloud,
And come where fruit was on the tree
And tune of life was loud.

I changed my dreams for sweetened bread
And drank an earthly cup,
But linger, cloud, above my head
And keep me looking up.

DESERT PAINTING

By STELLA KNIGHT RUESS
Los Angeles, California

Where sands curve soft in silvery dunes,
The bright verbenas closely cling.
Across the pale blue mountain peaks,
A cloud drifts like an angel-wing.

AH, WISDOM

By TANYA SOUTH

Ah, Wisdom, Wisdom, what would I not
give
For thy fair gifts, to teach me how to
live
Unto the fullest! Every day I own
The steps I gained, the tests I newly won
I earned through you. And all my soul's
delight
Is vested in thy Power and Truth and
Light.

GHOST RANCH

By NELL MURBARGER
Costa Mesa, California

Th' sky is as blue and as boundless;
Th' autumn has just as much gold,
And th' first breath of spring, if not sweeter,
I reckon's as sweet as of old . . .
But up in th' juniper country,
Where th' winds of th' mesa blow free,
Lies a desolate heap of adobe
That once was th' Seven-Bar-Tee.

Here's a rusty shoe from a mustang's hoof,
And a piece of a saddle girth;
A forty-five shell and a Spanish bit
Trod deep in th' sun-baked earth.
But no smoke drifts from th' cook shack
Where th' old dinner gong still swings,
And th' tumbled corral and th' sagging barn
Shelter only th' skulking things.

The bunkhouse is strangely silent,
Its creaking door swung wide;
And folks tells me my pals, th' punchers,
Are ridin' th' Great Divide.
And mebbe they are . . . But, stranger,
Come out once, in th' moonlight, with me
And I'll show you white horses and riders
On th' range of th' Seven-Bar-Tee!

DESERT DISCOVERY

By MILDRED LUCAS
Trona, California

I've walked on many city streets,
Been dazzled by the colored lights,
But now I view with deepest awe
The starry signs of desert nights.

Through galleries of art I've strolled
And stood before their paintings rare,
But looking on the purple hills—
There's nothing can with that compare.

I've entered great cathedral halls
Where many souls become new-born,
But now I feel my soul expand
With every fragile desert morn.

These Plants Sponge Upon Their Neighbors

By MARY BEAL

SOME plants are confirmed thieves, filching a living from well-conditioned neighbors. Settling down beside a chosen host, the plunderer pushes its roots down to fasten upon and draw nourishment from the roots of its victim. The guilt of the thief is disclosed by its lack of green color, which needs light and air for development. Subsisting upon purloined "prepared food," it has no use for leaves, which have been reduced to scales.

First on the list belongs to the Broom-Rape family and is known botanically as

Orobanche cooperi
(or *Orobanche ludoviciana* var. *cooperi*)

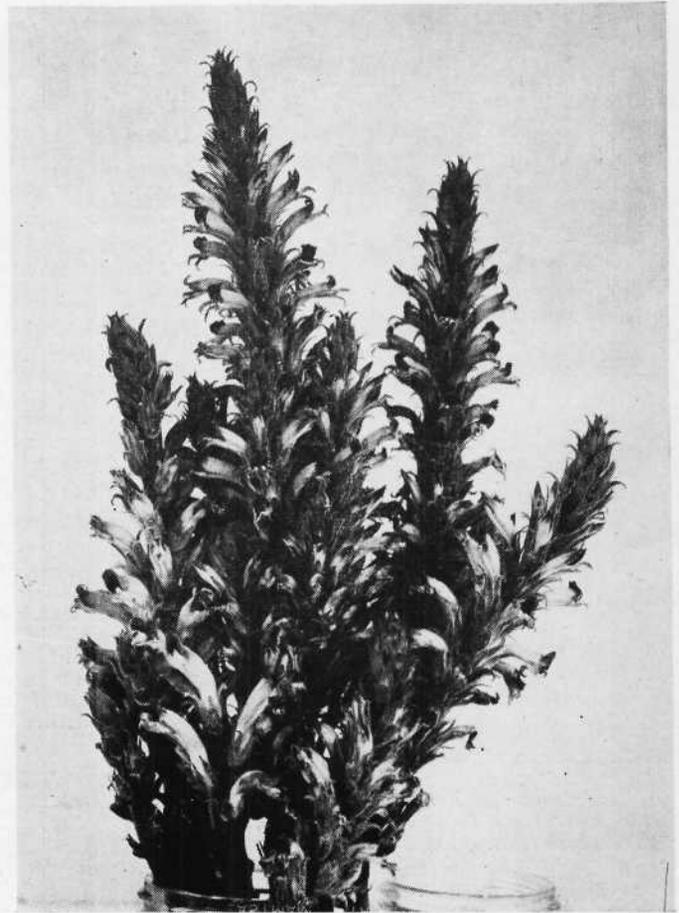
The appearance of this curious growth bursting from the ground always seems incredible, and fascinating in its peculiarity. The stout, fleshy, scaly stems shoot up 5 to 9 inches, dull brownish-purple or greyish-purple in color, the herbage glandular and often so hoary with greyish hairs as to look frosted. There may be a single spike or often several smaller spikes closely encircling the main stem, all crowded with bracts and purple and yellow flowers. The calyx lobes and bracts are lanceolate and the 2-lipped corolla is tubular, about an inch long and noticeably curved, much paler outside and glandular-hairy. The 2-lobed upper lip is purple, erect or recurved, the lower lip 3-lobed, light purplish with 2 yellow ridges extending into the throat or all light yellow, all lobes acute. From March to July you may find this Broom-Rape, usually growing in groups, on mesas and washes, in valley and mountain areas in the Mojave and Colorado deserts and Arizona, extending into southern Utah, Nevada, western Texas and Mexico. Its favorite host is Burroweed (*Franseria dumosa*) but it does not scorn other Composites, such as *Hymenoclea salsola*. In Arizona it has been found sponging a living upon species of cactus.

Orobanche multiflora var. *arenosa* is similar except that its stem is rather slender and the purplish corolla lobes are rounded. It is found in Arizona and California desert mountains and northern Mexico from April to July. Another species occasionally found on the desert is

Orobanche fasciculata

Commonly called Cancer-Root as are the other Broom-Rapes at times, because of their use in the treatment of ulcers and cancerous growths. It is very different in appearance from the above species. The flowers are borne in loose clusters on slender naked peduncles, often several inches long. The short calyx has 5 pointed triangular lobes and the tubular corolla is over an inch long (up to 1½), spreading at the tip into 5 rounded lobes. The whole plant is of one color, yellowish or dull purplish or reddish. Those I have found high in the Providence mountains were very pale yellow. They tap for nourishment species of Sagebrush (*Artemisia*) and Buckwheat (*Eriogonum*). Their desert locations are from 4000 to 8000 feet in the mountains of Arizona, California, Nevada, Utah, to western Texas, from May to August.

The Lennoa family also is addicted to stealing its food. It has the same general characteristics as the Broom-Rape gang but shows structural differences that easily identify its members.



Burroweed is the favorite host of this plant sponger, *Orobanche cooperi*.

Pholisma arenarium

The thick fleshy brown stem, 2 to 6 inches above ground, ends in a dense oblong spike, single or compactly branched, densely crowded with leaf-scales, bracts and flowers. The greyish-brown scales, bracts and calyx lobes are glandular-hairy. The violet-purple corolla has a conspicuous white margin and is shallowly 5 to 7-lobed and ruffled, like a miniature Petunia. Its hosts are Rabbitbrush and a few other Composites, and Buckwheat. It may be found from December to June in the California deserts and Lower California, usually on sandy mesas and washes.

The Lennoa family also claims the remarkable "Sand Food," which is known botanically as

Ammobroma sonora

This oddity is mostly subterranean, only the flat button-like head (2 to 4 inches broad) showing above ground. The thick scaly succulent stems are like an elongated radish, pushing down 2 to 5 feet to reach the roots of various perennial herbs and shrubs. In March and April the upper surface of the woolly disk is covered with a dozen or more tiny violet-purple, funnel-shaped blossoms. The long roots are much relished as food, raw and cooked, by Mexicans and Indians, and have been a valued item of their larder. Those Americans who have had the pleasure of eating them found them an unusually palatable and satisfying food, much like yams, when roasted; sweeter and juicier than a radish, when raw. These Sand Roots are very plentiful in the extensive sand dunes of Sonora and Lower California and are found less abundantly in the dune areas of southwestern Arizona and southeastern California.



Rockhounds poured like a wave over the ground the Utah society had dynamited to expose the sherry-colored crystals.

Field Day for Topaz Collectors

Golden topaz in a silver-grey jewel casket of rhyolite—that is what more than 100 rockhounds found when they trekked to Topaz cove in the Thomas mountains of western Utah as guests of the Mineralogical Society of Utah. To reach the sparkling gems, they followed a trail which once rounded to the rumble of Overland stage and the hoofbeats of Pony Express. The old stage stations have disappeared, and the road is lonelier than it was 80 years ago. But at the end of the trail there is a rich reward for gem collectors who go there today.

By HAROLD O. WEIGHT

“TOPAZ cove lies there,” said Lillian Lockerbie, secretary-treasurer of the Rocky Mountain Federation of Mineralogical societies. She placed her finger on a map of the Thomas mountains about 100 air miles southwest of Salt Lake City. The map was spread on a table in the Gold ballroom of the Newhouse hotel in Salt Lake. The 1947 convention of the Rocky Mountain federation was closing, and around us rose the excited dickerings of collectors making last minute purchases and exchanges. Jade and dinosaur bone, variscite, petrified wood and a thousand

and one mineral wonders were being wrapped and packaged for their return to collections scattered over the western states.

In the morning, June 14, a two-day field trip to Topaz mountain, sponsored by the Mineralogical Society of Utah, would get under way.

“I could give you road directions,” Mrs. Lockerbie went on, “but you would probably end up wandering all over the desert. That’s why we’re having guides with the caravans leaving Salt Lake tomorrow. But Charlie and I are starting early and we’ll

mark every road branch. So if you want to try it alone, just follow the paper flags.”

Lucile and I did want to try it alone. There are many places of historical and geological interest along the road to the Topaz field and we didn’t want to be forced to keep up with a rockhound caravan. There had been a cold rain in Salt Lake City the day before the convention opened, and some of the visitors from Wyoming and Colorado had driven through blizzards. But Saturday morning dawned clear. The air was crisp and the snow low on the Wasatch and Oquirrh ranges.

For more than ten years I had dreamed of hunting the tawny gems that cluster in the cavities of that grey mountain-mass of rhyolite in west central Utah. I almost made the trip in 1945 when I was in the air force, awaiting shipment at Camp Kearns. While on pass in Salt Lake City, I met Lillian and Charles Lockerbie. They took me on a Utah society field trip into the cool, flower-lined trails of the Wasatch mountains where we collected ludwigite



Charles W. Lockerbie, Utah society member, prepares to dynamite the gem-bearing rhyolite while rockbound Alta looks on.



Junius J. Hayes, of the University of Utah and president of the Mineralogical society, supervised the Flag Day ceremonies.



Jean Rottman of Salt Lake City, one of the youngest collectors, with the screen she used to recover topaz crystals from the gravel.

from an old mine dump. That trip was a glorious break in the monotonous round of squadron work-call, guard duty and kitchen police at Kearns.

A weekend at Topaz mountain was planned. But the army had other ideas, and the day I expected to be hunting topaz crystals found me with my nose against the window of a troop train, watching the desert mountains of Utah vanish in the autumn haze. I reluctantly filed the trip away among my more urgent post-war projects.

Even with the fluttering crepe paper markers to guide us, we had trouble with the route. Topaz cove always has been isolated. Probably the Paiutes and their ancestors knew all about the sparkling rocks at Topaz and the mountain men may have gone that way. But the first scientific observer to record the presence of the beautiful gem stones was Henry Engelmann, geologist with Captain James H. Simpson's 1858-9 expedition to map a wagon road

from Camp Floyd in Salt Lake valley to Genoa, Nevada. This was the same Simpson who in 1849 reported discovery of Chaco Canyon and Pueblo Bonito in New Mexico.

In 1890 George Frederick Kunz, in his book *Gems and Precious Stones of North America*, declared the Utah specimens probably the most beautiful and brilliant crystals of topaz to be found in the United States. But as late as 1937, when Professor Junius J. Hayes, president of the Utah society and a group of friends made their first trip to the field, they wandered through the sagebrush for two days, looking for Topaz mountain.

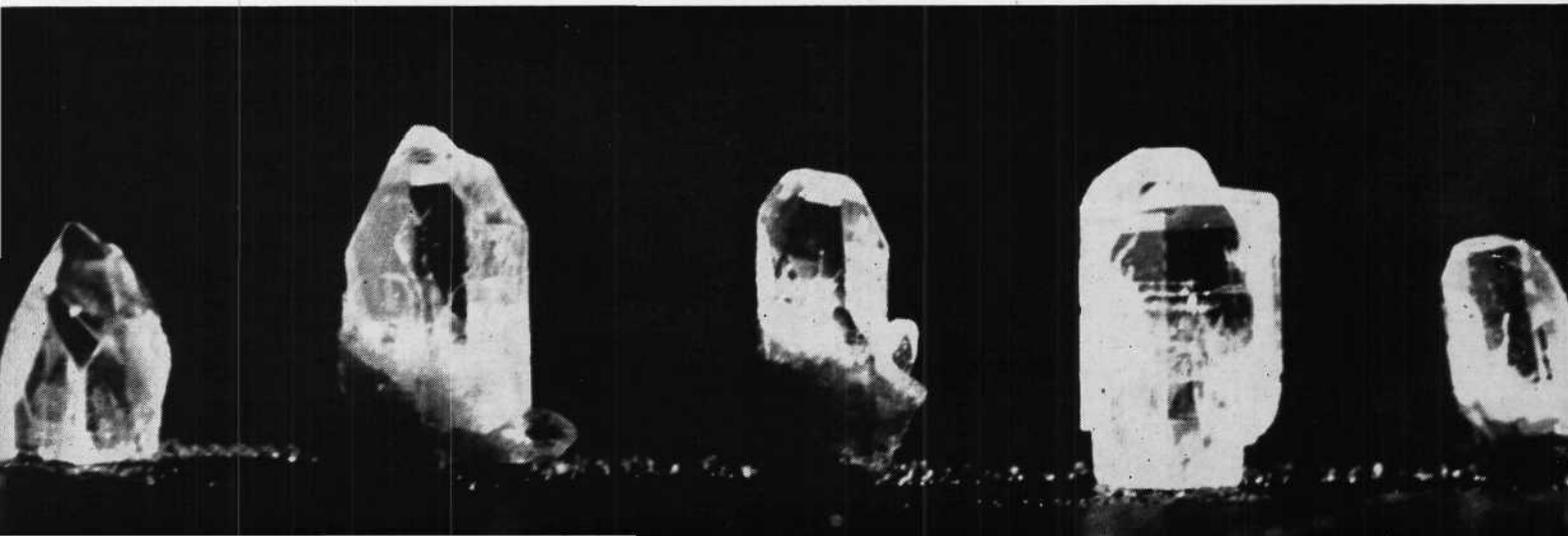
We filled the gas tank at Stockton, last source of supply directly on the road we were following, and checked our water supply. Normally, no water is available at Topaz cove. At 52.5 miles from Salt Lake, beyond St. Johns station, the paving ended. The speed of the car slowed to match

road conditions, and the passing countryside took on details. In the sagebrush were gorgeous magenta-pink blossoms of the opuntia cactus, tall sego lilies, apricot mallow, white prickly poppy, pink thistle and brightly-red Indian paintbrush. As the lonely road twisted up through the pass in the Onaqui mountains, we reached the level of the junipers.

This almost forgotten road once had been the main street of America. It had been the Pony Express route from 1860 until the transcontinental telegraph made it obsolete in 1861. The Overland Stage and freight lines maintained stations along the road from 1858 to 1868. Emigrants who traveled this way knew it as the Simpson route but to the Mormons it was Egan's trail. Howard Egan, Mormon guide, frontiersman and express rider, pioneered the road in 1855, when returning from California.

Every Pony Express and stage station

Topaz crystals from Thomas mountains, Utah (enlarged).





Topaz cove, 130 road miles southwest of Salt Lake City, where 103 mineral collectors attending the 1947 convention of the Rocky Mountain Federation of Mineralogical societies spent a weekend collecting crystals.

site along this road is marked with an attractive native stone monument and a metal plaque. They were sponsored by Utah Pioneer Trails association and Oregon Trails Memorial association, and were erected by the Civilian Conservation Corps.

The stations are gone. Seldom are there even mounds of rock to recall the wayside depots where jaded horses were replaced, passengers fed and Indian attacks beaten off. Once outposts of onrushing civilization, civilization now has passed them by. Even the sites of station wells, dug with much effort through stubborn desert earth are forgotten. And the road itself, save for such infrequent caravans as this migration of the tribe Rockhound, is lonelier than it was 80 years ago.

But whirling dust devils in the rutted tracks on the grey flats bring memories of rocking Concords and mudwagons. The sound of wind on a moonless night becomes the rumble of wheels and the creak of leather throughbraces. So little has this raw land changed one feels that at any moment a page of the book of time might turn backward and the frontier breathe again.

We reached Simpson springs at 90.2 miles. Southwest of the monument rows of rock and erosion-filled excavations outline what once was one of the most important stage stations in Utah. Simpson's springs was the jump-off for the dreaded stretch of road that rounded the lower edge of the Great Salt desert. From here water was carried for westbound animals and horses.

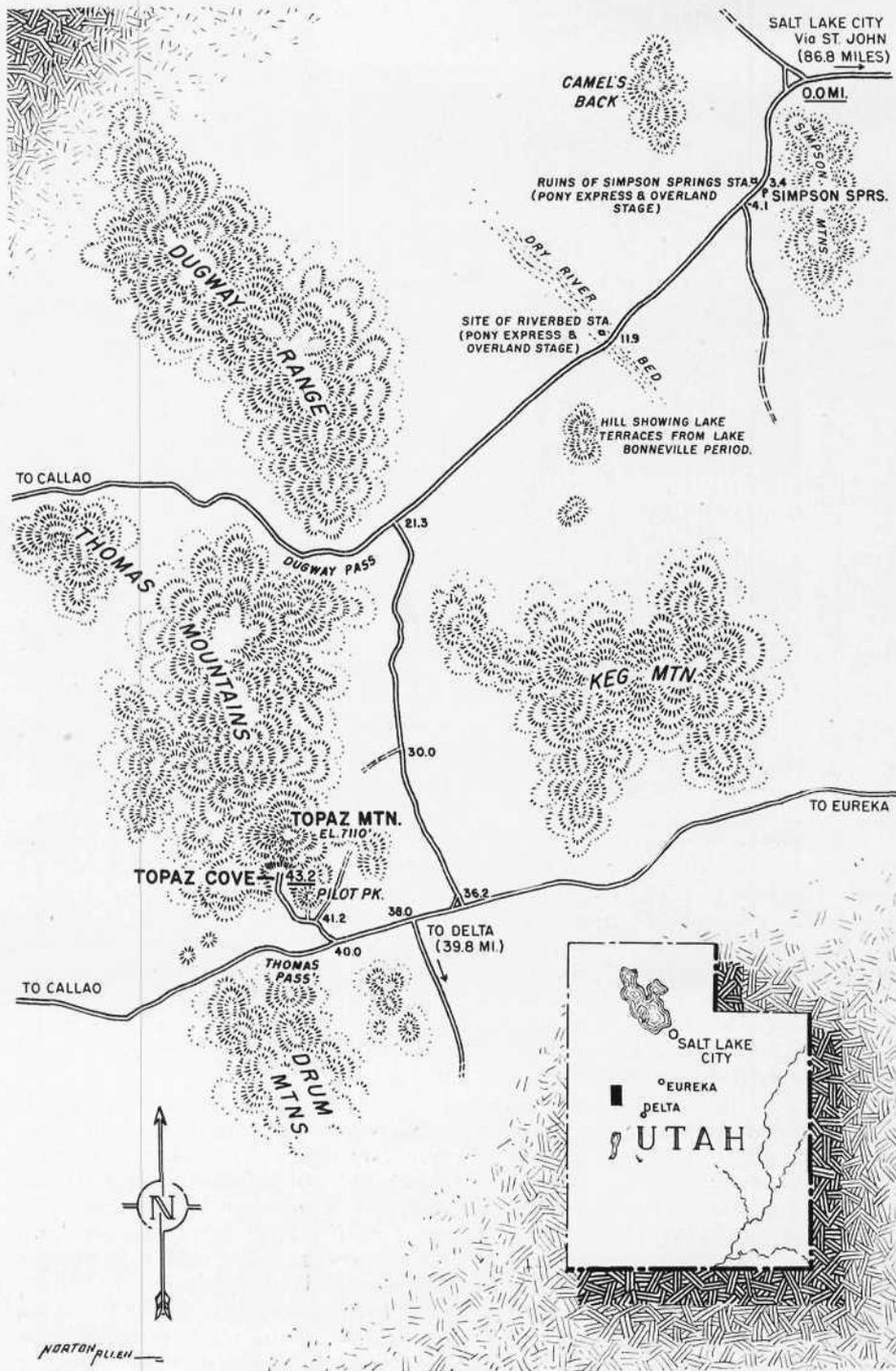
On the slope to the east of the road are the green-painted buildings of a grazing service camp. From the springs the old stage route headed southwesterly about eight miles to Riverbed station. Only during cloudbursts does the river bed carry water today. But in late glacial times, the waters of Sevier lake flowed northward through it into evaporating Lake Bonneville. The river bed, where the road enters it, is about 2000 feet wide and 130 feet deep. When the stages ran, there was a 100-foot well at Riverbed from which brackish water was hauled to Dugway station, ten miles southwest. Station and well have vanished, but the monument, about a quarter of a mile off the road, indicates where they were located.

Bonneville was the last of four huge

fresh water lakes which filled the Great Basin during the ice ages. At its highest point, the vast body of water was 1000 feet above the present level of its last big remnant, Great Salt Lake. It extended into Idaho, Nevada, and to within 50 miles of the Arizona border. Professor F. J. Pack, author of *Lake Bonneville, a Popular Treatise*, wrote that if the lake ever should resume its old level it would submerge more than 100 cities and villages and make homeless more than 90 per cent of Utah's population.

During the thousands of years that the great lake was at its height, the Dugway, Thomas and Drum mountains formed a 50-mile island and the road which we traveled across the flats would have been under 700 feet of water. On the flats we realized again what Mrs. Lockerbie meant when she said that road directions were hard to give. There are roads all over the place.

We left the old stage route at 108.1 miles, swinging south on a comparatively new truck trail which proved to be the poorest section of the road. During wet weather this clay track probably would be impassable. Ahead to the right we could



west. Founded in 1940, it now has a membership of 120 and publishes a big annual bulletin with illustrated features on minerals, geology and rock localities of

ROAD LOG—SALT LAKE CITY TO TOPAZ COVE

Mileage

From Salt Lake

- 00.0 —Leave Temple Square, Salt Lake City and follow U. S. 40 past Saltair, Sunset and Black Rock beaches, Garfield smelters.
- 25.5 —U. S. 40-50 swings right. Keep straight ahead (left) to Tooele valley.
- 34.8 —Road branch right to Wendover. Keep straight ahead.
- 35.0 —Tooele, keep straight ahead through town.
- 38.1 —Tooele Ordnance depot right. Keep straight ahead.
- 39.2 —Combined Metals Reduction plant. Keep straight ahead.
- 41.9 —Stockton. Check water, oil and gas.
- 47.3 —Branch. Keep right.
- 49.0 —Railroad crossing at St. John station. Follow state highway 36 south.
- 51.3 —Junction. Continue straight ahead. Right road is to Dugway proving grounds.
- 52.5 —Straight ahead. Road left goes to Desert Chemical Warfare station. Pavement ends here.
- 63.3 —Straight ahead. Left branch goes to farm.
- 64.0 —TURN RIGHT on dirt road into Onaqui mountains.
- 73.6 —Lookout station historical marker right of road.
- 79.0 —Junction. Keep right.
- 82.2 —Road branch left. Keep straight ahead.

Map Mileage

- 86.8 00.0—Junction. Take left fork. Dugway proving grounds right.
- 90.2 3.4—Simpson's springs station monument, right of road.
- 90.9 4.1—Road Y. Take right branch.
- 98.7 11.9—Riverbed stage station site, 1/4 mile right of road.
- 108.1 21.3—Leave main road for left branch paralleling Dugway mountains.
- 116.8 30.0—Faint branch. Keep straight ahead.
- 123.0 36.2—Y joining main Eureka road. Turn right on main road.
- 124.1 37.3—Road branch left. Keep straight ahead.
- 124.8 38.0—Road branch left to Delta. Keep straight ahead.
- 126.8 40.0—Leave main road for right branch, heading toward Pilot peak.
- 128.1 41.2—Faint branch right. Keep left. Follow main traveled road to—
- 130.0 43.2—Rockhound campsite at end of road in Topaz cove.

see the triangular point known as Pilot Peak, guide to the topaz field. Presently we passed its south base and followed the curving trail into Topaz cove.

As we climbed steadily toward the end of the road, every likely spot along the wash in the shade of the juniper trees was taken up by car or trailer. When the car grunted around the last grade and I pulled out of the road the sun was low, but its clear sharp light fell directly into the great U-shaped bowl, etching the black-green junipers against the light grey of the towering slopes which walled us in.

Professor Hayes, who was supervising the camp, welcomed us to Topaz city. "The main wash is crowded," he said, "but there is plenty of room on the flat."

