

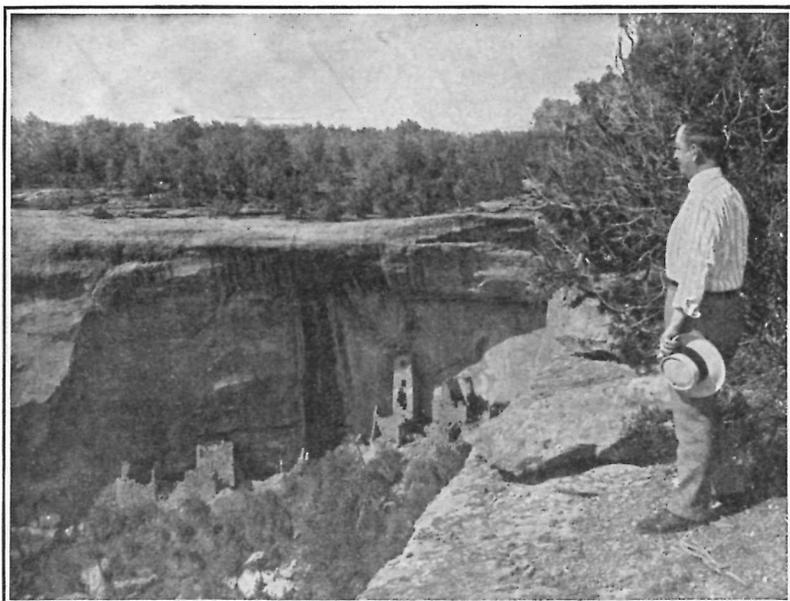
DEPARTMENT OF THE INTERIOR
JOHN BARTON PAYNE, SECRETARY
NATIONAL PARK SERVICE
STEPHEN T. MATHER, DIRECTOR

RULES AND REGULATIONS

MESA VERDE NATIONAL PARK

1920

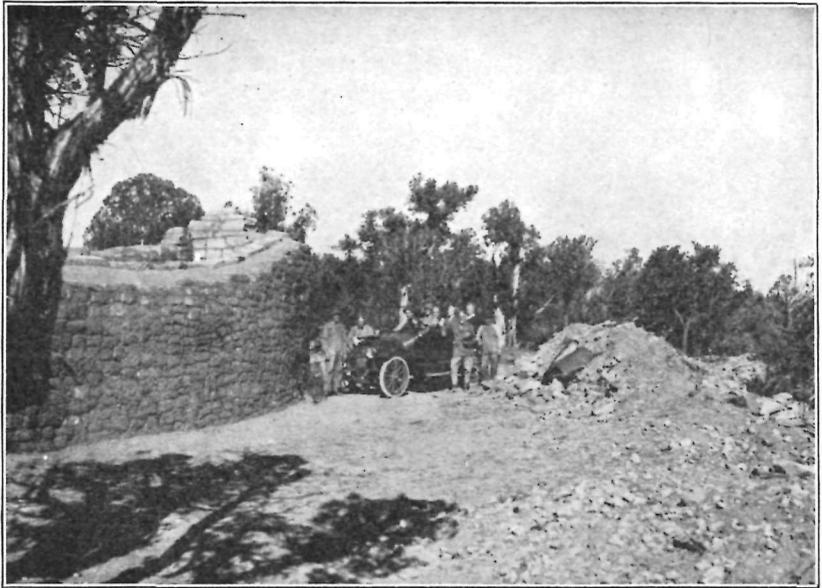
Season from May 1 to November 1



SQUARE TOWER HOUSE.

Photograph by G. L. Beam.

WASHINGTON
GOVERNMENT PRINTING OFFICE
1920



Photograph by T. G. Lemmon.

Northeast wall Sun Temple.



Photograph by Fred Jeep.

Excavating Sun Temple.

THE NATIONAL PARKS AT A GLANCE.

[Number, 19; total area, 10,859 square miles.]

National parks in order of creation.	Location.	Area in square miles.	Distinctive characteristics.
Hot Springs..... 1832	Middle Arkansas.....	1½	46 hot springs possessing curative properties—Many hotels and boarding houses—20 bath-houses under public control.
Yellowstone..... 1872	Northwestern Wyo- ming.	3,348	More geysers than in all rest of world together—Boiling springs—Mud volcanoes—Petrified forests—Grand Canyon of the Yellowstone, remarkable for gorgeous coloring—Large lakes—Many large streams and waterfalls—Vast wilderness, greatest wild bird and animal preserve in world—Exceptional trout fishing.
Sequoia..... 1890	Middle eastern Cali- fornia.	252	The Big Tree National Park—12,000 sequoia trees over 10 feet in diameter, some 25 to 36 feet in diameter—Towering mountain ranges—Startling precipices—Cave of considerable size.
Yosemite..... 1890	Middle eastern Cali- fornia.	1,125	Valley of world-famed beauty—Lofty cliffs—Romantic vistas—Many waterfalls of extraordinary height—3 groves of big trees—High Sierra—Waterwheel falls—Good trout fishing.
General Grant..... 1890	Middle eastern Cali- fornia.	4	Created to preserve the celebrated General Grant Tree, 35 feet in diameter—6 miles from Sequoia National Park.
Mount Rainier..... 1899	West central Wash- ington.	324	Largest accessible single peak glacier system—28 glaciers, some of large size—48 square miles of glacier, 50 to 500 feet thick—Wonderful sub-alpine wild flower fields.
Crater Lake..... 1902	Southwestern Oregon.	249	Lake of extraordinary blue in crater of extinct volcano—Sides 1,000 feet high—Interesting lava formations—Fine fishing.
Wind Cave..... 1903	South Dakota.....	17	Cavern having many miles of galleries and numerous chambers containing peculiar formations.
Platt..... 1904	Southern Oklahoma..	1½	Many sulphur and other springs possessing medicinal value.
Sullys Hill..... 1904	North Dakota.....	1½	Small park with woods, streams, and a lake—Is an important wild animal preserve.
Mesa Verde..... 1906	Southwestern Colo- rado.	77	Most notable and best preserved prehistoric cliff dwellings in United States, if not in the world.
Glacier..... 1910	Northwestern Mon- tana.	1,534	Rugged mountain region of unsurpassed Alpine character—250 glacier-fed lakes of romantic beauty—40 small glaciers—Precipices thousands of feet deep—Almost sensational scenery of marked individuality—Fine trout fishing.
Rocky Mountain... 1915	North middle Colo- rado.	397½	Heart of the Rockies—Snowy range, peaks 11,000 to 14,250 feet altitude—Remarkable records of glacial period.
Hawaii..... 1916	Hawaii.....	118	Three separate areas—Kilauea and Mauna Loa on Hawaii; Haleakala on Maui.
Lassen Volcanic.... 1916	Northern California..	124	Only active volcano in United States proper—Lassen Peak 10,465 feet—Cinder Cone 6,879 feet—Hot springs—Mud geysers.
Mount McKinley... 1917	South central Alaska..	2,200	Highest mountain in North America—Rises higher above surrounding country than any other mountain in world.
Grand Canyon..... 1919	North central Arizona.	958	The greatest example of erosion and the most sublime spectacle in the world.
Lafayette..... 1919	Maine coast.....	8	The group of granite mountains upon Mount Desert Island.
Zion..... 1919	Southwestern Utah...	120	Magnificent gorge (Zion Canyon), depth from 800 to 2,000 feet, with precipitous walls. Of great beauty and scenic interest.

The National Parks Portfolio

By ROBERT STERLING YARD

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A presentation of the national parks and national monuments in picture. The selection is from the best work of many photographers, professional and amateur. It contains nine sections descriptive each of a national park, and one larger section devoted to other parks and monuments. 260 pages, including 270 illustrations

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CONTENTS.

	Page.
General description.....	7
Our prehistoric peoples.....	7
The mesas.....	8
The cliff dwellers.....	9
Growth of architecture.....	11
Details of community life.....	12
Discovery of Sun Temple.....	13
The fossil palm leaf.....	13
Pot hunting among American ruins.....	14
Discovery of Far View House.....	14
A land of beauty and mystery.....	14
Altitude and surroundings.....	14
Administration.....	15
How to reach the park.....	15
Railroad information.....	15
Routes and schedules.....	17
Scenic approaches to Mesa Verde.....	19
Mesa Verde and other National Parks.....	20
Detailed information about travel.....	21
Post office.....	22
Transportation and camps.....	22
Road.....	22
Spruce Tree House.....	23
General description.....	23
Classification of rooms.....	23
Secular rooms.....	25
Circular room.....	26
Warriors' room.....	26
Details of construction.....	27
Ceremonial rooms or kivas.....	27
Construction of a kiva.....	27
Cliff Palace.....	29
General description.....	29
Ancient entrance.....	32
Ground plan of repaired Cliff Palace.....	33
Cliff Palace subdivisions.....	34
Northern quarter.....	34
Old quarter.....	35
Plaza quarter.....	35
Tower quarter.....	36
Ceremonial rooms.....	36
Kivas of the first type.....	37
Kivas of the second type.....	38
Secular rooms.....	38
Living rooms.....	38
Mill rooms.....	39
Storage rooms.....	39
Round tower and round rooms.....	39
Square tower.....	40
Ledge rooms.....	40
Sun Temple.....	40
The mystery of its purpose.....	42
Unity of construction.....	42
A temple for sun worship.....	43
Theories.....	43
The mystery of the builders.....	43

	Page.
Far View House, a Mesa Verde pueblo	44
Rules and regulations	49
General regulations	49
Automobile and motorcycle regulations	52
Map	54
Panoramic view	55
Literature	55
Government publications	55
Distributed free by the National Park Service	55
Sold by the Superintendent of Documents	55
Bibliography	56
Other National Parks	56
National monuments	56

ILLUSTRATIONS.

COVER.

Square Tower House	Front.
Northeast Wall of Sun Temple	Inside front.
Excavating Sun Temple	Inside front.
Model of Far View House	Inside back.
Far View House from the South	Inside back.
Spruce Tree House	Back.
Cliff Palace	Back.

TEXT.

Details of construction in Cliff Palace	10
Map showing railroad routes to Mesa Verde and Rocky Mountain National Parks	16
Map showing automobile roads between Mesa Verde, Rocky Mountain, Yellowstone, Glacier, and Zion National Parks	21
Sketch plan of Spruce Tree House	24
Travel guide map of Mesa Verde National Park	30
Plan of Cliff Palace	33
Bird's-eye view of Sun Temple	41
Bird's-eye view of Far View House	46

MESA VERDE NATIONAL PARK.

GENERAL DESCRIPTION.

OF ALL the many ruins of prehistoric cliff dwellings in the southwestern United States those in the side canyons of the Mancos in the Mesa Verde in Montezuma County, Colo., are for many reasons the most remarkable. This is why Congress has set aside 48,966 acres of southwestern Colorado and called it the Mesa Verde National Park.

It appears strange that the greatest of American prehistoric ruins should have escaped discovery until 1888. Years before that innumerable ancient ruins left in several other States by the ancestors of the Pueblo Indians had been described and pictured. They had been the subjects of popular lectures; they had been treated in books of science and books of travel; they had become a familiar spectacle.

Even the ruins in the Mancos Canyon in Colorado had been explored as early as 1874. Mr. W. H. Jackson, who led the Government party, found there many small dwellings broken down by the weather. The next year he was followed by Prof. W. H. Holmes, later Chief of the Bureau of American Ethnology, who drew attention to the remarkable stone towers so characteristic of the region. But these discoveries attracted little attention because of their inferiority to the better-known ruins of Arizona and New Mexico. Had either of the explorers followed up the side canyon of the Mancos they would have then discovered ruins which are, in the words of Baron Gustav Nordenskiöld, the talented Swedish explorer, "so magnificent that they surpass anything of the kind known in the United States."

This explains why delvers in libraries find so little about the Mesa Verde. Most books and magazine articles were written when cliff dwellings were a novelty and before the Mesa Verde was known.

OUR PREHISTORIC PEOPLES.

The Mesa Verde National Park is one of the few large tracts of land in the United States which has been taken from the public domain to preserve the antiquities it contains. It is the most extensive reservation for this special purpose. It is educational in character; its ruins are object lessons for the student of the prehistory of our country. No other national park or monument contains more extensive or more mysterious remains of prehistoric people. In no other is the architecture of that vanished race so well preserved.

This park was set aside by the United States Government in 1906 (act of June 29, 1906, 34 Stat., 616), and appropriations have been made yearly since 1907 by Congress for development of roads to it and care of its ruins. Formerly inaccessible save on horseback, it may now be visited with automobile from the station at Mancos, Colo., on the Denver & Rio Grande Railroad. One can be comfortably entertained at the public camp at Spruce Tree House and inspect the antiquities of the park in a few days.

We are accustomed to regard the Indians of the United States as a race of wanderers, living in temporary habitations made of skin or bark. The Indians are supposed to live by hunting or fishing and to eke out their food by the cultivation of maize or Indian corn, beans, and a few vegetables. While this is true of some Indians, it does not hold for all, for there were many different kinds of Indians living in what is now the United States when Columbus landed at San Salvador. There were highly civilized members of this race in Central America and Mexico—the Mayas and Aztecs. The lofty Cordilleras of South America were the homes of other civilized peoples, as the Incas. The culture of these Indians was characteristic, its origin autochthonous. The American Continent is supposed to have been originally peopled from the Old World.

In the southwestern part of the United States there are Indians who live in houses made of stone or sun-dried bricks. The antiquity of this mode of life in that region can not be questioned; it dates back to pre-Columbian times. These houses are not isolated from each other, but crowded together so that their walls adjoin and are often several stories high, the approach to the several stories being by ladders.

Such a community house is called a pueblo, and the Indians that dwell in these habitations are called Pueblo Indians, the name being derived from the Spanish term, meaning village. Many of these pueblos still survive in the States of New Mexico and Arizona, the least modified of which are the seven villages of the Hopi, not far from the Grand Canyon National Park.

From the car windows of the Santa Fe Railroad the traveler can see at least two of these pueblos, one of which is called Laguna and the other Isleta. As pueblo houses are made of stone or sun-dried bricks, their walls are durable, not easily destroyed; ruins of them remain for a long time, and one who journeys along the river valley away from the railroad may see throughout the southwestern part of the United States numbers of deserted pueblos in ruins, some of which are simply piles of stone; others have well-made walls projecting above the ground.

Ruins of similar villages made of stone also occur in caves, some of which are of great size, the roof of the cave serving as a covering to protect the whole village from the elements.

THE MESAS.

Stone ruins of pueblos are also found on the top of isolated plateaus called in the Southwest from their Spanish name mesas or tables. The depressions between these mesas have been worn down by the rains of centuries which have eroded deep gorges called

canyons, often extending for many miles, showing on their sides alternating layers of rock of different colors and degrees of hardness. When softer layers of rock occur below the harder in the sides of these mesas, there are worn caverns often 50 feet high and several hundred feet long. A good example of these mesas in New Mexico is called the Enchanted Mesa, which, projecting high above the plain, is visible for many miles. Its name, Enchanted Mesa, has been applied to it because it is said to be regarded by the Pueblo Indians living in the neighborhood as enchanted or sacred.

The Mesa Verde or Green Mesa is so called from the cedar and pinyon trees which, growing upon it, impart to it a green color. This mesa is large, 15 miles long by 8 miles wide. Rising abruptly from the valley on the north side, its top slopes gradually southward to the high cliff bordering the valley of the Mancos on the south. Into this valley open a number of small high-walled canyons through which occasionally, in times of heavy rain, raging torrents of water flow into the Mancos. In the shelter of the sides of these small canyons occur some of the best-preserved cliff dwellings in America.

THE CLIFF DWELLERS.

In prehistoric times a large human population lived in these cliff dwellings, seeking a home there for protection. They obtained their livelihood by agriculture on the forbidding tops of the mesa, cultivating scanty farms, which yielded them a small crop of corn.

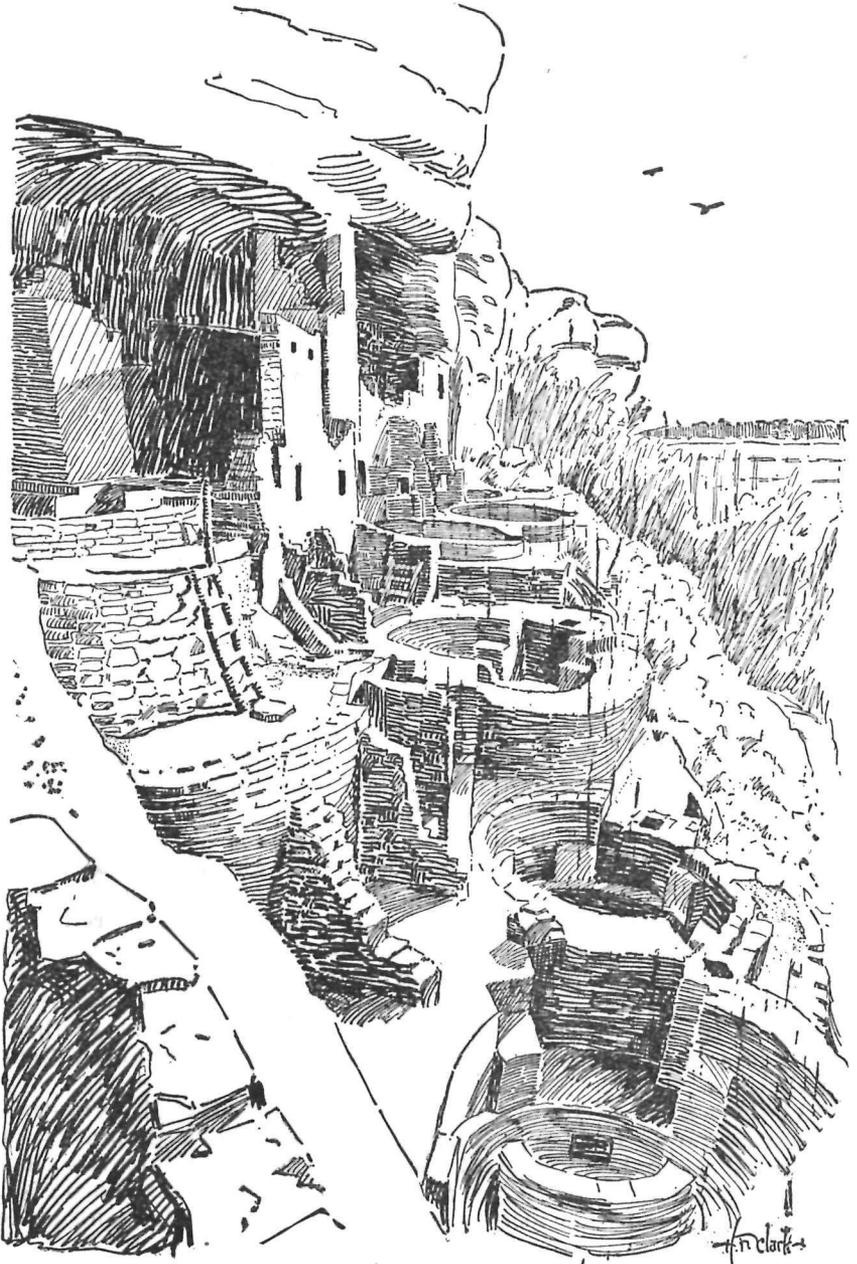
Life must have been hard in this dry country when the Mesa Verde communities flourished in the sides of these sandstone cliffs. Game was scarce and hunting arduous. The Mancos yielded a few fishes. The earth contributed berries and nuts. At that time as at present water was rare and found only in sequestered places near the heads of canyons, but notwithstanding these difficulties the inhabitants cultivated their farms and raised their corn, which they ground on flat stones called metates and baked their bread on a flat stone griddle. They boiled their meat in well-made vessels, some of which were artistically decorated. Their life was hard, but so confidently did they believe that they were dependent upon the gods to make the rain fall and the corn grow that they were a religious people who worshipped the sun as the father of all and the earth as the mother who brought them all their material blessings.

