

**CARLSBAD CAVERNS**  
NATIONAL PARK  
... NEW MEXICO

UNITED STATES  
DEPARTMENT OF THE  
INTERIOR

Harold L. Ickes, *Secretary*



19 40

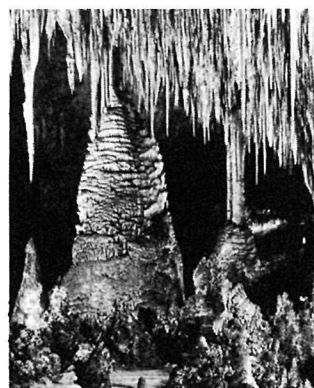
NATIONAL PARK SERVICE  
Arno B. Cammerer, *Director*

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Historic Events

- 1858 The route of the Butterfield Overland Mail passed not far from the cave.
- 1862 Cattlemen and goat herders are reported to have discovered the caverns about this time. They used it as a place of refuge from the weather and hostile Indians.
- 1901 Jim White, a cowboy, is said to have made the first thorough exploration of the caverns. In the following years he and others continued their explorations.
- 1923 October 25. Established a national monument by Presidential proclamation.
- 1924 Dr. Willis T. Lee led a National Geographic Society expedition into the caverns, finding many new tunnels and rooms. At the close of his expedition 22 miles of the caverns had been explored.
- 1930 Frank Ernest Nicholson led the New York Times—Carlsbad Expedition. Ten miles of additional territory were explored.
- 1930 Act of Congress, approved May 14, made the area a national park.
- 1933 By Presidential proclamation the area of the park was increased from a little more than 700 acres to 9,960.
- 1939 Park extended to 49,448.41 acres by Presidential proclamation.



OPEN  
ALL  
YEAR

Carlsbad  
Caverns  
NATIONAL PARK  
NEW MEXICO

THE TEMPLE OF THE SUN.

AMONG the superb areas included in the national park system of the United States is a series of connected caverns of unusual magnificence and extent called the Carlsbad Caverns. They are located in southeastern New Mexico, in the rugged foothills of the Guadalupe Mountains. The region is picturesque semi-desert country, and its cactus vegetation is as strange and interesting to many visitors as are the caverns themselves.

On October 25, 1923, the Carlsbad Cave National Monument was established by Presidential proclamation. Later, by act of Congress approved May 14, 1930, the area became the Carlsbad Caverns National Park.

FORMATION OF THE CAVERNS

Carlsbad Caverns are openings made by water in a massive rock known as the Carlsbad limestone. This limestone was formed originally in a shallow inland extension of the ocean some 200 million years ago—in the Permian period, which followed the time of greatest coal forming throughout the world. After this period the

area was dry land, but it may have been resubmerged and covered by sediments at a later period.

The uplifting and folding movements that formed the Rocky Mountains also raised the Carlsbad area above sea level. The Guadalupe Mountains near Carlsbad are outliers of that great mountain system. The uplift of the region took place about the end of the "Age of Dinosaurs" (Cretaceous period)—some 60 million years ago. Since that time the streams have carved their deep gorges, the vast caverns have been hollowed in the limestone, and within them, the amazing decorative deposits were formed.

The repeated movements of the region made numerous joint cracks or fissures in the massive Carlsbad limestone, and a portion of the rain water that enters the ground has found its way along many of these crevices. The beginnings of the caverns as small crevices date from the entrance of this first percolating water.

Once water enters a limestone it begins the incessant process of removal by solution. Slowly it seeps through the

crevices, removing the firm rock little by little, until eventually a series of tortuous openings are developed. Very small at first, they gradually enlarge and extend in all directions, and all are connected. More water enters with each rain and the cavities continue to enlarge by solution, rapidly when water is plentiful, slowly when it is scarce, thus opening great caves and passageways. Long, continuous corridors result when ground water is diverted along the contact of an impervious layer or follows a straight fissure or joint crack. Ultimately the water that moves through these subterranean channels flows out into the valley in the form of seepages or springs.