As we walked up the road, he told us about preparations made to assure success of the field trip.

The Mineralogical Society of Utah should be proud of its Topaz cove campground. There were tables and benches under the big junipers along the main wash. Fireplaces had been constructed and restrooms set up. Members and friends had hauled wood and water. And many hours had been spent improving the road. Signs marked Rockhound Broadway and Rockhound Main street and city limits. And the throngs of convention delegates bustling about gave the cove a metropolitan appearance.

The Mineralogical Society of Utah is one of the most active societies in the

the region. Present officers, besides President Hayes are Marie P. Crane, first vice-president; William T. Rogers, second vice-president; Marcia F. Bagby, secretary; Kenneth R. Tanner, treasurer; and Sears P. Roach, historian.

The collector who visits Topaz cove will not go away empty handed. When the sun falls across the gashes and slopes of the cove, its light is reflected in thousands of bright flashes. Before we had gone 50 feet, Lucile had rescued several water-clear crystals from the dust of the road. The crystal-hunter soon learns that some of the brightest glitters come from bits of topaz too small to locate. But complete crystals are there, and they can be found easily as soon as the rockhound's eyes become adjusted to the type of specimen he is hunting.

Not all the visitors were busy making camp. We met Walter H. Koch, of Salt Lake City, returning from the head of the main wash through camp. He was proudly bearing a large fragment of rhyolite. The cavities in it were filled with glowing sherry-colored crystals of topaz. It was a museum piece.

"I just found it up the canyon a little way," he said. From up that canyon came the sound of shouting. Apparently the topaz hunt was in full cry. It is hard work to obtain the sherry-colored crystals, but they are worth the effort. They must be dug, chiseled or blasted from the cavities of the grey rhyolite where they are imprisoned. Once found, they must be protected from direct sunlight or intense heat or their glorious color soon fades.

Topaz is an ancient gem, named for a Red Sea island whose inhabitants were forced by Egyptian rulers to collect the gem crystals found there and deliver them to the royal gem cutters. The name topaz, however, has been applied to many yellow stones, so it is possible that the Red Sea stones were not our present gem, which is a silicate of aluminum and fluorine. Pure topaz is colorless, but impurities make it yellow, brownish grey, sherry, and pale tones of blue, green, lilac, violet and red. Yellow is the color most sought in gems.

Topaz will scratch all the common minerals except corundum, being number 8 in Moh's scale of hardness. It crystallizes in the orthorhombic system—three axes at right angles to each other and of different lengths—and the crystals are prismatic in form. The stone has a perfect basal cleavage and its fracture is conchoidal to uneven.

Topaz occurs most often in acid, igneous rocks—in veins or cavities in granite or rhyolite. Alfred M. Buranek, Utah geologist, says Topaz mountain contains 1500 feet of rhyolite in five flows. The crystals occur throughout the mountain and in other places in the Thomas range in the lighter colored rhyolite where flow structure is not prominent. The rock is marked by cavities in which form the topazes and



Chester R. Howard, new president of the Rocky Mountain Federation (right), shows his prize topaz crystal to Richard M. Pearl, vice-president of the new American Federation of Mineralogical societies.

their accompanying minerals: Red beryl, garnet, pseudobrookite, hematite, fluorite, calcite and bixbyite. Comparatively large clusters of opaque grey topaz crystals, called sand crystals, are common in the area. They have inclusions of small grains of quartz, and shine in the sun more brilliantly than pure topaz. In the cove at Topaz the best localities are high in the main wash—and at a noticeable white knoll west of the campsite and at spots on the slope of Topaz mountain about one-half mile east and one-half mile west of the white knoll.

All over the cove the smoke of cooking fires rose, and in the long twilight the gem hunters came home from the hills. Darkness was greeted by a bursting rocket. Red flames hung against the darkening blue. From the main wash came the cry:

"Campfire! Campfire!"

When we dropped into the wash, the enormous fire was casting fantastic lights and shadows through the rocks and junipers and upon the faces of the people gathered in a semi-circle there. Another rocket rushed into the night, bursting in a flame of white. The flare drifted to the southwest as it swung slowly beneath its parachute, and the circle of light outlined trees, buttes and mountains as it passed.

Around the campfire were 103 rockhounds—collectors from Utah, California, Colorado, Idaho, Washington, Oregon, New York, Indiana, Wyoming and New Jersey. They talked rocks and sang songs and drew more closely together beside the roaring fire in the quiet desert night.

It was Flag Day, and during the afternoon a homemade staff had been erected on a little hill commanding the campsite. Now spotlights flashed on, illuminating

the flag as it snapped and fluttered in the night breeze. The rockhounds rose from around the dying fire and sang "America the Beautiful" while a guitar picked out the tune. As the last embers faded into darkness the campfire circle broke up and Topaz city settled down to as complete rest as rockhound-hunting mosquitoes, who also were holding a convention, would permit.

The smell of bacon mingled with that of sage is one of the pleasantest alarm clocks man has devised. It hustled the rockhounds out of their bedrolls early in anticipation of the big event of the day. Utah society members were going to blast into a rhyolite outcrop to assure to everyone some of the sherry-colored crystals.

As we hiked up the big wash to the blasting-site, we saw collectors searching for crystals. Some worked with shovel and screen, sifting gravel in the wash. Others used small screens and chisels and screwdrivers, picks and hammers, and scratched into sandy corners with their bare hands. A treasured find had been made by Dorothy Craig, secretary of California Federation of Mineralogical societies, who had flown from Los Angeles. She carefully unwrapped topaz crystals coated with small flat crystals of hematite.

Finally we came upon the blasting crew, in charge of William T. Rogers, Utah Copper company geologist and field trip chairman. He, with Charlie Lockerbie, Earl M. Van Deventer of the Owyhee society of Caldwell, Idaho, and other volunteers, were working with single-jack and hand drill, slowly driving holes for charges. Although the rhyolite was comparatively soft they worked hard for nearly three hours before they were deep enough. At last caps

and fuses were attached to the dynamite and the holes charged. Rogers warned collectors to clear the area. Soon from behind every rock within sight of the spot curious heads darted out, peering cautiously, then withdrawing for all the world like beleaguered desert tortoises. Amid shouts of advice and warning, three men lighted the fuses, at 30 second intervals. Rogers, lighting the last one, had about two minutes to find cover before the first would explode.

After an interminable time, there was a quivering roar, a burst of grey dust, and rhyolite spilled down the wash. A second shot shook the hillside, but the other failed to fire. Finally Rogers went swiftly to the unexploded charge and pulled the fuse.

His action was like a "come and get it!" to a hungry crew. Rockhounds poured out of hiding and surged down upon the blasted ground. Yelps of excitement announced that many colored crystals had been uncovered, and sight of the outcrop vanished under a wave of collectors of all sizes and ages. A later blast uncovered more booty and as the field trip drew to a close, the camp filled with eager hobbyists comparing prizes.

In the afternoon, cars started to move out of Topaz cove, scattering to near states and far. They had come for topaz crystals, and all of them carried away specimens. They also carried with them an idea which may solve a problem growing more pressing as the years pass. At the campfire Professor Hayes had announced that the Mineralogical Society of Utah had filed upon two claims in the Topaz mountain area, that the society intended to do the necessary work upon them and patent them.

The claims will be open to anyone who wishes to collect upon them. The only purpose of the society is to guarantee that Topaz mountain always will remain open to rockhounds—that no selfish individual or group will be able to block off the field which the Utah group has done so much to develop.

Most dealers have seen their businesses grow as earth science and gem cutting societies expanded. Most of them realize that clubs will remain active and healthy only so long as their members can take field trips, find material of their own and interest others in their hobby. It would be interesting to compare sales of lapidary equipment and cutting material in an area, such as California, where hobbyists make field trips, with those of areas where no collecting material is available.

If the day should come when all fields are closed to the rockhounds—that day would mark the beginning of the end for lapidary dealers. Most people understand that. But for the few dealers and amateurs who seek to corner any new find—a find frequently made by rockhounds—and to close off and strip collecting fields, perhaps Professor Hayes and the Mineralogical Society of Utah have found an answer.

The big adventure in Barry Atwater's life was when he quit a steady payroll job as interior decorator to live on the rather uncertain income of a comparatively unknown artist. But Barry had

the courage to do it—and he has made a go of it. Here is the story of a man who has achieved what many of us would like to do—who converted a hobby into a livelihood.

Artist of Dos Palmas

By JOHN HILTON

BARRY Atwater is one of my neighbors. His home and workshop is a cozy little cabin at Raymond Morgan's Rancho Dos Palmas on the north side of California's Salton sea just a few miles from the studio where I do much of my work.

Barry is a soft spoken chap with the smile of a man who is finding a great deal of contentment in life. During a chat in my studio one day he told me of the long road he had followed to gain recognition in the world of art.

He studied art during his youth in Denver, but the necessity of doing work for which there was some immediate remuneration caused him to turn to a field in which artistry yields a pay check every Sat-

urday night. He became an interior decorator—and a good one. Good pictures have an important role in the interior fittings of every home—and Barry stressed this fact in advising clients. He made the acquaintance of many artists and studied their craftsmanship with more than casual interest.

Eventually his work took him to Los Angeles where he became acquainted with the beautiful landscape paintings which came in from the desert. He asked for assignments which would take him to Palm Springs and other desert localities, and as he returned time after time to the arid country the urge to improve his own art grew stronger. He again took up painting as a hobby.

And, as is often the case, Barry's hobby soon got out of hand. Working with his

DESERT QUIZ

Even the Great American Desert has its rivers and lakes and seas—more of them perhaps than you had realized. In order to refresh your memory as to the geography of the Southwest and especially its rivers and waterholes, this month's Quiz contains a list of 20 water places and their location relative to towns and other place names. They're all jumbled up—and it is your simple task to pair them up properly. For instance, everyone knows that Needles, California, is not near the shores of Utah lake. But in the column on the right you'll find the name of the body of water where Needles folks do their boating. Ten to 12 answers is fair; 13 to 16 is good; 16 to 18 excellent; over 18 is super something-or-other. Answers are on page 33.

1—Needles, California	Utah lake.....
2—Albuquerque, New Mexico	Humboldt river.....
3—Bluff, Utah	Salton sea.....
4—Wickenburg, Arizona	Green river.....
5—Barstow, California	San Juan river.....
6—St. George, Utah	Little Colorado river.....
7—Jensen, Utah	Mono lake.....
8—Clarkdale, Arizona	Pecos river.....
9—Holbrook, Arizona	Lake Mead.....
10—Carlsbad, New Mexico	Salt river.....
11—Benson, Arizona	Amargosa river.....
12—Gila Bend, Arizona	Mojave river.....
13—Roosevelt dam, Arizona	Colorado river.....
14—Elko, Nevada	Rio Grande river.....
15—Boulder City, Nevada	Walker lake.....
16—Provo, Utah	Hassayampa river.....
17—Mecca, California	Gila river.....
18—Hawthorne, Nevada	Verde river.....
19—Leevining, California	San Pedro river.....
20—Death Valley Jct., Calif.	Virgin river.....

paints and brushes became more important than matching drapes and upholstery for the customers. However, he remained in his position until the time came when there was a market for his own paintings. It took ten years. Finally, three years ago he resigned and left for the desert—determined to live on the returns from his art, even if it meant a very meager living.

"And that's my story," he concluded. But there is more to the story than that. From my own experience I know it is not a simple task to teach one's self to paint. I know there were days of discouragement and even despair—times when he wondered if he could ever learn to bring the "feel" of Nature's beauty to the white lifeless canvas so others could share his enjoyment of it. But Barry had the help and encouragement of a sympathetic wife, and if the struggle has been hard there is no evidence of it in the warm smile and the twinkle in his eyes.

The Atwaters are partial to the wild desert region of Arizona and New Mexico. Telephone poles seldom get in the way in the broad expanses of the Indian country. They spend much time among the great sculptured monoliths of Monument valley—up where the rocks and ridges and pinnacles "have some shape to them."

As an interior decorator Harry had seen his share of polite still lifes, of cow pastures and backyard tenements in watercolor.

"Why paint a bowl of fruit or flowers," he reasoned, "when you can bring the real thing into the room and enjoy its natural beauty and fragrance." Tenement life pictures are all right if one wants to preach a sermon on social injustice. Pastoral scenes have been popular with artists for countless generations. But Barry Atwater's tastes do not run in that direction. He wants none of the soft rolling hills when there is a desert spread with rugged crags and buttes that pierce the sky line like the remnants of another world, and pinnacles that catch the rose of dawn or the reflected glory of the sunset on their rough hewn facets, and cast long finger-like shadows across the sage-dotted flats. Those are the subjects Atwater likes to paint—those and the fantastic patterns of cloud shadows, and the curtains of summer rains dragging over the distant rimrock in a manner that would make a tenderfoot say, "It can't be so."

If he were to hear such a remark I can imagine him smiling that slow grin to himself and going right on painting the things he likes. He knows deep in his heart that enough people are gaining an intimate knowledge of the desert to appreciate what he is doing—and that is all that matters.

First time I met Barry he was staying with Harry and "Mike" Goulding at their trading post in Monument valley. Later the Atwaters moved to a trading post east of Gallup. This was high adventure for



This picture of the artist was taken at Dos Palmas oasis on the north side of Salton sea—near the little cabin studio where he does most of his work.

both of them for they managed the post for Fred Wilson for a little while and became acquainted with some of the most interesting people of the desert country, the Navajo Indians. Later they had a studio at Albuquerque.

Last September, at the invitation of Raymond Morgan, they furnished a little cabin at Rancho Dos Palmas near the historic Dos Palmas springs and have had the opportunity to roam the desert at will. With the coming of summer temperatures they probably will return to the high plateau of the Navajo country.

Desert people are the most severe critics of the artists who work on desert subjects,

but Barry Atwater's work has stood the test and there is increasing market for his canvases. I don't think he is especially interested in the acclaim of eastern critics. He will paint nothing that will stir a violent controversy in the press. He seeks merely to bring the desert, the wild rugged desert which he loves, as truly as possible to the painted canvas for the enjoyment of those who share his enthusiasm for this land.

His work is clean and well composed. He has contentment in his art. It is a big desert and he will never exhaust the subject, or find it tiresome or boring. And what more can any artist ask?

Mines and Mining . .

Washington, D. C. . . .

The bureau of mines will make 35 explorations for strategic metals and minerals on the nation's scarcity list. Most urgent need was lead, while others were tin, rutile, copper, iron, mercury, beryllium-tantalum and tungsten. Copper projects for this year include one in Churchill county, Nevada, and one in Cochise county, Arizona. Lead-zinc explorations are planned near Pioche, Nevada, Summit, Pitkin and Lake counties, Colorado, and Beaver and Tooele counties, Utah.

Reno, Nevada

A 200-ton selective-flotation mill is to be built on the property of the Union Lead company, 13 miles south of Reno near the Carson highway. George W. Daney, mining engineer, has been retained to design, supervise construction and operate the mill. The Union mine, long known as the Commonwealth, has been worked at intervals since the early sixties. Orebodies, containing lead, zinc, silver and some gold, are said to be large, ranging in width up to 40 feet, and opened by tunnels, shafts and winzes to 800 feet vertical depth.

Green River, Wyoming

The Westvaco Chlorine Products company is continuing development of a vast bed of trona, 20 miles west of Green River. A shaft has reached the trona deposit at 1500 feet, and the company is constructing its experimental pilot plant at the shaft mouth. Actual production is expected to start during September. The bed, explored through drilling by the Union Pacific Railroad company before the war, is said to be the only known deposit of sufficient purity and thickness to be mined by the same methods used for coal.

Virginia City, Nevada

Extensive operations to recover the gold and silver from the dumps of Virginia City were planned by the Eagle Picher company, to start late in August. The company is said to have developed a process which will enable it to recover dump values from a dollar a ton up, and to have made arrangements to process waste ore from all Virginia City dumps. T. A. Copeland is general manager and geologist of the firm, which conducts big lead operations near Joplin, Missouri.

Baker, California

A silver strike reported to be one of the richest in the history of the Mojave desert has been made by Vern Smith in a low range of barren hills 30 miles north and west of Baker. The find is near the cross-road settlement of Renoville on the Baker-

Shoshone road, an area which has been prospected for many years. Smith and his associate, a Mr. Long of Los Angeles, have a crew of 18 men at work building 10 miles of road from the highway to the strike. Unverified reports claim the ore runs as high as \$10,000 a ton.

Manhattan, Nevada

Art Langan, old-time Nevada mine operator, has purchased the Smoky claim 1½ miles from Manhattan, for the Lucky Strike Mining company. A road has been built to the property, which adjoins the Hoosier claim of the Manhattan Gold company and is northeast of the White Caps mine. Langan stated that 10 prospect holes have been sunk on the Smoky vein and that the ore showing is encouraging. A collar is being placed on one shaft, and a compressor and other equipment will be installed.

Barstow, California

D. A. Kendall has started work on 24 non-metallic mining claims 45 miles from Barstow, which he leased recently, and is negotiating for the lease of 11 silver-lead claims. Kendall recently purchased the Red Ball mill at Barstow, formerly owned by Robert Munro of Los Angeles. He has been putting the mill in order and has secured contracts for large tonnages of barite, strontianite and celestite which he will process there. He plans also to grind red-brown rhyolite for roofing granules.

Tonopah, Nevada

W. H. Flower has mined 20 tons of good-grade gold ore from a 22-foot shaft he put down unaided on his claim 60 miles north of Tonopah, in the Meadow canyon area. Assays made by Pat Welsh in Tonopah indicate an average \$40 a ton value across three feet of vein. Flower believes he can obtain considerable tonnage in ore, and was in Manhattan recently, to see if the new Choan-Oliver milling plant could handle his output.

Manhattan, Nevada

F. E. Choan and John Oliver have the first unit of their Manhattan mill ready to run and will start milling ore in a few days. The mill is located two miles above town on the old Tonopah road near the Keystone property. Forty thousand tons of ore said to average \$7 a ton gold and silver have been blocked out at the Keystone. The ore will be broken and scraped up with a bulldozer, then put through the mill. The mill flow sheet consists of flotation, cyanidation and jigs, and the first unit has a 20-ton daily capacity. Custom ores will be handled later.

Tombstone, Arizona

The first ore went through the new 100-ton flotation mill of Operations, Inc., at Tombstone, in August. Two shifts are employed at the mill, which represents a total investment of \$300,000. Mine production has been stepped up to meet the demand for ore. The company is operating the San Juan mine in the Dragoon mountains, which is owned by Jonathan Gordon. The mine is a lead-zinc producer.

Austin, Nevada

Production of antimony was expected to start in August at the Romano property of the Big Creek Milling company, 10 miles south of Austin. A concentrating plant designed to treat 50 tons of ore in two eight hour shifts is nearing completion on the mountain side 1200 feet below the mine, and 5000 tons of stibnite are ready for milling. The mill will be gravity fed, and concentrates will be trucked to smelters. Mill equipment includes a jaw-crusher, grinding rolls and four concentrating tables.

Washington, D. C. . . .

President Truman vetoed the metals subsidy bill, providing premium payments to subsidize high-cost production of copper, lead, zinc and manganese, declaring that the plan was a war measure and not a permanent part of U. S. economy. Continuance of the plan would contribute little to production of metals in shortest supply and prices of all the metals have risen sharply, he said. With the veto, stoping and milling operations on copper were shut down at the Copper Canyon Mining company plant near Battle Mountain, Nevada. Charles F. Willis, secretary of Arizona small mine operators association, predicted that 80 Arizona mines would close.

Tonopah, Nevada

Phil and Louis Meyer, Tonopah prospectors, have located placer ground 100 miles north and west of Tonopah which may develop into a major dredging operation. A number of shallow holes have been put down on the two areas which lie six miles apart on the west flank of the Toiyabe range near the head of New York canyon. It is estimated that the gravel where exposed by the test holes will average \$1 a yard. The gold is sharp and ragged, indicating that it has not moved far from its source, and is unusually coarse for Nevada placers.

National Tunnel and Mines company of Bingham, Utah, has notified 200 employees that, due to cessation of federal premium payments on ore and impending higher labor costs, operations will cease as soon as mine equipment, pipe and rails can be salvaged from underground workings. The company in 1941 completed the \$1,250,000 Elton tunnel from Bingham to Tooele.

LETTERS . . .

Public Enemy No. 1 . . .

Clovis, New Mexico

Dear Mr. Henderson:

Desert Magazine has become somewhat of a bureau of information to me; particularly the letters discussing various things about the desert southwest.

When I came to this country a good many years ago, I had already heard of the deadly bite and sting of the tarantula, centipede, water dog, vinegaroon, gila monster, etc.—most of which turned out to be "fairy tales." Now comes an item in a newspaper which says "Scorpions kill more Arizonans than all the rattlesnakes, black widow spiders, and gila monsters combined." See clipping enclosed.

Please, Mr. Editor, find out and inform us whether there is such a thing as a scorpion whose sting is deadly to man. I have been stung by a scorpion, but not on the desert; and have known several others to be stung by them, with little worse effect than a wasp sting.

L. J. WHITEMAN

LJW: Dr. Herbert Stahnke (Desert, May '41) reported that of the 21 species of scorpions he had identified in Arizona, two had proven deadly. The recorded score over a period of nine years in Arizona showed 50 deaths (mostly children) chargeable as follows: Scorpions 34, rattlesnakes 8, black widow spiders 3, Gila monsters 1, and four classed as miscellaneous. This would indicate that among the insects and reptiles, the scorpion is Public Enemy No. 1.—R.H.

Freedom for Which They Fought . . .

Burbank, California

Dear Mr. Henderson:

In the August issue of Desert Magazine there appeared a letter by Fr. Bonaventure Oblasser challenging some statements made in an interview with me by Hope Gilbert, published in your July issue. I am grateful that the statements he took issue with were not original with me but were taken from the June 1, 1945, Congressional Record compiled by government officials in Washington, relative to conditions as they exist in the Indian reservations.

I agree with the gentleman in one statement: that there is much usurpation of power by government officials in the Indian Bureau. However, I do wish to take exception to his statement that "It is the full observance of the provisions of the Reorganization Act of 1934 that will give the Indians . . . the right education to live as a free citizen, responsible for the conduct of

his own affairs . . . and let him grow up and take his rightful place in the land of his birth." To perpetuate the system of wardship of competent American Indians is to deprive them of the fundamental rights promised to all citizens by the constitution of our country. Any act or law which stresses segregation hinders development of initiative and responsibility. My only contention is that the Indian needs to be set free to work out his own destiny—to profit by his own mistakes, to rise or fall under the impelling ideals of a democratic government.

Let me quote from an Office of War Information poster, No. 75, signed by President Roosevelt in 1943. "No loyal citizen of the United States should be denied the democratic right to exercise the responsibilities of his citizenship, regardless of his ancestry."

In a democracy such as ours, that offers to every foreigner the right to freedom and the pursuit of happiness, it is inconceivable that after fighting side by side with his white brothers, making the same sacrifices, working in war plants, serving in the WAC and WAVES, that the Indians cannot now be freed from their inferior status as government wards and share in the freedom for which they fought.

TSIANINA

Let's Restore the Palms . . .

Los Angeles, California

Dear Randall:

Palm springs between Vallecito and Carrizo stations on the old Butterfield stage line was so named because of the native palm trees which formerly grew there.

My first visit to this spring was in October, 1903, when we made a noontime stop for water for our team. As I recall, there were two or three palms growing on the bank above the watering trough at that time. When I next visited the spot a third of a century later the palms were gone. I found only an old stump of one.

As this is quite a historic spot it seems proper and fitting that a few small trees should be replanted there, if the Anza park authorities are willing. Such seedlings should properly come from one of the nearby palm oases.

NORRIS BOSTWICK

That's a good idea, Norris, and I suggest we name Everett Campbell and Bob Crawford at Vallecitos as a special committee to see that some of the native palms are restored to Vallecitos Palm springs. There are plenty of seedlings over across the valley at Mountain Palm springs.—R.H.

Those Lost Geode Beds . . .

Following is a letter written to L. B. Dixon of Del Mar, California, in response to his description of a "lost geode" field in southwestern Colorado on the Letters page of the July Desert.

Hesperus, Colorado

Dear Mr. Dixon:

I just read your letter about the lost geode beds in the July issue of Desert Magazine. It was very interesting to me as I live at the mouth of La Plata canyon and it so happened four companions and myself had just returned from a geode hunt along the banks of the La Plata river.

On the east side of the river about two miles downstream from where I live at the mouth of the canyon are geodes filled with beautiful calcite crystals, some clear and some stained a light brown. Some are marked outside with a pattern like that on the back of a turtle and are very interesting specimens.

What you refer to as "bitumen or other asphalt substance" I am inclined to believe is some form of aragonite. I have known of these geodes for many years, as I have lived here 33 years. They are still quite plentiful and as the shale erodes away new ones keep coming to the surface.

Of course I do not know if these geode beds are the "lost" ones you saw many years ago, but they are the only ones I know about in this vicinity.

BILL LITTLE

Garnets in the Santa Rosas . . .

Orange, California

Desert:

On a recent trip to the top of Southern California's Santa Rosa mountains, my brother and I were on the lookout for rocks for our collection, and possible cutting.

When we left Hemet we got into some pretty rocky country, and drove on the slow side so as not to miss any good specimens.

Shortly after leaving the main highway and beginning the ascent of the mountain, we had to stop and let the car cool off. We got out to stretch our legs and found the bed of a dry creek nearby. We followed it for some distance and found numerous garnets. Most of them were small and imbedded in some form of shale. We found a few large garnets.