They possessed no written language and could only record their thoughts by a few symbols which they painted on their earthenware jars or scratched on the sides of the cliffs adjoining their habitations.

As their sense of beauty was keen, their art, though primitive, was true; rarely realistic, generally symbolic. Their decoration of cotton fabrics and ceramic work might be called beautiful, even when judged by the highly developed taste of to-day. They fashioned axes, spear points, and rude tools of stone; they wove sandals and made attractive basketry.

They were not content with rude buildings, and had long outgrown caves or earth homes that satisfied less civilized Indians farther north and south of them. They shaped stones into regular forms, ornamented them with designs, and laid them one on another. Their

masonry resisted the destructive forces of centuries of rain and snow beating upon them.



Details of construction in Cliff Palace.

When the ancestors of the Mesa Verde cliff dwellers first sought natural caves in these precipitous cliffs for their shelter, they were

not in as high a sociological condition as when they left them. They sought these places not only for shelter from the winter storms and the burning sun, but also from wild animals and hostile human enemies. Sallying forth from them, they made warfare upon all their enemies. In order to render their aerie homes accessible, they cut foot and hand holes in the cliffs and constructed trails along the top of the débris at the foot of the mesas. They evidently entered some of their rooms by means of notched sticks or ladders. Hand in hand with a growth in their architectural skill they developed other crafts and arts.

GROWTH OF ARCHITECTURE.

The population of the cliff dwellings, due to increase in numbers, led to their covering the cave floor with rooms, after which they emerged from their caves and built their homes in the open on top of the mesas in the form of pueblos or community houses. These latter fell into disuse and for years were indicated by mounds of stone and earth.

One of these mounds, situated on the point of a mesa opposite Cliff Palace, was opened in the summer of 1915 and found to be a massive walled structure. It is significant that this building is, architecturally speaking, one of the most ambitious of all. It was not intended for utilitarian needs, nor was it wholly a fortress for defense, nor a granary for storage. It was identified as a temple for sun worship. This building and older remains of a past, almost-forgotten culture may be examined and studied by anyone who wishes to visit the Mesa Verde National Park. The trip to this and other ruins is full of interest, for every canyon, of which there are many, has numerous known ruins and others which as yet have not been explored. On top of the mesa there are many mounds, not unlike that which formerly covered the Sun Temple.

The scenic features of the park are equally attractive. The cliff ruins are easily entered, and standing within their rooms one may get, from an examination of the remains and articles they contain, a good idea of the manners and customs of the vanished people who inhabited them.

The largest ruin, known as Cliff Palace, was discovered by Richard and Alfred Wetherill while hunting lost cattle one December day in 1888. Coming to the edge of a small canyon, they first caught sight of a village under the overhanging cliff on the opposite side, placed like a picture in its rocky frame. In their enthusiasm they thought it was a city. With the same enthusiasm the expectant visitors of to-day involuntarily express their pleasure and surprise as the spectacle breaks on their astonished vision.

Later these two men explored this ruin and gave it the name Cliff Palace, an unfortunate designation, for it is in no respect a palace, but a community house, containing over 200 dwelling rooms, former abodes of families, and 22 sacred rooms or kivas. They also discovered other community dwellings, one of which was called Spruce Tree House, from a large spruce tree, since cut down, growing in front of it. This had 8 sacred rooms and probably housed 300 inhabitants.

The finding of these two ruins did not complete the discoveries of ancient buildings in the Mesa Verde; many other ruins were found by them and others which can not now be described. They mark the oldest and most congested region of the park, but the whole number of ancient habitations reaches into the hundreds.

Antiquities are not the only attractions in the Mesa Verde National Park. Its natural beauties should not be overlooked. In winter it is wholly inaccessible on account of the deep snows; in some months it is dry and parched, but in June and July, when rains come, vegetation is in full bloom, the plants flower, and the grass grows high in the glades; the trees put forth their new green leaves. The Mesa Verde is attractive in all seasons of the year and full of interest for those who love the grandeur and picturesqueness of mountain scenery.

DETAILS OF COMMUNITY LIFE.

The arrangement of houses in a cliff dwelling of the size of Cliff Palace is characteristic and intimately associated with the distribution of the social divisions of the inhabitants.

The population was composed of a number of units, possibly clans, each of which had its own social organization more or less distinct from others, a condition that appears in the arrangement of rooms. The rooms occupied by a clan were not necessarily connected, although generally neighboring rooms were distinguished from one another by their uses.

Thus, each clan had its men's rooms, which were ceremonially called the "kiva." Here the men of the clan practically lived, engaged in their occupations. Each clan had also one or more rooms, which may be styled the living rooms, and other inclosures for granaries or storage of corn. The corn was ground into meal in another room containing the metate set in a bin or stone box, and in some instances in fireplaces, although these were generally placed in the plazas or on the housetops. All these different rooms, taken together, constitute the houses that belonged to one clan.

The conviction that each kiva denotes a distinct social unit, as a clan or a family, is supported by a general similarity in the masonry of the kiva walls and that of adjacent houses ascribed to the same clan. From the number of these rooms it would appear that there were at least 23 social units or clans in Cliff Palace. The kivas were the rooms where the men spent most of the time devoted to ceremonies, councils, and other gatherings. In the social conditions prevalent at Cliff Palace the religious fraternity was limited to the men of the clan.

Apparently there is no uniformity in the distribution of the kivas. As it was prescribed that these rooms should be subterranean, the greatest number were placed in front of the rectangular buildings, where it was easiest to excavate them. But when necessary these structures were built far back in the cave and inclosed by a double wall, the intervals between whose sections were filled with earth or rubble to raise it to the level of the kiva roof. In that way they were artificially made subterranean, as the ritual required.

DISCOVERY OF SUN TEMPLE.

The Department of the Interior undertook explorations in the Mesa Verde in the summer of 1915, securing the services of Dr. J. Walter Fewkes, of the Smithsonian Institution, for the purpose. The result was the discovery of Sun Temple.

"There was brought to light," reported Dr. Fewkes, "a type of ruin hitherto unknown in the park, and, as was well expressed by a visitor, the building excavated shows the best masonry and is the most mysterious ruin yet discovered in a region rich in so many prehistoric remains. Although at first there was some doubt as to the use of this building, it was early recognized that it was not constructed for habitation, and it is now believed that it was intended for the performance of rites and ceremonies; the first of its type devoted to religious purposes yet recognized in the Southwest.

"The ruin was purposely constructed in a commanding situation in the neighborhood of large inhabited cliff houses. It sets somewhat back from the edge of the canyon, but near enough to present a marked object from all sides, especially the neighboring mesas. It must have presented an imposing appearance rising on top of a point high above inaccessible, perpendicular cliffs. No better place could have been chosen for a religious building in which the inhabitants of many cliff dwellings could gather and together perform their great ceremonial dramas."

The ruin has the form of the letter **D**. The building is in two sections, the larger of which, taken separately, is also **D**-shaped. This is considered the original building. The addition enlarging it is regarded as an annex. The south wall, which is straight and includes both the original building and the annex, is 121.7 feet long. The ruin is 64 feet wide.

There are about 1,000 feet of walls in the whole building. These walls average 4 feet in thickness, and are double, inclosing a central core of rubble and adobe. They are uniformly well made.

The fine masonry, the decorated stones that occur in it, and the unity of plan stamp Sun Temple as the highest example of Mesa Verde architecture.

The walls were constructed of the sandstone of the neighborhood. Many stone hammers and pecking stones were found in the neighborhood.

THE FOSSIL PALM LEAF.

One of the most remarkable features of the structure is a stone fossil set in the outer wall near the southwest corner. Mr. F. H. Knowlton, of the United States National Museum, has identified this as the fossil leaf of a palm tree of the Cretaceous epoch. The point is that the rayed leaf resembled the sun, and the ancient races were sun worshippers. A natural object resembling the sun would powerfully affect a primitive mind.

"At all events," says Dr. Fewkes, "they have partially inclosed this emblem with walls in such a way as to inclose the figure on three sides, leaving the inclosure open on the fourth or west side. There can be no doubt that the walled inclosure was a shrine, and the figure in it may be a key to the purpose of the building. The shape

of the figure on the rock suggests a symbol of the sun, and if this suggestion be correct, there can hardly be a doubt that solar rites were performed about it."

POT HUNTING AMONG AMERICAN RUINS.

In this connection Dr. Fewkes makes this significant statement: "Too strong language can not be used in deprecation of the butchering of architectual features of our Southwestern ruins by pot hunters, either private individuals for gain or representatives of institutions under the name of scientific research."

DISCOVERY OF FAR VIEW HOUSE.

Continuing his explorations, Dr. Fewkes began in the summer of 1916, the excavation of the mounds which lay in what is known as the Mummy Lake region. These mounds, together with that under which Sun Temple was found in 1916, had been observed years before and were the cause of much speculation. When Sun Temple was disclosed with its suggestions of surprising developments in later history of this strange people, desire increased to know what lay under other top-of-the-mesa mounds.

The entire summer of 1916 was devoted to the excavation of one large mound which resulted in restoring to the light of day a mesa pueblo of enormous size. This prehistoric structure is called Far View House because of its commanding position on one of the historic points of the mesa.

In another part of this pamphlet the characteristic features of this great ruin are described in considerable detail.¹

A LAND OF BEAUTY AND MYSTERY.

"The Mesa Verde region," writes Arthur Chapman, "has many attractions besides its ruins. It is a land of weird beauty. The canyons which seam the mesa, and all of which lead toward the distant Mancos River, are, in many cases, replicas of the Grand Canyon of the Colorado. While the summer days are warm, the nights are cool, and the visitor should bring plenty of wraps besides the clothing and shoes necessary for the work of climbing around among the trails. Little horseback riding can be done.

"It is a country for active foot work, just as it was in the days of the cliff dwellers themselves. But when one has spent a few days among the cedars and jack pines of the Mesa Verde, well named 'Green Table' by the Spaniards of early days, he becomes an enthusiast and will be found among those who return again and again to this most unique of national parks to study its mysteries and its beauties from all angles."

ALTITUDE AND SURROUNDINGS.

The highest part of the Mesa Verde National Park is Park Point, 8,575 feet above sea level, while Point Lookout, the most prominent

¹ See pp. 44 to 48.

point on the Mesa Verde, has an elevation of 8,428 feet above sea level. The northern edge of the mesa terminates in a precipitous bluff, averaging 2,000 feet above the floor of the Montezuma Valley. The general slope of the mesa is to the south, so that a person on the northern rim has a view in all directions. Looking north can be seen the Rico Mountains, with the Montezuma Valley lying just below the observer, dotted with artificial lakes and fertile fields. To the west are the La Salle and Blue Mountains in Utah, with Ute Mountain in the immediate foreground. To the south can be seen the Tunitcha Mountains in Arizona and Ship Rock in New Mexico, while immediately in front of the observer are the various canyons cutting through the mesa in which the most important of the cliff dwellings are found. To the east can be seen the canyon of the Mancos River and the mesas lying to the east of it.

The approach road, which is open to automobiles, ascends the mesa south and east of Point Lookout, and after a detour of some miles, to avoid a very narrow portion of an old road, comes back to the edge of the mesa; and all visitors to the park will be afforded this wonderful view many times, as the road, in heading many canyons, often returns to this vantage point.

The Mesa Verde is cut by numerous deep canyons, in which are found the cliff dwellings, the principal canyons being Rock, Long, Wickiup, Navajo, Spruce, Soda, and Moccasin.

ADMINISTRATION.

Mesa Verde National Park is under the exclusive control of the National Park Service, which is authorized to prescribe such rules and regulations and establish such service as it may deem necessary for the care and management of the park, and for the preservation from injury or spoliation of the ruins and other relics of prehistoric or primitive man within the limits of the reservation; and to grant permits for the examination, excavation, and other gathering of objects of antiquity by persons deemed properly qualified to conduct the same provided they are undertaken only for the benefit of some reputable museum, university, college, or other recognized scientific or educational institution with a view to increasing the knowledge of such objects and aiding the general advancement of archaeological science.

The National Park Service is represented in the actual administration of the park by a superintendent, who is assisted in the protection of its natural and historic features by a number of park rangers. Mr. Thomas Rickner is superintendent of Mesa Verde National Park. His office address is Mancos, Colo.

The park season is May 1 to November 1.

HOW TO REACH THE PARK.

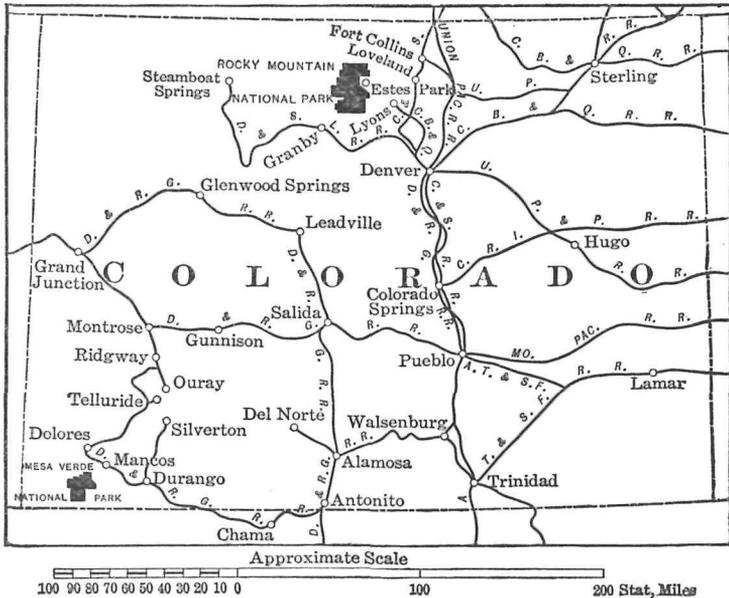
RAILROAD INFORMATION.

Mesa Verde National Park as a destination.—During summer season round-trip excursion tickets at reduced fares are sold at practically all stations in the Middle West, East, and South to Mancos,

Colo., a station on the Denver & Rio Grande Railroad system, and to Mesa Verde National Park as a destination via Mancos and the automobile service operating between Mancos and the park. Passengers traveling through Denver, Colorado Springs, or Pueblo en route to the park have choice of varying fares via different routes for going and return journeys between Denver, Colorado Springs, or Pueblo and Mancos, among which are the following:

- Via Salida, Gunnison, Montrose, and Telluride.
- Via Walsenburg, Alamosa, and Durango.
- Via Salida, Glenwood Springs, Grand Junction, and Telluride.
- Via Salida, Alamosa, and Durango.

Mesa Verde National Park as a side trip.—Passengers wishing to visit Mesa Verde National Park as a side trip in connection with



Map showing railroad routes to Mesa Verde and Rocky Mountain National Parks.

journeys to other destinations will find stop-over privileges available on round-trip excursion tickets and may make side trips to the park from Denver, Colorado Springs, Pueblo, Grand Junction, or Montrose. Stop overs on one-way tickets are allowed at Grand Junction and Montrose to permit passengers to make the Mesa Verde side trip from those stations. Holders of excursion tickets reading via the Denver & Rio Grande Railroad between Denver, Colorado Springs, or Pueblo and Salt Lake City or Ogden, in either direction, have option of traveling between Salida and Grand Junction via Leadville and Glenwood Springs or via Gunnison and Montrose, and have choice, at varying fares, of the following side-trip routes to the park and return:

For westbound passengers.

From Montrose or Grand Junction to the park and return, via Telluride in each direction.

From Montrose or Grand Junction to the park and return, going via Telluride, returning via Durango, Silverton, and Ouray (stage trip between Silverton and Ouray included); or the reverse.

From Pueblo or Salida via Alamosa and Durango to the park, returning via Telluride to Montrose.

For eastbound passengers.

From Montrose or Grand Junction to the park and return, via Telluride in each direction.

From Montrose or Grand Junction to the park and return, going via Telluride, returning via Durango, Silverton, and Ouray (stage trip between Silverton and Ouray included); or the reverse.