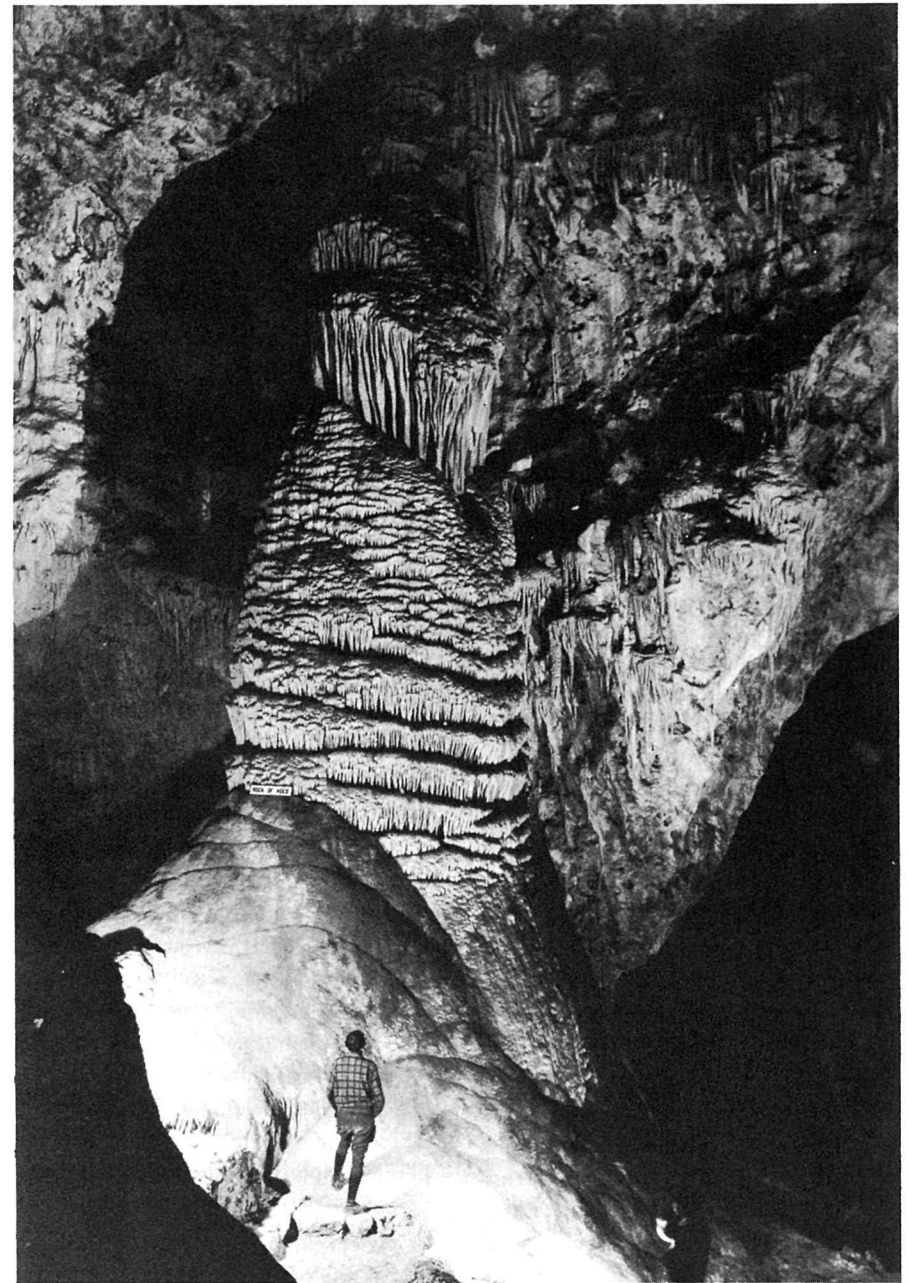
Some cave rooms have been formed or enlarged also by the solution of embedded salt or gypsum, which are much more soluble than limestone. The large rooms owe their size in part to the caving of rock from the sides and the roof. Such caving extends upward and in some places opens great holes at the surface. Where much water finds its way underground and sand and gravel are washed in from the surface many of the channels are deepened by the scouring action of flowing streams.

Ground water moves through deeper passages and finds lower outlets when the adjacent valleys are deepened. The small seepages that find their way into the dry caverns from above are here evaporated and deposition takes place instead of solution and removal. During this second period of development nature converts these gray cavities into a wonderland. In the Carlsbad Caverns there are myriads of beautifully sculptured effects hanging from the ceiling.

Some of these are inverted spires variously ornamented and known as stalactites; some are small delicate growths resembling plant structures. Where water enters any opening faster than it can be evaporated, part of it falls to the floor and evaporates there, gradually building up stalagmites and other masses of limestone, many of which assume grotesque shapes. Some stalactites and stalagmites have joined to form huge columns.

Less commonly irregular spiral and curiously branched and twisted forms develop; these are known as helictites. Many of the formations in all forms and positions are beautifully colored, generally in shades of tan, but tints of rose, green, and purple are also sometimes seen. This coloring results from a small amount of iron or other mineral matter in the limestone. These ornate and fascinating forms are due to the deposition of limestone which has been carried in solution by ground water and which crystallizes upon the walls of the cave as the water evaporates or when dissolved carbon dioxide which it may contain escapes to the air. Even when most of the water finds direct entrance through sink holes into deep open passageways, a small amount still seeps through small crevices into the dry upper chambers where it evaporates and deposits its tiny load of limestone. This constant addition of small increments to the surface by the evaporation of the water in which it is dissolved is the method by which the cave formations grow.

The brilliance and translucent appearance of the formations in a cave are due to the fact that they are sat-



AT THE MAJESTIC ROCK OF AGES VISITORS GAZE UPON UNUSUAL FORMATIONS, RESEMBLING SNOWBANKED FORESTS, TOTEM POLES, AND HUGE LILY PADS, AS THE RANGER EXPLAINS INTERESTING FEATURES OF THE PARK.

urated with water. If, for any reason, the seepage of water into the cave is stopped, its appearance gradually becomes dull and the surface slowly assumes a powdered appearance. Such a dry cave is spoken of, in cave parlance, as being dead.