The location of this garnet find is about a mile off the main highway on the only road going up the mountain.

This could be a prospective field for garnet hunters and some beauties may be found. More exploration and digging is necessary however. I am going back there some day and explore some more.

GEORGE MEYER

Lost Pegleg in Nevada . . .

El Paso, Texas

Recently I spent an evening with Harry A. Pitts who had just come in from his "Uranio" claim in Sonora. Pitts is probably well known to many Desert readers for he has spent 50-odd years prospecting for oil and minerals in the West and Southwest.

During our gabfest he related the following tale, which may be of interest to you because it concerns the much publicized Lost Pegleg mine. We had been discussing a possible trip into the Superstition mountains to investigate some properties when I happened to mention the Pegleg. "Oh, that mine was found 40 years ago," said Pitts. And this is his story:

"In 1907 a fellow named Jones and I were on a prospecting trip in Nevada. We were traveling in a Studebaker wagon with a team of mules. Late one afternoon about 16 or 17 miles northwest of Indian springs we saw a man sitting on a boulder beside the road. We stopped, of course, and after the usual preliminaries he told us he had three partners, and they were in a helluva fix.

"We've found the Lost Pegleg," he

said, 'but our burros have wandered off and we cannot find hide nor hair of them. We have 20 sacks of ore out, and no way to get them to town, and we are out of grub.'

"He told me that if we would take them and the ore into Indian springs they would give me one of the sacks of ore. My team had made a long trip that day and was about fagged out, so I told him that we would wait and take them the next day. There was a good spring nearby so we camped that night and the next morning loaded them into the wagon and drove to the settlement.

"As good as their word, they gave me my pick of the sacks of ore. I selected one more or less at random and heaved it back on the wagon. It weighed about 100 pounds. It must have been three months before I returned to Goldfield where I had a cabin. When I unloaded the wagon I put the sack of ore near the door, and it was several weeks before I thought of it again.

"One day I decided to find out if it had any value, and took a couple of chunks to an assayer. He took one look at it and asked me how much I had. I told him about 100 pounds, and he said: 'If it's all

like this I'll give you \$2300 for it.' I sold it, of course, and figured I was pretty well paid for my little job of freighting."

So much for the Lost Pegleg. At present prices that ore would run into a fortune. I wonder if I shouldn't be out in the hills doing some prospecting myself.

HAROLD WITHROW

Food for the Iguana . . .

Glendale, California

Dear Sir:

We were interested in Richard Cassell's story about the pigmy iguana (*Desert*, Aug. '47). He stated that little is known about the eating habits of this reptile.

I had two of them, and kept them several weeks before turning them loose. During that time I learned something of their eating preferences.

They love the leaves of the white field clover, and the little pinkish lavender flower of a small plant moss that grows in parkways here. My smallest one would also eat the flower of the geranium, but preferred the other two, especially the clover.

They can be kept in captivity with this food, and water, but they do not grow perceptibly. When I let them go they stayed around for awhile. I watched them flick tiny insects from the grass blades. They seemed to do better on this diet.

They were both very gentle, and the little one liked to do little tricks and antics when encouraged.

MATILDA HARROLD

Lesson in Geography . . .

Huntington Park, California

Desert:

Regarding your Question 11 in the August Quiz: You should have said that western Utah lies within the Great Basin, rather than that the Great Basin lies within Utah.

The Great Basin covers western Utah, nearly all of Nevada, parts of Oregon, Idaho and Wyoming, and a considerable extent of California including Death Valley and your own Imperial Valley. Consult the Encyclopedia Britannica.

WARD C. SECHRIST

WCS: Desert acknowledges its error and has revised its map of the Great Basin.—R.H.

Geode Road Improved . . .

Searchlight, Nevada

Dear Desert:

The Searchlight geode story (*Desert*, July, '47) is bringing results. If it isn't three rockhounds, it's 16—all looking for geodes. They find them too, and seem to be pleased.

I just wanted to report that the road to the geode field has been improved and all wash cut-outs have been filled. You can sail straight ahead now.

HOWARD MILDREN

DESERT CLOUDS . . . Photo Contest

Clouds make the desert beautiful. Nowhere else do they show the variety and grandeur that they attain in desert skies, or present such a contrast with the harsh land below. And *Desert Magazine* is going to award its October photographic prizes not for pictures of clouds themselves, but for desert scenes of all varieties which are keyed or dominated by the cloud formations in the sky.

First prize is \$10, and second prize \$5. For non-prize winning pictures accepted for publication \$2 each will be paid. Entries must reach the *Desert Magazine* office in El Centro, California, not later than October 20, and the winning prints will be published in the December issue.

HERE ARE THE RULES

- 1—Prints must be on black and white, 5x7 or larger, printed on glossy paper.
- 2—All entries must be in the *Desert Magazine* office by the 20th of the contest month.
- 3—Prints will be returned only when return postage is enclosed.
- 4—Contests are open to both amateur and professional photographers. *Desert Magazine* requires first publication rights of prize winning pictures only.
- 5—Time and place of photograph are immaterial except that they must be from the desert Southwest.
- 6—Judges will be selected from *Desert's* editorial staff, and awards will be made immediately after the close of the contest each month.
- 7—Each photograph submitted should be fully labeled as to subject, time, place. Also as to technical data: shutter speed, hour of day, etc.

ADDRESS ALL ENTRIES TO PHOTO EDITOR, DESERT MAGAZINE

THE *Desert* MAGAZINE
EL CENTRO, CALIFORNIA

HERE AND THERE... on the Desert

ARIZONA

Last Indian Scouts Retire . . .

FORT HUACHUCA — The four remaining Indian scouts in the United States army were retired at Ft. Huachuca on August 30. The organization was formed by Gen. George Crook in 1886, to carry messages through enemy lines and to scout for ambushes and traps. Since Indian warfare ended, the scouts have been used for patrol along Ft. Huachuca boundaries and for the tracking of outlaws. No enlistments have been accepted since 1923. Approximately 1000 Indians served in the group during its existence.

Inland Port for Yuma? . . .

YUMA — Representative Richard F. Harless of Arizona has introduced legislation in congress asking that army engineers be authorized to investigate the possibility of dredging the Colorado river from the Gulf of California to the Imperial dam in Arizona. If carried out, the dredging would make Yuma an inland port again. Steamers on the river were halted by construction of Laguna dam in 1907, but in the early days the army shipped supplies from the gulf to Yuma and overland to forts in the territory.

Reclamation Project Assured . . .

YUMA—Arizona celebrated as President Truman signed the bill reauthorizing the Gila reclamation project. The new bill creates the Wellton-Mohawk division of the project with 75,000 additional acres to be irrigated from the Imperial dam. Area of the original Gila project was cut to about 40,000 acres. Wellton-Mohawk division, long fought for by southern Arizonans, will take about five years to develop and the work will employ hundreds of men.

Hopi Future Dark . . .

ORAIBI—The economic future of the Hopi is just as dark as that of the Navajo, Karl Johnson, village governor of New Oraibi declares. Stock reduction, drouth and a lessening demand for their weaving is destroying Hopi means of earning a livelihood. "Hopi farmers are trying to make a living on sandhills and war workers and veterans are coming back to nothing," Johnson declared.

Ask Road Improvement . . .

FLAGSTAFF — Unless the United States government improves the approach to Grand Canyon national park, Coconino will ask for return of Bright Angel trail to the county, members of the board of supervisors have decided. The trail, most popular route into the canyon, was given to the

federal government by Coconino county in 1928, with the government agreeing to build and maintain a suitable approach road. Members of the board declare that the road has fallen into disrepair and has become dangerous in places.

Petrified Driftwood . . .

HOLBROOK — Logs in Arizona's petrified forest were carried to their present resting place by an ancient river, according to a theory announced by L. Floyd Keller, naturalist at Petrified Forest national monument. Naturalists sought an answer to the absence of bark, leaves or branches on the petrified logs. Their first major clue was that the five forests that make up the monument are circular in shape, just as the logs whirled in the backwaters of the big river. Course of the river then was traced to its beginning, some 100 miles to the southwest.

Lobo Wolves in Arizona . . .

BOWIE — Federal Trapper T. C. Creighton killed two lobo wolves on the Mulkins ranch south of Bowie during August, the male weighing 70 pounds. U. S. Fish and Wildlife service claims that the wolves enter Arizona from Mexico, and that six pairs of wolves have killed more than 50 head of cattle in the past two months in southern Arizona.

The Santa Fe railroad company plans to build a \$2,500,000 resort hotel near Williams. It will be known as Bill Williams hotel, and will include a swimming pool, golf course, stables and 6000-foot ski slide.

Flow of the Salt and Gila rivers in July was at the lowest level in 30 years.

Dos Cabezas has been declared the official name of the village, twin peaks and 18-mile mountain range in Cochise county. The United States division of geography decided on that spelling after checking origin of the name and local usage. Formerly the village was called Dos Cabezas, the peaks Dos Cabezas.

UNUSUAL CACTI . . .

THIS MONTH'S SPECIAL

Your choice of Baby Toes, Golden Tom Thumb, Striped Chin, Pheasant's Tail, Rattlesnake Buttons, White Torch, Old Man, Variegated Crassula, Pencil-Leaved Gasteria, Euphorbia pulvinata.

4 FOR \$1.00

10c Brings Sample Plant and Complete List

ARM RANCH

Rt. 1

Holtville, Calif.

County Maps...

CALIF: Twnshp, Rng, Sec, MINES, All road, trail, creek, river, lake, R.R., school, camp, mgr. station, elev., ntl. forest, land grant, pwr. line, canal, etc., boundaries.

Size range 20x30 to 73x100 inches.

All Counties \$1 except as listed: Tuolumne, Santa Barbara, Plumas, Placer, Modoc, Madera, \$1.50; Tulare, Tehama, Siskiyou, Imperial, \$2; San Diego, Riverside, Mendocino, Kern, Humboldt, Fresno, \$2.50; Trinity, Shasta, Mono, San Luis Obispo, Monterey, Lassen, Los Angeles, \$3.

Inyo Co., 67x92	\$15.00
San Bernardino, 73x110	15.00
San Bernardino, No. or So. Half	7.50
N.W., S.W., N.E., or S.E. quarter	3.75

Also Oregon, Idaho and Washington County Maps.

WORLD'S MINERALS

2417 San Pablo Avenue
OAKLAND 12, California

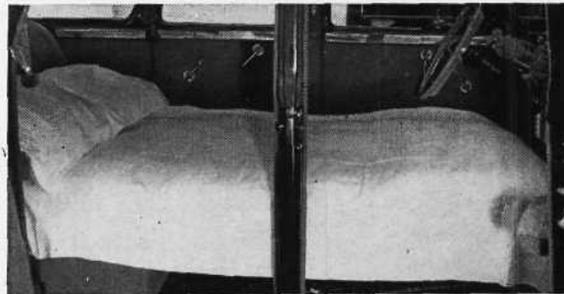
"EVERYTHING FOR THE HIKER"

SLEEPING BAGS
AIR MATTRESSES
SMALL TENTS

and many other items

VAN DEGRIFT'S HIKE HUT

717 West 7th Street
LOS ANGELES 14, CALIFORNIA



CALIF. CAR BED CO.

SLEEP in your CAR

ROCKHOUNDS, Tourists, desert lovers — Enjoy your trips in freedom and economy, with a transferable . . .

CALIFORNIA CAR BED in your sedan or club coupe. No cutting, 3 hour installation.

Dealer Franchises Available

1754 West Manchester
Los Angeles 44 TW 2661
WRITE FOR CIRCULAR

THE DESERT TRADING POST

Classified advertising in this section costs 7 cents a word, \$1.00 minimum per issue

INDIAN GOODS

ALWAYS THE BEST in Indian things. Old and new Navajo rugs a specialty. Fine jewelry and baskets. Our thirty tons of rocks and minerals include many hard to get items. Always welcome. Daniels Indian Trading Post, 401 W. Foothill Blvd., Fontana, Calif.

WANTED TO BUY: Old Indian Buttons. Mrs. M. Crommett Hall, Agua Caliente Springs, Julian, Calif.

ROAM THE DESERT with a bow in hand! Yew wood Bows \$25.00. Target Arrows \$3.00 for 6. Whiteman's Handicraft Shop, Oakland, Ore.

BOOKS — MAGAZINES

COLLECTORS the world over read The Earth Science Digest. If you like earth science, you will like The Earth Science Digest. One year subscription, \$2.00 — Sample copy 25c. Write: Dept. D., Box 57, Omaha 3, Nebraska.

GOLD PANNING for profit. Healthy, outdoor occupation. Beginners' big instruction book, blueprints, photograph—\$1.00. Desert Jim, 627 Lillian, Stockton, Calif.

BINDERS for your Desert Magazines. Loose-leaf. Easily inserted. Each binder has space for full year's copies. \$1.25 postpaid to you. Desert Magazine, El Centro, Calif.

DESERT BEAUTY and Inspiration easily mailed. Give The Courage of Joshua, brochure of illustrated poems, \$1.00. Artistic Greeting Folders of desert etchings, \$1.00 dozen, by Constance Walker, 2814 W. Ave. 30, Los Angeles, 41, Calif.

ARIZONA HIGHWAYS, Deserts, Destiny, National Geographics, New Mexico, other fine magazines are for sale by John Wesley Davis, 1611½ Donaldson St., Los Angeles, California.

"PAY DIRT": Tall Tales and authentic mining information written in the racy and zesty speech of the West—by Glen Rounds. Illustrated. Printed on fine paper, linen bound. Price \$2.00 postpaid. Addison & Sperry, Books and Magazines, 214½ E. 5th St., Los Angeles 13, Calif.

MISCELLANEOUS

PANNING GOLD — A side line hobby for Rockhounds and Desert Nomads. You should know how to pan gold, recognize gold bearing gravel and valuable quartz ledges. The places you go are where rich virgin ground is found. Send your name for new folder on panning gold, with pictures—list of mining books and equipment for prospector beginners. Old Prospector, Box 21B32, Dutch Flat, Calif.

LOOSE-LEAF BINDERS for your Desert Magazines. Preserve your back issues in these substantial gold-embossed covers. Each binder holds year's copies. Easy to insert. \$1.25 each, postpaid to you. Desert Magazine, El Centro, California.

ORIGINAL PEN AND INK SKETCHES of the American cowboy against the historical landscapes of the old Southwest. 8"x10" \$5.00. Henry Littlejohn, Box 115, Midland, Texas.

SENSATIONAL NEW Gold Testing Outfit for prospectors, rockhounds, mine owners, etc. Scientifically tests any rock or ore for gold in ten minutes! Simple, compact, economical, yet absolutely positive! Outfit, with complete instructions, only \$5.00 postpaid. Desert Laboratories, 627 Lillian, Stockton, Calif.

NATIVE WILDFLOWERS of the Great Southwest, many of them should be planted—nature's way—in the fall. Send card for fall planting seed list, many rare species listed. S. S. Lawrence—Seedsman, Box 408, Las Vegas, Nevada.

KARAKULS. Producers of Persian Lamb fur are easy to raise and adapted to the desert which is their native home. For further information write Addis Kelley, 4637 E. 52 place, Maywood, California.

CACTI AND SUCCULENTS—From the deserts of the world. Don-Rita brand. By appointment only. Write us your needs and we will try to help you. Michael Donnelly Cacti Gardens, 334 Lowell St., Daly City, Calif.

LEARN the profitable jewelry and gold-smithing trade at home. Simplified course teaches jewelry designing, manufacture and repairing; gemsetting, etc. Gemcrafters, Dept. F., Kalispell, Mont.

SILVER SHOP for sale. Unable to take care of same. L. A. Hansen, 1119 Wheeler Ave., Reno, Nevada.

MAN, MIDDLE AGED, married, former resident of the desert, desires work in desert area. Has clerical, selling and managing experience. Box 515, 455 E. Ocean, Long Beach.

WANTED: Old Envelopes with western cancellations before 1890. Also gold coins in good condition. Write: C. H. Greiner, 106 N. Sunset, Temple City, Calif.

RAISE MINK! Free folder gives inside "secrets" on feed; care. Lawrence Molgard, Brigham City 12, Utah.

FOR SALE: Karakul bed blankets, colors, blue, green, natural, maroon, weigh at least 4½ pounds. Money back guarantee. Price \$17.50. Write Addis Kelley, 4637 E. 52nd Place, Maywood, California.

REAL ESTATE

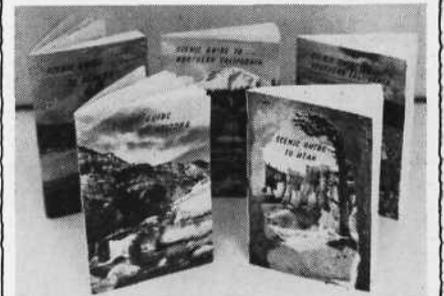
DESERT FOOTHILL HOME, all year climate 3200 elevation. Insulated, block, all tile roof, electricity, Butane tank, automatic water heater, living room, large bedroom, beautiful bath and kitchen. Extra room 9x20 for garage, studio or shop. Wide porch commanding view of valley. Five minutes to post-office, stores. Restricted, lot 200x660. Total unfurnished, \$8500. Low Terms or some trade. Photos mailed. Box B, Desert Magazine.

DESERT COTTAGES, furnished rentals edge of Mojave desert, 3300 ft. elevation, year round climate, spring water, swimming. Wm. E. Miller, Lucerne Valley, California.

FOR SALE: Ocotillo Winter Desert Resort, 27 miles west of El Centro on Highway 80. Artistically furnished 2 bed room rock house, running water, bath. Electricity to be installed soon. \$5500. Lots 100 ft. by 100 ft. with water \$200. Victoria Heights, 1 mile E. 1 mile N. of Alpine. Home sites with water to irrigate garden and fruit trees. Grand view of mountains, valleys, ocean. Best climate in U. S. according to government survey. \$850 per acre. John Chalupnik, Alpine, Calif.

FOR LEASE—1 to 5 acre placer plots with excellent building locations and water, for those interested in a permanent, romantic mining retreat. Bill Schmidt, 602 E. Whittier Blvd., Whittier, California.

DO YOU HAVE ALL OF THESE GUIDES to the SCENIC WEST?



Travel with Scenic Guides and See More

MAPS—DESCRIPTIONS—PICTURES

All Alphabetically Arranged for Quick Reference

SCENIC GUIDES to NEVADA, NORTHERN CALIFORNIA, SOUTHERN CALIFORNIA, ARIZONA and UTAH are Available Now

Price \$1.00 each at your Book Store or by Mail from

SCENIC GUIDES

Box 288

Susanville, Calif.

AMERICA'S FINEST
RESORT MAGAZINE

Palm Springs
VILLAGER

SAMPLE COPY 30c

Subscription, Per Season \$2.50

Palm Springs, California

CALIFORNIA

Buy Stovepipe Wells Hotel . . .

DEATH VALLEY—Stove Pipe Wells hotel, sea-level resort in Death Valley, will be taken over on September 1 by its new owners, George Palmer Putnam, author and former New York publisher, and Frank Morris, who formerly owned and operated a lodge in Wyoming. Morris will act as manager. The hotel at present has accommodations for 80 guests and maintains a restaurant, tap room, gift shop and service station. The new owners expect to erect modern cabins and add a swimming pool. Eighty acres of privately owned land in the national monument and water rights from Emigrant springs and Cottonwood canyon were included in the transfer.

Landscape Desert Museum . . .

RANDBURG—A county plan to improve the Desert museum at Randburg through landscaping and construction of rock walls, was scheduled to start in August. Miners were invited to bring choice building rock to the site or to tell the curators, George Silveria and William Hackman, where it might be secured. Rock-hounds and the local mineral class were invited to contribute polished desert stones and gems which could be used as capping on the walls. Desert museum has been kept open from 10 to 4 each Sunday with funds supplied by Rand district business men and museum friends.

Experimental Farm Leased . . .

CALEXICO—Joseph and Fred Eady, Jr., Calxico farmers, have been given a 10 year lease on the 537 acre East Mesa experimental farm, which recently was turned over to the Imperial Irrigation district by the U. S. bureau of reclamation. Purpose of the farm is to test the productivity of the East Mesa land which is being prepared for eventual homesteading. The lease gives the brothers free rent and water the first year, after which they must pay regular water rates and a rental increasing to \$9 an acre at the end of the 10-year period.

Brahmas Come to Blythe . . .

BLYTHE—Completing the longest east-to-west livestock shipment on record, 1500 Brahma-type steers arrived in Blythe in August, from Belle Glade, Florida, for a hot-weather grazing test. Hot-weather feeding never has proved profitable, according to Sol Branker who, with Roy Smith, shipped the \$250,000 worth of cattle to Blythe. But the Brahmas are acclimated to high temperatures and Branker hopes to be able to establish a summer feeding industry with them. Cattle are being prepared for marketing in February.

"Mayor of Ballarat" Dies . . .

BALLARAT—Frederick William Gray, "mayor of Ballarat," died in Los Angeles on July 16, age 76. Oldest—and

sometimes the only—resident of Ballarat, he was on the election board there many years. Election day dinner at Gray's home was the social event of the year for Ballarat precinct, which included Wildrose, Tuba, Jail, Surprise, Happy and Pleasant canyons, Mahogany and Harrisburg flats. Gray came to the Panamint area in 1898 when he staked claims in Anvil Spring wash. He set up an assay office in booming Ballarat in 1900, and remained after the boom passed.

Canal Water at Mecca . . .

MECCA—First water for agricultural use was released from the Coachella branch of the All-American canal near Mecca on August 12. Release of the water, which had come 144 miles from the Colorado river, was part of a temporary relief plan to help land already developed, during the period while the canal is being completed. More than 75,000 additional acres of Coachella valley land will be opened to farming and ranching when the project finally is finished.

Twentynine Palms airport, one of the army's first glider training school sites and a navy rocket training school, which was appraised at \$450,000, has been transferred by the War Assets administration to San Bernardino county.

Borrego valley will have telephone service for the first time when a 17-mile line starting from Ocotillo is completed. The line, to cost \$20,000, was expected to be in operation by the end of August.

Highway 66 association plans to erect billboards at strategic points in order to deflect auto traffic from the newly authorized Cross-Country highway, when it is completed.

Camp Irwin, consisting of 637,820 acres of land in the Mojave 38 miles north of Barstow, has been declared surplus by the war department.

Construction of a new highway over the Slate range, connecting Trona with Death Valley and eastern points, is expected to start in October.

NEVADA

Helicopter Horse-Hunter . . .

GOLDFIELD—"Rock" Cozod of Reno has received permission from the Esmeralda county board of supervisors to hunt wild horses with a helicopter, and posted a \$2000 bond to prove that he wasn't fooling. He plans to use the helicopter like a cow pony, riding herd on the animals and keeping them headed in the desired direction. He was given permission to hunt at Horath, Cow Camp, McNamara, Barrel, Cedar, Joshua, Brickyard, West, Houlihan, Cognon and Wild Horse springs.

Dredge for the Colorado . . .

BOULDER CITY—A specially designed suction dredge, complete with fuel barge, pipe barge, work barge and power plant, to cost \$871,000, has been ordered by the bureau of reclamation. It will take a year to construct, and will be used to correct difficulties caused by silt deposits along the Colorado river below Hoover dam. It is designed to work in dense tules, willows and other vegetation, and also in sand, clay and gumbo. The dredge will be about 40 feet wide, 120 feet long and have a draft of not more than six feet.

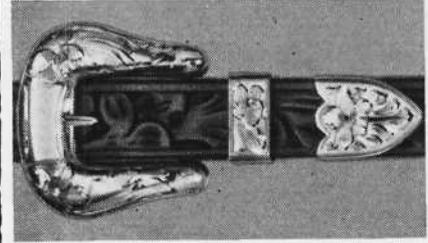


Illustration One-Half Actual Size

STERLING SILVER 3 PIECE WESTERN BUCKLE SET and BELT

What a bargain! This beautiful 3 piece Sterling Silver deep cut hand-engraved buckle set and 3/4 inch hand-tooled top grain solid leather belt. **\$8.25**

BOTH Postpaid

(Price includes Federal tax)

ORDER NOW FOR XMAS

Money refunded within 5 days if not satisfied

Send for illustrated catalog of our line of Western Jewelry

TRADER BYRNE

2 Locations in California:

207 North Dillon Street — Los Angeles 26
Box 50 — Palm Desert

Dealer Inquiries Invited

THE HOTEL AT THE PALMS

FIREPLACE—
ADOBES

ALL SPORTS

OPEN
ALL YEAR



Gateway to Joshua Tree Monument

ROBT. VAN LAHR, Mgr.

For reservations write or call at
29 Palms Inn, Twentynine Palms, Calif.
or Call any Travel Bureau or Automobile Club

**29 PALMS
INN**

Will Revive Soda Plant . . .

FALLON—Revival of the soda making industry at Soda Lake, near Fallon, is planned by James O. Greenan, Nevada mining man, who leased the lake from the Truckee-Carson Irrigation district. If tests prove favorable, Greenan will erect a \$10,000 pilot plant. Production of soda at the lake continued from 1870 until after 1900 when irrigation raised the lake level and diluted the water's mineral content. Greenan is depending upon higher soda product prices and improved recovery methods to return a profit.

Goldfield Landmark Moves . . .

GOLDFIELD—St. John's in the Wilderness Episcopal church, built in Goldfield 40 years ago, is being stripped of its timbers, paneling, trusses, stone arches and furnishings. The materials will be placed in the St. John's Episcopal chapel to be built at Galilee, on Lake Tahoe. St. John's has been one of Goldfield's historical landmarks.