From Montrose via Telluride to the park, returning via Durango and Alamosa to Salida or Pueblo.

ROUTES AND SCHEDULES.

NOTE.—The following schedules, subject to change, correspond with trips to and from Mesa Verde National Park, referred to in preceding paragraphs, entitled: "Mesa Verde as a Destination," and "Mesa Verde as a Side Trip." All trains daily except as noted below.

SCHEDULE No. 1.

From Denver and Colorado Springs, going via Salida, Gunnison, Montrose, and Telluride, returning via Durango, Alamosa, and Walsenburg.

Lv. Denver-----1st day.	8.15 a. m.	Tower House, Sun Temple, and Oak Tree (Willow) House. Return to camp for lunch. Visit Balcony House and Cliff Palace in afternoon. Visit Far View House on leaving camp next morning. This arrangement permits of visiting the ruins on the evening of arrival, the whole of the following day, and the early morning of the day of departure. A shorter visit is unsatisfactory. The ruins named are the principal ones and the most accessible. There are very many others to be visited if longer time is spent in the park.	
Lv. Colorado Springs---1st day.	10.57 a. m.		
Lv. Pueblo-----1st day.	12.20 p. m.		
(Royal Gorge by daylight.)			
Ar. Salida-----1st day.	4.00 p. m.		
<i>Or</i>			
Lv. Denver-----1st day.	7.10 p. m.		
Lv. Colorado Springs---1st day.	9.55 p. m.		
Lv. Pueblo-----2d day.	12.01 a. m.		
Ar. Salida-----2d day.	3.55 a. m.		
(Occupy sleeping car until 6 a. m.)			
Lv. Salida-----2d day.	6.45 a. m.		
(Marshall Pass, Black Canyon of the Gunnison.)			
Ar. Montrose-----2d day.	2.55 p. m.		
Lv. Montrose-----2d day.	3.15 p. m.		
Ar. Telluride-----2d day.	7.40 p. m.		
Lv. Telluride-----3d day.	7.35 a. m.		
(Ophir Loop, Cathedral Spires, Trout Lake, Lizard Head Peak.)			
Ar. Mancos-----3d day.	2.22 p. m.	Lv. Spruce Tree Camp_5th day.	8.00 a. m.
Lv. Mancos (auto)----3d day.	2.30 p. m.	(Via automobile; visit Far View House en route.)	
Ar. Spruce Tree Camp3d day.	5.30 p. m.	Ar. Mancos-----5th day.	11.00 a. m.
(Mesa Verde National Park.)		Lv. Mancos-----5th day.	2.22 p. m.
		Ar. Durango-----5th day.	5.00 p. m.
		Lv. Durango-----6th day.	9.00 a. m.
		(Cumbres Pass, Toltec Gorge.)	
		Ar. Alamosa-----6th day.	8.10 p. m.
		Lv. Alamosa-----6th day.	8.40 p. m.
		(Sleeping car Alamosa to Denver.)	
		Ar. Pueblo-----7th day.	2.55 a. m.
		Ar. Colorado Springs---7th day.	5.01 a. m.
		Ar. Denver-----7th day.	7.50 a. m.

Trips to various ruins as desired. Suggested arrangement: Visit Spruce Tree House, a short distance from camp, after dinner. Next morning visit Square

SCHEDULE No. 2.

From Denver and Colorado Springs, going via Walsenburg, Alamosa and Durango, returning via Telluride, Montrose, Gunnison, and Salida.

Lv. Denver-----1st day.	7.10 p. m.	Lv. Spruce Tree Camp--5th day.	8.00 a. m.
(Sleeping car Denver to Alamosa.)		(Via automobile; visit Far View House en route.)	
Lv. Colorado Springs--1st day.	9.55 p. m.	Ar. Mancos-----5th day.	11.00 a. m.
Lv. Pueblo-----2d day.	12.01 a. m.	Lv. Mancos-----5th day.	11.35 a. m.
Ar. Alamosa-----2d day.	6.15 a. m.	(Lizard Head Peak, Trout Lake, Cathedral Spires, Ophir Loop.)	
Lv. Alamosa-----2d day.	7.00 a. m.	Ar. Telluride-----5th day.	6.10 p. m.
(Toltec Gorge—Cumbres Pass.)		Lv. Telluride-----6th day.	7.10 a. m.
Ar. Durango-----2d day.	5.35 p. m.	Ar. Montrose-----6th day.	11.45 a. m.
Lv. Durango-----3d day.	9.00 a. m.	Lv. Montrose-----6th day.	12.01 p. m.
Ar. Mancos-----3d day.	11.35 a. m.	(Black Canyon of the Gunnison — Marshall Pass.)	
Lv. Mancos (auto.)---3d day.	2.30 p. m.	Ar. Salida-----6th day.	8.45 p. m.
Lv. Alamosa-----3d day.	5.30 p. m.	Lv. Salida-----6th day.	11.40 p. m.
Ar. Spruce Tree Camp--3d day.	5.30 p. m.	(Sleeping car Salida to Denver.)	
(Mesa Verde National Park.)		Ar. Pueblo-----7th day.	3.30 a. m.
		Ar. Colorado Springs--7th day.	5.01 a. m.
		Ar. Denver-----7th day.	7.50 a. m.

Trips to various ruins as desired. See arrangement suggested in Schedule No. 1.

SCHEDULE No. 3.

From Denver and Colorado Springs, going via Salida, Glenwood Springs, Grand Junction, and Telluride, returning via Durango, Alamosa, and Walsenburg.

Lv. Denver-----1st day.	8.15 a. m.	Ar. Glenwood Springs--1st day.	10.16 p. m.
Lv. Colorado Springs--1st day.	10.57 a. m.	Ar. Grand Junction---2d day.	1.20 a. m.
Lv. Pueblo-----1st day.	12.20 p. m.	Lv. Grand-Junction---2d day.	8.30 a. m.
(Royal Gorge.)		Ar. Montrose-----2d day.	11.40 a. m.
Lv. Salida-----1st day.	4.10 p. m.	Lv. Montrose-----2d day.	3.15 p. m.
(Tennessee Pass—Eagle River Canyon—Grand River Canyon.)		(Follow Schedule No. 1.)	

SCHEDULE No. 4.

From Denver and Colorado Springs, going via Walsenburg, Alamosa, and Durango, returning via Telluride, Grand Junction, Glenwood Springs, and Salida.

Lv. Denver-----1st day.	7.10 p. m.	Lv. Glenwood Springs--6th day.	11.00 p. m.
Lv. Colorado Springs--1st day.	9.55 p. m.	Lv. Salida-----7th day.	5.35 a. m.
Lv. Pueblo-----1st day.	12.01 a. m.	(Royal Gorge.)	
(Follow Schedule No. 2 to Mesa Verde National Park and to Montrose.)		Ar. Pueblo-----7th day.	9.00 a. m.
Lv. Montrose-----6th day.	3.10 p. m.	Ar. Colorado Springs--7th day.	10.30 a. m.
Ar. Grand Junction---6th day.	6.00 p. m.	Ar. Denver-----7th day.	1.15 p. m.
Lv. Grand Junction---6th day.	7.35 p. m.		
(Sleeping car Grand Junction to Denver.)			

SCHEDULE No. 5.

From Denver and Colorado Springs, going via Salida, Alamosa, and Durango, returning via Telluride, Montrose, Gunnison, and Salida.

Lv. Denver-----1st day.	8.15 a. m.	Ar. Salida-----1st day.	4.00 p. m.
Lv. Colorado Springs--1st day.	10.57 a. m.	Lv. Salida ¹ -----1st day.	4.10 p. m.
Lv. Pueblo-----1st day.	12.20 p. m.	Ar. Alamosa ¹ -----1st day.	8.20 p. m.
Lv. Canon City-----1st day.	1.43 p. m.	Lv. Alamosa-----2d day.	7.00 a. m.
(Royal Gorge.)		(Follow Schedule No. 2.)	

SCHEDULE No. 6.

From Denver and Colorado Springs, going via Salida, Gunnison, Montrose, and Telluride, returning via Durango, Alamosa, and Salida.

Lv. Denver-----1st day.	7.10 p. m.	Lv. Alamosa ¹ -----7th day.	7.50 a. m.
Lv. Colorado Springs--1st day.	9.55 p. m.	Ar. Salida ¹ -----7th day.	12.05 p. m.
Lv. Pueblo-----2d day.	12.01 a. m.	Lv. Salida-----7th day.	12.45 p. m.
Ar. Salida-----2d day.	3.55 a. m.	(Royal Gorge.)	
(Occupy sleeping car until 6.00 a. m.)		Ar. Pueblo-----7th day.	4.10 p. m.
Lv. Salida-----2d day.	6.45 a. m.	Ar. Colorado Springs--7th day.	5.42 p. m.
(Follow Schedule No. 1 to Mesa Verde National Park and to Alamosa.)		Ar. Denver-----7th day.	8.20 p. m.

¹ Daily except Sunday.

SCHEDULE No. 7.

From Grand Junction or Montrose, via Telluride in each direction.

Lv. Grand Junction.....1st day.	8.30 a. m.	Lv. Mancos.....4th day.	11.35 a. m.
Ar. Montrose.....1st day.	11.40 a. m.	(Lizard Head Peak, Trout Lake, Cathedral Spires, Ophir Loop.)	
Lv. Montrose.....1st day.	3.15 p. m.	Ar. Telluride.....4th day.	6.10 p. m.
(Follow Schedule No. 1 to Mesa Verde National Park.)		Lv. Telluride.....5th day.	7.10 a. m.
Lv. Spruce Tree Camp..4th day.	8.00 a. m.	Ar. Montrose.....5th day.	11.45 a. m.
(Automobile.)		Lv. Montrose.....5th day.	3.10 p. m.
Ar. Mancos.....4th day.	11.00 a. m.	Ar. Grand Junction.....5th day.	6.00 p. m.

SCHEDULE No. 8.

From Grand Junction or Montrose, going via Telluride, returning via Durango, Silverton, and Ouray (stage trip between Silverton and Ouray included).

Lv. Grand Junction.....1st day.	8.30 a. m.	Lv. Durango.....4th day.	5.50 p. m.
Ar. Montrose.....1st day.	11.40 a. m.	(Canyon of the Rio de las Animas.)	
Lv. Montrose.....1st day.	3.15 p. m.	Ar. Silverton.....4th day.	8.35 p. m.
(Follow Schedule No. 1 to Mesa Verde National Park.)		Lv. Silverton.....5th day.	7.00 a. m.
Lv. Spruce Tree Camp..4th day.	8.00 a. m.	(Via Circle Route stage line.)	
(Automobile.)		Ar. Ouray.....5th day.	11.00 a. m.
Ar. Mancos.....4th day.	11.00 a. m.	Lv. Ouray.....6th day.	9.30 a. m.
Lv. Mancos.....4th day.	2.22 p. m.	Ar. Montrose.....6th day.	11.45 a. m.
Ar. Durango.....4th day.	5.00 p. m.	Lv. Montrose.....6th day.	3.10 p. m.
		Ar. Grand Junction.....6th day.	6.00 p. m.

SCHEDULE No. 9.

From Grand Junction or Montrose, going via Ouray, Silverton (stage trip between Ouray and Silverton included), and Durango, returning via Telluride.

Lv. Grand Junction.....1st day.	8.30 a. m.	Ar. Durango.....3d day.	8.45 a. m.
Ar. Montrose.....1st day.	11.40 a. m.	Lv. Durango.....3d day.	9.00 a. m.
Lv. Montrose.....1st day.	3.15 p. m.	(Follow Schedule No. 2 to Mesa Verde National Park and to Montrose.)	
Ar. Ouray.....1st day.	5.30 p. m.	Lv. Montrose.....6th day.	3.10 p. m.
Lv. Ouray.....2d day.	7.00 a. m.	Ar. Grand Junction.....6th day.	6.00 p. m.
(Via Circle Route stage line.)			
Ar. Silverton.....2d day.	11.00 a. m.		
Lv. Silverton.....3d day.	6.20 a. m.		
(Canyon of the Rio de las Animas.)			

SCENIC APPROACHES TO MESA VERDE.

The lines of the Denver & Rio Grande Railroad traverse some of the most magnificent scenery of the Rocky Mountain region, and this fact gives the journey to Mesa Verde National Park a double value for the tourist. The railroad offers several routes and combinations of routes, which enable the passenger to vary his journey—going one way and returning another, taking advantage of side trips, stops at points of interest en route, etc. By means of this choice of routes he may ride through two great gorges with walls nearly 3,000 feet in height and along the rim of another gorge nearly 3,000 feet deep, and he may cross three passes the altitudes of which exceed 10,000 feet. The gorges are the Royal Gorge in the Grand Canyon of the Arkansas, where the width of the chasm at the base is but 30 feet and the railroad engineers found it necessary to swing a steel bridge parallel with the stream in order to secure a foothold for the track; the Black Canyon of the Gunnison, with its wonderful Curecanti Needle and beautiful Chipeta Falls; and Toltec Gorge of Los Pinos River, where may be seen the monument to President Garfield

erected in 1881. The three passes are Marshall Pass, the Great Continental Divide (altitude 10,856 feet); Lizard Head Pass (altitude 10,250 feet), with the peak of the same name in the background; and Cumbres Pass (altitude 10,015 feet) one of the approaches to which is Toltec Gorge. However, the deep canyons and high passes to be seen and enjoyed on the railroad trip to the Mesa Verde are only a few of the journey's attractive features. There is, in fact, but little of the landscape presented that is not replete with interest. If when passing through the fertile valleys a commonplace foreground should momentarily appear, there are always present the towering mountains, either near or distant, to lend grandeur to the picture.

In one of these valleys the United States Reclamation Service's Uncompahgre project for irrigation may be seen. Further southward the railroad passes through the valleys of the Uncompahgre, San Miguel, and Dolores Rivers. For many miles after leaving Montrose there are visible on the left the great, jagged Sawtooth Mountains, while beyond Ridgway, the magnificent Sneffels Range, dominated by the majestic Mount Sneffels, near the center of the group, presents such a series of snowy heights, unbroken by vegetation, as is found nowhere else in the Colorado-Utah Rockies. There is scenery everywhere along the line, and the train schedules for this part of the journey are so arranged that during the summer season everything may be seen by daylight. En route via Telluride, passengers remain over night in that picturesque mining town, and, leaving early next morning, the beautiful Cathedral Spires and Ophir Loop are traversed. En route via Durango, the metropolis of southwestern Colorado, a night is spent in that city. If desired, at Ridgway a side trip may be made to the mountain town of Ouray and over the scenic Ouray Stage Line; and at Durango a side trip may be made up the beautiful Canyon of the Animas to Silverton.

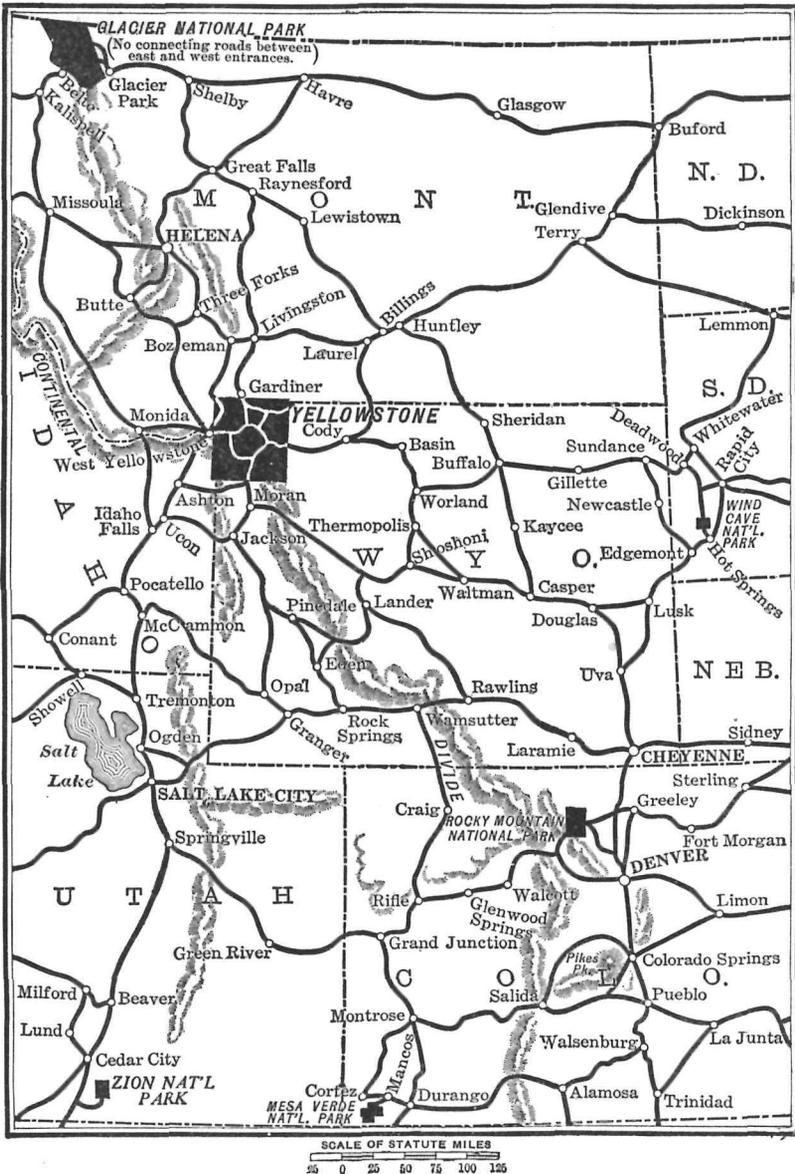
The above enumeration comprises some of the main features of the Denver & Rio Grande's regular "Around the Circle" tour, which is customarily used in making the trip to Mesa Verde National Park. If desired, however, what is termed the "Big Circle" trip may be made, using that portion of the standard gauge line which lies between Salida and Grand Junction and between Grand Junction and Montrose. On this journey westward, after passing through the Royal Gorge, the train turns northward from Salida, passes through Brown's Canyon and beside the Collegiate Range (Mounts Princeton, Yale, and Harvard), over Tennessee Pass (altitude 10,240 feet), between the castellated walls of Eagle River Canyon with mines perched upon their sides, and down the Canyon of the Grand River (one of Colorado's largest streams) to Glenwood Hot Springs, the famous resort in the heart of the Rockies; then through the fruit-growing districts of the Grand River Valley to Grand Junction, whence, after a night's rest, the journey is resumed eastward to Montrose, where the regular "Circle" trip southward is followed.