#### EXTENT AND EARLY HISTORY OF AREA

Although it has been the subject of extensive explorations, the size of the Carlsbad Caverns is not yet known. Already many miles of passages and chambers have been explored, and further mileage is continually being conquered. Three main levels in the caverns already have been discovered, and there may be others not yet known. The first is at the 750-foot level, to which visitors are conducted. Below it is another vast subterranean apartment at 900 feet, and below that still another at 1,320 feet. None of these levels has been completely explored.

Although the underground caverns are so extensive, the surface area of Carlsbad Caverns National Park was only some 700 acres until February 21, 1933, when by Presidential proclamation it was increased to 9,960 acres. On February 3, 1939, it was further enlarged by Presidential proclamation to 49,448 acres. Within these enlargements are many other caves, some rich in decorative deposits and others full of archeological interest in that several of them are the burial places of prehistoric inhabitants of the region. Other evidences of prehistoric occupancy are the circular rock mescal or cooking pits and the grinding bowls found near the entrance to the caverns.

Early pioneer trails passed near the

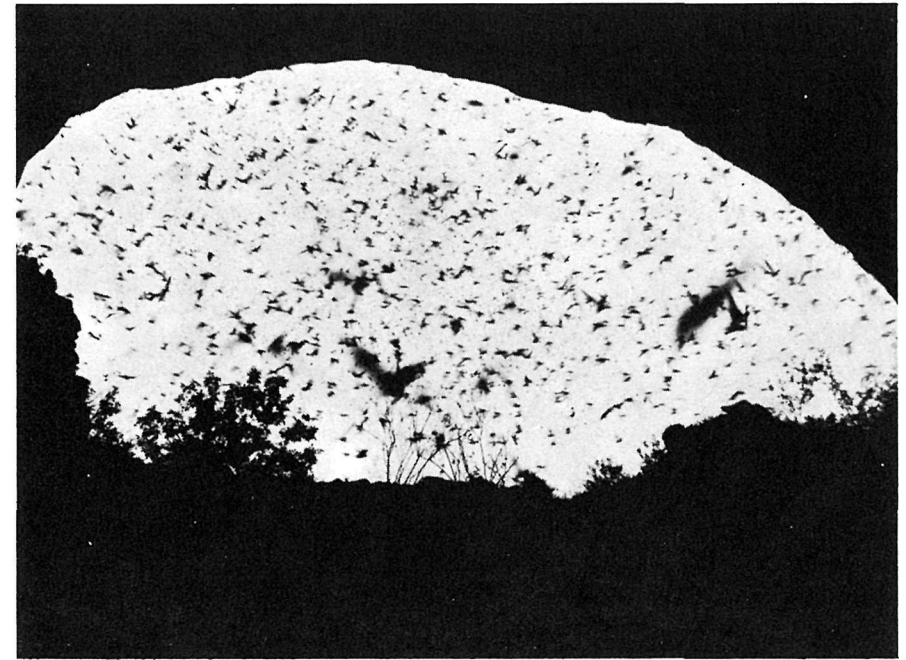
caverns' entrance. The Spanish conquistadors are believed to have come into the Guadalupe Mountains at Rattlesnake Springs, near the caverns, and the historic old Butterfield express trail (the first express trail across the West) crossed the route of the Spaniards at this point. Over the Butterfield Trail the Forty-niners freighted their gold from California to St. Louis, and today wagon irons, relics of old wagon trains that met with disaster at the hands of marauding bands, are sometimes unearthed.

#### EXPLORATION OF CAVERNS

The first white man known to have explored the caverns was Jim White, a cowboy. This was in 1901. Seeing a dark, moving column issuing from the region, he investigated and found a natural opening in the earth which led down to the caverns. The dark, smoke-like column proved to be alive, a moving stream of bats from down in the darkness of the caves.

With a young Mexican boy as his only companion, Jim White made extensive explorations of the caverns, insuring success in his return by leaving behind a trail of smudge marks and strings. Many long stretches of string still remain in the less-visited portions of the caverns, mute testimony of the intrepid courage of the young cowboy whose love of adventure made him the pioneer explorer of the world's greatest caverns.

After exploring Carlsbad Caverns, Jim White never missed an opportunity to take visitors into his find and share its beauties with them. Their reports of the size and magnificence of the



*Boles Photo.*

BAT FLIGHT AS SEEN FROM INSIDE CAVERNS ENTRANCE.

underground chambers finally resulted in examination of the caverns in 1923-24 by Robert Holley, of the General Land Office, and Dr. Willis T. Lee, of the Geological Survey, both of the United States Department of the Interior. These men were greatly impressed with the magnificence of the caverns. Shortly afterward, Dr. Lee led the National Geographic Society expedition into them. His reports, published in the National Geographic Magazine of January 1924 and September 1925, gave the caverns national publicity.

Jim White still lives and has written a book telling of his experiences during the discovery of the Carlsbad Caverns. He may be found at noon in his

booth in the underground "Lunchroom."