Extend Mead Park Area . . .

BOULDER CITY—All bureau of reclamation withdrawn lands along the Colorado river in the vicinity of Davis dam have been placed under jurisdiction of the national park service and added to the Lake Mead recreational area. The agreement extends the park area 15 miles

farther south on the Nevada side of the Colorado river, and 18 miles on the Arizona side, for a width of six miles on each bank. The national park service will provide recreational and other facilities in the new area, and permits for mining and grazing will be issued in the same manner as for the rest of the Lake Mead recreational area.

Cooperate for Tourist Trade . . .

LAS VEGAS—An interchange of tourists, through emphasis on the varied recreational facilities, climate and attractions of Arizona, Nevada and New Mexico, was advocated by representatives of 12 Southwestern cities who met in Las Vegas in August. Cities who sent delegates to plan cooperation instead of competition were: Las Vegas, Reno, Tonopah, Hawthorne and Boulder City, Nevada; Phoenix, Tucson, Bisbee, Florence, Nogales and Kingman, Arizona; and Santa Fe, New Mexico.

Investigation of underground water supplies of Paradise, Quinn River and Grass valleys is being conducted by U. S. geological survey in conjunction with Nevada state engineer's office.

L. J. Murphy, owner of the Rhyolite bottle house, where he has a display of minerals and relics of the Bullfrog gold rush days, declares that while the town of Rhyolite may be up for sale, his bottle house is not.

Bing Crosby bought the Kearns, Evans, Bellinger and Truett ranches in Elko county, a total of 20,000 acres of land with grazing rights on several hundred thousand more.

NEW MEXICO

Big Ranches Are Gone . . .

ALBUQUERQUE—The day of the huge cattle ranch in New Mexico is over, according to George A. Godfrey, president of the New Mexico Cattle Growers association. Of the 4092 members of the association, 1719 own fewer than 65 head of cattle, and only 282 own more than 500. "The trend in ranch and land ownership is toward smaller units with better grades of stock," Godfrey, who homesteaded his present headquarters location in Animas valley in 1910, declared.

Find Fossil Zoo . . .

LINDRITH—The fossil-hunting expedition of the American Museum of Natural History has discovered "the richest single deposit of early mammal bones ever found in the Southwest and perhaps of this age in the world," in the opinion of its leader, Dr. George Simpson. In addition to the ancestor of the dinosaur, the party has found, near Lindrith, more than 40 kinds of animals which lived about 60,000,000 years ago. Discoveries included

extinct species of snails, fishes, lizards, snakes, turtles, alligators, squirrel-like rodents, flesh-eating creodonts, the lemur, the eohippus and the meniscotherium.

Indians Can't Vote . . .

GALLUP—District Judge David Chavez on July 30 ruled that Indians living on reservations or in pueblos and not paying an ad valorem tax on property are not eligible to vote under the New Mexico constitution. He made the ruling in dismissing the damage suit of two Zuñis and one Navajo against McKinley county clerk Eva Ellen Sabin for her refusal to register them as voters. He did not rule on the status of Indians who had severed tribal relations and were living off the reservation and subject to taxation.

Pueblo Changes Name . . .

TAOS—The ancient Picuris pueblo, near Peñasco, has changed its name and become San Lorenzo. The change was made during the fiesta of San Lorenzo, patron saint of the village. Eris Hagberg, superintendent of the United Pueblos agency and Abel Paisano of the All-Pueblo council assisted in the ceremony and dedication of the new name. Authorities believe that the word Picuris, which is neither Spanish nor Indian, was as near as the Spanish could get to the Indian word which means "people of the mountain."

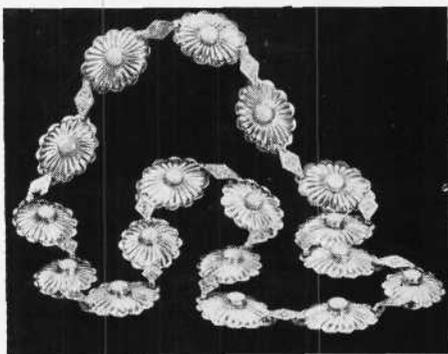
Mogollons Lived High . . .

RESERVE—The highest site of prehistoric Mogollon Indian culture known to date has been found in western New Mexico, near Reserve, by an archeological expedition of the Chicago Natural History museum. Evidences of ancient culture have been found at 7000 feet above sea level, and excavations will begin soon. Excavators will attempt to determine the origin of the Indians and the approximate date they occupied the site.

Author Back with Navajo . . .

GALLUP—Walter Dyk, Brooklyn college anthropologist and author of *Son of Old Man Hat*, autobiography of a Navajo, has returned to Gallup after 12 years absence, to spend a year gathering information for the continuation of the autobiography. He has brought a wire sound recorder to record his interviews. Most of the work will be done in the vicinity of Lukaichuki.

Lovely Arizona
"CONCHA" BELT



Here's your chance to own this exquisite example of Southwestern artistry at very little cost. Each large (1 3/8"x1") Concha in this beautiful belt is set with flawless, matched, genuine blue turquoise measuring 1/3 of an inch. Hand rubbed silver and silver solder throughout. Handsome engraved links. The Concha belt will be a prized addition to your jewel case—a flattering accent with any costume, sport or formal—a precious gift. Only \$17.50, post and tax prepaid. (\$9.50 in plain silver without turquoise.) No extras. Send for your Concha belt today! Enclose check or money order with your name and address to:

HAROLD MARYOTT
MIAMI — ARIZONA

OIL PAINTINGS . . .

FROM KODACHROMES

Your favorite desert color shot accurately reproduced in oils will make a permanent decoration for your home. Prefer scenes from the red rock country. 12x16, \$16; 16x20, \$20 (no frames); other sizes in proportion.

CHARLES KELLY — Torrey, Utah

Arthur F. Kidder, U. S. geological survey engineer will chart the last 150 miles of unsurveyed New Mexico-Colorado boundary this fall. He estimates it will take a year to cover the area from the San Juan river to the junction of the state lines at Four Corners.

Author Jose Mallorqui Fugerola reported from Barcelona, Spain, that his biography of the famous New Mexico outlaw, *Billy el Nino*, had been a best seller for two years and was coming out in a new edition.

UTAH

Ancient Rocks at Alta . . .

ALTA—The rocks at Alta range from the pre-Cambrian, hundreds of millions of years ago, to the comparatively recent Jurassic, according to Frank C. Calkins who is surveying the area for the U. S. geological survey. "We're doing hard climbing," the 70-year-old geologist added, "and we haven't been able to use horses because they can't go where we go." The completed project will include a complete aerial map of distribution of rocks in the region. Weather closes the surveying season in October, but Calkins hopes to continue with underground work in mines of the vicinity.

City in Monument Valley . . .

MONUMENT VALLEY—A city of 1000 population has sprung up in Monument Valley, near Goulding's trading post, for production of the film "War Party," based on a story "Massacre," by James W. Bella. One of the largest undertakings attempted in the valley, the picture calls for employment of 400 Indians, who will play the Apache war party, 100 local riders and 100 stunt riders from Hollywood. The company is being housed in a tent city. A truck fleet operating between the location and Flagstaff furnishes supplies.

Utah Naval Observatory? . . .

RICHFIELD—Federal experts seeking a new site for the naval observatory now at Washington, D. C., are considering at least two sites in Utah, at Richfield and in Wayne county. Prerequisites for the new site are that it be in about the latitude of Washington, D. C., and that it be free from smoke and soot and have an excessive number of clear days in the year.

Seek Oil Leases . . .

VERNAL—Fred W. Johnson, director of the land office of the bureau of land management announced in July that the government would issue oil and gas leases on Uintah Indian reservation lands lying within Ashley, Uintah and Wasatch national forests. Since that time, applications for leases on 80,000 acres of land have been received. Among the companies interested were Stanolind, Pure, Carter, and Sinclair.

Excavate Pueblo Site . . .

CISCO—A party of seven from Colorado Museum of Natural History, headed by Miss Marie Wormington, has resumed explorations and excavations on a pueblo archeological site on Cottonwood creek, Book mountains, north of Cisco. During the season archeologists from the Carnegie museum expedition and the University of Utah will visit the excavations. The site is considered important because it has not followed the regular pueblo pattern, showing many features not found in other prehistoric Southwestern villages.

Use Boat for Mountain Fire . . .

JENSEN—A lightning bolt started a fire on the steep slopes of Split mountain in Dinosaur national monument. Jess Lombard, monument custodian, scouted the blaze by airplane and found that it was inaccessible by foot or horseback. So, piloted by Bus Hatch, veteran river runner, Lombard and Lee Sneddon, park ranger, traveled by boat up the Green river, 3½ miles into jagged Split mountain canyon, landed and had the fire out by nightfall.

Neal Ray, last of the original pioneers who came to the Moab section in 1877, died on August 1, age 87.

ANSWERS TO DESERT QUIZ

Questions are on page 24

- 1—Needles, California, is on the Colorado river.
- 2—Albuquerque, New Mexico—Rio Grande river.
- 3—Holbrook, Arizona—Little Colorado river.
- 4—Bluff, Utah—San Juan river.
- 5—Wickenburg, Arizona—Hassayampa river.
- 6—Barstow, California—Mojave river.
- 7—St. George, Utah—Virgin river.
- 8—Jensen, Utah—Green river.
- 9—Clarkdale, Arizona—Verde river.
- 10—Carlsbad, New Mexico—Pecos river.
- 11—Benson, Arizona—San Pedro river.
- 12—Gila Bend, Arizona—Gila river.
- 13—Roosevelt dam—Salt river.
- 14—Elko, Nevada—Humboldt river.
- 15—Boulder City, Nevada—Lake Mead.
- 16—Provo, Utah—Utah lake.
- 17—Mecca, California—Salton sea.
- 18—Hawthorne, Nevada—Walker lake.
- 19—Leevining, California—Mono lake.
- 20—Death Valley Jct., Calif.—Amargosa river.

You Need Adequate

LIGHTING . . .

ADEQUATE LIGHTING TODAY MEANS
CORRECT EYE-SIGHT TOMORROW

Is your home one of those that has only one good place for reading and close work? It's a wise investment in home comfort and better eye-sight to have adequate light for all requirements for all members of the family. The days will soon be getting shorter and the nights longer; why not make sure that your home is adequately lighted?



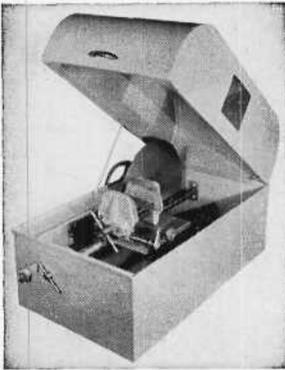
The Lapidary Journal

New October issue, just out, contains well illustrated articles on agate carving, making agate-silver dinner ware, the finest article that has ever appeared on faceting soft stones and three departments for the beginner. Many other interesting articles and lots of news.

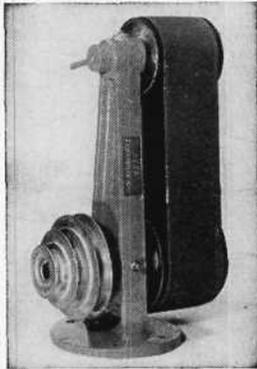
Published Quarterly — \$1.00 a Year
Back Numbers 35c Each
(There are Two)

LAPIDARY JOURNAL
P. O. Box 1228 Hollywood 28, Calif.
LELANDE QUICK, Editor
HARRY R. RINGWALD, Manager

'Alta' Lapidary Equipment



DIAMOND SAW UNIT. 16" Capacity. Will cut slabs 6 by 8 inch with 4" cross feed. 3 speed power feed with quick return feature.



SANDER & POLISHER Alum. construction. Die cast pulleys. Eccentric cam device makes changing and tightening of belts easy. This unit is ideal for sanding and polishing.

GRINDING ARBOR Heavy construction. Sealed SKF Ball bearings. Shaft 15" lg. with 3/4" arbor for up to 10" dia. wheels. 42" Belt furnished. Built to last a lifetime.

WRITE FOR LITERATURE

ALTA ENGINEERING CO.
915 E. Washington Street
PASADENA 6, CALIFORNIA

AMATEUR GEM CUTTER

By LELANDE QUICK
Editor of The Lapidary Journal

Since some mineral magazines have complained of inequities that allegedly occurred at the California Federation of Mineralogical societies' spring show at Santa Barbara, we might as well get in on the discussion. Although the federation put on a good show, it is aware of its weaknesses and acknowledges errors. It has invited our advice regarding next year's show at Long Beach. We confidently predict that the Long Beach mineral show will be the greatest ever held, because the host society is working hard on the plans right now, rather than waiting for the eve of the exhibition.

We do not belong to any society that is a member of the federation. But we are intensely interested in the success of their shows because they are in a position to combine with their mineral shows a greater display of the lapidary art than can any single lapidary society. We are interested in the promotion of the lapidary art, and the logical place to promote it is in the mineral societies. Mineral collecting and gem polishing go together like ham and eggs.

As we see it from the sidelines the weakness in the past has been with the so-called "host" societies. Perhaps at times they have undertaken too much for their limited abilities, and declined advice from other societies because of characteristic American independence. A host society can be strong and well equipped for the job or it can be weak and unable to present a good show. No society is stronger than its strongest members and there is no group of organized individuals, of which we have been a member, run by more than 20 per cent of the membership. The other 80 per cent sits by and disgruntledly grunts or passively purrs. It is true of churches, lodges, service clubs, mineral societies and the individual American family. Admitting this premise, and considering the fact that few mineral societies have a membership in excess of 100, the huge task of a state convention therefore devolves upon about 20 people—and they often are divided against themselves. A federation show run by the federation with societies in the convention location area cooperating seems to be the answer.

Then there is the sore question of money. Society members want their precious minerals displayed safely in a fine building, and they want plenty of space and lighting. This costs money and the money has to come from somewhere. People have to spend money to properly display their treasures to their friends at home. Someone has to spend money to display their things for them elsewhere. Thus far the money has been coming from dealers who buy exhibit space. Some visitors get excited about commercialism and some dealers get mad at being pushed around. Many people buy mineral magazines only for the advertisements, and many people attend mineral shows only to buy minerals for their own collections. They are not too interested in other people's displays.

The practice of awarding ribbons should be eliminated and adequate cash prizes should be substituted. The ribbon situation has sent more people home mad than anything else at the shows. We had our own experience along that

line at the Santa Barbara show where we acted as a judge of the lapidary displays. One disgruntled member told us to bring our flashlight next time so that we could see and better judge the displays. Any display that needs a flashlight played upon it so that it can be seen should be disqualified in the first place.

Our own thought on the matter is this: Always have the convention in a city equipped for it. Divorce the commercial displays from the exhibits and have a ticket that will admit a person to both exhibits. Use the proceeds to give an adequate, safe and well lighted space to the collector or lapidary accompanied by suitable cash awards so that folks really will be encouraged to exhibit their very best specimens and gems in an atmosphere apart from hawking. Give the commercial exhibitor every kind of a break with adequate space and long months of publicity build-up in charge of competent people.

Long Beach, where the next conclave will be held, is ideal for a trial of this idea, for they have the facilities. The host society is a live and cooperative group and the affair is being run by persons who have demonstrated their organizing ability by successfully developing their own businesses. If the federation gets behind the dealers and collectors with real publicity and the dealers get behind the federation with publicity of their own, a cooperative show could be developed that would be worth a half dollar of anyone's money. We believe no one would stay home because of a half dollar admission fee.

A convention run like the business proposition it really should be, could draw a minimum of 10,000 people at a three-day affair, and garner \$5000 in admissions. That sum wisely spent could promote a show such as no one has ever seen. We'd like to see it.

Another idea which strongly appeals to us was passed along to us by our good friend Fred Rugg, known to almost every rock hunter in California. Many of the real rock hunters of the desert regions, the people who have the fine specimens, are earthy people. They want to come into town in their jeans and work pants and their boots. They don't want to get dressed fancy and dig into a hotel. If some space could be provided (and it certainly can be in Long Beach) where these folks could park their trailer or pitch a tent and dump their rocks in a pile, just as the country farmer used to come into the old time city markets with his produce, then you would see rocks that would make you bug-eyed.

People would have the time of their lives; the people who really love rocks. No rock miner would return home with any rocks. Those that were not sold at the show would be picked up by enterprising city dealers. While this scheme can well promote a lot of discussion, it seems to me to have the merit of making the greatest number happy. We will hear from collectors, we will hear from dealers, but we'd especially like to hear from the out-of-the-way places the reaction of the man out of the desert who has gathered some good rock but dislikes going to town. Send us your thoughts.

GEMS AND MINERALS

SAN DIEGO SOCIETY PLANS BALBOA PARK GEM SHOW

San Diego Mineralogical society will hold a gem and mineral show in the State building, Balboa park, San Diego, October 18-19. There will be ample free parking, and sandwiches and cold drinks in the building. The hall will be open all day Friday for exhibitors to place their displays, and the show hours are from 10:00 a. m. to 10:00 p. m. on Saturday and from 10:00 a. m. to 6:00 p. m. on Sunday.

Plans call for commercial displays and four groups of non-commercial exhibits. All those wishing to advertise or sell minerals or equipment must enter the commercial classification. Non-commercial divisions are: A. craftsmanship, B. mineralogy, C. resources, and D. (all other entries) guests. A guard will be in the exhibit room throughout the show.

All requests for space must be in by October 7. Commercial space is 10 by 14 feet with a 3 by 14 foot table, and costs \$10.00. Guest space includes any number of 3x14 tables, but no cases are available. Anyone desiring space or further information should write Norman E. Dawson, manager of displays, Route 2, Box 447, San Marcos, California.

GEM CLUB ORGANIZED FOR COASTAL ORANGE COUNTY

A mineral and lapidary group for the coastal Orange county area was organized at Corona Del Mar July 27 with Lelande Quick as speaker. Officers of the new organization are: president, Howard "Barney" Barnes, Corona Del Mar; vice-president and program chairman, Bob Neece, Laguna Beach; secretary-treasurer, Mrs. Clayton W. Smith, Corona Del Mar; field trip chairman, Erwin Tonne, Costa Mesa; hospitality chairman, Mrs. James Benedict, Corona Del Mar; sales chairman, Braden Finch, Corona Del Mar. Fifty-five persons attended the organization meeting.

All phases of the hobby will be included in the new club's program. There will be study groups in mineralogy, classes in lapidary and jewelry craft, and a junior group will be sponsored. Regular meetings will be held on the third Monday night of every month, with a field trip scheduled during the early part of each month. Charter membership will be held open for 60 days after the September meeting. Present meeting place is the Baltz mortuary chapel in Corona Del Mar.

The society invites any interested persons, or members of other societies to meet with it.

SAN FERNANDO ROCK, GEM EXHIBIT ON OCTOBER 25, 26

Annual show of the San Fernando Valley Mineral and Gem society will be held at the North Hollywood Recreation center, 5300 Tujunga, North Hollywood, October 25-26. Minerals, gems and jewelry will be on exhibit. Further information may be obtained by writing Mrs. W. L. Cooper, secretary, 445 W. California street, Glendale 3, California.

MINERALOGY-GEOLOGY CLASSES START IN LOS ANGELES

Classes in mineralogy-geology will be held in three Los Angeles evening high schools, starting September 15. The classes will meet at North Hollywood high school on Mondays, Hollywood high school on Tuesdays and Thursdays, and Belmont high school, 1575 W. Second street on Wednesdays and Fridays. Hours will be 7:00 to 10:00 p. m. The classes are under direction of the adult education program of the Los Angeles city schools. John Benkart is the instructor.

During the fall term the classes will study the principles of geology, origin and occurrence of minerals, prospecting methods, and the nature and properties of minerals, including laboratory work in identification and recognition of important types. Interested adults are invited to attend.

GENUINE ZIRCONS, first quality, unset. 3 stones, total average 3-kts. special value \$6.00. All colors. Or will trade zircons for any old gold or broken jewelry you may have. Send order or write for free shipping container. B. Lowe, Dept. D-9, Holland Bldg., St. Louis, Mo.

MINERAL IDENTIFICATION SIMPLIFIED

By O. C. SMITH, A.B., A.M.
2nd Revised Edition
Price \$3.50
Plus Tax in California



—Also the Great New Book—

IDENTIFICATION AND QUALITATIVE CHEMICAL ANALYSIS OF MINERALS

By O. C. SMITH, A.B., A.M.

300 minerals, 120 Blowpipe tests, 40 Bead tests and the response to Ultra-Violet light all shown in finest full color. Nothing like it ever published before. The Analytical procedure is the most complete and the simplest ever devised. Anyone can analyze minerals now.

Price \$6.50
Plus Tax in California

Order from — O. C. SMITH - Dept. D
5157 Santa Ana St. — Bell, California
or Your Local Dealer

NEW PORTABLE RADARLITE

You have been asking for them—here they are. This completely portable ultra-violet source for 3600 ANGSTROM UNITS is the first ever to be offered to the prospector or hobbyist. Size 8x4½x9". Weight complete with self-contained batteries 8½ lbs. Entire unit carried by handle in one hand. Picture sent on request. Can be used as a white light lantern by changing tubes. Complete with Blacklite and White-lite tubes, and batteries — \$19.75 F.O.B. Pasadena.

DID YOU REMEMBER to send 35c for your copy of our NEW 15th ANNIVERSARY CATALOG? Due to labor troubles at the printers these were delayed until August 20th. If you sent for a copy wait until about Sept. 15th before notifying us that it did not arrive. Please excuse this delay—it was unavoidable. This is a 52 page catalog 9x12" in size. It is profusely illustrated and contains many articles of valuable instructions for jewelry making and gem cutting. It contains the most COMPLETE LISTING of EQUIPMENT, TOOLS, and MATERIALS for use in GEM CUTTING and JEWELRY WORK that has ever been published. Your money promptly refunded if you return catalog to us in case it is not of interest.

BE SURE TO VISIT OUR SHOP — We have spent the past two months working on new cabinets, mixing cement, and unpacking minerals. You just never saw so many specimens in any one place. 100,000 SPECIMENS ARE A LOT OF ROCKS, but that is what you will see at our remodelled shop. PLAN A FIELD TRIP to our OUTDOOR MINERAL DEPARTMENT — you'll see MORE ROCKS THAN ROCKEFELLER — YOU'LL HAVE MORE FUN THAN CONEY ISLAND.

LAPIDARY EQUIPMENT — SEE ALL THE BEST MAKES AT ONE PLACE — NO NEED TO SHOP AROUND. ALL TYPES OF SAW UNITS DEMONSTRATED. We will be pleased to FULLY EXPLAIN just what you need to GET STARTED IN LAPIDARY and ROCK POLISHING. JUST TWO THINGS TO REMEMBER — VISIT OUR SHOP AND ORDER OUR NEW HUGE 35c CATALOG.

GRIEGER'S 1633 E. WALNUT STREET
PASADENA 4, CALIFORNIA

GEM MART

ADVERTISING RATE
7c a Word — Minimum \$1.00

MINERAL COLLECTION, for sale on account of illness. Collection sold as a whole only. Also 50 to 75 lbs. of uncut material, Agates from Arizona, yellow and brown Agate from California. Makes beautiful dress buttons. Roy Carson, 45 Eureka St., Pasadena 3, Calif. Telephone SY. 3-2759.

MANY NEW and beautiful specimens. Just in from the field. \$2.00 brings you six, all different. Price list on cutting material and other specimens on request. Jack the Rockhound, P. O. Box 86, Carbondale, Colo.

ZIRCONS, White stones, sizes 4mm to 6mm at 3 stones for \$3.25, postpaid. Agate, etc., cabochons at \$6.00 to \$24.00 per dozen. Rough sawed slabs and rough agate at right prices. Bishop's Agate Shop, Maryhill, Wash.

BARITE CRYSTALS: Pale blue Barite crystals from near Sterling, Colo., Read Dana for description. Single terminations 25c, double terminations 50c. Minimum order \$1.00, postpaid. W. F. Dukes, Box 531, Golden, Colo.

ATTENTION ROCKHOUNDS—Moss Opalite, Petrified Wood and Onyx, Multi-Colored Opalized Agate in lovely patterns and color combinations. Fine cutting material, also fluoresces various colors, blue, lemon, pink. Sample order of one pound assorted for One Dollar or five pounds Four Dollars. Apache teardrops, amethyst crystals, quartz crystal geodes, and thunder eggs. Chalcedony geodes and fluorescent chalcedony roses. Any of the above assorted \$1 per pound. Orders filled same day received. Special prices to dealers on request. Correspondence invited. Guide service to choice gem locations at a reasonable fee. We positively guarantee abundant supply of quality material. Use your car or ours. Oasis Gem Co., P. O. Box No. 838, Wickenburg, Arizona.

BEAUTIFUL PETRIFIED PICTURE WOOD from Northern Arizona. We think you will agree with us that we have as beautiful Picture Wood as you have ever seen. This is truly a gem wood of character with a picture in every piece. Black Petrified Wood from Northern Arizona. Gem quality, really black takes a high polish. Very limited supply of both picture and black wood so sold only in slabs 10 square inches \$3.50 or 100 square inches \$30.00. Postage prepaid if check with order. Also cut stones (see below). Chrysocolla Gem Quality from Miami, Arizona. Beautiful robin-egg blue. Sold only in cut stones (see below). Turquoise of Quality from Nevada and Arizona from 10c to \$1.00 per karat. Have some blue Gem, Battle Mountain, Cortez, etc. Sold only in cut stones (see below). Cut Stones Wholesale and Retail. We have excellent stock beautiful cut stones in Picture Wood, Black Petrified Wood, Chrysocolla and Turquoise for bracelets, rings, ear-bobs, pins, etc. Send for our current price list. Satisfaction guaranteed or money refunded. Steve Hambaugh, Box 332, Wickenburg, Ariz.