MESA VERDE AND OTHER NATIONAL PARKS.

From many sections trips may be planned to include visits to two or more of the following national parks in the Rocky Mountain region: Rocky Mountain, Mesa Verde, Yellowstone, Glacier.

DETAILED INFORMATION ABOUT TRAVEL.

For further information regarding railroad fares, service, etc., apply to railroad ticket agents, or address F. A. Wadleigh, passenger traffic manager, Denver & Rio Grande Railroad, Denver, Colo.



Automobile roads between Mesa Verde, Rocky Mountain, Yellowstone, Glacier, and Zion National Parks.

POST OFFICE.

The post office is at Mancos, Colo.

TRANSPORTATION AND CAMPS IN THE PARK.

Parties desiring to camp within the park may obtain suitable outfits and provisions in Mancos, Cortez, or Dolores at market rates, which are reasonable. Guides may be had either at Mancos or Cortez. Mancos is preferable as a starting point for the ruins, as it is on the line of the railroad. Cortez may be reached by stage from Dolores. The two towns are of about equal size.

Oddie L. Jeep, Mancos, Colo., maintains a tourist camp near Spruce Tree House. Rates, \$1 for each meal and \$1 for bed per person for tent accommodations, and \$1.50 for bed per person for cottage accommodations.

Mr. C. R. Beers operates an automobile service for the transportation of tourists from Mancos to and in the park. Automobiles will leave Mancos, 2.30 p. m.; leave Spruce Tree Camp, 8 a. m. Time consumed each direction, between Mancos and Mesa Verde National Park, three hours.

The round trip from Mancos to the park includes transportation service between Spruce Tree Camp, Cliff Palace, Balcony House, and Sun Temple, the principal points of interest accessible by automobile road from the public camp; rate, \$10 for the round trip.

Baggage should only be checked to Mancos, Colo. The auto stage company will carry not to exceed 25 pounds free allowance. Persons having baggage in excess of 25 pounds can make special arrangements at Mancos, Colo., for its transportation to Mesa Verde National Park and return. The excess baggage rate is 3 cents per pound in each direction..

Storage charges on baggage at Mancos station will be waived while passengers are making tour of the park.

ROAD.

The road of the Mesa Verde National Park, which is open during the season to both horse-drawn vehicles and automobiles, may be reached from a point on the Mancos-Cortez road, about 8 miles from Mancos and 12 miles from Cortez. After leaving the county highway the Government road winds through the pinyon-covered hills at the base of Point Lookout and ascends to the top of the mesa on an average of 8 per cent grade.

From the Mancos-Cortez highway to station 64 the road is newly constructed, ascending the mesa on the east side at an even grade and avoiding that portion of the road which has been unsafe because of overhanging rocks. This new road opens up to travelers a wonderful view of the Mancos Valley and the La Plata range of mountains, and for scenic value is unsurpassed by anything in the State.

From station 64 to station 327 the road is 15 feet wide and in fine shape. This portion of the road passes through Morefield Canyon, over a low divide, and down into Prater Canyon, then up along the west side of Prater, gradually rising until it strikes the old road at station 327. From this point the distance to Far View House is 9¼

miles. This great ruin is situated on Chapin Mesa, slightly southeast of the ancient Mummy Lake reservoir and a short distance east of the automobile highway. From Far View House, it is 4 miles to Spruce Tree Camp.

From Spruce Tree Camp automobile roads lead to Cliff Palace, Balcony House, Oak Tree House, Square Tower House, and Sun Temple.

Distances to points of interest in Mesa Verde National Park from Spruce Tree House.

	Distance and direction.
Spruce Tree House.....	$\frac{1}{4}$ mile W.
Cliff Palace.....	2 miles SE.
Balcony House.....	2 $\frac{1}{2}$ miles SE.
Oak Tree (Willow) House.....	2 miles SE.
Poole Canyon.....	4 miles S.
Square Tower House.....	3 miles SW.
Long House.....	2 $\frac{3}{4}$ miles SW.
Inaccessible.....	6 miles SSW.
Tunnel House.....	6 miles S.
Sun Temple.....	2 miles S.
Far View House.....	4 miles N.
Spring House (accessible by trail).....	5 miles W.
Natural Bridge (accessible by trail).....	5 miles W.

SPRUCE TREE HOUSE.

GENERAL DESCRIPTION.

The total length of Spruce Tree House is 216 feet, its width at the widest part 89 feet. There were counted in the Spruce Tree House 114 rooms, the majority of which were secular, and 8 ceremonial chambers or kivas. Spruce Tree House was in places three stories high; the third-story rooms had no artificial roof, but the wall of the cave served that purpose. Several rooms, the walls of which are now two stories high, formerly had a third story¹ above the second, but their walls have now fallen, leaving as the only indication of their former union with the cave lines destitute of smoke on the top of the cavern. Of the 114 rooms, at least 14 were uninhabited, being used as storage and mortuary chambers. If we eliminate these from the total number of rooms we have 100 inclosures which might have been dwellings. Allowing 4 inhabitants for each of these 100 rooms would give about 400 persons as an aboriginal population of Spruce Tree House. But it is probable that this estimate should be reduced, as not all the 100 rooms were inhabited at the same time, there being evidence that several of them had occupants long after others were deserted. Approximately, Spruce Tree House had a population not far from 350 people, or about 100 more than that of Walpi, one of the best-known Hopi pueblos.

CLASSIFICATION OF ROOMS.

Visitors to Spruce Tree House will find that there are two or three types of rooms in the Mesa Verde cliff villages. One type is evidently a living room, rectangular or quadrilateral in shape, with

¹ On the plan of Spruce Tree House, from a survey by Mr. S. G. Morley, the third story is indicated by crosshatching, the second by parallel lines, and the first has no markings.

SECULAR ROOMS.

The rooms of Spruce Tree House are topographically divided into two groups by a court or street, running east and west, situated about midway between the north and south ends of the village. This street is entered from the plaza in which kiva G is situated and has many fireplaces. In the northern division of the ruin there are five kivas¹ and in the southern section three. The majority of the secular rooms, comprising the oldest, are situated in the northern division. The row of rooms bordering the street on the south end of the northern division contains some of the best walls in Spruce Tree House. The roofs and floors are well preserved, and the walls show the best masonry in the whole ruin. The varied coloring of the plaster indicates that it was done at different times. It may well have been that this was the most aristocratic part of the village; certainly the houses here were constructed by the most clever masons and are now the best preserved. Their roofs and floors are in as fine condition to-day as when the place was inhabited. They have lateral doorways and well-made windows opening into the street. Entrances through upper or second-floor doorways appear in some cases to have been accomplished by means of foot holes in the side of the wall, which are now visible. Notched logs were placed along the street to be used by visitors. The rooms are dark and were probably sleeping chambers, the fireplaces in the courts indicating that much of the cooking was done in the adjacent plaza and court.

The rooms of Spruce Tree House are well furnished with doorways, both lateral and vertical, the latter being very few in number. Some of the lateral openings are rectangular in form, slightly narrowed above; others are T-shaped. Many examples of the latter have the lower part filled in with masonry, reducing them to rectangular openings, and a few are entirely walled in, shutting off all entrances, a circumstance that would indicate that these rooms were abandoned, while yet others were inhabited.

The sills of these doors which have a solid stone threshold are often much worn, showing frequent use. The lintels are commonly slabs of stone, but they may likewise be made of split sticks set in mortar. Similar sticks are likewise sometimes let into the side of the doorways. The tops of many of the openings were partially arched over with mud, making a semicircular jamb that holds in place the flat stone which closed the opening. To secure in place the stone slab which closed the entrance the inhabitant used a stick that was held in place by eyelets made of osiers, one on each side. One of these doors was restored in its original form.

The second tier of rooms of plaza D, shown by the projecting ends of rafters, had a balcony, a small section of which can still be seen at the north end. Long poles formerly extended above these projecting beams, which they connected, and these poles supported wattlings and cedar bark covered with adobe. Along this platform the dwellers in rooms in the second story passed from doorway to doorway, and by it they were enabled to enter their own rooms. The evidences are that there were two balconies, one above another,

¹ There is a numerical relationship between the population and the number of kivas which has not yet been satisfactorily worked out.

at this point, but all traces of the floor of the highest of these except a few ends of rafters have disappeared. In a wall under this balcony, as was not uncommon in some cliff dwellings, there is found a stone projecting from its face, which served as a step to reach the lowest doorway.

In one corner of a room back of plaza H there is a stone box or closet, the sides of which are formed of slabs set upright, on the upper edges of which is luted in place a cover having a square hole cut in one corner. This stone is not level, but inclines slightly outward from the wall. The use of this closet is unknown. A somewhat similar stone bin occurs in the northeast corner of plaza C, but, unlike it, has no covering slab, and is situated in the corner of a plaza instead of a room. It seems natural to regard it as a corn bin. The meaning of the stone inclosure in one corner of plaza G is unknown.

CIRCULAR ROOM.

The most interesting room in the south division is circular and stands at the right of the visitor as he follows the street from kiva G to the rear of the cave. It would at first sight seem from the shape of this room and the number and arrangement of holes in its wall that it was a bastion for defense. But these orifices admit of an explanation quite different from portholes. They may be the openings through which the sun priest watched the setting sun to determine the times for ceremonies. This room is somewhat isolated from the others and is furnished with rectangular openings like windows in front and rear; but, as these openings are small and not easily passable, the probability is that the entrance was from above.

The ground outline of another circular room, which may possibly have been a tower, the existence of which escaped all previous observers, was traced at the south end of the ruin just beyond kiva H. From its position this room was believed to be a bastion for defense, so placed as to command the entrance to the village from its south end. The broken wall and fireplace of this room were repaired.

WARRIORS' ROOM.

One of the problematical rooms of Spruce Tree House lies in the northern division, back of plaza C, in the row east of its kiva. This small room has a lateral doorway, the sill—as are others—somewhat raised above the level of the plaza. The remarkable feature of this room is a banquette extending around its three sides, the remaining side, or that opposite the door, being the cliff or rear of the cave. This room resembles in certain particulars one in Cliff Palace, described by Nordenskiöld, but differs from his description in certain important details of structure. Its construction is so exceptional that one could hardly call it a living room, and it is too elaborately made for a storage chamber. There is a shallow vertical passageway in the south corner, near where the banquette joins the side of the cliff, which has some unknown meaning. Nordenskiöld, in discussing a similar room in the Cliff Palace, appears “to regard it as marking the transition to the rectangular estufa of the Moki Indians.” As he points out, it differs “from the estufas in the absence of the charac-

teristic passage and also of the six niches. Furthermore, they often contain several stories, and in every respect but the form resemble the rectangular rooms." It rarely happens that secular rooms are built above kivas; in fact, such a condition would be ceremonially an impossibility. The meeting places of warriors are exceptional in this regard, and from this and other reasons this chamber is considered to be a room of the warriors or an assembly place for councils. This room adjoins that in which three child "mummies" are said to have been found and from which the author exhumed the skeleton of an adult.

DETAILS OF CONSTRUCTION.

In the middle of plaza C there is a rude ware vase set in the floor with opening level with the surface. This is probably the cavity where offerings were ceremonially deposited, and corresponds in a general way with shrines in the middle of the Hopi plazas, one of the best known of which is the so-called *sipapû* used in the Walpi snake dance. The rooms at the south end of the ruin follow a ledge slightly elevated above the general level. Here are also small inclosures or bins, constructed of stone, that remind one of storage cysts. Below these on the horizontal surface of the cliffs there are broad depressions worn in the rock by rubbing stone weapons, like axes, and narrow grooves showing the impression of pointed implements. Here are also several good fireplaces, from the smoke of which the top of the cave has been considerably blackened. It was necessary to repair one of the storage cysts, which had been almost completely destroyed.

It was customary for the inhabitants of the cliff houses to lay an irregular wall, without mortar, on the top of other walls. One of the high walls at the south end of the ruin has a collection of these stones, the use of which has led to considerable speculation. These rude walls serve as wind or snow breaks.

CEREMONIAL ROOMS OR KIVAS.

Spruce Tree House has eight kivas. These kivas are circular in form, subterranean in position, and in structure essentially alike. Their structure is characteristic of those elsewhere on the Mesa Verde, in the McElemo, San Juan, and Chaco Canyons. All Spruce Tree House kivas lie in front of dwelling, except one (A), which fills an interval between the back wall of the cliff and buildings before it. On this and other accounts this kiva is believed to be one of the oldest in the village. As this kiva has double walls, evidently those first built did not please the builders. The present and latest constructed kiva is circular and lies inside an older one, which has an oval shape. Both of these structures were excavated and put in thorough repair.

CONSTRUCTION OF A KIVA.

Each kiva has two sections, a lower and an upper. The lower part has walls about 3 feet high, ending in a bank, on which at intervals there are six square buttresses which separate corresponding

recesses and support the beams of the roof. Between these buttresses are left recesses, formed by the outside wall, which rises to the height of the roof. This lower wall, like all others, was plastered and shows marks of fire or smoke but not of a general conflagration. In the lower wall were found niches or small cubby-holes a few inches square, which were receptacles for paint, meal, or small objects. Each buttress has a peg on its top projecting into the kiva just under the roof; and in the surface of the banquette in kiva C there is set a small, roughly made bowl, the rim of which is on the level of the bank.

The floor of the kiva is generally plastered, but in kiva E the solid surface of a rock was cut down on the west side several inches as a part of the floor. In the floor is a circular pit, F, filled with wood ashes, which served as the fireplace. About halfway from this depression to the opposite wall of the room there is in the floor of every kiva a small hole, G, lined with a neck of a roughly made bowl. This opening, which is barely large enough to insert the hand, represents symbolically the ceremonial entrance to the underworld and is the same as that which the Hopi called the *sipapû*. Around this hole, marking the place on the floor where altars were erected in ancient ceremonies, were performed archaic rites, and through it the priests addressed the gods of the underworld, even believing that they could communicate with the dead. The nature of ceremonies about the symbolic entrance to the underworld will be found by consulting the descriptions of the Hopi kiva rites elsewhere published by the author. All *sipapûs* and other features of structure of the kiva floors were put in good condition.

Between the kiva fireplace and the adjacent side of the room there is set in the floor an upright slab of stone, *e*, about 2 feet high, which is often replaced by a rectangular wall.¹ The side of the kiva facing this screen has a rectangular opening that communicates with a horizontal passageway and opens into a vertical flue, the external orifice of which is in the plaza or outside the outer wall of the kiva. The upright stone or wall served as a deflector, which distributed the fresh air supplied to the kiva from outside the room by the flue above mentioned. This air entered the kiva through the vertical and horizontal passageway and was deflected by the upright stone around the room on the level of the floor. The smoke rose from the fireplace and passed out the kiva through the hatch in the middle of the roof, fresh air being supplied to take the place of the heated air and smoke by the ventilator.

There are other openings in the circular wall of the kiva at the level of the floor, some of which are large enough to admit the body, and communicate with tunnels ample in size for passage. In the floor of one of these there are steps, and by means of these passageways one could pass under the plaza from the kiva to an adjacent room. A good illustration of these passageways, as shown in the accompanying plan, is found in *e*, kiva E. A person can enter a vertical passage in the corner of room 35 and descend by use of steps to a short tunnel that takes him through the opening into the kiva. There is a similar passageway which opens externally in the middle

¹ This screen, *d*, in Spruce Tree House kiva, is not curved, as shown in the diagram given by Nordenskiöld of another kiva.

of plaza C. It can not be that the openings and passages above described were the main entrances, but rather private doorways for priests on ceremonial or other occasions; the chief entrance was probably by means of a ladder through a hatchway in the middle of the room.

The structure of the kiva A is most remarkable, differing from the other seven ceremonial rooms of the Spruce Tree House. When first seen it had the appearance of one kiva within another, the first or larger being of oblong shape with remnants of a banquette showing two pedestals on the north side; the second or inner kiva, being almost circular, was apparently the last occupied. In constructing the circular wall of that last mentioned the builders apparently utilized the southwest part of the larger room and those pedestals or buttresses that were situated in this section. Kiva A, as previously stated, is the only one built close under the overhanging rim rock, and is the only one with buildings in front of it. The roof of this kiva apparently formed a kind of plaza surrounded on three sides by houses, the wall of the cave forming the fourth.

There were never, apparently, any rooms above this kiva, but on one side a room of the second story is supported by a column, an exceptional feature in pueblo construction. The foundations of this wall are two logs curved to conform with the wall, and under the middle of these is the stone pillar.