#### THE BAT SPECTACLE

The bat spectacle is one of the great attractions of the Carlsbad Caverns National Park. Each evening at dusk, except during the winter period of hibernation, millions of bats come forth from a cavern 180 feet below the surface, flying in a spiral through the great entrance arch, and streaming off over the rim in a southerly direction, later to separate into flocks which disappear in the distance for a night's foraging. Beginning about sunset, the flight outward lasts about 3 hours. The bats return before the following dawn. It has been estimated that 3,000,000 bats during 1 night's foray consume a little

over 11½ tons of night-flying insects, such as various kinds of moths, beetles, flies, and mosquitoes.

During the day the bats hang by their hind legs, heads downward, in great clusters high on the walls and ceilings of their particular portion of the caverns. From October until March they hibernate, hanging in this position and seeming almost lifeless.

There are five kinds of bats in the caverns, but by far the greater number are Mexican free-tailed bats (*Tadarida mexicana*). Their common name of free-tailed bat is descriptive of the tail, which projects about 1 inch beyond the skin that stretches between the hind legs. The portion of the caverns occupied by the bats is a long corridor extending a quarter of a mile eastward from the main entrance, and is not open to visitors.

A talk on the bats by a ranger naturalist is given each evening at the caverns entrance just before the flight begins.

#### THE DESERT PLANTS

The region about the Carlsbad Caverns National Park contains many interesting desert plants.

The caverns visitor who comes in April or May might be fortunate enough to see many plants in full bloom, plants which flower for only a short time, go to seed, and then until the following spring give little evidence of their existence. The cactus garden near the ticket office contains all of the cactuses, as well as a few of the other plants of the region.

#### WEATHER CONDITIONS

Carlsbad Caverns National Park is open throughout the year. Although the

caverns temperature remains stationary at 56°, the surface temperature runs the gamut from nearly zero weather in winter to over 100° in summer. Therefore, clothes of ordinary weight, plus a light sweater or other wrap, are needed for the trip through the caverns at all times of the year; while on the surface; clothes should follow the season. No special clothes are needed for the caverns trip, since trails and stairways are followed the entire distance. Low-heeled shoes, however, are advisable.

#### THE UNDERGROUND TRIP

At the present time 7 miles of underground corridors and great chambers in the Carlsbad Caverns National Park are open to visitors.

The main corridor of the cave, just inside the entrance, is immense, but, apart from its great size, has nothing of particular importance to offer when compared with the beauties of the chambers beyond.

The trail through the main corridor extends for almost a mile and leads to the Green Lake Room, which derives its name from a small green pool alongside the trail.

The trail then passes through a short artificial tunnel to the King's Palace, thought by many to be the most beautiful chamber in this or any other series of caverns. It is almost circular in form and is separated from the adjoining chambers by curtains and partitions of gleaming onyx.

A natural "keyhole" leads from the King's Palace to the Queen's Chamber, and in natural sequence comes the Papoose's Chamber, a beautiful little room which leads back to the King's



WALNUT CANYON HIGHWAY WHICH WINDS GRACEFULLY BETWEEN THE CACTUS-COVERED HILLS TO THE PARKING TERRACES AT THE CAVERNS ENTRANCE.

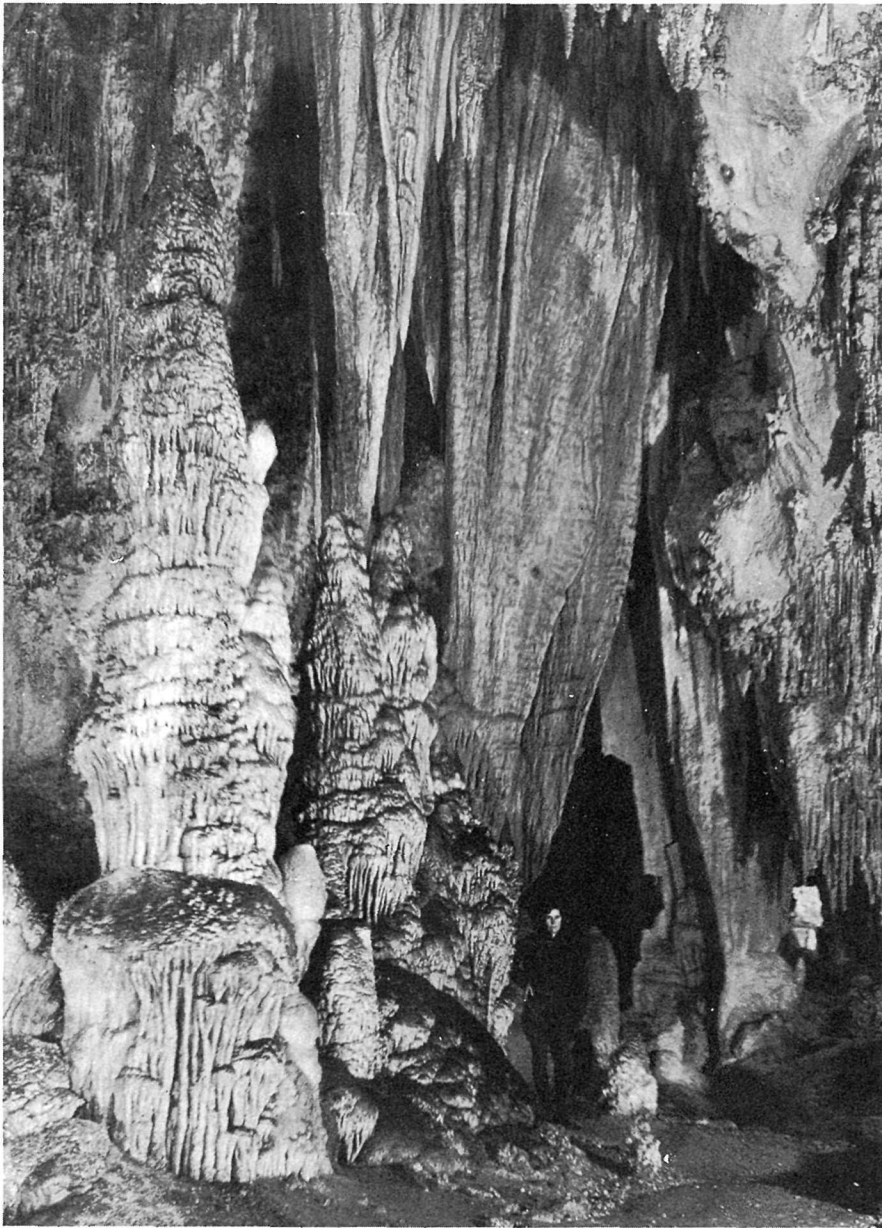
Palace, whence the trail leads over a series of winding terraces to the lunchroom, at the beginning of the Big Room. Here a stop of about half an hour is made for lunch. Water has been piped from the surface and is available in sanitary drinking fountains; tables and benches have been built and comfort stations installed nearby.