HAVE PURCHASED the collection of the late Mr. F. W. Stout, of Oswego, Kansas, 7000 Indian Artifacts, Egyptian Relics, 5000 Minerals from over the world, also plenty of Tri-State Minerals, Bulk Ores of Galena, Sphalerite cleavages, also Xled Tri-States, Dealers welcome. Call and see them. No mail orders. Boodle Lane, one mile west of Galena, Kansas, on 66 highway.

CUSTOM CUTTING, POLISHING. Excellent Friday Ranch nodules, triple flow bloodstone, obsidian, agate. Walt Bunge, 701 Orange, Santa Ana, California.

ATTENTION ROCK COLLECTORS. It will pay you to visit the Ken-Dor Rock Roost. We buy, sell, or exchange mineral specimens. Visitors are always welcome. Ken-Dor Rock Roost, 419 So. Franklin, Modesto, California.

MINERALS, GEMS, COINS, Bills, Old Glass, Books, Stamps, Fossils, Buttons, Dolls, Weapons, Miniatures, Indian Silver Rings and Bracelets, Also Mexican. Catalogue 5c. Cowboy Lemley, Las Cruces, New Mexico.

MONTANA MOSS Agates in rough for gem cutting, direct from diggings, \$1.00 per pound, prepaid. Nels Christofferson, Richey, Montana.

YOUR OPPORTUNITY: We have to move and are going to reduce our large stock of Nevada material. Assorted, agatized and opalized wood, agates, algae, jaspers, geodes, amygdaloids, etc., 5 lbs. \$2.00, 10 lbs. \$3.50, 25 lbs. \$7.00. Slabs from this material 10 sq. in. \$1.00. 50 sq. in. \$4.00, 100 sq. in. \$7.00. Assorted good specimen wood and lots of good cutting material, 10 lbs. \$2.50, 20 lbs. \$4.50, 40 lbs. \$8.00. Please include postage or we will ship express, charges collect, whichever you prefer. John L. James, Tonopah, Nevada.

JADE, RHODONITE, Lapiz Lazuli. Try us for a fine gloss polish on these hard to finish gem stones. Large specimen polishing. Drilling any size and quantity. H. M. Samuelson, 1012 El Camino Real, N., Salinas, Calif.

MONTANA MOSS AGATES in the rough for gem cutting \$1.00 per lb. plus postage. Also Slabbed Agate 25c per sq. in. (Minimum order \$1.00). Elliott Gem Shop, 26 Jergins Arcade, Long Beach 2, California.

FINE PAPERWEIGHTS — Pen mounts, matched sets, many mineral types. Featuring Texas fluorescent turritella. Sent on approval. Discount to dealers. Clay Ledbetter, 2126 McKenzie, Waco, Texas.

INDIAN RELICS, Curios, Coins, Minerals, Books, Old Buttons, Old Glass, Old West Photos, Weapons, Catalogue 5c. Lemley Antique Store, Osborne, Kansas.

ROCK COLLECTORS — ATTENTION. This summer I expect to cover 7 Western states, with the Trailer Rock Store. Send me your address, so I can notify you. Remember, I carry the finest variety of rock and mineral specimens in the west. The Rockologist, 1152 So. 2nd Ave., Arcadia, Calif.

FLUORESCENT MINERALS. Tested under short wave Mineralight. Colorado: Brilliant yellow-orange fluorescent and phosphorescent barite 50c to \$2.50. Canada: Phosphorescent gypsum roses 2 for \$1.00. Arizona: Scheelite \$1.00 upward. Chalcedony roses 3 large or 8 small \$1.00. Postage Extra. MaryAnn Kasey, Box 250, Prescott, Arizona.

MINERAL AND FOSSIL COLLECTORS! Read The Earth Science Digest, a monthly publication reaching thousands of collectors the world over. One year subscription \$2.00. Sample copy 25c. Write: Dept. D., Box 57, Omaha 3, Nebraska.

MINERAL SPECIMENS: Micro-mount and Thumb-nail sizes; write today for free list. J. E. Byron, Mining Engineer, 1240 Pearl Street, Boulder, Colorado.

MINERAL SPECIMENS, slabs or material by the pound for cutting and polishing, RX Units, Felker Di-Met Saw Blades, Carborundum wheels, Cerium Oxide, Preform Cabochons, Indian jewelry, neck chains. Be sure and stop. A. L. Jarvis, Route 2, Box 350, Watsonville, California, 3 miles S. on State highway No. 1.

THE DESERT RATS NEST—All gems listed in the March issue still in stock and the following new arrivals, Australian faced opal, dark red and green colors, uncut rough red and green pinfire opal, from Coober Pedy field. New parcel of star sapphires, some fine stones, grey color only. Two great tourmaline matrix specimens, 2 and 3 pounds wt. My private collection, 800 pounds museum specimens. Rose green and bi-color Mesa Grande tourmalines, up to 1½ in diameter. Finest in the west. In customs fine amethyst and citrine crystal points. Lots of specimens. Geo. W. Chambers, P. O. Box 1123, Encinitas, Calif. Home address: Contact Texaco filling station, on 101 and F Sts.

4 VERY FINE ancient Indian Arrowheads \$1.00. 4 tiny perfect bird arrowheads \$1.00. 1 Ancient Stone Tomahawk \$1.00. 2 Flint Skinning Knives \$1.00. 1 Large Flint Hoe \$1.00. 2 Spearheads \$1.00. 10 Arrowheads from 10 states \$1.00. 20 Damaged Arrowheads \$1.00. 10 Fish Scales \$1.00. 10 Hide Scrapers \$1.00. 4 Perfect Saw Edged arrowheads \$1.00. The above 11 offers \$10.00 Postpaid. List free. Lear's, Box 569, Galveston, Texas.

FIFTY MINERAL SPECIMENS, ¾" or over, boxed, identified, described, mounted. Postpaid \$4.00. Old Prospector, Box 21A31, Dutch Flat, Calif.

30c GETS YOU LAUCK'S Prospector Guide to identify 185 ore Minerals you should know. No trip or meeting is complete without this easy to carry booklet. E. R. Hickey, 2323 So. Hope, Los Angeles 7, Calif.

HIGHEST PRICES for meteorites, iron or stone or any specimen of natural iron (metallic iron, not iron ore). S. H. Perry, Adrian, Mich.

MINERAL SETS—24 Colorful Minerals (identified) in 1x1 compartments—Postage paid, \$3.50. Prospector's Set of 50 Minerals (identified) in 1x1 compartments in cloth reinforced sturdy cartons. Postage paid \$5.75. Elliott's Gem Shop, 26 Jergins Arcade, Long Beach 2, Calif.

FLUORESCENT EQUIPMENT and minerals, gorgeous specimens small or large, always at reasonable prices. Write for further information if you are interested in u.v. phenomena, or send \$5.00 for sample collection of 10 fine fluorescents 2"x2" postpaid in U. S. Satisfaction guaranteed. H. Stillwell & Son, Rockville Centre, N. Y.

Past-president Porter of the East Bay Mineral society reports in the club bulletin that many makers of cabochons fall down on their final surfacing before polishing. He suggests that 500 or 600 grit carborundum powder or paper be used to take off the scratches before putting the stone on the buff for polishing. This will prevent the "orange peel" effect so often found. For final high gloss he recommends a little rubbing on a leather buff with tin oxide.

CALIFORNIA CONVENTION DATE CHANGED TO JULY 16-18

Date for the 1948 state convention of the California Federation of Mineralogical societies, to be held in Long Beach, has been changed to July 16-18. The convention originally was scheduled for June, and the change was made so that it would not conflict with the national convention of the newly organized National Federation of Mineralogical societies to be held in Denver that month. Lowell R. Gordon, 1850 E. Pacific Coast Highway, Long Beach 6, California, has been named convention chairman. Information regarding the show may be obtained from him.

LONG BEACH SETS FOURTH ANNUAL SHOW OCTOBER 12

Fourth annual mineral show of the Long Beach Mineralogical society will be held October 12 in the Machinists' hall, 726 Elm avenue, Long Beach, California. Exhibits will open at 10:30 a. m. and close at 5:30 p. m. The club collection will be on display for the first time at the show. Refreshments will be served, and there will be a grab bag and raffles. Fred Schmidt is general chairman.

CHAMBER OF MINES INVITES COLLECTORS TO EXHIBIT

Riverside county chamber of mines has issued an invitation to dealers and amateur exhibitors and collectors in all parts of the country to take part in the chamber's second annual gem and mineral show to be held in Riverside, California, November 7-9. Every courtesy will be extended to them and their exhibits will be placed to show to best advantage. Those wishing to participate in the show are asked to contact Mrs. Retta E. Ewers, 3961 Third street, Riverside, California, and further information will be sent to them.

AMONG THE ROCK HUNTERS

Victor Arciniega spoke on "The Origin of Minerals" at the August meeting of the Southwest Mineralogists. Mrs. Jeane Lippitt was program chairman. Charles Standridge gave a talk on peridot and sardonyx at the club business meeting.

"Paint is made from pigments of the earth and is as old as man himself," Gene Kelsh told the Yavapai Gem and Mineral society of Prescott at its August meeting. Another guest at the meeting was Miss Kate Corey, painter of the Hopi Indians and one of the organizers of the Smoki group at Prescott. Miss Corey told of seven years of experience with the Hopi Indians, during which time she studied their rites and customs and transferred them to canvas. On exhibit at the meeting were one of Miss Cory's paintings and Hopi pottery which had been given to her by the Indians. Joplin minerals were exhibited by Mr. and Mrs. E. E. Michael.

The state of Washington has set aside as a state park the site of the discovery of several petrified logs, among them three logs of that most ancient of petrified woods, the Ginkgo tree. A sign near the front of the caretaker's lodge gives the age of the trees as about fifty million years.

Officers of Newport Agate society, Newport, Oregon, are Harold Printz, president; George Price, vice-president; Maud Witchey, 322 Brook street, secretary; Claire Smith, treasurer. The group meets second Tuesdays at 6:30 p. m. in the city hall. Potluck dinner precedes business meeting.

Mrs. Jessie Hardman, club member, showed colored slides at the regular August meeting of the Long Beach Mineralogical society, held at Belmont Shore Recreation center, Long Beach. Plans for the 1948 state convention of the California Federation of Mineralogical societies, to be held in Long Beach on July 16-18, were discussed and committee assignments for the show made. Members, past and present, were requested to "grab a pick and shovel and get back to the diggin's to help with the work."

August meeting of the San Diego Mineralogical society was in the form of a beach party. The mineralogy section of the club, sponsoring the outing, offered a diversified program. Jack Thompson spoke on the geology of the coast line and cliffs of the vicinity. A lottery decided which two pebbles picked up on the beach would be cut and polished free by the craftsmanship division, and identification contests were held. Annual meeting and election of officers was planned for September 12.

Ralph Dietz, president of the NOTS Rockhounds, will resume teaching mineralogy at weekly classes early in September. No definite dates have been set for the start of the classes, but those interested were to contact Dietz at Box N-690, NOTS, Inyokern, California.

Mr. and Mrs. A. E. Allard of Huntington Park were guest speakers at the September meeting of the Southwest Mineralogists. They showed colored slides of minerals pictured under natural and fluorescent light. September field trip of the club was to an abandoned borax mine on Mt. Pinus near Stauffer, Kern county, California.

DEPENDABLE . . .

Lapidary Equipment

- Sartwell Gem Drill
- Felker Di-Met Blades
- RX Lapidary Machine
- B. & L. Gem Maker
- Mineralights
- Micro Featherweight Facet Head
- G. & W. Tube Drills
- Poly Arbors
- Alta Products
- Allen Facet Head
- Prestolite Supplies

Send for Latest Price List of Supplies and Materials

ANNOUNCEMENT . . .

We now have the STREAMLINER SAW on Display

MAIL ORDERS FILLED PROMPTLY
Open daily 9:30 a. m. to 6:00 p. m.
Closed Sundays and Holidays

GORDON'S Long Beach Mineral & Lapidary Supply Co.

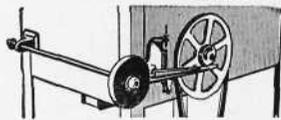
1850 E. Pacific Coast Hwy., Phone 738-56

LONG BEACH 4, CALIF.

WILL BE CLOSED FOR VACATION AUG. 24 TO SEPT. 8

New HILLQUIST AUTO-FEED for HILLQUIST DIAMOND SAW UNIT—

No other power feed like it! (Pats. Pend.) Automatically adjusts cutting speed to hardness of rock. Foolproof. Gives faster, smoother cutting. Pays for itself by increasing life of saw blade. Fits all Hillquist saw units and many other makes. . . . write for information. Only \$46.35 f. o. b. Hillquist 16" Saw Unit shown below complete with Auto-Feed, \$148.85.



It's Here! The NEW Hillquist TRIM SAW!

The only trim saw with raising and lowering arbor and precision feed. Perfect for those difficult jobs of cutting stars, crosses, etc. Write for descriptive folder.

BEFORE YOU BUY ANY LAPIDARY EQUIPMENT *Send for our*

FREE CATALOG
The Famous
HILLQUIST LINE OF LAPIDARY EQUIP.

Hillquist DRUM SANDER

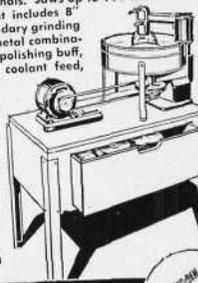
Change sanding cloth in 10 seconds! Special design (pat. pend.) locks cloth with a twist of the wrist! Used for both sanding and polishing. ALL METAL. Perfectly machined and balanced. Two sizes, 2"x7" at \$5.00 and 3"x7" at \$6.00 for 1/2", 5/8" or 3/4" arbor. State size. Ship. wgt., 4 lbs.

Hillquist FACETOR

Professional model. Fits any horizontal lap with simple adaptor socket or used with Hillquist LAP UNIT shown above. Cuts all types of faceted gems. The finest precision faceter made at a price you can afford. Only \$29.00 f.o.b. Ship. Wgt., 5 lbs. Adaptor Socket \$2.00. Ship. Wgt., 2 lbs

Hillquist LAPIDARY UNIT

DOES EVERYTHING: Sawing, Grinding, Sanding, Polishing, Lapping, Sphere Cutting and Faceting! More than 2,000 in use by amateurs and professionals. Saws up to 10" can be used. Standard Unit includes 8" saw, two lapidary grinding wheels, all-metal combination sander, polishing buff, rock clamp, coolant feed, belt and motor pulley, lapidary pliers, dropping wax, dop sticks, etc. \$110.00 f.o.b. without motor or stand. Crating, \$3. Ship. Wgt., 100 lbs.



Hillquist SAW UNIT

Years ahead of any other saw unit! Cuts grips rock with hundreds of pounds pressure. Slabs up to 3" of rock before reclamping. Handles 12" to 16" blades. Removable sump. Pressure grease lubricated. Extra long babbit sleeve bearing. \$97.50 f.o.b. without blade or motor. Crating, \$3. Ship. Wt., 150 lbs.



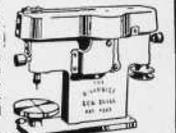
Hillquist DIAMOND SAWS

Dollar for dollar, Hillquist Super-speed Diamond Saws give you more for your money because they last longer and cut faster. Order today and see for yourself.

Size	Shipping Weight	New	Your Blade Recharged
7"	1 1/2	\$ 4.75	\$ 4.00
8"	1 1/2	5.75	4.75
10"	2	7.85	6.85
12"	2 1/2	9.50	8.25
14"	3	11.75	10.00
16"	4	13.50	11.50

Hillquist GEM DRILL

Drills finest holes and saws disks up to 2" diameter automatically. Exclusive ramrod action (pat. pend.) prevents core from plugging drill. Does half hour's work in ten minutes. Now you can make beads, buttons, earrings, bracelets, etc. \$68.80 with 4 drills f.o.b. Crating, \$1.00. Ship. wgt., 23 lbs. Button discs can be sawed in less than one minute by using pressure lever supplied with unit.



Lapidary EQUIPMENT CO., INC.
NATION'S LARGEST MANUFACTURERS OF FINE GEM-CUTTING EQUIPMENT

1545 WEST 49th ST. SEATTLE 7, WASH.

GEMS ROUGH OR POLISHED

EQUIPMENT, BOOKS, MAGAZINES and EVERYTHING needed by CUTTER or COLLECTOR. Send 10¢ for COMPLETE CATALOG and CREDIT SLIP worth 25¢

The GEM-EXCHANGE • BAYFIELD COLORADO

GENUINE YAVAPAI ONYX . . .

Exclusive Sales Territory Open

Rough pieces 50c per lb. up to 25 lbs. 40c per lb. up to 50 lbs. 25c per lb. up to 100 lbs. F.O.B. Mayer. Special prices in larger quantities.

Satisfaction Guaranteed — Write Today

YAVAPAI ONYX — Mayer Arizona

THE COTTAGE

314 Temple Avenue Long Beach 14, Calif.

ROCKS — LAPIDARY — ANTIQUES

Rare old glass and agate marbles and spheres. Colorful pen mounts with matching paper weights. Ideal gifts and not expensive. Any quantity choice cutting material at reasonable prices.

HUBBELL'S
INDIAN
TRADING POST

NAVAJO INDIAN RUGS & JEWELRY
Tom S. Hubbell, 2331 Pico Blvd.
Santa Monica, California

VRECO

Lapidary Supplies

for the
Gem Cutting Shop

VRECO Diamond Saws
Grinding Wheels
Polishing Wheels

VRECO Abrasive Cloth
Polishing Powders
Abrasive Grains

WRITE FOR COMPLETE LISTING
OF ABOVE ITEMS AND OTHER
VRECO SUPPLIES

VREELAND
MANUFACTURING CO.

2026 S. W. Jefferson Street
PORTLAND 1, OREGON

Among the Indian relics found in Dos Cabezos region of Imperial county, California, are unbroken pieces of pottery, obsidian arrowheads, pieces of chipped obsidian, sea shells and small pieces of colorful common opal and feldspar shaped for personal decoration. The opal, garnet and feldspar are found there locally, but the obsidian is a type not otherwise found in Imperial Valley.

In the August *Mineral Notes and News*, publication of the California Federation of Mineralogical societies, O. D. Elarton of Salida, Colorado, reports discovery of a fulgurite on the top of a 12,500-foot mountain. The fulgurite, caused when lightning struck the mountain and fused the sand or gravel there, was 6 feet in length and 3 1/2 inches in diameter at its largest point. The composition appeared to be a hard black slag.

Canyon City Geology club, of Canyon City, Colorado, is one of the oldest earth science clubs in the state. It was founded in 1928 and F. C. Kessler, 1020 Macon avenue, has been executive secretary of the organization for the entire period. About half the members of the club are studying lapidary work under instruction of D. L. Flaherty, the course being sponsored by the local school board in collaboration with the Colorado state vocational training program.

The junior rockhounds of the Yavapai Gem and Mineral society of Prescott presented a rock show on September 6-7. The group has been organized only a year, but it has a large membership which has been studying mineralogy seriously. The show was open to the public, admission free, and a large crowd was anticipated.

Riverside County chamber of mines reports that on a recent field trip to the Gavilan Hills, many Indian graves were found. The graves were outlined by oval circles of rocks, with a crudely carved heart-shaped rock either on or near the grave.

Cogitations . . .

Of a Rockhound

By LOUISE EATON

Evry time rockhouns goes on field trips an sees road signs mutilated by vandals they gets mor and mor madder an disgusted with folkes what has nuthin better to do than to destroy. Maybe it amuzes morons to transplant guide posts or shoot off what it sed on um, but erroneus direckshuns could lead to serious consequences for peepul who don't know desert trails. Watter hoals are uv konsummit importance on the desert. If sumwum duz not know which way to head but is followin signs, and thoz signs is rong, he may easily perish uv heat an thirst. Evun automobiles has to have watter in hot weather.

Report is that sum uv our mineral resources is goin to be xhausted in frum 1 to 34 years. Or in 111—iron supplies is suppozed to last that mutch longer. Why can't scientists stop fussin aroun with atom power for destructive purposes an konsentrate on findin sum method uv xtractin the 175 million tunz uv chemical compounds estimated to be in evry cubic mile of ocean watter. Yu could get a lotta gold, silver, nickel, radium or iodine out uv the 7 seas.

Lee Seabridge, Norwalk, spoke on minerals used in paint manufacturing at the July meeting of the West Coast Mineral society, at Fullerton junior college. He explained that there are 2000 pigments and combinations which make up the variety of paints we use today. Annual potluck meeting of the society was planned for August 12 at Marion Speer's Western Trails museum near Huntington Beach.

Texas Agates

TOP QUALITY from many Texas locations—plume, iris, scenic, picture, fortification and mosses in a riot of gay colors and combinations. A choice selection for \$10.00, postpaid.

SPECIAL — Minerun agates from our plume beds, 5 lbs. for \$4.00, postpaid.

RX, Gem Maker, Highland Park, Felker, Rapidesign and Bay State manufacturers and supplies.

EL PASO ROCK & LAPIDARY SUPPLY

2401 Pittsburg St. Phone Main 5338-R
EL PASO, TEXAS

- Instant identification of fluorescent minerals
- new beauty in collections with **MINERALIGHT**



- Make field trips profitable—find new deposits in the field—see added beauty in your mineral collection under Ultra Violet light...these are a few of the uses of MINERALIGHT. Write for Bulletin No. D-100—See your Mineralight dealer.

UltraViolet PRODUCTS, Inc.
5205 Santa Monica Blvd., Los Angeles 27, Calif

FIRE OPAL - MEXICO

10 small pieces—average 1/2"-3/4" \$1.00
5 larger—average 3/4"-1" 1.00
6 still larger—1"-2" or over 2.00
1 small vial clear fire opal 1.50
50 rough mixed Mexican Opals, including honey, cherry, etc., average 1" 1.50

ALL 5 LOTS POSTPAID—\$6.00

Although these are sold chiefly as cabinet specimens and have plenty of fire, many of them will work up into nice cabochons.

Money Cheerfully Refunded if Not Entirely Satisfactory.

Polished Mexican Opals and other gem stone cabochons on approval to responsible persons.

DR. RALPH E. MUELLER

3701 Valentine Road Kansas City 2, Mo.

MINERAL RARITIES Agatized Sea Clam

Among the rare finds on the northwest coast of the United States is the little, completely agatized shell of a sea clam. Often a mold is formed by agate or chalcedony completely filling the small shell, and taking every detail of the shape of the shell, even that of a perfect hinge on the larger edge. In time, the fragile shell disappears entirely, leaving what is apparently a perfect shell formed of clear, colorless agate. Occasionally, one of these shows a cavity almost filled with water, and a movable water bubble.

A recent field trip of the Mineralogical Society of Utah was to the Yankee mine in American Fork canyon, where pyrite crystals were collected.

Marion Speers' Western Trails museum near Huntington Beach was the goal of the July field trip of the Pacific Mineral society of Los Angeles.

Gerald Smith, of Bloomington, spoke at the August meeting of the Orange Belt Mineralogical society, held at Mrs. Belva Gunter's home in Yucaipa. He discussed the archeology of San Bernardino valley. July meeting of the group was at Sylvan park, Redlands, with 90 members and friends present.

Rocky Mountain Federation of Mineralogical societies is sponsoring contests in several classes of mineral exhibition for members of federation societies. The federation will provide ribbon awards in five classes with four places in each class. Purpose is to encourage collecting and general knowledge of minerals or related materials, their preparation for mounting, labeling, etc. Individual societies will set dates for competition and make arrangements for classes used and for showing and judging.

A picnic was held at the Johnny Hart memorial park on the Kern river as the July meeting of Kern County Mineral society. Exposures of the upper middle Miocene occur at the park, and are excavated by fossil hunters for the shark's teeth which have been found there.

Gold Mining Operation Wanted

Where water is scarce and transportation of ore too costly—50-50 basis. Have \$65,000 patent protected equipment adjusted to mill and concentrate gold bearing pyrite or free milling gold in quartz.

— HIGH SPEED DRY PROCESS —

One ton per hour capacity, 3 inch mesh to powdered concentrate in one pass. Concentrates run 3 to 1 to 25 to 1. Have New York and Chicago Mining authorities' report on process.

Prefer dealing with large corporation having unprofitable properties or responsible organization interested in a profitable operation. Mine owner to pay transportation and minor costs—also furnish 2 men to unload and set portable equipment.

Diesel Electric Power unit and all equipment mounted on K-6 International Truck and Fruehauf Trailer. Operation possible in 10 to 30 days after arrival.

Larger units available to order.

RESEARCH DIVISION
HACK MACHINE CO.
DES PLAINES, ILL.

Oregon beaches during the months of June, July and August soon become anything but places for finding the beautiful Oregon beach agates. Heavy waves and high tides, during those months, cover the beaches with coatings of fine sand many feet thick. The sandy beaches are as smooth and even as any in the world and become excellent playgrounds. When the rough storms of the winter months come along, they remove the sand and scatter agates, jasper, water agates, sagenite and numerous other specimens which make Oregon beaches famous. February and March are the best months for picking.