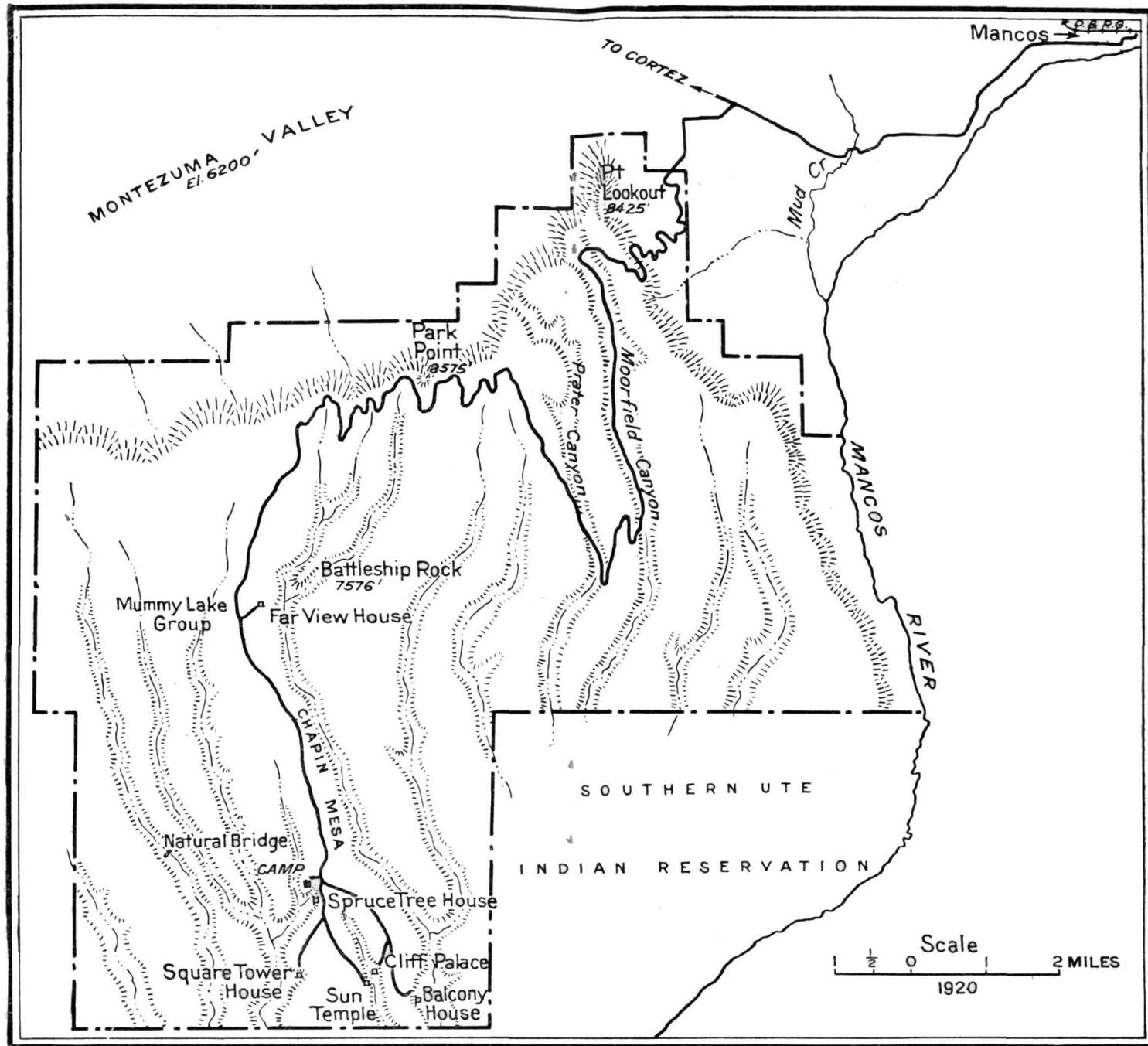
CLIFF PALACE.

GENERAL DESCRIPTION.

Cliff Palace lies in an eastern spur of Cliff Canyon, under the roof of an enormous cave which arches 50 or 100 feet above it. The floor of this cavern is elevated several hundred feet above the bottom of the canyon. The entrance faces the west, looking across the canyon to the opposite side, in full view of a great promontory, on top of which stands Sun Temple. The floor of the recess in which Cliff Palace is built is practically covered with buildings, some of which, especially those at each end, extend beyond the shelter of the cave roof. The total length of the Cliff Palace is approximately 300 feet.

The underside of the roof of rock arching over Cliff Palace is comparatively smooth, exhibiting horizontal cleavage and plane surfaces. A break in this cleavage extends approximately north and south, forming a ledge a few feet in breadth. On its edge the ancients constructed a long wall, thus making a passageway between it and the solid cliff. Although now inaccessible from the ruin below, in ancient times this passageway could have been entered from the roof of one of the houses (66) through a doorway which is still visible. Similar ledge rooms are common features in Mesa Verde ruins.

The floor of the cave in which Cliff Palace was built had practically one level, determined no doubt by a layer of comparatively hard rock, which resisted erosion more successfully than the softer strata above it. This floor was strewn with great angular boulders that in the process of formation of the cave had fallen from the



TRAVEL GUIDE MAP OF MESA VERDE NATIONAL PARK

roof. These were too large to be moved by primitive man and must have presented to the ancient builders uninviting foundations upon which to erect their structures. The spaces between these rocks were better suited for their purposes. These were filled with smaller stones that could be removed, leaving cavities which could be utilized for the construction of subterranean rooms. The upper surfaces of the large rocks, even those which are angular, served as foundations for houses above ground and determined the levels of the plazas. From the bases of these rocks, which formed the outer edge of the level cave floor, a talus extended down the canyon side to the bottom. The rooms forming the front of the ancient village were constructed in this talus, and as their site was sloping they were necessarily situated at lower levels on terraces bounded by retaining walls which are marked features in this part of Cliff Palace. At least three different terraces indicating as many levels are recognized. These levels are indicated by the rows of kivas, or ceremonial rooms, which skirt the southern and middle sections of the ancient village. At the southern end, where the talus is less precipitous and where, on account of the absence of a cave roof, the fallen rocks are smaller, the terrace with its subterranean rooms is on the level of the floor of the cave, having the same height as the foundations built thereon. At the western extremity the buildings were erected on the tops of huge rocks fallen from the roof of the cave. Here the talus is narrow or wanting, and no rooms were constructed in front of these rocks. Thus the terrace rooms on the lowest level are found along the middle section of the cave, where the floor is highest and where the great fallen rocks still remain in sheltered places.

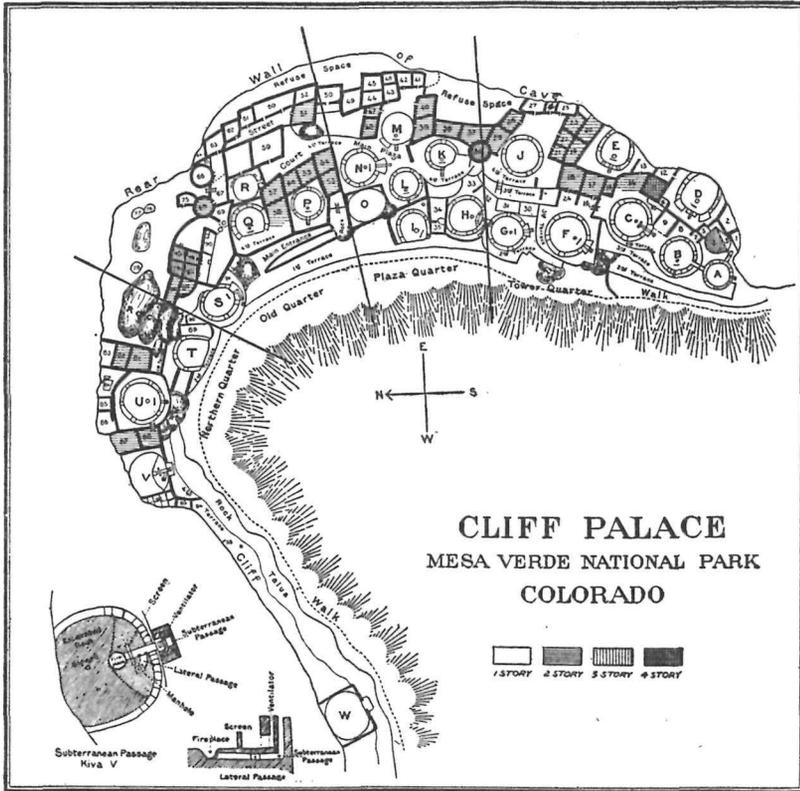
Fortunately, the configuration of the cliffs above the ruins makes it possible to get a fine bird's-eye view of Cliff Palace from the rim of the mesa. Views obtained from the heads of the two trails are most striking and should be enjoyed before closer examination and detailed study of the rooms in Cliff Palace. To obtain the best general view of the whole ruin from the front, one may cross the canyon and climb a promontory whence Cliff Palace appears to be set among trees in a rocky frame, the lower side being the precipice beneath and the upper the roof above.

ANCIENT ENTRANCE.

Deep under the débris which covered the lower terrace of Cliff Palace there was brought to light by excavation an ancient way, hitherto unknown, which leads by a gradual slope to the center of the village. This pathway extends parallel with the high front wall of kiva O, and, passing to a large rock in which foot rests were cut, enters Cliff Palace through a narrow court between high walls. From this court ascent to the level of the cave floor was accomplished by means of a ladder, which could be drawn in when danger necessitated. The floor of the main entrance was hardened adobe, the outer edge of which was held by a roughly laid retaining wall resting at the lower end on logs still well preserved. This main entrance may have led formerly to the village spring in the canyon below, now dry, and along it no doubt in ancient times toiled the weary women with jars of water on their heads.

GROUND PLAN OF REPAIRED CLIFF PALACE.

An examination of the correct ground plan of Cliff Palace shows that the houses were arranged in a crescent, the northern extension of rooms corresponding roughly to one point. The curve of the village follows, generally speaking, that of the rear of the cave in which it was constructed. There is little regularity in the arrangement of the rooms, which, as a rule, are not crowded together; most of the subterranean chambers are situated on terraces in front of the secular rooms. There is one passageway that may be designated a street;



this is bordered by high walls over which a passer-by could not look. No open space of considerable size is destitute of a ceremonial chamber, and the largest court contains five of these rooms. It is not possible to count the exact number of rooms that Cliff Palace formerly had, as many upper stories have fallen and a considerable number of terraced rooms along the front are indicated only by fragments of walls. Roughly speaking, 200 is a fair estimate.

It is instructive to note that although Cliff Palace is about three times as large as Spruce Tree House, judging from ceremonial chambers, it has no more than double the number of secular rooms.¹

¹ This is explained on the theory that Cliff Palace is more ancient than Spruce Tree House, the kivas being the older rooms and probably more strictly limited to the use of clans, while at Spruce Tree House they are more in the nature of fraternity rooms, the membership of the priesthood occupying them being drawn from several clans.

CLIFF PALACE SUBDIVISIONS.

In order to facilitate the description of Cliff Palace it is here arbitrarily divided into certain quarters or sections. The front entrance, being situated about midway of the length of the village, is naturally a point of division of the ruin into halves.¹

Four different regions may be distinguished in the ruin, two north of a line drawn from the front entrance to the rear of the cave and two south of that line. While structurally there appear to be no essential differences in these quarters, they present certain characteristic archaeological features which are worthy of consideration.

The part of Cliff Palace extending northward from the main entrance to the point where the ruin turns westward lies in the deepest part of the cave and may be called the "Old Quarter." Its northern end is formed by a castellated building three stories high, constructed of the finest masonry and perched on a huge fallen rock. This building contains several rooms, story above story, the uppermost reaching to the roof of the cave. It may be called the "Speaker Chief's House," from a banquette on one side overlooking the whole southern end of the ruin.

The extension of Cliff Palace westward from the Speaker Chief's House to the end of the ruin may be designated the "Northern Quarter." About 50 feet beyond the extreme western end stands above ground a solitary building, or ceremonial room, of singular construction.² The part of the ruin from the main entrance to the Round Tower contains five ceremonial rooms huddled together. Their roofs and the intervening spaces formerly constituted the most extensive plaza in the village, and it seems appropriate to call this the "Plaza Quarter."

The part of the ruin from the Round Tower to the extreme southern end is divided into halves by the Square Tower, a four-storied room with painted walls.

To recapitulate, there are here recognized in Cliff Palace the following quarters:

1. Northern Quarter, from Speaker Chief's House to west end.
2. Old Quarter, from Speaker Chief's House to entrance to ruin.
3. Plaza Quarter, from village entrance to Round Tower.
4. Tower Quarter, from Round Tower to southern end.

NORTHERN QUARTER.

This quarter contains four ceremonial rooms and accompanying secular inclosures. On the western end it has a room fitted up with four corn-grinding bins (*metates*), a second room with one *metate* and two cooking rooms.

This quarter is built on two levels, the lower, adjoining the Old Quarter, having fine masonry, composed of well-dressed building stones. The higher level has two kivas, the more western of which shows in its floor the most extensive example of excavation in solid

¹ The quarters into which Cliff Palace is divided were possibly sociologically different.

² Probably belonging to the second type of ceremonial rooms later described.

rock known in Cliff Palace. For more than two-thirds of its area the floor is here cut down on one side about 2 feet. The whole western section was considerably mutilated and was covered with small building stones and débris when the excavation and repair work began. This is obscurely indicated on previously published ground plans in which its rooms are not accurately represented.

OLD QUARTER.

The region northward from the main entrance of the Cliff Palace, including the lofty castellated building called "Speaker Chief's House," may be known as the Old Quarter. This contains many secular rooms, some of which are round and others rectangular, and three fine ceremonial rooms, one of which is of a type rare in cliff dwellings. The Old Quarter falls naturally into two regions, the Speaker Chief's House and the section adjoining the main entrance. A street extending north and south divides this quarter into a front and a rear section.

It seems probable that the Old Quarter was inhabited by the oldest and most influential clans of the pueblo. The masonry of the speaker chief's building is not only the finest in Cliff Palace but compares well with that laid by white masons. The walls throughout were built of hewn stones, ground plane, carefully laid, and smoothly plastered.¹ The main building was erected on the inclined face of a very high, angular rock, unfortunately cracked, by which the foundations are raised above neighboring buildings and terraces. The castellated part extends to the roof of the cave and is three stories high. On the north side the wall of this part is curved, but on the south side there is a banquette or platform to which one mounts by a single step. The whole central and southern parts of Cliff Palace lie in full sight of this platform, and we may suppose that a speaker chief stood upon it every morning when he announced the events of the day.

In addition to the three-storied castellated building there are included in the Old Quarter four fine ceremonial rooms and two circular rooms that lie deep in the cave.

The southern part of the Old Quarter, that adjoining the entrance to the village, has one ceremonial room and several secular inclosures. The "street" lies almost wholly in this section.

PLAZA QUARTER.

Almost the whole of this quarter is occupied by a large open space containing five kivas. These subterranean rooms are so close to one another and are so arranged that their roofs must have formed an almost level plaza, which was the central and largest open place of Cliff Palace. Two kivas, I and H, on the lower terraces likewise belong to this quarter. In addition to the subterranean rooms on the upper level there extends from it into the Old Quarter a court into

¹ It is sometimes stated that the cliff dwellers rarely dressed or smoothed the stones out of which they constructed walls. While this may be true of some cliff dwellings, it is not true of those on Mesa Verde.

which opens the "street." It may well be supposed that the Plaza Quarter was of the most frequented breathing places in this cliff dwelling when inhabited. Here we find a broad, open place fitted for ceremonial dances, into which opened the only large court and street of the village. The main entrance to Cliff Palace was situated at its northwest corner. It was well protected in all seasons of the year by the overhanging roof of the cave and the massive walls surrounding it on three sides. The outlook from its western side across Cliff Canyon is one of the finest. Situated midway between the two ends of the village, near the center of population, the Plaza Quarter must have been a much frequented place when Cliff Palace was inhabited, and may well be called the chief quarter.

TOWER QUARTER.

The Round Tower section includes the ceremonial rooms E to G and the secular buildings 13 to 33. Of the former F and G lie at lower levels in front of the foundations of the Round Tower. Kiva J is situated on a high level, and E is built near the cliff in the rear of the village.

The most striking architectural feature of this quarter is, of course, the picturesque Round Tower, a symmetrical structure perched on top of a huge rock. The use of this tower is unknown, but we can hardly suppose so important a building was built in this commanding position for purely secular purposes.

The southern end of Cliff Palace, including rooms 1 and 10 and the subterranean chambers A to D, is somewhat exposed to the weather and therefore much worn. Kivas A to C lie in the open in front of the rooms and outside the rim of the roof. The walls of Kiva D, among the finest known in cliff dwellings, are painted yellow and have the superficial plastering well preserved. The Square Tower (11) is four stories high and has fine mural decorations in white and red on the inner walls of the third story. The whole northwest angle of this tower had to be rebuilt to support the walls of this story.

CEREMONIAL ROOMS.

The majority of the ceremonial rooms in Cliff Palace are accompanied by rectangular chambers, but one of the former, situated about 50 feet from the western end, has no rooms near it. The ceremonial rooms naturally fall into two types: (1) Subterranean kivas having banquettes around their sides, separated by roof supports called pedestals; (2) kivas destitute of banquettes or pedestals, probably roofless, their roofs being replaced by high surrounding walls. Twenty ceremonial rooms have been referred to the first type; two or three to the second. The isolated kiva resembles in many particulars the other examples of the second type.¹ The shape of the kivas varies from circular to square, with rounded corners. Their architecture varies somewhat, and their depth is not uniform. The walls are well constructed and generally show signs of plastering

¹ Similar decorations occur likewise on the pedestals of kiva A of Spruce Tree House and on the inner walls of the third story of the Square Tower.

often blackened with smoke. One of the kivas is painted yellow; the lower part of another is red, with triangular decorations on the upper border.¹

KIVAS OF THE FIRST TYPE.

The Cliff Palace kivas, provided with pedestals or roof supports, furnish examples of some of the finest masonry in prehistoric buildings of our Southwest. Owing to their subterranean position it was often necessary for the builders to excavate the floors in solid rock, and the curves of the sides were obtained in many instances by removing projecting ends of huge rocks. The number of pedestals varies in different kivas. In the majority there are six of these roof supports; the kiva in the speaker chief's section has eight, others four, and one has but two. The number of banquettes necessarily varies with the number of pedestals; one called the altar banquette is commonly larger than the remainder. This large shelf may be the place where ceremonial paraphernalia were placed. In most cases it is situated in the same side as the air shaft or ventilator. Every kiva of the first type has a ventilator, fire hole, and deflector.