Leaving the lunchroom, the visitor enters the Big Room itself, the most impressive of the many chambers of the caverns. It is nearly 4,000 feet long and 625 feet wide, and at one place the ceiling arches 350 feet above. In this room the formations are massive as well as magnificent. The stalactites vary from almost needlelike proportions to huge chandeliers; the stalagmites are

equally varied, although of different contours. Here is found Giant Dome, which bears a striking resemblance to the Leaning Tower of Pisa. From the Big Room the return trip to the surface is made in about an hour.

Properly to cover the 7 miles of the caverns now open to the public requires about 5 hours, with a half-hour luncheon stop. Before the regular cave trip starts, at 10:30 a. m. (mountain time), a brief talk is made by a Government official at the caverns entrance.

During the periods of heavy travel in the summer additional trips as warranted by the number of visitors are provided, usually starting an hour or two ahead of the standard 10:30 trip; however, the visitor is assured of always entering the Cavern at 10:30 as



INTERESTING FORMATIONS NEAR ENTRANCE TO QUEEN'S CHAMBER, WHICH IS PARTICULARLY FAMOUS FOR ITS "ELEPHANT EARS" OR DRAPERIES. SOME ARE SO DELICATE AND TRANSLUCENT THAT A LIGHT PLACED BEHIND THEM BRINGS OUT FAINT TINTS OF PINK AND TEA ROSE. IN THIS CHAMBER THORNLIKE THICKETS OF THE HELICTITE FORMATION ARE UNUSUALLY INTERESTING.

this will continue to be the time for the regular daily trip.

An elevator trip is available at 12:30 p. m. People physically unable to walk through the caverns are urged to make use of the elevator. Even though portions of the caverns are not seen on the trip, nevertheless the most impressive portion of it is viewed in the tour of the Big Room. Park rangers conduct the party throughout the entire trip. Visitors are invited to ask questions of the rangers, who are glad to impart authentic information.

#### FEES

A fee of \$1.50 for guide service is charged each adult entering the caverns. No charge is made for children 16 years of age or under when accompanied by adults taking responsi-

bility for their safety and good conduct.

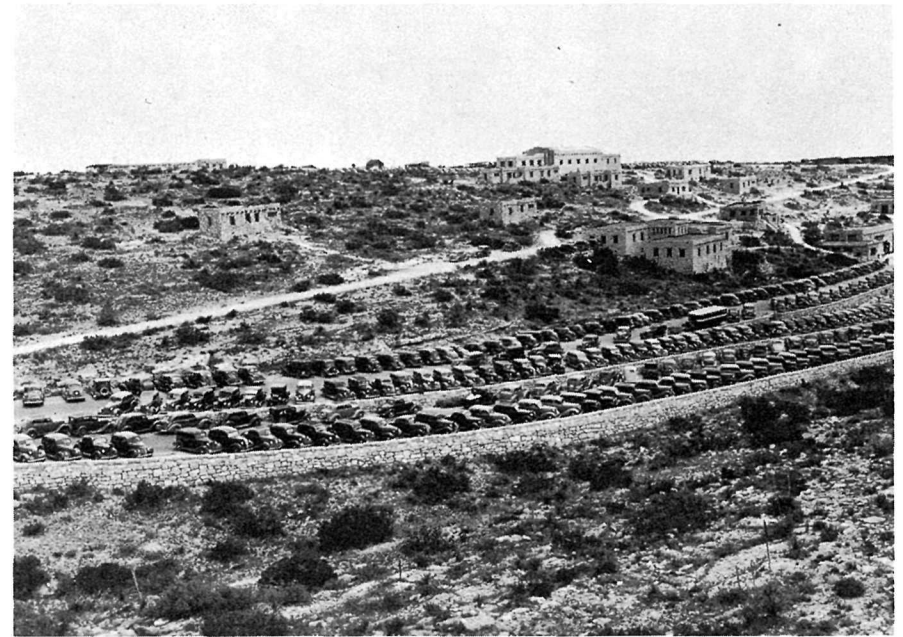
A charge of 25 cents in each direction is made for each adult using the elevator; 15 cents for children between the ages of 5 and 12.