In Biblical days, according to the bulletin of the San Jose Lapidary society, all blue stones were called sapphires. Later the name was restricted to the hard, transparent blue stones from the Orient. With the advent of chemistry the name corundum was applied to the sapphire and to non-jewelry stones, such as emery, of the same chemical composition. Sapphires are found in almost every possible color, including blue-green, purple and orange. The Kashmir sapphire is a cornflower blue, the Ceylon is lighter with a tendency toward reddish-blue under artificial light. Australian sapphire is dark blue with a greenish tinge, Montana sapphire light steel blue, quite reddish in artificial light. Sapphire is the birthstone for September.

The convention of the Midwest Federation of Geological societies was held in Detroit August 23-25.

The *Pick and Dop Stick*, publication of the Chicago Rocks and Minerals society has a discussion of meteorites in its August issue. About a million meteorites reach the earth every year, it says, but most of them fall into the oceans. Of the known meteorites, about 90 per cent are made of rock materials like volcanic ash and sand, and contain spherical shot-like bodies known as chondrules. These are the stony meteorites or aerolites and, when crystalline, are difficult to distinguish from our earth rocks. A rare type of meteorite is made of dark minerals meshed in a spongy network of light-colored alloys of nickel and iron. These stony-iron meteorites are known as siderolites.

Carson City Mineral society has been organized at Carson City, Nevada. It will meet on the fourth Wednesday of each month in the board room of the state department of education in the capitol building. Secretary of the new group, which has joined the California Federation of Mineralogical societies, is Eva G. Gillen, Stewart, Nevada.

HEIRLOOMS OF THE FUTURE . . .

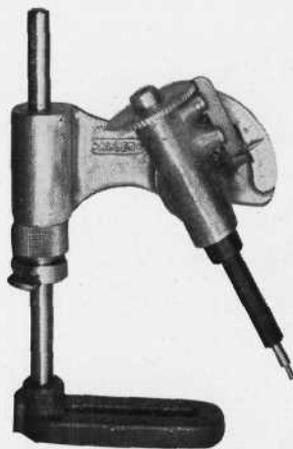
Marvin's fine handcrafted sterling silver jewelry.

MARVIN'S ROCK SHOP
U. S. Highways 160 & 550, Durango, Colo.
Visitors Always Welcome

AGATE JEWELRY WHOLESALE

PACIFIC AGATE SHOP
O. R. Junkins & Son

Box 1483 Newport, Oregon



Modern
Tools
For An
Ancient
Art

FACETING HEAD . . . Price \$36.75

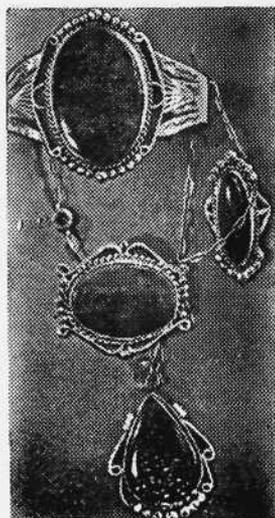
— The Allen Line —

SLAB SAWS — TRIM SAWS
GRINDER UNITS — FACETING UNITS
SUPPLIES

Ask Your Dealer or Write Direct

**ALLEN LAPIDARY
EQUIPMENT CO.**

3632 W. Slauson Ave.
Los Angeles 43, California



HERE ARE THE GIFTS YOU'VE BEEN LOOKING FOR!

Petrified Wood, Moss Agate, Chrysocolla,
Turquoise, Jade and Jasper Jewelry
HAND MADE IN STERLING SILVER
Bracelets, Rings, Necklaces, Earrings
and Brooches

SPECIALLY SELECTED STONES WITH
CHOICE COLORS AND PICTURES

Write for Folder with Retail Prices
We Wholesale to Dealers

ELLIOTT'S GEM SHOP

26 Jergins Arcade Long Beach 2, Calif.
Entrance Subway at Ocean and Pine
Open 10 A. M. to 10 P. M. Daily

Fallon Rock and Gem club planned to sponsor a booth at the Nevada state fair, August 30-September 1, which would be devoted to an exhibit of rocks and precious stones owned by the members. Mrs. Harry Ringstrom was chairman of the project. Ben Baird, builder of lapidary equipment, was speaker at the July meeting of the club. A table of saleable or exchangeable rocks is a new feature at club meetings.

The use of mineral stones for personal adornment began almost with the history of man, Earl A. Knie told a recent meeting of the Pomona Valley Mineral club. Archeologists working in all parts of the world have discovered colored stones of many hues and patterns whose use was undeniably ornamental. Prehistoric people of whose existence we have only fragmentary knowledge used beads, pendants, necklaces and other bits of crude jewelry made from the same minerals, in the rough, from which we cut our glittering faceted gems and cabochons.

September meeting of the Sequoia Mineral society was a picnic meeting at Selma on Sept. 6. There was no formal program, but members gave resumes of their summer collecting. In July field trips, the club collected vesuvianite, bornite, pink and white calcite, malachite, limonite, pyrite, chalcocite, caledonite, chalcocite and quartz crystals at the Ludwig mine, Nevada, and toured the old mining camp of Virginia City.

FOUR CORNERS CLUB REPORTS 4000 ATTEND FIRST SHOW

Four Corners Rock club reports that in excess of 4000 persons registered at their first rock show held at Durango, Colorado, in conjunction with the annual Spanish Trails fiesta. The show had four commercial entries, 20 displays entered by rockhounds, and 20 unrelated hobby displays. A native gold ore exhibit valued at \$8000 was shown, and there was a \$6000 collection of Navajo and Mexican rugs. Also exhibited were collections of Rev. Homer E. Root and Zeke Flora, San Juan basin archeologists.

The club constructed a float which won second place in the club section in the 50-float parade of the Spanish Trails fiesta. The Four Corners Rock club was organized in January, 1947. Since that time, field trips have taken them into Arizona, New Mexico, Utah and many parts of Colorado.

Searles Lake Gem and Mineral society will hold a joint meeting with the Sequoia Mineral society October 11-13, Clark Mills, president of the Trona group announced. The Sequoia club will arrive and camp at Valley Wells on Friday. The group will be guided on field trips in the vicinity of Trona on Saturday, and will attend the joint meeting at the Trona club Saturday night. The meeting will take the place of the regular Searles Lake society meeting. Sunday the visitors will be guided on another field trip. August meeting of the club was held at Bonewit's ranch in Indian Wells valley, with Mr. and Mrs. Harry Jewell in charge. July field trip was to Mitchell's caverns but, due to high temperatures, only a few members took part.

Member C. D. Heaton, geologist formerly with the Colorado School of Mines, told the August meeting of Santa Monica Gemological society of finding an enthusiastic rockhound in Dawson City, Alaska. The hobbyist, whom Heaton met on a 9500-mile vacation trip, had a well-equipped lapidary shop and a good collection of mineral specimens featuring gold nuggets. Mrs. Doris Baur reported to the meeting that there was a growing interest in the campaign to rid California highways of unsightly advertising signs. The club's July field trip to Malibu beach, because of high tides, developed into a picnic.

East Bay Mineral society, Oakland, California, resumed activities with a "get-together" discussion on September 4. A birthday dinner was held on September 22. New officers of the organization are: president, Dr. Francis T. Jones; vice-president, Ernest M. Stone; secretary, Millard V. Moore; treasurer, Gerald H. Smith; corresponding secretary, Don E. Cameron; librarian, Mrs. Olive Lewis; historian, George Higson; directors, George Higson, Carl Douglass, R. E. Carpenter. Address of the club is Post Office Box 1196, Oakland, California. Meetings are held in the auditorium of Lincoln school, 11th and Jackson streets, and visitors are welcome.

The Mineralogical Society of Arizona will resume meetings on October 2, and continue to meet at 8:00 p. m. on the first and third Thursdays of each month through May. The club has no permanent meeting place at present and the first meeting is tentatively scheduled for the Emerson school. Informal gatherings have been held once a month through the summer.

First authenticated occurrence of wavellite in Arizona is at the Castle Dome mine. *Rockbound Record*, bulletin of the Mineralogical Society of Arizona, reports that it occurs as a drusy coating of minute crystals dark grey, almost black, in color. Wavellite is an aluminum phosphate and usually is found in slender, greenish crystals which radiate from a common center to form spherulites.

Asa Anderson is president of the Texas Mineral society, Dallas, R. C. McIver is vice-president and Ralph Churchill, 1007 Ft. Worth avenue, Dallas, is secretary-treasurer.

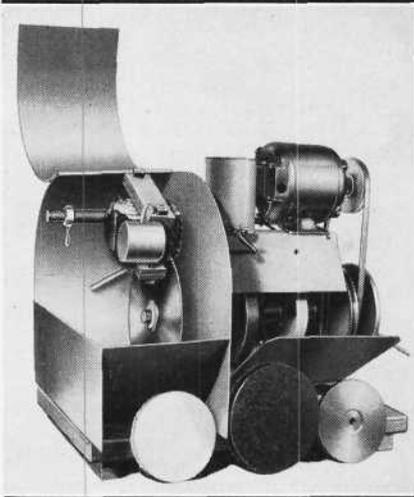
Colorado Mineral society held a field trip in the Gunnison area, July 4-6. Members obtained tourmaline and lepidolite mica at the Brown Derby mine, near Ohio City, where Mr. Field, the owner, served as guide. Members also tried trout fishing, visited the museum of the Western State college, saw an exhibit of southwestern paintings by Earl Hammock and enjoyed a fireworks program staged by Bill Enders.

Norman Whitmore, graduate of the Colorado School of Mines and owner of a Los Angeles assaying office, outlined modern ways of prospecting at the August meeting of the Pacific Mineral society of Los Angeles, held in the Chancellor hotel. Equipment needed for actual field work still is very simple, according to Whitmore—a steel-handled pick, a hand lens and a great horn spoon being the essentials. With these the prospector can obtain his sample, examine it, crush it, and pan it out. But many new devices, such as aerial mapping, the magnetometer, and helicopter will aid his work. Field trip for the society for August was to the Kaiser steel mills at Fontana where members saw open hearth furnaces, rolling mills and coke ovens.

When the vocational education department of the state of Nevada conducted an eight-weeks lapidary course, early in 1947, students became so interested that they formed the Carson City Mineral society. There are 35 members of the club at present, and several already have acquired their own lapidary equipment. Officers of the new organization are: president, Orvis E. Reil; vice-president, Thomas W. Robinson; secretary-treasurer, Eva G. Gillen; directors, Frank E. Garaventa, Walter C. Wilson, Philip A. Harper. The group has joined the California Federation of Mineralogical societies and is planning field trips as soon as the weather cools.

Orange Belt Mineralogical society is planning a rock and mineral show to be held at the National Orange Show building in San Bernardino, November 8-9.

RX THE COMPLETE LAPIDARY SHOP



The MODEL 47 RX takes the place of 3 or 4 separate machines and requires only 20x30 inches of space.

Has coarse and fine grinding wheels, always running. A sanding disc—Two flat laps—A final polishing wheel. All regular equipment. Wheels changed for different operations in seconds. 12" Diamond Saw capacity.

PRICE \$137.50
F.O.B. TORRANCE

12" Diamond Saw Blade and Motor not included in price

See Your Lapidary Dealer or
Write for Circular A

RX LABORATORY

1143 Post Ave. Torrance, Calif.

SUBSCRIBE TO

Hoofs and Horns

To Keep Abreast of the RODEO GAME and its HAPPENINGS—

Its news about Rodeos and Roundups is the most authoritative of any published in America. Rodeo Association bulletin and Cowboy's Turtle Association news are published monthly.

Those who enjoy poetry of the Old West will revel in the abundance of truly typical poetry that appears in each issue of Hoofs and Horns. You'll like Hoofs and Horns!

Each issue is generously illustrated with pictures of the people and places that are important to the current and past history of the Range country. Don't miss a single copy!

Subscription Rates

1 YEAR \$2.00	2 YEARS \$3.50
3 YEARS \$4.50	5 YEARS \$7.50

MONEY MUST ACCOMPANY THIS ORDER

SEND NAME AND ADDRESS TO

HOOFS and HORNS

P. O. Box 790

Tucson, Arizona

According to the Nebraska Mineralogy and Gem club, while Nebraska has a geology of great scientific interest, stones of gem quality are hard to find. Streams which cut through glacial deposits carry some workable material, and screening piles at sand pits around Omaha yield many jaspers, a little chalcedony and some fragments of petrified wood. Specimens of good quality and interesting color, however, seldom are found.

Traces of platinum have been observed in the sands at Kane Springs, Kern county, California.

The area in which Wyoming jade is found is said to range downward from the Green mountains to Independence Rock, and to be 50 miles wide at its greatest breadth. The jade is hard to locate, most of it being crusted over with a greyish brown "rind" that hides the green and black of the gem material.

New officers of the Monterey Bay Mineral society are: president, A. W. Flippin; vice-president, Dr. K. W. Blaycock; secretary, Mrs. V. L. Fraser; director, H. W. Powers. T. G. Emmons is past-president. The club celebrated its second anniversary with a potluck supper and movie. Membership now is 82.

San Luis Obispo Gem and Mineral club, organized in March, 1947, has become a member of the California Federation of Mineralogical societies. The club now has 29 members. It has held three field trips during the summer; one to the Templeton district for agate nodules, one to Soda lake where thenardite crystals were collected, and one in search of Monterey jade.

Mineralogical Society of Utah's August field trip was to the Brighton area in the Wasatch mountains, where ludwigite was collected.

September marked the end of the first year's trial of society division, by the San Diego Mineralogical society. Division membership at that time was: mineralogy, 95; craftsmanship, 71; mineral resources, 19. Total club membership is 185.

Property owners at Gem Village, rockhound colony near Bayfield, Colorado, have organized as the Gem Village Land Owners association, with Russell Purcell as chairman, S. N. Green, secretary-treasurer. Permanent population of the village now is 25, with a number of summer residents in addition. Frank Morris, the founder, has sold 50 residential lots and many ranch plots; nine homes are constructed and three being built.

Silver in the pure state is too soft to be widely used for jewelry. It is alloyed, usually with copper, to harden it. Sterling silver consists of 92.5 per cent pure silver, 7.5 per cent copper. Silver coins of the United States contain 90 per cent silver, 10 per cent copper.

ARIZONA FAIR WILL FEATURE COMPETITIVE MINERAL SHOW

Arizona's first open competitive mineral exhibit will be a part of the program at the Arizona state fair held at Phoenix, November 7-18. The exhibit will be held on the main floor of the mineral building. Due to lack of space, entries in competition this year will be limited to residents of Arizona. Special emphasis will be given to exhibits by the grade schools. Any Arizona grade school can enter one exhibit of not more than 25 specimens. In addition to the usual ribbons offered by the fair commission, the Phelps Dodge corporation has provided a perpetual trophy in the form of a plaque which will be awarded to the school having the outstanding exhibit. Name of the winning school and year will be engraved on the trophy and the school will keep it until the next fair, when it will be re-awarded.

High school students may make one entry in either or both of two classes: 1, 10 cabinet specimens; 2, one standard box of thumbnail specimens. Two standard boxes of 24 specimens may be entered in place of the one box of 50 thumbnails. Four classes are open to adults: 1, 10 cabinet specimens; 2, one box of 50 or two boxes of 24 thumbnails; 3, 25 cabochons; 4, 10 polished slabs.

There will be no fees for entries in the mineral department, and three ribbons will be awarded in each class exhibited. A. L. Flagg, president of the Mineralogical Society of Arizona, is superintendent of the mineral department of the state fair.

DEALERS ORGANIZE TO STAGE EXHIBITIONS

Following the precedent recently established by the mineral federations when they amalgamated as a national organization, a group of mineral and lapidary dealers have set up the nucleus for a nation-wide trade organization to be known as National Mineral, Gem and Lapidary Dealers' association.

Manager Edward Lang of Santa Monica outlined the plans of the new association as follows: "We will hold semi-annual exhibitions in localities easy of access for our customers, and we hope to stimulate great interest in the art of lapidary. The association will proceed under competent leadership to encourage the progress of the mineral crafts in every legitimate direction. Dealers will be provided with adequate space in which to display their merchandise. It is hoped to announce the first exhibition in the near future."

Dealers interested in membership should address National Mineral, Gem and Lapidary Dealers' association, P. O. Box 1195, Santa Monica, California.

Willemite, a zinc silicate sufficiently abundant to be a zinc ore at some localities, has been found in clear, pale yellow crystals at Franklin Furnace, New Jersey.

Arthur Sanger reports, in the *Pick and Dop Stick*, bulletin of the Chicago Rocks and Minerals society, that most of the jade imported into China in recent years still is stored in Chinese coastal cities. Reasons given were the high wages demanded by Chinese carvers and chaotic economic conditions in the country. Sanger believes that the carvers will not go back to starvation wages, but will agree to the introduction, on a limited scale, of modern lapidary tools in return for an improved standard of living.

Cheyenne Geology club of Cheyenne, Wyoming, meets the first Friday of each month and its president, D. L. LaBreche, 1616 Warren avenue, invites all rockhounds to attend and get acquainted with the members.

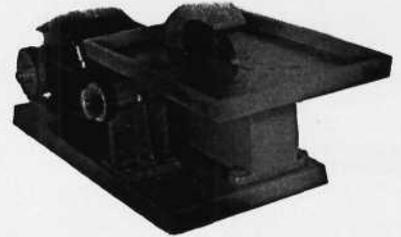
Mountings to Order

Casting service for the Lapidary who wants something Special. Ring mountings and stone set belt buckles individually designed for the better stones. Your designs followed or I will make a mounting in whatever style you choose. Gold and Silver.

No catalog but a letter will bring details Promptly

ROBERT H. KIZER

406 Bay Bldg. Seattle 1, Washington



6" HIGH-SPEED TRIMMING SAW. All cast metal. No wood. This saw saves time and material. Saw operates at 2000 R.P.M. Priced at \$47.50 without motor, F.O.B., Los Angeles, Calif. This price includes saw-blade, belt and pulley to give you the correct speed. Requires 1/4-horse motor. Shipping weight approximately 60 pounds.

Highland Park Lapidary Supply
1009 Mission St., South Pasadena, Calif.

SLABS FOR

CABOCHON'S-Jewelry

1—Golden Tiger Eye	\$1.00
2—Idaho Moss Agate	75c to \$1.50
3—Idaho Quality Jasper	50c to \$1.00
4—Utah Red Agate	\$1.00 to \$2.00
5—Utah Flowering Obsidian	75c to \$1.25
6—Montana Agate	75c to \$1.50
7—Golden Glow, Silver Froth or Red and Black Obsidian	75c
8—\$6.00 mixed selection of above	\$5.25
9—\$6.00 mixed Montana Agate slabs	\$5.25
10—Unpolished scenic and Moss Thunder Eggs, each	\$1.00

FOR RESALE—Ladies' rings, Lavallieres, Broches and Hearts, also Men's Rings, approval selections by request.

Ring mounting, Men's Sterling Silver, 3 for \$5.75, Men's Sterling with gold trim, 3 for \$7.50. Ladies' Sterling Silver Ring with 10K Gold trim, 3 for \$6.50.

SWENSON'S AGATE SHOP

5114 S. E. 39th Ave. Portland 2, Oregon

FINE INDIAN JEWELRY

Old Pawn Specializing Collector's Items

DAVID H. HOWELL

473 No. Main St. Pomona, Calif.

WHOLESALE RETAIL
Mail Orders — Inquiries Solicited

IMPORTED GEMS

We are direct importers. Send for free price list of more than 30 varieties of gem rough for facet and cabochon cutters.

LIONEL DAY

Dept. DM

3560 Broadway New York 31, N. Y.

Covington LAPIDARY EQUIPMENT

Used by the U. S. Government



16-inch
LAP UNIT

14-inch
Power
Feed
DIAMOND
SAW



Send for
Literature to

Covington SEND FOR LITERATURE TO
LAPIDARY ENGINEERS
REDLANDS, CALIFORNIA

A

Abernathy, Jess Apr 47 p27
 Acoma, New Mexico Jan 47 p9
 Adams, Arles Feb 47 p19
 Apr 47 p19, Jun 47 p21
 Adams, Dr. Lytle S. Apr 47 p32
 Afton canyon, Calif. Dec 46 p22
 Agua Caliente springs, Calif. Jul 47 p4
 Agua Prieta, Mexico Apr 47 p32
 Ajo, Arizona Sep 47 p19
Ajo Copper News Aug 47 p33
 All-American canal Apr 47 p33, Oct 47 p31
 Alta, Utah Oct 47 p33
Amateur Gem Cutter,
 by Lelande Quick Each issue
 American Federation of Mineralogical
 societies Aug 47 p39, Oct 47 p19
 American Meteorite museum Dec 46 p24
 May 47 p5
 American Potash & Chemical
 corp. May 47 p46, Jun 47 p14
*Ancient Landscapes of the
 Grand Canyon Region* Oct 47 p47
 Anderson, Helen Ashley. *Rock Hunter in
 Sawatch Range* Jan 47 p13
 Andreas canyon, Calif. Nov 46 p39
 Apache turquoise mines Feb 47 p5
 Arizona City, Arizona Jan 47 p4, Apr 47 p31
 Arizona Power company Aug 47 p5
Around Hogan Fires Sep 47 p46
 Atomic energy Jul 47 p46
 Atwater, Barry Oct 47 p24
 Aurora, Nevada Jul 47 p10
 Autry, Gene Aug 47 p10
 Averitt, Beej and Paul.
Mastodon of Moab Aug 47 p24

B

"Baby of the Desert" Jan 47 p22
 Feb 47 p18, Apr 47 p31
 Ballarat, Calif. Oct 47 p31
 Banded Burrowing snake Oct 47 p14
 Banner Queen guest ranch, Calif. Apr 47 p10
 Barnes, A. W. Mar 47 p22
 Barnes, Howard M. Nov 46 p8
 Barnes, Robert A. Mar 47 pp3,22
The Baron of Arizona Jul 47 p31
 Basic Magnesium plant, Nev. Jan 47 p27
 Bead making Dec 46 p30

Beal, Mary. Author of—
Heliotrope Wildlings Jan 47 p19
Wild Pie Plant Feb 47 p15
Fremont's Pepper-grass Apr 47 p17
Golden Desert Poppies Jul 47 p27
*Floral Butterflies and Sunbonnets of
 the Desert* Sep 47 p31
*These Plants Sponge Upon
 Their Neighbors* Oct 47 p18

Bear Creek oasis, Calif. Sep 47 p11
 Bell ranch, N. Mex. Dec 46 p28, Sep 47 p37
 Bennett, Tyler Mar 47 p28
 "Big Inch" gas pipeline Nov 46 p23
 Aug 47 p34
Billy el Niño Oct 47 p33
 Bishop, Calif. Oct 47 p5
 Bishop, Josie S. Jul 47 p30
 Black Hills, Calif. May 47 p25
Blood of Kings Jan 47 p23
 Bluff, Utah May 47 p10
 Bodie, California Jul 47 p10

Book Reviews—
 Ainsworth, *Eagles Fly West*, Apr 47 p47;
 Arnold, *Blood Brother*, Jun 47 p47; Bond,
Westward How, Aug 47 p47; Calvin, *River
 of the Sun*, Jul 47 p47; Corle, *Listen, Bright
 Angel*, Nov 46 p36; Edwards, *Desert Yarns*,
 Mar 47 p47; Ferguson, *Mark Twain, Man
 and Legend*, Feb 47 p37; Hanna, *The Dic-*

tionary of California Land Names, Feb 47
 p37; Hersch, *The Seven Cities of Gold*, Dec
 46 p39; Hilton, *Sonora Sketch Book*, Apr 47
 p47; Johnson, *Scenic Guide to Southern Cali-
 fornia*, Feb 47 p37; Kluckhohn and Leight-
 on, *The Navaho*, Mar 47 p47; Kraft, *Ad-
 venture in Jade*, Jul 47 p47; Lomax, *Adven-
 tures of a Ballad Hunter*, May 47 p47; Lump-
 kins, *Modern Spanish-Pueblo Homes*, Nov
 46 p36; McWilliams, *Southern California
 Country*, Mar 47 p47; Marshall, *Santa Fe*,
 Nov 46 p36; Miles, *Three Pals on the Des-
 ert*, Feb 47 p37; Morgan, *The Great Salt
 Lake*, Aug 47 p47; Rittenhouse, *Guidebook
 to Highway 66*, Jan 47 p23; Muench, *West
 Coast Postvrit*, Mar 47 p47; Palmer, *Pabute
 Indian Legends*, Jun 47 p47; Paxton, *Desert
 Peace*, Mar 47 p47; Pearce and Thomason
 (Eds.), *Southwesterners Write*, Jul 47 p47;
 Putnam, *Death Valley and Its Country*, Jan
 47 p23; Smith, *Handbook of Lizards*, Jan 47
 p23; Smith, *Identification & Qualitative An-
 alysis of Minerals*, May 47 p47; Storz, *Mexi-
 can Spanish*, Jun 47 p47; Vestal, *Jim Bridger,
 Mountain Man*, Feb 47 p37; Waters, *The
 Colorado*, Dec 46 p39; White, *Dust on the
 King's Highway*, Aug 47 p47; Johnson,
Scenic Guide to Utah, Oct 47 p47; Yeager,
*Introduction to Your Western National
 Parks*, Oct 47 p47.