Although these structures are represented in every kiva, the configuration of the walls of many kivas made it difficult to introduce the ventilator on the same side or in the same form. In one case the passage turns at right angles before it joins the vertical so-called ventilator. In another instance this vertical passage is situated like a chimney at one angle of the outside wall, and in still another it opens through a roof support.²

Deflectors in Cliff Palace kivas have four modifications: (1) A slab of stone placed upright; (2) a low stone wall; (3) a curved wall joining the wall of the kiva on each side of the lateral entrance into the ventilator; (4) a row of upright sticks having twigs woven between them, the whole being covered and hidden with clay mortar. Thus, all varieties of deflectors discovered in Mesa Verde ruins are represented at Cliff Palace.

Every kiva of the first type has a fireplace near the center of the room, which is generally found to be packed solid with wood ashes. In some cases the sides are rimmed with flat stones, one stone smaller than the rest, sometimes projecting slightly above the level of the floor. The symbolic opening (*sipapu*) in the floor is not found in all Cliff Palace kivas. It is rarely absent; usually it is situated slightly to one side of the middle of the floor. In one kiva the opening is double and in another room this hole lies near the wall. Even when necessary to drill into solid rock the ancients did not hesitate to make this ceremonial opening, which, in some instances, was lined with a burnt-clay tube. For the reception of small objects diminutive niches were constructed in the walls of almost every kiva, and vases are now found inserted in the banquettes of a few of these chambers.

Each kiva possesses special characters notwithstanding that all the kivas have a general similarity.

¹ Similar decorations occur likewise on the pedestals of kiva A of Spruce Tree House and on the inner walls of the third story of the Square Tower.

² In the kivas of some of the cliff dwellings in Navajo National Monument a doorway occupies the position of the lateral entrance of the ventilator into the kiva. These kivas are rectangular and are exceptional in having entrances opening laterally instead of vertically.

KIVAS OF THE SECOND TYPE.

There are two, possibly three, ceremonial rooms that show no signs of roof supports or pedestals, no evidences of fireplaces, deflectors, or ventilators. It would appear that these rooms were used for the same purpose as kivas of the first type. They have banquettes on the side wall, quite wide at each end, and generally a lateral passage-way at the floor level.

The existence of two types of ceremonial rooms in Cliff Palace may indicate a division of the ritual into two distinct parts performed by the summer and the winter people, respectively, a specialization still perpetuated among some modern pueblos. The best example of the second type is kiva R, situated in the Old Quarter of the ruin in the neighborhood of the Speaker Chief's House. No signs of pedestals are to be found, but broad banquettes occupy the northern and southern ends, connected on the other sides by a narrow shelf. In the side walls below the banquettes are several recesses or cubby-holes, and there is a lateral entrance on the floor level in the southern side which sends off side branches under the banquette, but no indication was discovered of a vertically placed ventilator.

The walls above this kiva were built high, as if to prevent observation by outsiders. There was probably no roof.¹

SECULAR ROOMS.

Secular rooms in Cliff Palace may be classified as follows: (1) living rooms; (2) storage rooms; (3) mill rooms; (4) granaries; (5) dark rooms of unknown use; (6) towers, round and square; (7) round rooms not towers. The highest rooms have four stories. There are several of three stories, many of two, but the majority have only one. Walls projecting at right angles to the foundations in front of the ruin on a level below the cave floor indicate that in this part Cliff Palace was terraced, consisting of several-storied houses and terraces at different levels. There is little uniformity in size, shape, or character of the walls of secular rooms. In rare instances they extend to the roof of the cave, a feature sometimes shown by markings or fragments of masonry on the rock surface.

LIVING ROOMS.

Several rooms show such marked evidences that they were inhabited and used as sleeping places that they are called living rooms. One or two of these have each a banquette extending across one side and several have fireplaces in the floor in one corner. The inner walls of these rooms are generally smoothly plastered, sometimes painted. They contain small niches, and in one case pegs on the walls on which blankets or kilts could be hung. These chambers are supposed to have been the sleeping rooms for women and children, and, although not living rooms in one sense, they are the nearest approach to them in Cliff Palace. Much of the daily work—pottery

¹ Nordenskiöld's comments on this chamber as a connecting link between circular and square kivas are not convincing. In origin square kivas were independent of circular kivas, and the indications are that in some cases the former had lateral openings or doorways.

making, cooking, etc.—was done on housetops or in open places adjoining the living rooms.

MILL ROOMS.

Several special rooms set apart for mills in which corn was ground were discovered in different quarters of Cliff Palace. These differed from some other rooms only in being smaller. Almost the whole space was occupied by rude stone mills of characteristic forms. These consist of boxes made of slabs of rock set upright, in each of which was placed an inclined stone, the mealstone (*metate*). In front of this, at the bottom of the mill, is a receptacle into which the meal fell after it had been ground by hand by means of a slab of stone called the *mano*. The women or girls who ground the corn knelt on the side of the mill at the top of the *metate* and rubbed the *mano* over the *metate* (mealstone) until the corn between was ground. In one of these mill rooms there were two and in another four of these mills set in a row side by side. The surfaces of the *metates* in this series are graded in roughness, so as to grind the meal finer and finer as it is passed from one to another. The mills were so well preserved that even the fragments of pottery in the angles of the receptacles in which the meal collected after grinding were still in place and the upright stones on which the girls braced their feet had not been moved. The brushes with which the meal was brushed into baskets after grinding, had been left in the mills and were still in good condition.

STORAGE ROOMS.

The smaller rooms and the back chambers, many of them darkened by their position in the rear of other rooms, were probably used for storage of corn. These diminutive rooms, many having the form of cists, are carefully built; many are erected on flat rocks, but have doorways. Every crevice and hole in the corners of these granaries was carefully stopped with clay, no doubt to prevent rats or squirrels from entering. The impression prevalent in some places that the inhabitants of Cliff Palace and of other cliff dwellings were of diminutive size is supported by the erroneous belief that these rooms were used as dwellings. If we had visited Cliff Palace when inhabited, we should probably have found in these storage rooms corn on the cob stacked in piles, from which the daily consumption was drawn. The living rooms were often small, but they were unencumbered with furniture or even with food in great quantities and were ample for people of small stature. The cliff dwellers were not pygmies.

ROUND TOWER AND ROUND ROOMS.

The most prominent and picturesque building in Cliff Palace is the Round Tower, situated about midway in its length on a high angular rock, which raises it in full view above all the terraces. This tower is not the only round room in the ruin, for there are foundations and walls of two other circular rooms not far from the Speaker

Chief's House at the north end of the "street." These are inconspicuous because hidden far back in the cave behind more lofty walls.

The Round Tower, formerly two stories high, was entered from the north side. It was little damaged during the centuries elapsing since Cliff Palace was abandoned and needed little repair. The walls show most beautiful examples of aboriginal masonry, perhaps the finest north of Mexico. Almost perfectly symmetrical in form, the stones that compose the walls are skillfully dressed, fitted to one another, and carefully laid. This tower was evidently ceremonial in function, or it may have served as an observatory, for which purpose it is well situated. The presence of small peepholes through which one can look far down the canyon supports the theory that the tower was a lookout, to which theory its resemblance to other towers in the Mesa Verde region likewise contributes.

SQUARE TOWER.

This building also is one of the picturesque and prominent structures at the southern end of Cliff Palace. It is four stories high, the walls reaching from the floor to the roof of the cave. The walls of the third story are painted white and red with decorative symbols, as triangles, zigzag lines, and parallel lines, perhaps representing feathers. When work began on this tower the whole northwestern angle had fallen and the wall of the "painted room" was tottering and in great danger of falling. The repair of this section was dangerous as well as difficult, one whole corner having to be rebuilt from the bottom of an adjacent kiva.

LEDGE ROOMS.

A projecting ledge in the cave roof, about 20 feet above the top of the highest wall, served as the foundation of a marginal wall and accompanying rooms. This wall is pierced by doorways, windows, and peepholes. One of the doorways, probably an entrance situated near the northern end, was apparently on the former level of the roof of one of the round rooms of the Old Quarter of the pueblo. The outer surface of the marginal wall is decorated with a white terraced figure, suggesting the white figure overlooking plaza C in Spruce Tree House. The ledge rooms, which occur in several Mesa Verde ruins, were probably used for storage or for protection.

SUN TEMPLE.¹

It is impossible to tell when Sun Temple was begun or how long it took for its construction or when it was deserted. There are indications that its walls were never completed, and from the amount of fallen stones there can hardly be a doubt that when it was abandoned they had been carried up in some places at least 6 feet above their present level. The top of the wall had been worn down at any

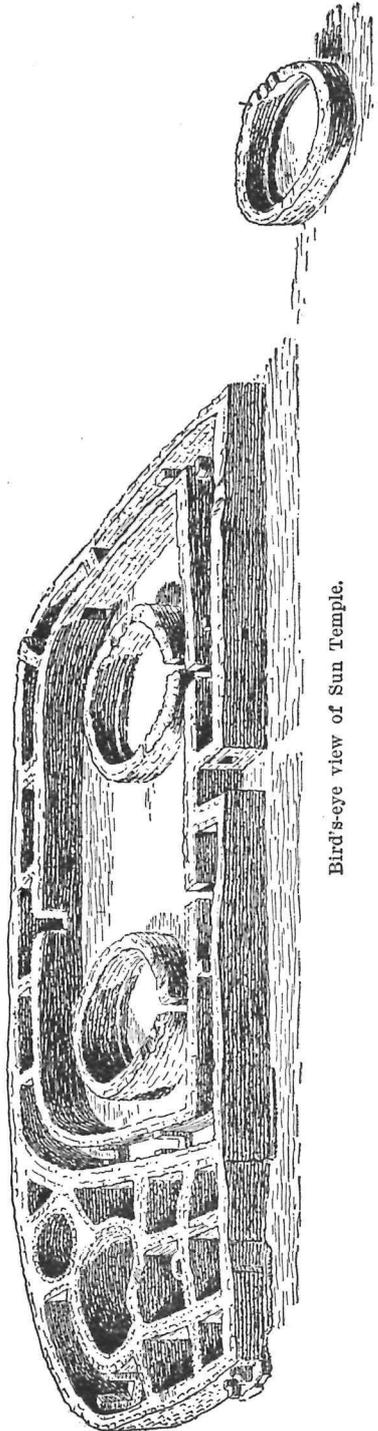
¹ This description of Sun Temple and the data following on Far View House were compiled especially for this pamphlet by Dr. J. Walter Fewkes, now Chief of the Bureau of Ethnology, who, during the seasons of 1915 and 1916, excavated these great prehistoric structures.

rate 6 feet in the interval between the time it was abandoned and the date of my excavation of the mound. No one can tell the length of this interval in years.

We have, however, knowledge of the lapse of time, because the mound had accumulated enough soil on its surface to support growth of large trees. Near the summit of the highest wall in the annex there grew a juniper or red cedar of great antiquity, alive and vigorous when I began work. This tree undoubtedly sprouted after the desertion of the building and grew after a mound had developed from fallen walls. Its roots penetrated into the adjacent rooms and derived nourishment from the soil filling them.

Necessarily when these roots were cut off, thereby killing the tree, I was obliged to fell it, but the stump remains, cut off about a foot above the ground. A section of this tree at that point was found by Mr. Gordon Parker, supervisor of Montezuma National Forest, to have 360 annual rings; its heart is decayed, but its size suggests other rings, and that a few more years can be added to its age. It is not improbable that this tree began to grow on the top of the Sun Temple mound shortly after the year 1540, when Coronado first entered New Mexico, but how great an interval elapsed during which the walls fell to form the mound in which it grew, and how much earlier the foundations of the ruined walls were laid no one can tell. A conservative guess of 250 years is allowable for the interval between construction and the time the cedar began to sprout, thus carrying the antiquity of Sun Temple back to about 1300 A. D.

From absence of data, the relative age of Sun Temple and Cliff Palace is equally obscure, but it is my firm conviction that the former



Bird's-eye view of Sun Temple.

was later, mainly because it showed unmistakable evidences of a higher sociological condition of the builders; but here again we enter a realm of speculation which, while it adds to the mystery of the building, is beyond our knowledge.

THE MYSTERY OF ITS PURPOSE.

Many theories have been advanced to explain the purpose of this structure, but most of these can be eliminated without difficulty. The theory that it was a prison, a Spanish mission, a theater, may be dismissed without serious consideration.

The position of the ruin has led several visitors to suggest that the building was constructed for a fortification or defense against hostile invaders. This theory is not a fanciful one, but, while it might have been constructed in part for this purpose, protection from foes was only a secondary consideration. The care given to its construction, its shape and size, absence of portholes, and height of walls are not such as we would expect in a fort.

There is no good evidence supporting the theory that it was erected to serve as a habitation. The rooms have not a form adapted for any such utilitarian purpose. They are destitute of windows, and it was not intended to plaster their walls, as the incised stones clearly indicate; there are no evidences of fireplaces, no smoked walls, no ashes or charcoal, no metates for grinding corn, no piles of débris, such as are usually formed about a habitation. Few household implements, such as bowls and baskets, were found. There were no burials, no animal bones, remnants of former feasts.

While it is not impossible that it might have been intended to later add an upper story for dwellings, attention may be called to the fact that, although some of the rooms have walls about 12 feet high, they show no evidence of floor beams or holes for their insertion. The lower rooms were too high for dwellings, for a dwelling room over 6 feet from the floor to ceiling is anomalous in cliff houses or pueblos.

UNITY OF CONSTRUCTION.

The argument that appeals most strongly to my mind supporting the theory that Sun Temple was a ceremonial building is the unity shown in its construction. A preconceived plan existed in the mind of the builders before they began work on the main building. Sun Temple was not constructed haphazard nor was its form due to addition of one clan after another, each adding rooms to a preexisting nucleus. There is no indication of patching one building to another, so evident at Cliff Palace and other large cliff dwellings. The construction of the recess in the south wall situated exactly, to an inch, midway in its length shows it was planned from the beginning.

We can hardly believe that one clan could have been numerous enough to construct a house so large and massive. Its walls are too extensive; the work of dressing the stones too great. Those who made it must have belonged to several clans fused together, and if they united for this common work, they were in a higher state of sociological development than a loosely connected population of a cliff dwelling.

In primitive society only one purpose could have united the several clans who built such a structure, and this purpose must have been a religious one. This building was constructed for worship, and its size is such that we may practically call it a temple.

A TEMPLE FOR SUN WORSHIP.

On the theory that it was intended for that purpose, we can easily interpret one or two facts that otherwise are without significance. The shrine at its southwest corner stone is worthy of notice in this connection. It bears on its floor a symbol resembling the sun, which implies complex ceremonies.

No one doubts that the three massive, circular-walled rooms, two in the main plaza and one in the annex, are religious rooms, and a glance at the ground plan shows they are prominent architectural features. They show from their prominence that whatever theory of the use of Sun Temple we adopt we must not overlook the ceremonial object. The existence of many rooms entered from the roofs and the absence of external doors in all implies secrecy. The mysteries here performed were not open to all—only the initiated could enter.

Comment has already been made on the fact that practically no household implements were found in the rooms, which has been interpreted to mean that the building was never finished. It also signifies that the workmen did not live in or near by during construction; the question is pertinent: Where did they live?

THEORIES.

On the theory that this was erected by people from several neighboring cliff dwellings for ceremonies held in common, we may suppose that the builders came daily from their dwellings in Cliff Palace and other houses and returned at night after they had finished work to their homes. The trails down the sides of the cliffs which the workmen used are still to be seen. The place was frequented by many people, but there is no evidence that any one clan dwelt near this mysterious building during its construction.

Other questions arise: Was Sun Temple constructed by an intrusive people of different stock from that of Cliff Palace? Is it the work of a migratory band that entered the region from the valleys surrounding Mesa Verde, or was it built by an alien people not closely allied to those of Cliff Palace, but more like Pueblos of New Mexico? The difference between the architecture of Sun Temple and that of the neighboring cliff dwellings and its similarity in form to some of the ruins in the Chaco Canyon, N. Mex., would seem to lend some support to the theory that the builders were aliens, or culturally different from cliff dwellers.

This theory seems to me untenable, for where did these incoming aliens live while building it? How could they work there unmo-
lested?

THE MYSTERY OF THE BUILDERS.

The argument that cliff dwellers in the neighborhood built Sun Temple and that incoming aliens had nothing to do with its construc-

tion seems to me very strong. The architectural differences between it and Cliff Palace are not objections, for the architectural form of Sun Temple may be regarded as a repetition, in the open, of a form of building that developed in a cliff house; the rounded north wall conforms with the rear of a cave and the straight south wall reproduces the front of a cliff dwelling. The recess midway in the south wall of Sun Temple could be likened without forcing the comparison to a similar recess which occurs at the main entrance into Cliff Palace.

Sun Temple was not built by an alien people, but by the cliff dwellers as a specialized building mainly for religious purposes, and, so far as known, is the first of its type recognized in the Mesa Verde area.

FAR VIEW HOUSE, A MESA VERDE PUEBLO.¹

The archeological investigations of the last few years have shown that the prehistoric people of this plateau erected buildings called pueblos of the same structural character as those in the cliffs, but on top of the mesa. The mounds indicating these buildings take several forms, and as a rule are associated in villages or clusters. Through one of these villages runs the Government road from Mancos to Spruce Tree House. This village is known by the name Mummy Lake mounds, or the Moki Lake group, and is situated $4\frac{1}{2}$ miles north of Spruce Tree House. Mummy Lake is a prehistoric reservoir; its name is not appropriate, for no mummies have ever been found in its neighborhood and it contains water only a portion of the year. South of this reservoir there are 16 mounds indicating as many ruined pueblos, varying in size, but in no case showing walls standing above ground marking the shape or character of the buried houses. Far View mound is situated on the southeast margin of this village, and at the beginning of the work upon it differed little from the other 15.

The results of three months' excavation of this mound transformed it into a rectangular pueblo 113 feet long by 100 wide, resembling buildings long known at Aztec, N. Mex., and on the Chaco Canyon far to the south.