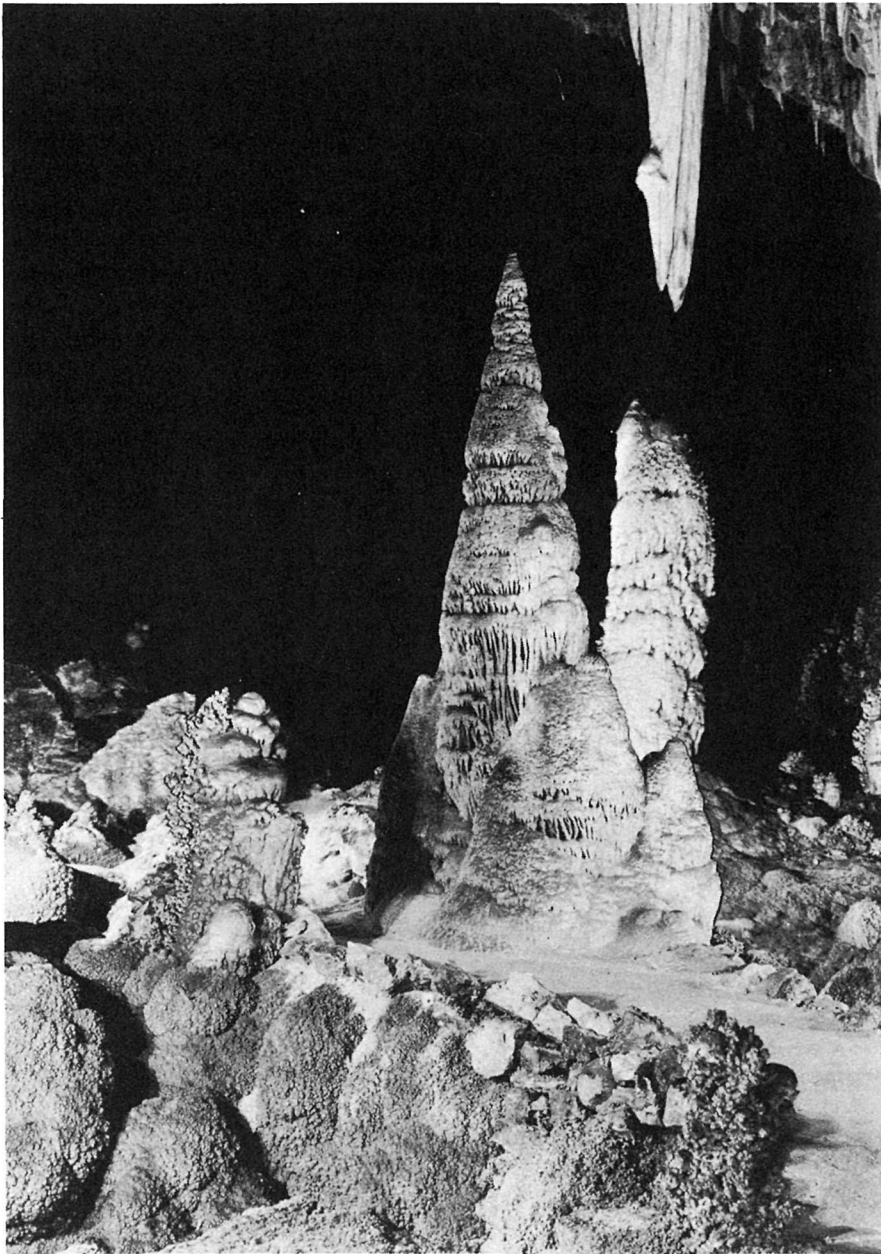
#### ADMINISTRATION

The representative of the National Park Service in immediate charge of the Carlsbad Caverns National Park is Thomas Boles, superintendent. He maintains headquarters in the town of Carlsbad, N. Mex., 28 miles north of the caverns. He is assisted in protecting the park by a force of rangers, headed by a chief ranger, who live near the caverns entrance in a group of buildings especially designed in Pueblo Indian style.

The National Park Service maintains

PARKING TERRACES NEAR CAVERNS ENTRANCE, WHERE SPACE IS PROVIDED FOR 1,000 CARS.