Borg, Oscar Carl Jul 47 p33
 Borrego valley, Calif. Nov 46 p8, Oct 47 p31

Botany (see also Cactus, Palm Oases,
 Plantlife)—
 Cancer-root Oct 47 p18
 Chinese Pusley
 (Wild Heliotrope) Jan 47 p19
 Desert Alyssum (Lepidium) Apr 47 p17
 Dodder (Cuscuta) Feb 47 p16
 Horehound (Marrubium) Dec 46 p18
 Lilac Sunbonnets (Langloisia) Sep 47 p31
 Poppies (Eschscholtzia) Jul 47 p27
 Sand food Oct 47 p18
 White sage (*Salvia apiana*) Dec 46 p18
 Wild Rhubarb (Rumex) Feb 47 p15

Boulder dam Jul 47 p8, Aug 47 p46
 Bow Willow canyon, Calif. Jan 47 p22
 Mar 47 p28
 Bradshaw stage route Jan 47 p4
 Braun, Fr. Albert W. Feb 47 p28
 Bright Angel trail Oct 47 p29
 Brooks, Norman May 47 p25
 Brown, Dr. Barnum Nov 46 p19
 Bullfrog mine Dec 46 p20
 Burnanek, Alfred M. Oct 47 p19
 Bush, Justus W. Feb 47 p25
 Butcher, Harold. *He Saved the
 Life of a Savage* Apr 47 p24
 Butterfield stage road Apr 47 p19
 Byrne, Cathrine Oct 47 p5

C

Cabazon, Cahuilla Indian chief Jan 47 p4
 Cactus, as source of water Aug 47 p29
 Cactus, as water clarifier Apr 47 p30
 Jun 47 p35, Jul 47 p29
 Cactus, cholla Sep 47 p30
 Cactus, senita Feb 47 p19
 Jun 47 p21, Oct 47 p1
 Cadman, Charles Wakefield Jul 47 p14
 Calxico Winter Festival asso. Mar 47 p46
 Calico, Calif. Jan 47 p24
 Camels, in Southwest Feb 47 p25
 Sep 47 p19
 Camino del Diablo Sep 47 p19
 Camp Irwin, Calif. Sep 47 p34
 Camp Verde, Arizona Aug 47 p5
 Campbell, Everett and Lena Nov 46 p17
Campfires on Desert and Lava Aug 47 p29
Canyon Country Oct 47 p16

Capitol Reef natl. mon., Utah Feb 47 p10
 Carrizo Gorge palms, Calif. Apr 47 p19
 Carson, Kit Jun 47 p16
Carson City Daily Appeal Jan 47 p28

Cassell, Richard L. Author of—
His Hiss Is Just a Bluff Mar 47 p26
*His Protection—
 Speed and Color* Apr 47 p23
'Little Old Man of the Sands' May 47 p9
*Long-tailed Denizen of
 the Desert* Aug 47 p14

"The Castle," Mojave desert Dec 46 p27
 Chaffin, Arthur Nov 46 p27, Feb 47 p10
 Chocolate Mts., Calif. Jun 47 p27
 Chuckawalla Mts., Calif. May 47 p25
 Churchfield, Mr. Sep 47 p5
 Cibola, Seven Cities of Mar 47 p22
 Clark, Addison N. *My Friend Bill,
 the Kingsnake* Jan 47 p8
 Clarkdale, Arizona Aug 47 p33
The Climate of Arizona Oct 47 p47
 Clinton, H. G. Dec 46 p23
 Coburn, Walt Aug 47 p10
 Cochise Stronghold, Arizona Feb 47 p5
 Coffey, Frank Jan 47 p4
 Cohoon, Burton A. May 47 p25
 Cole, Jim Mar 47 p31
 Collins, John Nov 46 p8
 Colorado river, crossings Feb 47 p10
 May 47 p10

Colorado river, expeditions Dec 46 p5
 Apr 47 p31, Aug 47 p13, Sep 47 p46
 Colorado river, ferries Feb 47 p10
 Colorado river, petroglyphs Aug 47 p24
 Colton, Dr. Harold S. Nov 46 p11
 Sep 47 p46
 "Cooganite" Jun 47 p6
 Corbett, Harry and Gillia Aug 47 p5
 Corn Springs oasis, Calif. Mar 47 p28
 Courtland, Arizona Feb 47 p5

Courtney, Cottam. *Stone that
 Flashes Fire* Apr 47 p27
 Cover, Tom Nov 46 p8
 Craig, Dorothy Oct 47 p19
 Cree, Clyde and Junior Jul 47 p23
 Cressman, Dr. L. S. Sep 47 p26
 Crocker, Thomas Dec 46 p15
 Crosby, Bing Oct 47 p32
 Cross, Eddie Dec 46 p20
 Crowley, Father John J. Oct 47 p5
 Cummings, Byron Jul 47 p34

D

Daily New Mexican Feb 47 p28
 Dandy Crossing, Colorado river Nov 46 p27
 Feb 47 p10
 Dark Canyon expedition, Utah Dec 46 p5
 Davis, Charles E. Dec 46 p11
 Davis, Stanley G. *Ghost City of the
 White Hills* Jan 47 p16
 Davis dam Nov 46 p23, Apr 47 p35
 Jun 47 p31, Jul 47 p34

De Anza, Juan Bautista Jun 47 p21
Death Comes for the Archbishop Jan 47 p9
 Death Valley, Calif. Oct 47 p5
 Death Valley, prospecting in May 47 p46
 Delgadito, Herrero Sep 47 p5
 De Niza, Marcos Mar 47 p22
 Dennington, Pat May 47 p21
Dennis and the Mormon Battalion Dec 46 p39
 Desert Crested iguana Nov 46 p39
 Desert hiking Oct 47 p15
 Desert Magazine, new location Nov 46 p38
 Desert museum, Randsburg Oct 47 p31
 Desert Padre Oct 47 p5
 Desert tea (Ephedra) Sep 47 p30
 Desert tortoises Dec 46 p15
*Desert Watering Places in
 California and Nevada* Jan 47 p4
 Devilsclaw (Martynia) Jan 47 p22

<i>Diary of Patrick Breen</i>	Nov 46 p36
Dinosaur natl. mon., Utah	Oct 47 p33
Dinosaurs	Sep 47 p36
Dixon, Maynard	Jan 47 p25
Dodge, Henry Chee	Mar 47 p8
.....	May 47 p36, June 47 p16
Dodge, Capt. Henry Lafayette	Nov 46 p4
Donner party	Dec 46 p11, Jan 47 p29
Dos Cabezas, Arizona	Oct 47 p29
Dos Palmas, Calif.	Jan 47 p4, Oct 47 p24
Dragerton, Utah	Mar 47 p35, Apr 47 p37
Dragoon Mts., Arizona	Feb 47 p5
Dreyer, "Mother" Margaret	May 47 p35
Drum mts., Utah	Oct 47 p19
"Dry ice rain"	Sep 47 p33
Dyk, Walter	Oct 47 p32

E

East Mesa reclamation project, Calif.	Oct 47 p31
Eastern California museum	Dec 46 p26
Edwards, Joe	Jul 47 p4
Ehrenberg, Hermann	Jan 47 p4
Elephant trees	Aug 47 p19
Elf owls	Sep 47 p23
Engelmann, Henry	Oct 47 p19
Explorer's camp, Colorado	Nov 46 p11

F

Fewkes, Dr. Walter	Aug 47 p15
Fisher, Luther	Feb 47 p19
Five-acre homesteads	Apr 47 p9, May 47 p35
.....	Jun 47 p46, Aug 47 p21, Oct 47 p46
Fort Defiance, Arizona	Nov 46 p4
Fort Douglas, Utah	Jun 47 p32
Fort Huachuca, Ariz.	Jun 47 p29, Oct 47 p29
Fort Sumner, New Mexico	Jun 47 p16
Fort Tyson, Arizona	Jul 47 p31
Fort Yuma Indian reservation	Sep 47 p33
Fossil Springs, Arizona	Aug 47 p5

G

Gabbs, Nevada	Jul 47 p34
Gallup Inter-Tribal Indian ceremonial	Aug 47 p28
Gem and Mineral department	Each issue
Gem cutting	Jun 47 p45, Sep 47 p45
Gem polishing	Jun 47 p45
Gem and mineral collecting: Areas—	
Arizona, Mogollon-Fossil creek	Aug 47 p5
California, Beal's Well area	Dec 46 p37
California, Hauser Geode beds	May 47 p25
California, Ogilby district	Jan 47 p36
Colorado, La Plata area	Oct 47 p27
Nevada, Hawthorne-Mina- Coaldale areas	Mar 47 p16
Nevada, Searchlight, Piute pass	Jul 47 p23
Oregon, beaches	Oct 47 p39
Utah, Kanab-Petrified Hollow	Apr 47 p5
Utah, Topaz mt.	Oct 47 p19
Mexico, Sinaloa	Jun 47 p11

Gems and minerals: Collecting—	
Amethyst (Mexico)	Jun 47 p11
Garnets	Oct 47 p27
Geodes	May 47 p25, Jul 47 pp23, 29
.....	Oct 47 p27
Obsidian nodules	Feb 47 p18, Jul 47 p23
Petrified wood	Apr 47 p5
Topaz	Oct 47 p19

Gems and minerals, description—	
Caledonite	Aug 47 p45
Cherry opal	Jun 47 p44
Diopside	Apr 47 p44
Hiddenite	Sep 47 p39
Iron	Jan 47 p37
Opal	Apr 47 p27, Jul 47 p44
Perlite	Sep 47 p15
Pumice	Mar 47 p42
Sapphire	Oct 47 p39
Topaz	Oct 47 p19

Yttrotantalite	Apr 47 p43
Zircon	Apr 47 p44
<i>Gems and Precious Stones of North America</i>	Oct 47 p19
General land offices	Aug 47 p21
Geodes (<i>see</i> Gems and minerals: Collecting)	
Ghost mt., Calif.	Oct 47 p15
Ghost towns—	
Aurora, Nevada	Jul 47 p10
Courtland, Arizona	Feb 47 p5
Osceola, Nevada	Sep 47 p36
Rawhide, Nevada	Jun 47 p6
Santo Domingo, Mexico	Sep 47 p19
White Hills, Arizona	Jan 47 p16

Gila reclamation project	Oct 47 p29
Gilbert, Hope. <i>Tsianina Speaks for the Indians</i>	Jul 47 p14
Givens, Frank R.	Mar 47 p31
Gladiola farm	Jul 47 p17
Glamis, California	Jun 47 p27
Gleeson, Arizona	Feb 47 p5
Glyn, Elinor	Jun 47 p6
Gold, restrictions	Aug 47 p32
Gold mining	Dec 46 p23
.....	Jun 47 p6, Jul 47 p10
Golden eagle	Nov 46 p39
Goldfield, Nevada	Aug 47 p31
Goldfield historical museum	May 47 p36
Goodell, Horace	May 47 p10
Grannan, Riley	Jun 47 p6
Grapevine canyon, Calif.	May 47 p21
Gray, Frederick William	Oct 47 p31
Great Basin	Oct 47 pp19, 28
Great Basin gopher snake	Mar 47 p26
Great Salt desert, Utah	Dec 46 p11
Gridiron-tailed lizard	Apr 47 p23
Griffith, "Yellow Dog"	Sep 47 p19
Grutt, Emil M.	Jul 47 p34
Grutt Brothers	Jun 47 p6
Guar, new seed crop	Aug 47 p20
Guevavi mission, Arizona	Mar 47 p9
Gum Shoe Kid	Jun 47 p6

H

<i>Hail Chant and Water Chant</i>	Oct 47 p47
Hall, Ansel	Nov 46 p11, Dec 46 p5
Hall, Charles	May 47 p10
Hall, Dick Wick	Mar 47 p29
Hall Creek crossing, Colorado r.	May 47 p10
Hamblin, Jacob	Apr 47 p5, Sep 47 p33
<i>Handbook of Lizards</i>	Apr 47 p23
Hanksville, Utah	Feb 47 p10
Hansen, Byron and Walter Jo-Jo	Oct 47 p5
Hard Rock Shorty	Nov 46, Dec 46
.....	Apr 47, May 47, Jul 47-Oct 47
Harpending, L.	Jun 47 p27
Harris, Shorty	Dec 46 p20
Harvey, Fred	Sep 47 p5
Harvey, Dr. Maris E.	Sep 47 p11
Hassayampa valley, Arizona	Mar 47 p11
Hastings Cutoff route	Dec 46 p11
Hauser, Joel	May 47 p25
Hauser geode beds	May 47 p25, Jun 47 p36
Hayes, Ira H.	Jul 47 p14
Hayes, Junius J.	Oct 47 p19
Heintzelman mine, Arizona	Apr 47 p15

Henderson, Randall. Author of—	
<i>Glyph Hunters in the Indian Country</i>	Nov 46 p11
<i>We Explored Dark Canyon</i>	Dec 46 p5
<i>Waterhole on the Old Bradshaw Trail</i>	Jan 47 p4
<i>Palms of Palomar</i>	Feb 47 p19
<i>Palms of the Carrizo Country</i>	Apr 47 p19
<i>Day in Grapevine Canyon</i>	May 47 p21
<i>Palms That Survived in Cloudburst Canyon</i>	Jun 47 p21
<i>Oasis on Bear Creek</i>	Sep 47 p11
Herman, John	Jun 47 p27
Hicks, E. R.	Jul 47 p10
Hidden Springs oasis, Calif.	Dec 46 p38
Hike, Frank	Nov 46 p8
Hilton, John	Nov 46 p31

Hilton, John. Author of—	
<i>Star-dust Hunter</i>	May 47 p5
<i>Gems From a Hidden Paradise</i>	Jun 47 p11
<i>Artist of Dos Palmas</i>	Oct 47 p24
Hite, Cass	Feb 47 p10
Hite river ferry (Dandy crossing)	Nov 46 p27
Hoff, Amos	Sep 47 p33
Hogan, Navajo	May 47 p15, Oct 47 p9
Hole-in-the-Rock crossing, Colorado river	May 47 p10
Homesteads, Arizona (<i>see also</i> Five-acre homesteads)	Jul 47 p28
<i>Hoofs and Horns</i> magazine	Aug 47 p10
Hoover dam	Jul 47 p8, Aug 47 p46
Hopi snake dance	Aug 47 p15
Hopkins, Ethel "Ma"	Aug 47 p10
Horses, miniature	Dec 46 p25
Howard, Chester R.	Oct 47 p19
Hubbell, Lorenzo	Nov 46 p39
Hughes, Dr. J. E.	Nov 46 p11

I

Iguana lizard	Oct 47 p28
Ikenberry, Joe	Aug 47 p10
Indian administration	Jul 47 p14
.....	Aug 47 p29, Oct 47 p27
Indian burial customs (Navajo)	May 47 p15
Indian ceremonials—	
Devil Chant (Navajo)	Mar 47 p5
Hopi Snake dance	Aug 47 p15
Inter-Tribal Ceremonial	Aug 47 p28
Miscellaneous dances	Oct 47 p9
Indian crafts	Sep 47 p5
Indian fish traps	Nov 46 p8
Indian petroglyphs	Nov 46 p11
.....	Mar 47 p22, Aug 47 p24
Indian ruins (Verde river, Ariz.)	Aug 47 p5
Indian Secret mining dist.	Jan 47 p16
Indian sites, survey	Mar 47 p21
Indian traders	Oct 47 p9
Indian trail shrines	Sep 47 p11
Indian vote right	Oct 47 p32
Indian wedding customs (Hopi) ..	May 47 p31

Indians—	
Acoma	Jan 47 p9
Apache	Apr 47 p15
Cahuilla	Sep 47 p11
Hopi	Aug 47 p15, Oct 47 p29
Hualpai	May 47 p33
Laguna	Jan 47 p9
Moqui (<i>see</i> Hopi)	
Navajo	Nov 46 p4, Mar 47 pp5, 19
.....	May 47 p15, Jun 47 p16, Sep 47 p5
.....	Oct 47 p9
Pima	Mar 47 p9, Apr 47 p24
Zuñi	Mar 47 p22

Indians, prehistoric	Mar 47 p22
.....	Jul 47 p31, Aug 47 p33, Sep 47 p26
.....	Oct 47 p32
International Desert Cavalcade	Mar 47 p46
Inyo Associates	Oct 47 p5
Inyokern, Calif.	Oct 47 p5
Irving, Arizona	Aug 47 p5

J

Jackrabbit homesteads (<i>see</i> Five-acre homesteads)	
Jahn, Ray	Nov 46 p11
James, George Wharton	Jan 47 p4
Jenkins, Dr. Olaf P.	Jul 47 p30
Jerome, Arizona	Aug 47 p33
Jesuit missions	Mar 47 p9
.....	Apr 47 p24, Jun 47 p11
Jewel Valley, Mexico	Jun 47 p11
Johns, Charlie	Jun 47 p27
Johnson, Zeke	Feb 47 p10
Johnstone, Eda S. <i>They Made the Desert Blossom—with Gladiolas</i>	Jul 47 p17
Jones, Cardon	Dec 46 p5
Jones, Randall	Nov 46 p27

Joshua Tree natl. mon.,
Calif. Feb 47 p26, Mar 47 p31
Juniper trees Mar 47 p19

K

Kaibito plateau, Arizona Mar 47 p19
Kanab, Utah Apr 47 p5
Kanaswood, Lee Mar 47 p19
Kaiser, Henry Feb 47 p24, Mar 47 p37
Keam's Canyon trad. post, Ariz. Aug 47 p15
Kearns camp, Utah Mar 47 p35
Kelly, Charles. Author of—
*Treasure Hunt on the
Salt Desert* Dec 46 p11
*New Road into the
Utah Wilderness* Feb 47 p10
*Mormon Crossing at
Hole-in-the-Rock* May 47 p10
Kibler, Maude and Herbert Mar 47 p16
Kingsnake Jan 47 p8
Kino, Fr. Eusebio Francisco Apr 47 p24
Kit Fox Jan 47 p20
Knickerbocker, W. H. Jun 47 p6
Knight, Pete Aug 47 p10
Koch, Walter H. Oct 47 p19
Kofa Mts., Arizona Jan 47 p38, Sep 47 p23
Kolb, Emery and Ellsworth Sep 47 p46
Krueger, Max May 47 p10
Kunz, Geo. Frederick Jun 47 p11
Oct 47 p19

L

Laguna pueblo, New Mex. Jan 47 p9
Laguna Salada, Lower Calif. Feb 47 p19
Jun 47 p21
Lake Bonneville, Utah Oct 47 p19
Lake Mead recreational area Oct 47 p32
Lane, Dr. James Franklin Jan 47 p29
Langley, Dama. Author of—
Trail to Acoma Jan 47 p9
*We Owe the Navajo—
Six Hundred Schools!* Jun 47 p16
*Cheating is Taboo
on the Reservation* Sep 47 p5
La Paz gold fields Jan 47 p4
Lapidary department Each issue
Lapidary Journal Mar 47 p38, Apr 47 p38
Lapidary reading list Dec 46 p30
Lapidary schools Feb 47 p30
La Quinta, Calif. Sep 47 p11
Larson, David Feb 47 p19

Laudermilk, Jerry. Author of—

Flowers Have Their Tricks Dec 46 p18
Career of a Botanical Thief! Feb 47 p16
Magic at the Grass Roots Mar 47 p11
Pigmies of the Plant World Jul 47 p20

Levy, Manuel G. Sep 47 p19
Lewis, Lucien M. *He Was in on the
Bullfrog Jackpot* Dec 46 p20
Leyshon, John H. Jan 47 p24
Lockerbie, Charles and Lillian Oct 47 p19
Lone Pine, Calif. Oct 47 p5
Loomis, Barbara Nov 46 p11
Los Angeles water and power dept. Oct 47 p5

Lost mines and treasure—

Arizona, Lost Dutchman Mar 47 p36
Jun 47 p29
Arizona, Lost Guevavi Mar 47 p9
Arizona, Lost John Clark silver .. Apr 47 p15
Arizona, Lost Sandstone May 47 p30
Calif., Lost Arch mine Aug 47 p29
Calif., Lost Pegleg gold Nov 46 p8
Calif., Chocolate Mt.
quartz-silver Jun 47 p27
Nevada, Lost Pegleg Oct 47 p28
Mexico, San Marcelo Sep 47 p19

Lower California Feb 47 p19, Jun 47 p21
Luhan, Mabel Dodge Oct 47 p47
Lummis, Charles F. Apr 47 p10
Lupton, Arizona Mar 47 p22

M

Maas, Alberto Jun 47 p11
MacDonald, Mrs. D. J. Jul 47 p4
Manuelito, Navajo chief Nov 46 p4
Marriott, Lee Sep 47 p36
Massacre cave, Nevada Sep 47 p26
Mastodon petroglyph Aug 47 p24
Maw, Gov. Herbert B. Feb 47 p10
Mayflower, Collis May 47 p25
McCain, Bob Jul 47 p4
McCloud, Charlie Oct 47 p15
McConkie, Wayne Aug 47 p24
McGonigle, Pete May 47 p18
McKelvey, Nat. *'Lady with
Hoofs and Horns'* Aug 47 p10
McKenney, Wilson Sep 47 p11
Mecca Easter pageant Apr 47 p30
Melgosa desert Nov 46 p19
Meloland experiment station Aug 47 p20
Mendenhall, Walter C. Jan 47 p4
Merritt, Ralph Oct 47 p5
Meteor crater, Arizona Dec 46 pp22, 24
Apr 47 p30, May 47 p5
Meteorites May 47 p5, Oct 47 p39
Mildren, Howard and Sinah Jul 47 p23
Miller, Harry E. "Two Gun" Mar 47 p22
Milton, Jeff Jul 47 p31
Mina, Nevada Mar 47 p16
Mineral conventions, tips on Oct 47 p34
Mining news Each issue
Mitchell, John D. Jun 47 p29

Mitchell, John D. Author of—

Bells of Old Guevavi Mar 47 p9
Lost John Clark Silver Mine Apr 47 p15

Moab, Utah Aug 47 p24
Mogollon rim, Arizona Aug 47 p5
Morgan, Raymond Jan 47 p4, Oct 47 p24
Morhardt, Aim Oct 47 p5
Morley, Dr. Sylvanus G. Aug 47 p36
Mormon colonization May 47 p10
Mormon irrigation Jul 47 p35, Sep 47 p30
Mormon soap production Apr 47 p37
Mormon tabernacle May 47 p37
Mormons, Utah population Jan 47 p18
Morris, Frank Oct 47 p31
Mt. Whitney, Calif. Oct 47 p5
Mountain Palm springs, Calif. Aug 47 p19
Mullarky, Tom Mar 47 p22
Murphy, Matt May 47 p30
Museum of Northern Arizona Sep 47 p46
Mushet, Adeline and Bill Nov 46 p17
Apr 47 p10

N

National monument, proposed Aug 47 p9
Natural Bridges natl. mon., Utah Feb 47 p10
Navajo burial customs May 47 p15
Navajo customs Oct 47 p9
Navajo dances Oct 47 p9
Navajo Devil chant Mar 47 p5
Navajo education Jun 47 p16
Navajo Tribal Arts & Crafts Guild Sep 47 p5
Naval Ordnance Test sta.,
Inyokern Mar 47 p31, Jul 47 p33
Nevada wonder rock Aug 47 p31
Nevills, Norman Aug 47 pp 13, 46
Sep 47 p46
Nininger, Dr. H. H. Dec 46 p24
Apr 47 p30, May 47 p5, Sep 47 p46
Niño de la Tierra (see Baby of the Desert)
Nye, Nelson Aug 47 p10

O

Ocotillo, yellow Jun 47 p35
Opalized forest, Oregon Mar 47 p39
Oraibi, Arizona Nov 46 p23
Ordeal by Hunger Nov 46 p36
Organ Pipe Cactus natl. mon.,
Arizona Feb 47 p25
Orr Brothers Dec 46 p11, May 47 p31
Osceola, Nevada Sep 47 p36
Owens valley, Calif. Oct 47 p5

P

Pack, Frederick J. Oct 47 p19
Painted Desert, Arizona Nov 46 p19
Palm Desert, California Sep 47 p33

Palm oases, California—

Bear Creek (Santa Rosa Mts.) Sep 47 p11
Carrizo Gorge (Jacumba Mts.) .. Apr 47 p19
Dos Palmas (Orocopia Mts.) Jan 47 p4
Grapevine Canyon
(Santa Rosa Mts.) May 47 p21
San Andreas (Orocopia Mts.) Jan 47 p4

Palm oases, Lower California—

Cloudburst Canyon
(Sierra Juarez) Jun 47 p21
Palomar Canyon
(Sierra Juarez) Feb 47 p19

Palm Springs Desert museum Jun 47 p30
Palm Springs Indian claims Jul 47 p45
Aug 47 p34

Palmer, William R. Aug 47 p37
Palms, Mexican Blue Jun 47 p21
Palms, Washingtonia (see Palm oases)

Palomar Canyon oasis,
Lower Calif. Feb 47 p19
Panamint City, Calif. Jan 47 p24,
Jul 47 pp29, 30

Panchita, "Sun Painter" Apr 47 p13
Paradise valley, Calif. Jun 47 p46

Pasó por Aquí Jun 47 p32
Pattie, James O. Feb 47 p19
Patton War Memorial mon. Nov 46 p24
Paymaster mine Jun 47 p27

Payne, Doris A. *Tale of
Three Rabbit Feet* Sep 47 p26

Pearl, Richard M. Oct 47 p19
Pectol, Ephraim P. Feb 47 p10

Pegleg Smith (Lazarus Smith) Nov 46 p39
Pegleg Smith lost gold Nov 46 p8
Feb 47 p18, Mar 47 p27, Oct 47 p28

Penitente Brotherhood Apr 47 p35
Perlite mining, processing Sep 47 p15

Petrified Forest natl. mon., Ariz. Oct 47 p29
Petrified Hollow, Utah Apr 47 p5
Petrified wood Nov 46 p19
Jan 47 p22, Apr 47 p5, Jun 47 p35

Petroglyphs Nov 46 p11
Mar 47 p22, Aug 47 p24

Peyote, Indian use of Apr 47 p36

Phillips, Margaret.
Padre of the Desert Oct 47 p5

Philmont Scout ranch, New Mex. Jun 47 p31

Photographs. Covers by—

Randall Henderson, Nov 46; C. H. Lord, Dec 46; Lewis W. Walker, Jan 47; Fred Hankins, Feb 47; Chuck Abbott, Mar 47; Norton Allen, Apr 47; Josef Muench, May 47; Fred H. Ragsdale, Jun 47; N. M. Tourist Bureau, Jul 47; Martha Burleigh, Aug 47; Fred H. Ragsdale, Sep 47; Chuck Abbott, Oct 47.