A comparison of houses built in cliffs throughout the world indicates that there is no special uniformity or distinguishing feature in them. The cliff houses of China partake of the characteristics of Chinese buildings; those of Greece of the habitations of the Greeks. The excavation of Far View House shows that it is structurally the same as Spruce Tree House. A cliff house in a Mesa Verde canyon is a pueblo built in a cave. We may say, therefore, that probably buildings on the Mesa Verde, whether in cliffs or on mesa tops, are homogeneous, a conclusion long believed but demonstrated two years ago by the uncovering of Far View House. This pueblo is called Far View House because of its magnificent outlook. From its top, looking southward, the vision includes portions of four States; looking directly south are the hazy mountains of New Mexico, with the wonderful pinnacle known as Ship Rock, from its resemblance to a ship under full sail. On the western horizon are the Blue Mountains of Utah. To the southwest, silhouetted against the sky, rises Sleeping Ute, a name equally appropriate on account of its resemblance to the

¹ By Dr. J. Walter Fewkes, Chief of the Bureau of Ethnology.

prostrate figure of an Indian. In the immediate foreground is a dense forest of cedars and other trees, to which Mesa Verde owes its name.

A half mile before he approaches Mummy Lake the visitor can see, from the Government road, the walls of Far View House with a background of cedars situated in the middle of a sagebrush clearing, and in its immediate neighborhood heaps of stone and soil. These overgrown mounds with depressions in the center represent the appearance of Far View House, the only one of the group yet excavated. The rooms were almost filled with accumulations of débris. Whence came this débris? The quantity is too large to be ascribed wholly to fallen walls, for if we regard this catastrophe as the only source, it would be necessary to suppose the walls were once built to a height beyond all proportion to their lateral dimensions. Moreover, an examination of this débris shows that it is stratified by alternating layers of sand and fallen walls or adobe mortar and stone. This sand did not come from the building; it must have blown in from the surrounding plain, and any one who is familiar with the sandstorms of that region can appreciate the depth of sand which might accumulate in a short time. Its abundance implies that the surface of the land in the neighborhood was devoid of trees, sagebrush, or other vegetable growth.

The conclusion is logical that if there were no sagebrushes the farms cultivated by the aborigines were near by. From indistinct evidences we can see traces of ditches leading from Mummy Lake through which the farmers may have irrigated their lands either directly or secondarily from smaller reservoirs near the mounds. The native springs are far down the sides of the canyon, and it is not improbable that the potable water or that used for cooking, masonry, and other purposes may have been drawn from these reservoirs, which, together with irrigating canals, through the lapse of time have been clogged by accumulations of sand.

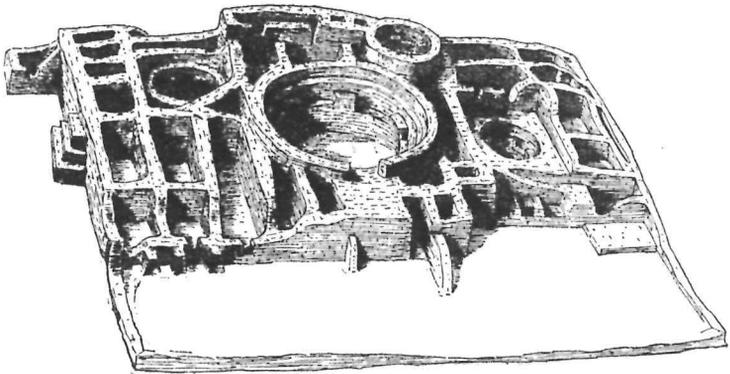
The external features of Far View House are apparent as we approach its walls; mounting to the top of the highest wall we can best observe the general plan. This pueblo is rectangular in shape, consisting of concentrated rooms with a court surrounded by a wall annexed to the south side. On its southeast corner, a little less than 100 feet away, lies the cemetery, from which have been taken skeletons of the dead with their offerings of food bowls and other objects such as was the custom of these people to deposit in the graves of their dead.

At its highest point on the north wall the pueblo had three stories, but on the southern side there was but a single story. This building was terraced, one tier of rooms above another. In the corner of the interior of the highest room may still be seen the ancient fireplaces and stones for grinding corn set in their original positions used by the former inhabitants. There are no external windows or passages, except on the south side where midway in length is a recess in which was placed a ladder in order to be hidden from view. The inhabitants evidently used the roof of the lowest terrace for many occupations. A bird's-eye view shows that all the rooms, now roofless, fall into two groups.

In the center of this mass of rooms there is a circular chamber 32 feet in diameter, resembling a well, around which the other rooms

appear to cluster. Three of these surrounding rooms are circular and much smaller than the central, arranged with two on the left and one on the right side. In structure these rooms are identical with that of the large central room. They have mural banquettes and pilasters that once supported a roof. These circular depressions are ceremonial rooms, to which is applied the word *kiva* taken from the Hopi language. All four *kivas* of Far View House are identical in construction with the *kivas* of Spruce Tree House and Cliff Palace.

The rooms surrounding these circular ones vary somewhat in form but are as a rule rectangular, the shapes of those near the *kivas* being triangular to fill the necessary spaces. The contents of the rectangular rooms show that they were inhabited. Artifacts were found and indications of various industries as well as marks of smoke from their fireplaces appear on the walls. From the nature of this evidence there is no doubt that Far View House was once inhabited by the people living in the same way as those dwelling contemporaneously in Spruce Tree House.



Bird's-eye view of Far View House.

The court added to the pueblo on its south side is inclosed by a low wall. Here were probably performed, in ancient times, the many religious dances and festivals.

Although the inhabitants of Far View House were ignorant of what we would call letters, or graphic means of recording events or their thoughts, they left engraven in their walls significant signs sometimes called "masons' marks." These simple symbols whether found in cliff houses or in pueblos have a close similarity which may be adduced as evidence of relationship in the thought of the people who made them. They are too imperfect to be regarded as primitive forms of writing.

Far View House is only one of 16 pueblos of the Mummy Lake villages. Looking over the area covered with sagebrushes and dotted with mounds, the mind is able to apprehend the size of the population in the neighborhood. Over a dozen buildings of the same type as Far View House formerly stood among the fields of corn. These fields were watered by irrigating ditches from the prehistoric reservoir a quarter of a mile away. There are other villages of the same

character within sight. Looking across Soda Canyon to the northeast the eye lights on a large rock called Battleship Rock, on the southern side of which, sheltered by it from the north winds, is a sage-bush clearing in which are several mounds. Battleship village was the nearest neighbor to Mummy Lake village, and we can almost trace the trail across Soda Canyon to this village and imagine the dusky visitors going from one to the other in prehistoric times.

The village in the lee of Battleship Rock is practically the same as that at Mummy Lake, but there are many other more distant neighbors dotting the surface of the mesa. There are several cliff houses in Navajo Canyon west of Far View House. Southwest of the pueblo, winding through the forest, is an ancient Indian trail which extends to Spruce Tree House. Along this trail we may well believe the inhabitants of the Mummy Lake village came in contact socially and in trade with larger cliff houses.

We do not know whether the language of the two people was identical; our knowledge of their sociology is vague; the only difference between their habitations is that one is built in a cliff under a protecting roof, while the other was constructed under the open sky. So far as the houses are concerned, both in their forms and details of construction, they belong to the same type. They have the same round subterranean rooms, roofed in the same manner. Except that in Far View House they are larger, the square rooms of both show identical masonry, plastered in the same way; identical culinary and other implements occur in both. Perhaps the most detailed resemblances come to light when we examine the pottery, its technique, and its symbolic decorations. The inhabitants of both places were clever potters. They manufactured three distinct kinds of pottery. The largest number of specimens which have come to light belong to what is called corrugated ware, on which the decoration is brought about by indentations, either covering the surface of the jar uniformly or arranged in geometric patterns. Another variety of ware, called from its color "black and white" in which the object was first covered with a white slip as a ground on which were painted designs, is also common to both communities. The designs themselves are identical. Scattered among these two forms of pottery occur fragments of a less frequent type, a red ware, the exterior of which is embellished with black figures. The technique and decoration of all ceramic objects thus far brought to light from cliff houses and Far View House belong to these groups and no others; and this resemblance is one of the strongest claims that can be urged for the identity of the culture in habitations apparently widely different. We might add to these evidences of uniformity other objects, like stone implements, and fabrics of various kinds, basketry, and various objects of ceremonial nature, all of which confirm the evidences taught by likeness of buildings that the people were practically in the same culture and inhabited synchronously.

The existence of a trail connecting these two centers of population would imply that cliff dwellings and pueblos on the Mesa Verde were simultaneously inhabited; but how far back in prehistoric times they were built and when deserted has not been determined. We can not say from data now at hand when this took place, but we can bring to our aid a few scanty survivals from the past, notwith-

standing documentary history affords no help. The aborigines who lived near these ruins when discovered in 1883, belong to the Utes, a Shoshonean stock who disclaimed all knowledge of the people who constructed these buildings. They avoided them as uncanny and even now can only with difficulty be induced to enter them. They have dim legends of conflicts between the earliest Utes and the cliff dwellers, and if these can be relied upon the date of the evacuation of the cliff houses might be evident, if we knew when the Utes entered the country. Unfortunately, however, this date is not known.

Much more definite but still obscure are certain legends existing among the pueblos, especially the Hopi, that their ancestors formerly lived in cliff houses and migrated, for some unknown reason, to their present homes. Statements in pueblo legends connecting pueblo and cliff houses are supported by the character of life, and the material culture of the Hopi, as we knew them up to the present generation. Far View House shows that the inhabitants of cliff houses are kin to pueblos. Two lines of research are open to the student to enlarge his information bearing on this relation. It is desirable to extend our knowledge of the horizon of the cliff-dwelling culture, and to trace step by step the pueblos along the trail of culture migration until it vanishes at the modern pueblo. We can also investigate survivals among modern pueblos which are preserved especially in ceremonies and compare the objects still cherished as heirlooms in the different priesthoods and compare them with similar objects excavated from these ruins. When these two methods of research have led to logical conclusions we will be able to determine that part of the history of the cliff dwellers on which documentary history can shed no light.

The painstaking, detailed work in the last few years on the Mesa Verde shows the desirability of still further similar work. Far View House belongs to a widespread type in the pueblo area. It represents one of the highest types of architecture of the prehistoric natives of the United States.

RULES AND REGULATIONS.

GENERAL REGULATIONS.

(In effect March 1, 1920.)

The following rules and regulations for the government of the Mesa Verde National Park are hereby established and made public, pursuant to authority conferred by the acts of Congress approved June 29, 1906 (34 Stat., 616), June 30, 1913 (38 Stat., 82), and August 25, 1916 (39 Stat., 535):

1. *Preservation of park features and curiosities.*—The destruction, injury, or disturbance, except as herein provided, of any of the mineral deposits, natural curiosities, wonders, ruins, and other works and relics of prehistoric or primitive man on Government lands within the park is prohibited.

The marking of any buildings or ruins with autographs, dates, initials, drawings, or other pencilings or carvings of any kind whatsoever, is also prohibited.

2. *Examination of ruins.*—Permits for the examination of ruins, the excavation of archaeological sites, and the gathering of objects of antiquity will, upon application to the Director, National Park Service, through the superintendent of the park, be granted to accredited representatives of reputable museums, universities, colleges, or other recognized scientific or educational institutions, with a view to increasing the knowledge of such objects and aiding the general advancement of archaeological science, under the conditions and restrictions contained in present or future regulations promulgated by the Secretary of the Interior to carry out the provisions of the act of Congress, approved June 8, 1906 (34 Stat., 225), entitled "An act for the preservation of American antiquities."

Persons bearing archaeological permits from the service, may be permitted to enter the ruins unaccompanied after presenting their credentials to the superintendent or other park officer. Persons without archaeological permits who wish to visit and enter the ruins shall in all cases be accompanied by a park ranger, or other person duly authorized by the superintendent.

The superintendent is authorized, in his discretion, to close any ruin on Government lands within the park to visitors when it shall appear to him that entrance thereto would be dangerous to visitors or might result in injury to walls or other insecure portions thereof, or during repairs.

3. *Camping.*—No camp shall be made along roads except at designated localities. Blankets, clothing, hammocks, or any other article likely to frighten teams shall not be hung near the road.

Many successive parties camp on the same sites during the season; therefore, camp grounds shall be thoroughly cleaned before they are abandoned. Tin cans, bottles, cast-off clothing, and all other

débris shall be placed in garbage cans or pits provided for the purpose. When camps are made in unfrequented localities where pits or cans may not be provided, all refuse shall be burned or hidden where it will not be offensive to the eye.

Campers may use dead or fallen timber only, for fuel.

4. *Fires.*—Fires constitute one of the greatest perils to the park; they shall not be kindled near trees, dead wood, moss, dry leaves, forest mold, or other vegetable refuse, but in some open space on rocks or earth. Should camp be made in a locality where no such open space exists or is provided, the dead wood, moss, dry leaves, etc., shall be scraped away to the rock or earth over an area considerably larger than that required for the fire.

Fires shall be lighted only when necessary and when no longer needed shall be completely extinguished, and all embers and bed smothered with earth or water so that there remains no possibility of reignition.

Especial care shall be taken that no lighted match, cigar, or cigarette is dropped in any grass, twigs, leaves, or tree mold.

5. *Hunting.*—The park is a sanctuary for wild life of every sort and hunting, killing, wounding, capturing or frightening any bird or wild animal in the park, except dangerous animals when it is necessary to prevent them from destroying life or inflicting injury, is prohibited.

The outfits, including guns, traps, teams, horses, or means of transportation used by persons engaged in hunting, killing, trapping, ensnaring, or capturing birds or wild animals, or in possession of game killed on the park lands under circumstances other than prescribed above, shall be taken up by the superintendent and held subject to the order of the Director of the National Park Service, except in cases where it is shown by satisfactory evidence that the outfit is not the property of the person or persons violating this regulation, and the actual owner was not a party to such violation. Firearms are prohibited in the park except on written permission of the superintendent. Visitors entering or traveling through the park to places beyond, shall, at entrance, report and surrender all firearms, traps, nets, seines, or explosives in their possession to the first park officer, and in proper cases may obtain his written leave to carry them through the park sealed. The Government assumes no responsibilities for loss or damage to any firearms, traps, nets, seines, or other property so surrendered to any park officer nor are park officers authorized to accept the responsibility of custody of any property for the convenience of visitors.

6. *Private operations.*—No person, firm, or corporation shall reside permanently, engage in any business, operate a moving-picture camera, or erect buildings upon the Government lands in the park without permission in writing from the Director of the National Park Service, Washington, D. C. Applications for such permission may be addressed to the director or to the superintendent of the park.

7. *Gambling.*—Gambling in any form, or the operation of gambling devices, whether for merchandise or otherwise, is prohibited.

8. *Advertisements.*—Private notices or advertisements shall not be posted or displayed on Government lands within the park, excepting such as the park superintendent deems necessary for the convenience and guidance of the public.

9. *Patented lands.*—Owners of patented lands within the park limits are entitled to the full use and enjoyment thereof; the boundaries of such lands, however, shall be determined and marked and defined, so that they may be readily distinguished from the park lands. While no limitations or conditions are imposed upon the use of private lands so long as such use does not interfere with or injure the park, private owners shall provide against trespass by their live stock upon the park lands, and all trespasses committed will be punished to the full extent of the law. Stock may be taken over the park lands to patented private lands with the written permission and under the supervision of the superintendent, but such permission and supervision are not required when access to such private lands is had wholly over roads or lands not owned or controlled by the United States.

10. *Grazing.*—The running at large, herding, or grazing of live stock of any kind on the Government lands in the park, as well as the driving of live stock over same, is prohibited, except where authority therefor has been granted by the superintendent. Live stock found improperly on the park lands may be impounded and held until claimed by the owner and the trespass adjusted.

11. *Authorized operators.*—All persons, firms, or corporations holding franchises in the park shall keep the grounds used by them properly policed and shall maintain the premises in a sanitary condition to the satisfaction of the superintendent. No operator shall retain in his employment a person whose presence in the park may be deemed by the superintendent subversive of good order and management of the park.

All operators shall require each of their employees to wear a metal badge with a number thereon, or other mark of identification, the name and the number corresponding therewith, or the identification mark, being registered in the superintendent's office. These badges must be worn in plain sight on the hat or cap.

12. *Dogs and cats.*—Cats are not permitted on the Government lands in the park, and dogs only to those persons passing through the park to the territory beyond, in which instances they shall be kept tied while crossing the park.

13. *Dead animals.*—All domestic or grazed animals that may die on Government lands in the park, at any tourist camp, or along any of the public thoroughfares, shall be buried immediately by the owner or person having charge of such animals, at least 2 feet beneath the ground and in no case less than one-fourth mile from any camp or thoroughfare.

14. *Travel on trails.*—Pedestrians on trails, when saddle or pack animals are passing them, shall remain quiet until the animals have passed. Persons traveling on the trails of the park, either on foot or on saddle animals, shall not make short cuts, but shall confine themselves to the main trails.

15. *Travel—General.*—(a) Saddle horses, pack trains, and horse-drawn vehicles have the right of way over motor-propelled vehicles at all times.

(b) On sidehill grades throughout the park motor-driven vehicles shall take the outer side of the road when meeting or passing vehicles of any kind drawn by animals; likewise, freight, baggage, and heavy

camping outfits shall take the outer side of the road on sidehill grades when meeting or passing passenger vehicles drawn by animals.

(c) Wagons used in hauling heavy freight over the park roads shall have tires not less than 4 inches in width.

(d) All vehicles shall be equipped with lights for night travel. At least one light shall be carried on the left front side of horse-drawn vehicles in a position such as to be visible from both front and rear.

16. *Miscellaneous.*—(a) Campers and others shall not wash clothing or cooking utensils in the waters of the park or in any way pollute them; or bathe in any of the streams near the regularly traveled thoroughfares in the park without suitable bathing clothes.

(b) Stock shall not be tied so as to permit their entering any of the streams of the park. All animals shall be kept a sufficient distance from camping grounds not to litter the ground and make unfit for use the area which may be used later as tent sites.