THE FLOODLIGHTING OF THE CARLSBAD CAVERNS IS A MASTERPIECE OF ELECTRICAL ILLUMINATION. ALL SWITCHES AND CABLES HAVE BEEN ARTFULLY CONCEALED BEHIND ROCK SHIELDS, THE FLOODLIGHTS SENDING THEIR BEAMS TO THE CEILINGS AND TO THE FORMATIONS, FROM WHICH THEY ARE REFLECTED BACK TO THE TRAILS.



TRAIL LEADING TO CAVERNS ENTRANCE.

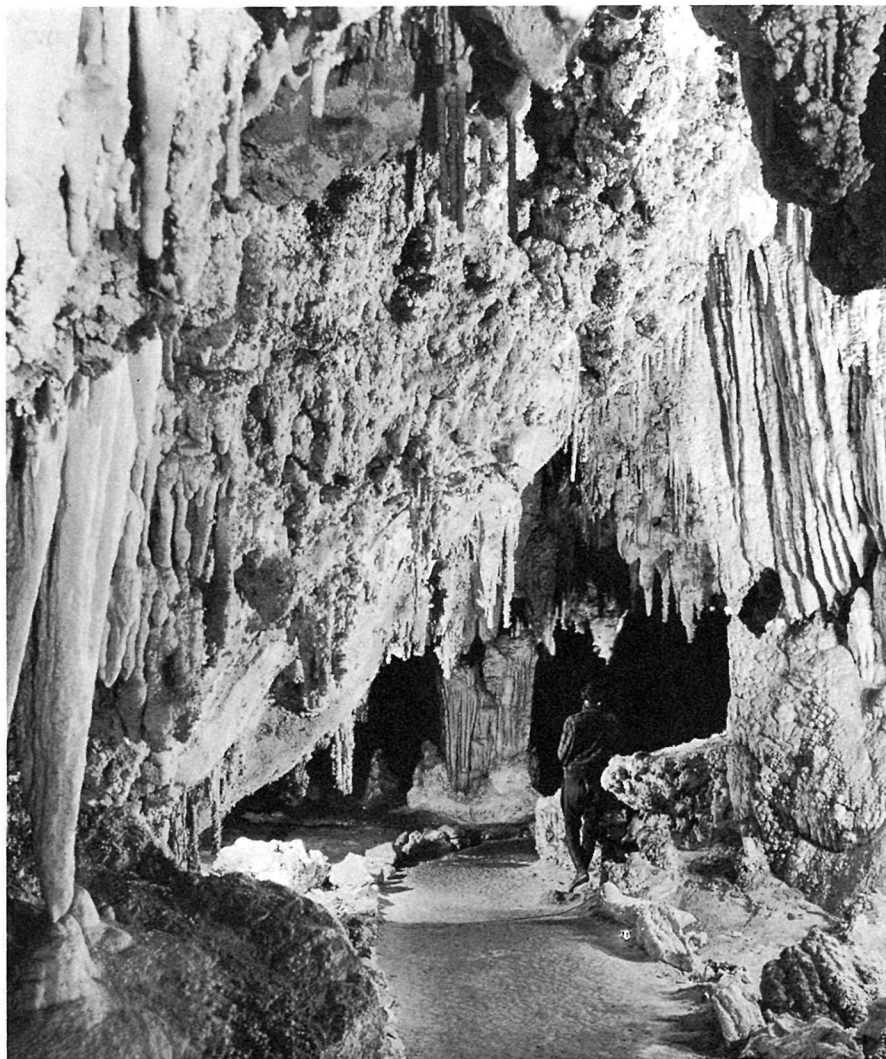
an information bureau at the superintendent's office in Carlsbad. Information also may be obtained at the chamber of commerce and at any of the hotels, camps, garages, or transportation offices in Carlsbad.

#### ACCOMMODATIONS

There are no overnight accommodations available in Carlsbad Caverns National Park, but modern hotels and tourist camps in nearby cities and towns along the approach highway offer vari-

ous types of service at prices ranging from \$1 to \$2 for camps and from \$1.50 to \$3 for hotels. The National Park Service exercises no jurisdiction over these accommodations.

In the park itself a store is maintained near the caverns entrance where refreshments, soft drinks, pictures, photographic supplies, cigarettes, candy, post cards, and souvenirs may be purchased. This is operated by the Cavern Supply Co. under Government fran-



ENTRANCE TO KING'S PALACE.

chise and supervision. Rates and service are approved by the Secretary of the Interior.

The Cavern Supply Co. also serves luncheon at the 750-foot level in the caverns for the convenience of visitors making the 6-hour trip. Orders for

luncheon, at the moderate cost of 50 cents, are taken as the visitors start on the cave trip.

Another service furnished by the company is a day nursery near the caverns entrance, where babies and small children are cared for. A charge of

\$1.50 a day for each child is made for this service which includes lunch.

Wheelchairs for invalids for last half of tour may be rented for 50 cents; with attendant, \$2.50.