Photographs. Prize winners by—

Dr. R. B. Cowles, Claire Meyer Proctor, Nov 46; Charles E. Pelletier, Rayburn F. Hunt, Dec 46; Max Elliott, Loren G. Snook, Jan 47; Tad Nichols, Leon K. Kendall, Feb 47; Josephine Carpenter, Donald W. Johnson, Mar 47; Loyd Cooper, Mrs. Edna Ward, Apr 47; Walter H. Koch, Don Ollis, May 47; Rayburn F. Hunt, Dick Freeman, Jun 47; M. L. and M. H. Carothers, Hubert A. Lowman, Aug 47; Don Ollis, Cyril Johnson, Sep 47; Ward W. Howland, Hubert A. Lowman, Oct 47.

Picuris pueblo, New Mex. Oct 47 p32

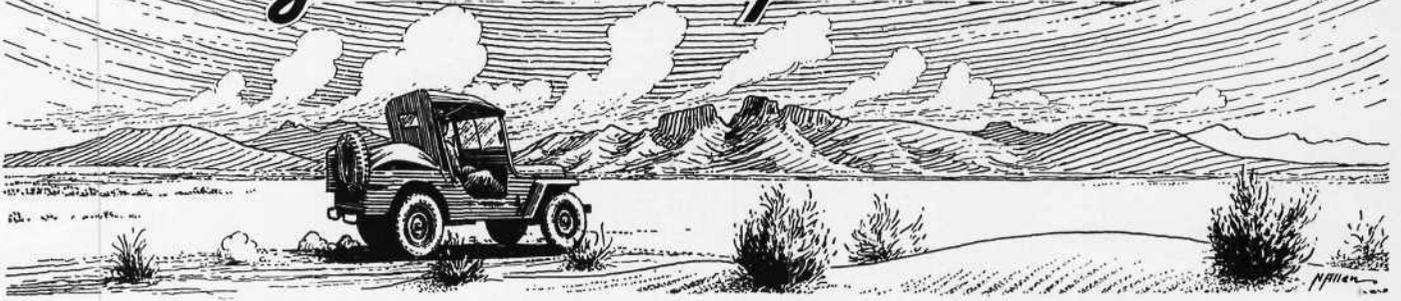
Pillsbury, Dorothy L. *Sun Painter of
Santa Fe* Apr 47 p13

Pines-to-Palms highway May 47 p21
Sep 47 p11

Pino, Robert Sep 47 p5
Pinto basin, Calif. Jul 47 p34
Piute Pass geode field Jul 47 p23

Plantlife—			
Arizona	Jul 47	p20	
Arizona, Fossil creek	Aug 47	p5	
Calif., Colorado desert	Jul 47	p4	
Calif., Santa Rosa Mts.	May 47	p21	
	Sep 47	p11	
Nevada, Searchlight area	Jul 47	p23	
	Sep 47	p15	
Utah, west central	Oct 47	p19	
Lower California	Jun 47	p21	
Sinaloa, Mexico	Jun 47	p11	
Plaster City gypsum plant	Apr 47	p29	
Poems	Each issue		
Pollination methods	Dec 46	p18	
Pony Express route, Utah	Oct 47	p19	
Pony Express stations, Nev.	Sep 47	p35	
Posey, Jess	Apr 47	p37	
Poston, John	Apr 47	p15	
Powell, John Wesley	Dec 46	p5, Feb 47	p10
Prehistoric animals, New Mex.	Oct 47	p32	
Punta Peñasco	Sep 47	p19	
Putnam, George Palmer	Oct 47	p31	
			Q
Quartzsite, Arizona	Mar 47	p27	
Quick, Lelande. <i>Amateur Gem Cutter</i>	Each issue		
Quitovaquita, Arizona	Sep 47	p19	
			R
Rain making, dry ice	Sep 47	p33	
Ramona's story	May 47	p31	
Ransom, Jay Ellis. <i>Golden Harvest at Aurora</i>	Jul 47	p10	
Rawhide, Nevada	Jul 47	p34, Sep 47	p30
	Oct 47	p33	
Ray, Neal	Feb 47	p10	
Redd, Wiley	Feb 47	p18	
Red racer	Nov 46	p24	
Reid, Agnes Cody	May 47	p35, Jun 47	p30
Rhyolite, Nevada	Oct 47	p32	
Rhyolite bottle house	Nov 46	p19	
Richardson, Hubert	Nov 46	p3, Sep 47	p46
Richardson, Toney	Nov 46	p3, Sep 47	p46
Richardson, Toney. Author of—			
<i>Where Tree Stumps Turned to Stone</i>	Nov 46	p19	
<i>Trees That Died of Fear!</i>	Mar 47	p19	
Rickard, Tex	Jun 47	p6	
Riddell, Chuck and Evonne	May 47	p21	
Ringwald, Harry R.	Mar 47	p38	
Riverbed stage sta., Utah	Oct 47	p19	
Rogers, Clarence	Dec 46	p5	
Rogers, William T.	Oct 47	p19	
Ross, Kenny	Dec 46	p5	
Rottman, Jean	Oct 47	p19	
			S
<i>Sagebrush and Mining Tales</i>	Nov 46	p36	
<i>Salome Sun</i>	Mar 47	p29	
<i>Salt Desert Trails</i>	Dec 46	p3	
<i>The Salton Sea</i>	Jan 47	p4	
Salton Sea resort, plans	Jun 47	p30	
San Andreas springs, Calif.	Jan 47	p4	
San Diego & Arizona railroad	Apr 47	p19	
San Felipe, Mexico	Jan 47	p20, May 47	p35
San Gabriel, New Mexico	Mar 47	p34	
San Jacinto tramway bill	Jun 47	p26	
San Lorenzo, New Mex.	Oct 47	p32	
Sandstone lost mine, Ariz.	May 47	p30	
Santa Rosa Mts., Calif.	Nov 46	p8, May 47	p21, Sep 47
	Jun 47	p27	
Saylor, Dan	Oct 47	p27	
Scorpions	Oct 47	p27	
Scorup-Somerville Cattle Co.	Mar 47	p35	
Searchlight, Nevada	Jul 47	p23	
	Aug 47	p31, Sep 47	p15
Seed dissemination	Mar 47	p11	
Seeding, by airplane	Apr 47	p32	
Senita cactus	Feb 47	p19, Jun 47	p21
Seri Indian tribe	Aug 47	p32	
Seton, Ernest Thompson	Dec 46	p28	
Seven Cities of Cibola	Mar 47	p22	
Seyfried, Esther and Ernie	Jul 47	p17	
Shaffer, Henry	Jan 47	p16	
<i>Shanewis</i> , Indian opera	Jul 47	p14	
Sharp, "Happy"	Aug 47	p34	
Shattuck, Lynn	Feb 47	p5	
Sherrill, Bill	Feb 47	p19	
Shumway, Nina Paul	May 47	p21	
Silkworm culture	Nov 46	p25	
Silveira, Berta and "Big John"	Jul 47	p23	
Silver mining	Jan 47	p16, Jun 47	p27
Silversmithing, Navajo	Sep 47	p5	
Simpson, Capt. James H.	Oct 47	p19	
Simpson sprs. stage sta., Utah	Oct 47	p19	
Sinaloa, Mexico	Jun 47	p11	
Skull valley, Utah	Dec 46	p11	
Small Tract Act (see Five-acre homesteads)			
Smith, Charles J.	Feb 47	p10	
Smith, Ida and Moulton	Aug 47	p5	
Smith, John O. "Pegleg"	Nov 46	p8	
Smith, Lazarus "Pegleg"	Nov 46	p39	
Smith, Miss Virginia	Aug 47	p10	
Soda lake, Nevada	Oct 47	p32	
<i>Son of Old Man Hat</i>	Oct 47	p32	
<i>Song Before Sunrise</i>	Apr 47	p47	
Sonoita, Mexico	Sep 47	p19	
Sonora Blue palm	Feb 47	p19	
South, Marshal. Author of—			
<i>Desert Refuge</i>	Nov 46, Dec 46		
<i>Home on the Rim of the Desert</i>	Apr 47	p10	
<i>Healing Waters at Agua Caliente</i>	Jul 47	p4	
<i>Desert Trails</i>	Aug 47, Oct 47		
South, Tanya and Marshal	Jan 47	p38, Apr 47	p46
Southern Calif. All-Year club	Aug 47	p46	
Southern Calif. Archeological Survey asso.	Mar 47	p21	
Speer, Marion	May 47	p38	
Stevens, Alexander	Aug 47	p15	
Stevens, L. B.	Jul 47	p10	
Stockton, Pansy "Panchita"	Apr 47	p13	
Stone, Julius F.	Dec 46	p5, Oct 47	p16
Stovepipe Wells hotel, Death Valley	Oct 47	p31	
Summer, Col. Edwin V.	Nov 46	p4	
"Sun paintings"	Apr 47	p13	
Sykes, Godfrey. <i>In the Kiva of the Snake Clan</i>	Aug 47	p15	
			T
<i>Tales of a Triumphant People</i>	Jun 47	p47	
Tanner, Elaine and Bud	Sep 47	p15	
Tenderfoot, definition	Feb 47	p27	
Thomas mts., Utah	Oct 47	p19	
Thorne, Shorty	Feb 47	p5	
<i>Thumbnail Sketches of Famous Arizona Desert Riders</i>	Jan 47	p23	
Tombstone <i>Epitaph</i>	Jul 47	p26	
Tonopah & Goldfield railroad	Nov 46	p25, Mar 47	pp16, 33, Apr 47
	p35		
Tonopah & Tidewater railroad	Dec 46	p25	
Top O' th' Pines lodge, Ariz.	Aug 47	p5	
Topaz cove, Utah	Oct 47	p19	
Treasure map, Camino del Diablo	Sep 47	p19	
Trona chemical resources	May 47	p46	
<i>True Story of Jacob Walzer and His Famous Hidden Gold</i>	Nov 46	p36	
Truman, Arizona	Apr 47	p32	
Tsianina, Indian singer	Jul 47	p14	
Tulainyo lake, Calif.	Oct 47	p5	
Tumacacori mission, Ariz.	Apr 47	p24	
Turner, Lew	Aug 47	p5	
Turquoise deposits	Dec 46	p23, Feb 47	p5
Tyrrell, D. A. <i>Hard Rock Shorty</i>	Dec 46	p21	
			U
U. S. Gypsum Co.	Apr 47	p29	
Utah Centennial stamp	Aug 47	p37	
Utah mineralogical society	Oct 47	p19	
Utah Pioneer Trails asso.	Oct 47	p19	
Utah Wonderland stages	Aug 47	p37	
			V
Vallecitos Palm sprs., Calif.	Oct 47	p27	
Vallecitos stage sta., Calif.	Mar 47	p31, Oct 47	p15
Van Deventer, Earl M.	Oct 47	p19	
Van Norman, Claude H.	Oct 47	p5	
Van Valkenburgh, Richard. Author of—			
<i>Last Powow of the Navajo</i>	Nov 46	p4	
<i>Trail to Turquoise</i>	Feb 47	p5	
<i>We Saw the Devil Chant the Navajo</i>	Mar 47	p5	
<i>Flint Singer Returns to the Underworld</i>	May 47	p15	
<i>His Compass Was a Burro's Tail</i>	Sep 47	p19	
<i>Don't Knock on a Hogan Door</i>	Oct 47	p9	
Vargas, Glenn	May 47	p25	
Vargas, Glenn. <i>Its Nose is a Shovel</i>	Oct 47	p14	
Vasquez, Maclovio	Feb 47	p19, Jun 47	p21
Velvet ant	May 47	p9	
Ventana cave, Arizona	Jul 47	p31	
Vermilion cliffs, Utah	Apr 47	p5	
			W
<i>Wagons Southward</i>	Oct 47	p47	
Walker, Frank	Feb 47	p5	
Walker, Lewis Wayne. Author of—			
<i>He Took His Own Picture</i>	Jan 47	p20	
<i>Elfs of the Saguars</i>	Sep 47	p23	
Walpi, Arizona	Aug 47	p15	
Warne, William E.	Aug 47	p27	
Washingtonia palms (see Palm oases)			
Weaver, Pauline	Jan 47	p4	
Weight, Harold O.	Jan 47	p3	
Weight, Harold O. Author of—			
<i>So She Hunted Gem Stones</i>	Mar 47	p16	
<i>They Call it 'Petriified Hollow'</i>	Apr 47	p5	
<i>Operation Rockhound</i>	May 47	p25	
<i>When Rawhide Roared</i>	Jun 47	p6	
<i>Geode Hunters of Searchlight</i>	Jul 47	p23	
<i>Power from Paradise</i>	Aug 47	p5	
<i>Perlite Miners of Searchlight</i>	Sep 47	p15	
<i>Field Day for Topaz Collectors</i>	Oct 47	p19	
Western Trails museum	May 47	p38	
Westmoreland, N. C.	Jun 47	p30, Aug 47	p35
	Oct 47	p9	
Wetherill, Louisa and John	Mar 47	p22	
Wetherill, Milton A.	Sep 47	p46	
Wetherill Memorial fund	Sep 47	p33	
Wetzel, Harry	Jul 47	p14, Aug 47	p29
Wheeler-Howard Indian bill	Oct 47	p5	
Whitney Portal, Calif.	Sep 47	p4, Oct 47	p31
Wickenburg Massacre monument	Mar 47	p28, Apr 47	p12, May 47
	Apr 47	p12, May 47	p28
Wild horses	May 47	p25	
Wildflower forecast	Nov 46	p17, Nov 46	p11
	Nov 46	p11	
Wilson, Eva M. <i>Hard Rock Shorty</i>	Jul 47	p8	
Wilson, Henry E. W. <i>'Lost Pegleg Gold is not a Myth'</i>	Nov 46	p8	
Winters, Clinton	Aug 47	p5	
Witmer, Paul B.	Aug 47	p21, Oct 47	p46
<i>The Wonders of the Colorado Desert</i>	Jan 47	p4, Feb 47	p38
Wood, Mrs. C. L.	Nov 46	p17	
Woodard, M. L.	Mar 47	p22	
Woodward, Arthur	Nov 46	p11	
Woodward, Arthur. <i>Lost Cities of the Desert</i>	May 47	p18, Sep 47	p19
	Sep 47	p19	
Wupatki natl. mon., Ariz.	Mar 47	p5	
			Y
Yaqui community, Mexico	Aug 47	p32	
Yavapai county, Arizona	Aug 47	p5	
Yokum, Gene	Feb 47	p5	
Yuma, Arizona	Apr 47	p31, Oct 47	p29

Just Between You and Me



By RANDALL HENDERSON

ONE DAY recently I took the elevator in the federal postoffice building in Los Angeles and went up to the Bureau of Land Management. That is Uncle Sam's real estate department. And it is the biggest real estate business in the United States, for Uncle Sam has 169 million acres of vacant public land in United States in addition to 250 million acres in Alaska.

The Bureau of Land Management is a new name for an old Washington bureau. A few months ago it took over the functions of the former U. S. Land Office, and Paul B. Witmer, former Land office registrar for Southern California acquired a new title. He is now Acting Manager of the Bureau for this district.

I asked Paul how his real estate business was going. I was especially interested in the number of applications being made for 5-acre tracts, or "jackrabbit homesteads" as they are known.

"We had 50 applications yesterday," he replied, "and that was a light day. Some days there are double that number. They are coming in faster than our small staff can handle them—but we will get around to them eventually."

Bearing out his statement, the main office of the Bureau was thronged with men and women—some of them consulting maps, others asking questions of the clerks on duty, and still others seeking forms on which to make their applications.

Over 12,000 Southern Californians already have made applications for these small tracts of public land, all of them located in the desert country from three to five hours from Los Angeles. The Small Tract Act, passed in 1938, is a comparatively new thing in public land distribution. It was an experiment originally, and the department of interior has been moving cautiously in carrying out the plan. While the original Act provides that lands either may be leased or sold, the policy until now has been to grant leases only.

But progress is being made. In June, Secretary Krug announced a new policy. Leases will now include an option to buy the land after one year if the homesteader has erected a cabin or made other permanent improvements.

While most of the activity in Uncle Sam's new real estate deal has been in Southern California where Witmer is one of the sponsors of the original Act, there are millions of acres of vacant public land available for jackrabbit homesteading in every western state. There is a District Land office under the Bureau of Land Management in each state where applications may be made.

But Uncle Sam isn't much of an advertiser, and his bureaucrats with few exceptions—Paul Witmer is one of the exceptions—do not go out and promote more work for themselves if they can avoid it. Hence the slow progress of the Small Tract movement in other states. It will be speeded up when local people in those states become sufficiently interested to press their District Land managers for action.

* * *

There should be no delusions regarding these 5-acre tracts. The good farming land in the West already has been homesteaded—at least this is true of all accessible good land. The Act of 1938 was designed to open the left-over lands to those who were interested in making use of them. Nearly all this land is arid, and much of it is mountainous.

Those who have visions of acquiring a little homestead and investing \$500 in a cabin and water rights and then living in ease from their chickens and garden, should revise those notions.

The water and chickens and garden are all possible—but not the easy way. Water may be obtained at fairly reasonable cost if a group of owners will form a cooperative for that purpose, as is being done by the Mutual Assistance Group of Section 36 in Coachella valley and by certain homesteader groups near Twentynine Palms. But there will be brush to clear or rocks to move, a cesspool to install, roads to construct—and a cabin to erect in a spot often far removed from a source of materials.

Folks with the blood of pioneers—or of poets—running strong in their veins, will regard the task as a grand adventure. I know Los Angeles people who spent most of their weekends for months building a stone cabin on their claim. And what fun they had doing it! Two days every week they drove out and mixed mortar and hauled rocks, and stone by stone the little cabin took form. It isn't a perfect construction job—but it is theirs. They planned it themselves and built it with their own hands—and in terms of spiritual values it is worth more than a mansion in a ritzy subdivision.

* * *

The new Land Bureau regulations provide that tracts will be sold to lessees who have complied with the improvement requirements, at appraised value plus cost of surveys. Those surveys could be very costly—but need not be.

If the Land office will send its survey crew out to subdivide each section into 40-acre parcels, and set the 40-acre corners, it will be a simple matter for the owners to take a steel tape and measure off their own 330x660-foot holdings, and then erect their own corner monuments.

So far, all efforts to have these surveys made have met with the typically bureaucratic answer: "No funds for that purpose." But if the jackrabbit clan will howl long enough and loud enough, the funds will be provided. You know the old adage about the squeaky wheel that gets the grease.

In this case it is right and proper the surveys should be made. If Uncle Sam is in the real estate business, the obligation to stake out his merchandise so it can be located is an obvious one.

* * *

Many of the economic and social problems of this age stem from increasing and over-crowded population. Too much crowding is bad for humans. It brings out the worst in them. Insofar as the West is concerned, the Small Tract Act offers an important palliative for the curse of over-crowding. No dweller in the West is more than three hours by motor from vacant land in the public domain—and it doesn't require great wealth to enjoy the luxury of a few days each month on a 5-acre tract.



NEW UTAH GUIDE BOOK LATEST IN SERIES

Fifth in his series of western guide books, H. Cyril Johnson's new SCENIC GUIDE TO UTAH is the best of his series to date. Content, illustration and typography and a beautiful kodachrome cover make this book invaluable to the tourist who does not wish to invest in the larger and more expensive state guides.

Arranged in alphabetical order, the book provides a concise and informative key to place names a motorist will find on the map of Utah. The 100-page paper covered book includes 62 photographs and 12 maps.

The previous books in the guide series include Arizona, Northern California, Southern California and Nevada.

H. Cyril Johnson, Scenic Guides, Susanville, California. \$1.00 each.

AN INTRODUCTION TO OUR WESTERN NATIONAL PARKS

YOUR WESTERN NATIONAL PARKS by Dorr Yeager is a beginner's guide to the enjoyment of the national parks and monuments west of the Mississippi river. For the most part it contains the barest outline of what the visitor may expect to see, accommodations available, roads and temperatures which will be met. Usually there are brief notes on the history of the park or monument under discussion.

Dorr Yeager knows his subject. He has been with the national park service for 20 years and was, at the time the book was published, regional naturalist of Region 4 of the park service. This intimate knowledge shows here and there in YOUR WESTERN NATIONAL PARKS, when Yeager permits himself a little extra space to expand some subject of particular interest.

He explains, for example, that the pueblos at Wupatki might not have been built, save for the eruption of Sunset crater between 1047 and 1071 A. D. The land had been too dry for farming, but the eruption covered the area with fine cinders which served as a mulch and conserved the moisture. The "Wupatki land rush" resulted, with Indians coming from all directions and forming a cosmopolitan community which survived for 300 years.

He points out that we are inclined to look upon the Pueblo civilization as a transient one but that Mesa Verde was occupied for 1300 years. "It is a sobering

thought," he says, "that our great centers—New York, Chicago, San Francisco—may never be occupied half as long as was this great green mesa in southwestern Colorado."

The book deals, in some detail, with 40 parks and monuments, and about half of them can be classed as Southwestern. Descriptions range from the 13 pages given to Yellowstone to less than three for Montezuma Castle and Walnut canyon. Half of the eight pages on Death Valley are taken up by Death Valley Scotty.

YOUR WESTERN NATIONAL PARKS is an interesting, readable book in which most readers will discover facts which they did not know about some of the parks. It is to be hoped, however, that some day Dorr Yeager will write more detailed volumes to pass on his knowledge of the history, flora and fauna of our parks.

Dodd, Mead & Company, New York, 1947. 275 pp., index, bibliography, maps and photographs. \$3.50.

BOOK BRIEFS . . .

In a highly readable but factual bulletin, Dr. H. V. Smith, associate agricultural chemist at University of Arizona, Tucson, Arizonans are given information about the climate of their state—and some popular misconceptions are explained. Aside from some interesting facts to use in arguments about the weather, *The Climate of Arizona* gives such valuable data as that pertaining to growing seasons. Bulletin is a publication of University of Arizona.

Second volume in the Navajo Religion Series, *Hail Chant and Water Chant*, recorded by Mary C. Wheelwright with commentary by Dr. Phyllis Ackerman, has been published by the Museum of Navajo Ceremonial Art, Santa Fe, New Mexico. The book is illustrated with 24 sand paintings and ritual objects reproduced in serigraph color plates by Louie Ewing. Texts of the religious ceremonies were dictated by the late Hasteen Klah, and other noted Navajo medicine men. Price of the 8x11 in. volume is \$20.00.

American Pioneer Trails association headquarters has issued a pamphlet, *Wagons Southward*, which gives an account of historic Santa Fe trail. Author is Walter Stanley Campbell, widely known under his pen name, Stanley Vestal.

Edwin D. McKee's *Ancient Landscapes of the Grand Canyon Region* has just been issued in the ninth edition, bringing total publication to 50,000 copies. The booklet, originally printed in 1931, and since revised several times, is a popular geology of a section of northern Arizona and southern Utah which includes the Grand Canyon, Bryce and Zion national parks, the Petrified Forest, Painted Desert and San Francisco mountains. McKee is assistant professor of geology at University of Arizona, and his book is distributed through parks and hotel companies of the region described.

Mabel Dodge Luhan's latest work, dealing with the painters of Taos, is scheduled for early publication by Duell, Sloan and Pearce. Book contains works of every Taos painter and portraits of several. Photography for volume was done by John Candelario and Laura Gilpin. Mrs. Luhan is author of *Lorenzo in Taos*, a partial biography of D. H. Lawrence, and *Edge of Taos Desert* and *Winter in Taos*.

Modern Explorers in the Ancient Gulf . . .

SEA OF CORTEZ

By JOHN STEINBECK and E. F. RICKETTS

The journal of a collecting expedition by a great American novelist and a noted marine biologist into the remote and beautiful Gulf of California, and of the unknown, teeming life of the tidal pools and sand flats there. With a 300-page scientific appendix on marine animals of the area, 32 pages of black and white photographs, and 15 illustrations in color.

Only a Few Copies Left — \$5.00

DESERT CRAFTS SHOP — El Centro, California



VALERIE JEAN'S GIFT CASE

of Desert Delicacies from Coachella Valley

This is our most elaborate gift—an entirely new Coachella Valley masterpiece offered to you for the first time. This GIFT CASE contains individual pound packs of Coco-Date Meats, Date Nuggets, Date Butter Balls, Jumbo Stuffed Dates, Date Cake and prize Paper Shell Pecans. Also three pounds of TA-BAR-ZAL Dates, a 2½ pound re-usable Oak Keg of Brandied Dates, plus exclusively selected jellies, marmalades, creamed desert honey, and candied fruits. All carefully packed in a container for safe shipping.

Gross Shipping Weight 25 Pounds
Delivered Prepaid by Express \$21.85

RUSSELL NICOLL, Owner

Valerie Jean Date Shop

THERMAL, CALIFORNIA