(c) Campers and all others, save those holding licenses from the Director of the National Park Service, are prohibited from hiring their horses, trappings, or vehicles to tourists or visitors in the park.

(d) All complaints by tourists and others as to service, etc., rendered in the park should be filed, in writing, with the superintendent, whose office is in Mancos, Colo. Oral complaints will be heard daily during office hours.

17. *Fines and penalties.*—Persons who render themselves obnoxious by disorderly conduct or bad behavior shall be subjected to the punishment hereinafter prescribed for violation of the foregoing regulations, or they may be summarily removed from the park by the superintendent and not allowed to return without permission in writing from the Director of the National Park Service or the superintendent of the park.

The act creating the park provides that any person or persons who may, without having secured proper permission from the Secretary of the Interior, willfully remove, disturb, destroy, or molest any of the ruins, mounds, buildings, graves, relics, or other evidences of an ancient civilization or other property in said park, shall be deemed guilty of a misdemeanor and upon conviction before any court having jurisdiction of such offenses shall be fined not more than \$1,000 or imprisoned not more than 12 months, or such person or persons may be fined and imprisoned, at the discretion of the court, and shall be required to restore the property destroyed, if possible.

AUTOMOBILE AND MOTORCYCLE REGULATIONS.

Pursuant to authority conferred by the acts of Congress approved June 29, 1906 (34 Stat., 616), and August 25, 1916 (39 Stat., 535), the following regulations governing the admission of automobiles and motorcycles into the Mesa Verde National Park are hereby established and made public.

1. *Entrances.*—Automobiles and motorcycles may enter and leave the park only through the northern entrance, which may be reached from Mancos, Colo.

2. *Automobiles.*—The park is open to automobiles operated for pleasure, but not to those carrying passengers who are paying, either directly or indirectly, for the use of machines (excepting, however,

automobiles used by transportation lines operating under Government franchise).

Careful driving is demanded of all persons using the roads.

The Government is in no way responsible for any kind of accident.

3. *Automobile trucks.*—Automobile trucks are admitted to the park under the same conditions as automobiles, except that trucks of more than 3 tons capacity are not permitted on any of the park roads.

4. *Motorcycles.*—Motorcycles are admitted to the park under the same conditions as automobiles and are subject to the same regulations, as far as they are applicable. Automobiles and horse-drawn vehicles shall have the right of way over motorcycles.

5. *Intoxication.*—No person who is under the influence of intoxicating liquor and no person who is addicted to the use of narcotic drugs shall be permitted to operate or drive a motor vehicle of any kind on the park roads.

6. *Roads—Hours.*—The use of automobiles and motorcycles will be permitted on all roads in the park between 6 a. m. and 7 p. m.

7. *Permits.*—The permit shall be secured at the superintendent's office at Mancos, Colo., and will entitle the permittee to go over any or all of the roads in the park. It is good for the entire season, expiring on December 31 of the year of issue. The permit shall be conveniently kept so that it can be exhibited to park rangers on demand. Each permit shall be exhibited to the superintendent or his representative at Spruce Tree Camp.

8. *Fees.*—Fees for automobile and motorcycle permits are \$1.50 and 50 cents, respectively, and are payable in cash only.

9. *Distance apart; gears and brakes.*—Automobiles while in motion shall be not less than 50 yards apart, except for purposes of passing, which is permissible only on comparatively level stretches of road or on slight grades. All automobiles, except while shifting gears, shall retain their gears constantly enmeshed. The driver of each automobile will be required to satisfy the ranger issuing the permit that all parts of his machine, particularly the brakes and tires, are in first-class working order and capable of making the trip; and that there is sufficient gasoline in the tank to reach the next place where it may be obtained. The automobile shall carry at least one extra tire.

10. *Speeds.*—Speed is limited to 12 miles per hour in making the ascent to the mesa or in making the descent therefrom and on all other roads except on straight stretches where approaching teams will be visible, when, if no teams are in sight, this speed may be increased; but in no event, however, shall it exceed 25 miles per hour.

11. *Horns.*—The horn shall be sounded on approaching curves or stretches of road concealed for any considerable distance by slopes, overhanging trees, or other obstacles, and before meeting or passing other automobiles, motorcycles, riding or driving animals, or pedestrians.

12. *Lights.*—All automobiles shall be equipped with head and tail lights, the headlights to be of sufficient brilliancy to insure safety in driving at night, and all lights shall be kept lighted after sunset when automobile is on the roads. Headlights shall be dimmed when meeting other automobiles, motorcycles, riding or driving animals, or pedestrians.

13. *Muffler cut-outs.*—Muffler cut-outs shall be closed while approaching or passing riding horses, horse-drawn vehicles, hotels, camps, or checking stations.

14. *Teams.*—When teams, saddle horses, or pack trains approach, automobiles shall take the outer edge of the roadway, regardless of the direction in which they may be going, taking care that sufficient room is left on the inside for the passage of vehicles and animals. Teams have the right of way, and automobiles shall be backed or otherwise handled as may be necessary so as to enable teams to pass with safety. In no case shall automobiles pass animals on the road at a speed greater than 8 miles an hour.

15. *Overtaking vehicles.*—Any vehicle traveling slowly upon any of the park roads shall, when overtaken by a faster-moving motor vehicle and upon suitable signal from such overtaking vehicle, give way to the right, in case of motor-driven vehicles, and to the inside, or bank side of the road, in case of horse-drawn vehicles, allowing the overtaking vehicle reasonably free passage, provided the overtaking vehicle does not exceed the speed limits specified for the road in question.

When automobiles, going in opposite directions, meet on a grade, the ascending machine has right of way, and the descending machine shall be backed or otherwise handled as may be necessary to enable the ascending machine to pass with safety.

16. *Accidents; stop-overs.*—If, because of accident or stop for any reason, automobiles are unable to keep going they shall be immediately parked off the road, or, where this is impossible, on the outer edge of the road.

17. *Fines and penalties.*—Violation of any of the foregoing regulations will be punishable by revocation of automobile permit or by immediate ejection from the park, or by a fine of not to exceed \$500; or by any combination of the three, and be cause for refusal to issue new automobile permit to the offender without prior sanction in writing from the Director of the National Park Service or superintendent of the park.

18. *Reduced engine power, gasoline, etc.*—Due to the high altitude of the park roads, ranging as high as 8,000 feet, the power of all automobiles is much reduced, so that a leaner mixture and about 40 per cent more gasoline will be required than for the same distance at lower altitudes. Likewise, one gear lower will generally have to be used on grades than would have to be used in other places. A further effect that must be watched is the heating of the engine on long grades, which may become serious unless care is used. Gasoline can be purchased at regular supply stations as per posted notices.

MAP.

The following map may be obtained from the Director of the United States Geological Survey, Washington, D. C. Remittances should be made by money order or in cash.

Map of Mesa Verde National Park; 43 by 28 inches; scale one-half mile to the inch. Price, 20 cents.¹

The roads, trails, and names are printed in black, the streams in blue, and the relief is indicated by brown contour lines.

¹ May be purchased also by personal application to the office of the park superintendent at Mancos and Spruce Tree Camp, but the park office can not fill mail orders.

PANORAMIC VIEW.

The view described below may be purchased from the Superintendent of Documents, Government Printing Office, Washington, D. C.

Panoramic view of Mesa Verde National Park; 22½ by 19 inches; scale, three-fourths mile to the inch. Price, 25 cents.¹

This view is based on accurate surveys and gives an excellent idea of the configuration of the surface as it would appear to a person flying over it. The meadows and valleys are printed in light green, the streams and lakes in light blue, the cliffs and ridges in brown tints, and the roads in light brown. The lettering is printed in light brown and is easily read on close inspection, but merges into the other colors when the sheet is held at some distance.

LITERATURE.

GOVERNMENT PUBLICATIONS.

Government publications on Mesa Verde National Park may be obtained as indicated below. Separate communications should be addressed to the officers mentioned.

DISTRIBUTED FREE BY THE NATIONAL PARK SERVICE.

The following publications may be obtained free on written application to the Director of the National Park Service, Washington, D. C., or by personal application to the superintendent of the park:

Glimpses of our National Parks, 48 pages.

Contains descriptions of the most important features of the principal national parks.

Map of National Parks and National Monuments.

Shows location of all the national parks and monuments administered by the National Park Service, and all railroad routes to these reservations.

SOLD BY THE SUPERINTENDENT OF DOCUMENTS.

The following publications may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., at the prices given. Remittances should be made by money order or in cash.

National Parks Portfolio, by Robert Sterling Yard. 260 pages, including 270 illustrations. Pamphlet edition, loose in flexible cover, 35 cents; book edition, containing same material securely bound in cloth, 55 cents.

Contains nine sections, each descriptive of a national park, and one larger section devoted to other parks and monuments.

Bulletin 41. Antiquities of the Mesa Verde National Park: Spruce Tree House, by J. W. Fewkes. 1909. 57 pages, illustrated. 40 cents.²

Bulletin 51. Antiquities of the Mesa Verde National Park: Cliff Palace, by J. W. Fewkes. 1911. 82 pages, illustrated. 45 cents.¹

Excavation and Repair of Sun Temple, Mesa Verde National Park, by J. W. Fewkes. 1916. 32 pages, illustrated. 15 cents.²

Bulletin No. 70. Prehistoric Villages, Castles, and Towers of Southwestern Colorado, by J. W. Fewkes. 1919. 79 pages text, 33 pages illustrations. 45 cents.

¹ May be purchased also by personal application to the office of the park superintendent at Mancos and Spruce Tree Camp, but the park office can not fill mail orders.

² Out of print.

Report on ancient ruins in southwestern Colorado, examined during summers of 1875 and 1876, by William H. Holmes. (Geological and Geographical Survey of the Territories (Hayden), Tenth Report, 1876, pp. 381 to 408, illustrated.) . . . Cloth, \$1.80.

NOTE.—The same volume contains papers entitled Report on ancient ruins examined in 1875 and 1877.—Report on the Chaco Cranium.

BIBLIOGRAPHY.

ALLEN, E. F. A guide to the national parks of America. 1915. 286 pages.

BRYCE, JAMES. University and historical addresses. 1913. 433 pages.

National Parks: The need of the future, on pages 389-406.

CHAPIN, F. H. The land of the cliff dwellers. 1892. 187 pages.

MILLS, ENOS A. Your National Parks. 1917. 532 pages, illustrated. Mesa Verde National Park on pp. 161-174; 488-490.

NORDENSKIÖLD, G. The cliff dwellers of the Mesa Verde. 1903. 171 pages, illustrated.

YARD, ROBERT STERLING. The Top of the Continent. 1917. 244 pages, illustrated. Mesa Verde National Park on pp. 44-62.

——— The Book of the National Parks. 1919. 420 pages, illustrated. Mesa Verde National Park on pp. 284-304.

OTHER NATIONAL PARKS.

Rules and Regulations similar to this for the other national parks listed below may be obtained free of charge by writing to the Director of the National Park Service, Washington, D. C.

Yellowstone National Park.

Mount Rainier National Park.

Crater Lake National Park.

Glacier National Park.

Yosemite National Park.

Grand Canyon National Park.

The Hot Springs of Arkansas.

Sequoia and General Grant National Parks.

Wind Cave National Park.

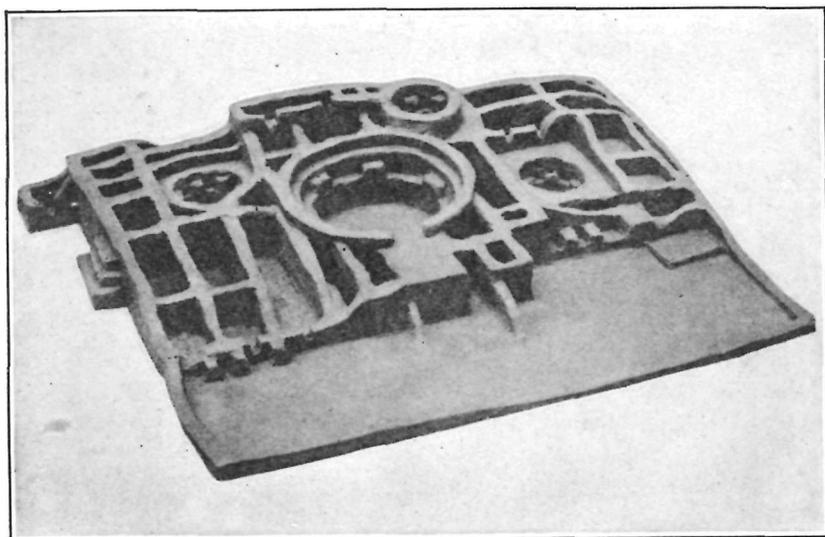
Rocky Mountain National Park.

NATIONAL MONUMENTS.

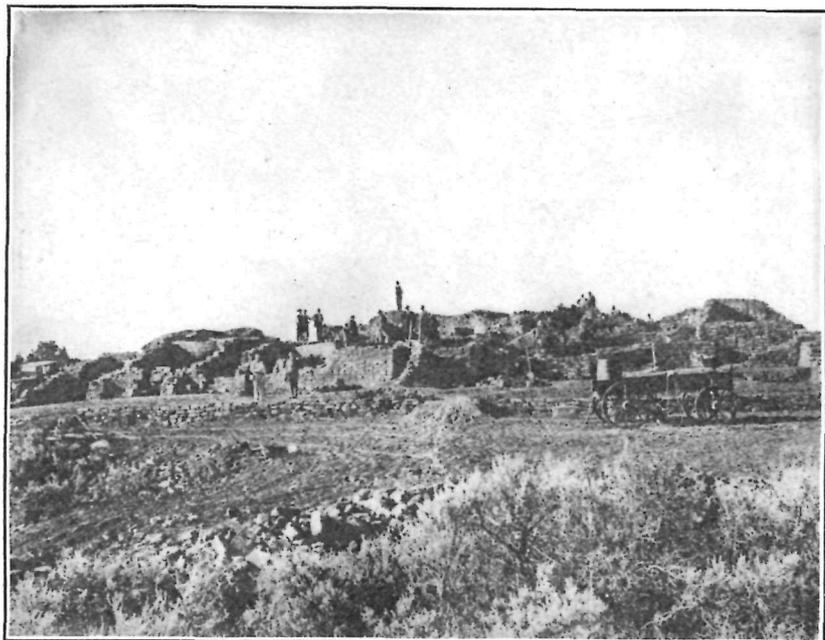
The following publication relating to the national monuments may be obtained free of charge by writing to the Director of the National Park Service, Washington, D. C.:

Casa Grande National Monument.



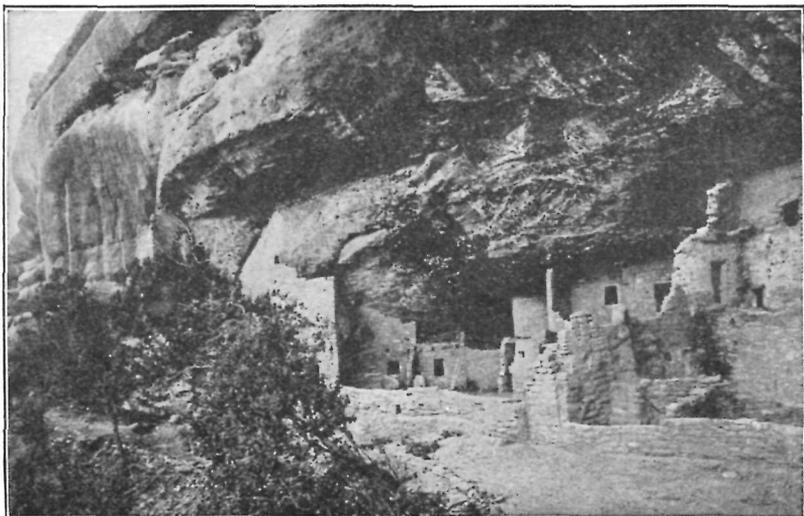


Model of Far View House. Reprinted from "Explorations and Field Work of the Smithsonian Institution in 1916."

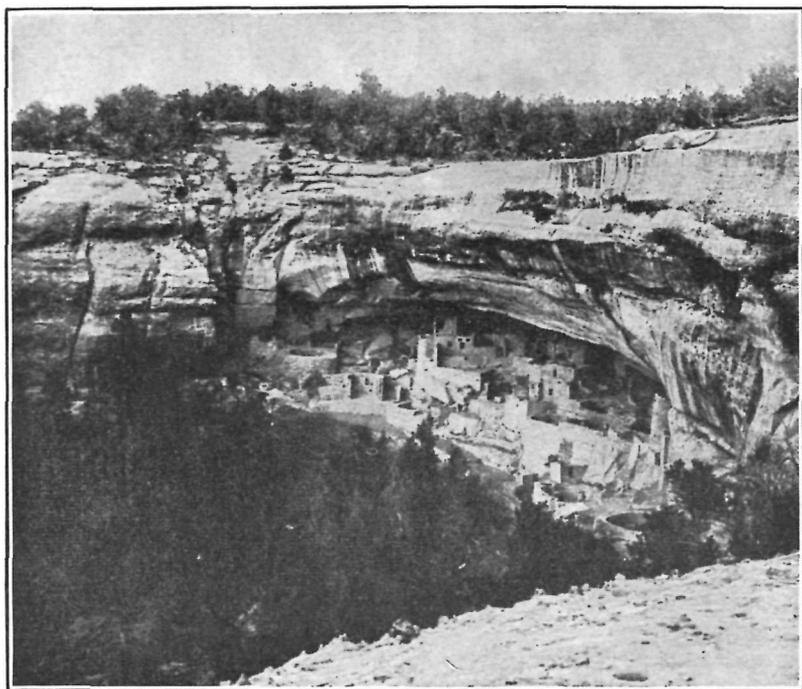


Photograph by G. L. Beam.

Far View House from the south. This mesa pueblo was excavated in 1916. It is one of the Mummy Lake group of ruins.



Spruce Tree House.



Cliff Palace.