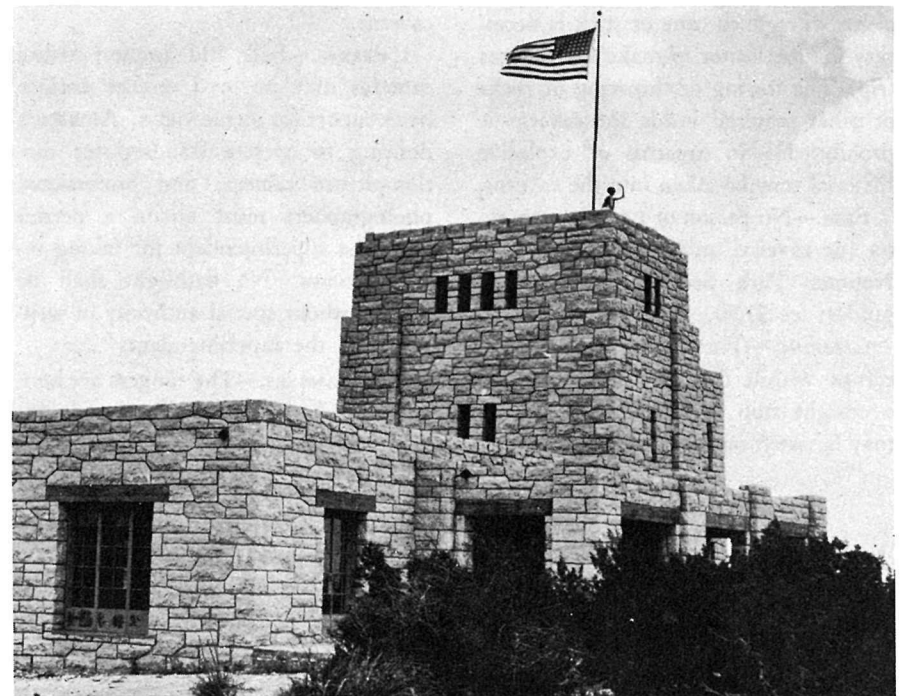
#### HOW TO REACH THE PARK

Carlsbad Caverns National Park is served by the Santa Fe System on the north and Missouri Pacific-Texas & Pacific Lines and the Southern Pacific Lines on the south, Carlsbad being the rail terminus via the Santa Fe, the local line branching off at Clovis, N. Mex. Daily bus service from Carlsbad to the caverns and return is provided

by the Pageway Lines at \$2 for the round trip and \$1.75 when the party consists of 3 or more. Visitors coming from railroads to the south and west may obtain bus service at El Paso or Pecos, Tex. Complete information on schedules and rates may be obtained from any bus agent in the United States or Canada.

The park may be reached by U. S. Highway No. 62 from El Paso; U. S. Highway No. 285 from Clovis or Roswell, N. Mex.; and from U. S. Highway No. 80 through Pecos, Tex. and Hobbs, N. Mex.

ELEVATOR BUILDING WHICH HOUSES TWO HIGH-SPEED PASSENGER ELEVATORS, WITH A COMBINED CAPACITY OF 500 PERSONS AN HOUR. WHILE THE ELEVATORS ARE AVAILABLE TO EVERYONE GOING ON THE CAVERNS TOUR, VISITORS ARE ENCOURAGED TO MAKE THE TRIP BOTH WAYS ON FOOT, AS THE FORMATIONS TAKE ON DIFFERENT ASPECTS WHEN VIEWED FROM VARIOUS ANGLES.





## RULES AND REGULATIONS

[Briefed]

The following is a synopsis of the rules and regulations in force in the Carlsbad Caverns National Park. Complete regulations may be seen at the office of the superintendent.

**PRESERVATION OF THE PARK.**—Destruction, injury, or disturbance in any way of trees, flowers, vegetation, rocks, mineral formations, or any animal, bird, or other life, and defacement by writing, carving, or otherwise of walls or other formations in caverns are prohibited.

No canes, umbrellas, or sticks of any kind may be taken into the caverns unless permission is granted by the superintendent or one of his representatives, which permission may only be given when such cane or stick is necessary for the visitor to make the caverns trip. The tossing or throwing of rocks or other material inside the caverns is prohibited. No firearms or explosive material may be taken into the caverns.

**FES.**—No person or persons may enter the caverns unless accompanied by National Park Service employees or guides; fee \$1.50.

**CAMPING.**—There are no public camps within the park area, and no overnight stop is permitted. Lunches may be eaten only in designated places,

and all trash must be placed in cans provided for the purpose.

**FIRES.**—Especial care shall be taken that no lighted match, cigar, or cigarette is dropped in any grass, twigs, leaves, or other combustible material.

**HUNTING.**—The park is a sanctuary for wildlife, and the hunting, killing, wounding, frightening, capturing, or attempting to capture, of any wild bird or animal is prohibited.

**DOGS.**—No dogs are allowed in the caverns.

**CAMERAS.**—Still and motion-picture cameras may be used on the surface by amateurs for scenic views. Amateurs desiring to operate standard-size motion-picture cameras and professional photographers must obtain a permit from the superintendent for taking interior views. No flashlight shall be taken without special authority in writing from the superintendent.

**PARK RANGERS.**—The rangers are here to help and advise you. When in doubt, ask a ranger.