

Hermit Rim, Road & Trail Grand Canyon

This brochure published by the Atchison, Topeka & Santa Fe Railway Company is promoting travel to Hermit Rim Road inside the Grand Canyon National Park in Arizona. The use of images and text tell the scenic wonders of this man made road as it meanders through the Grand Canyon.

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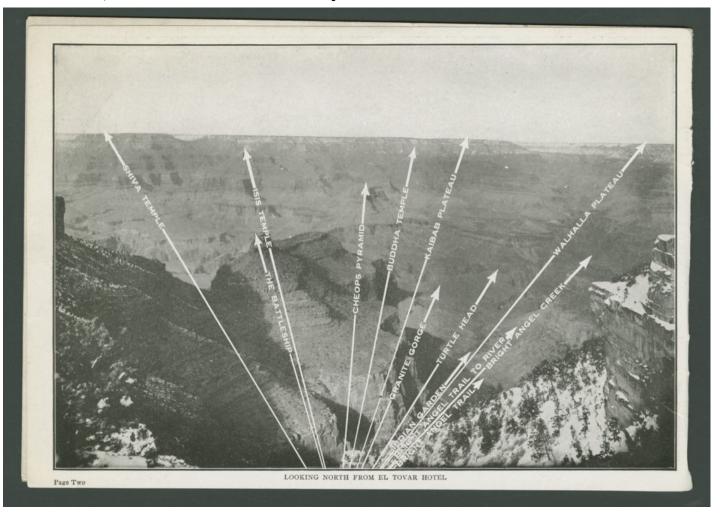
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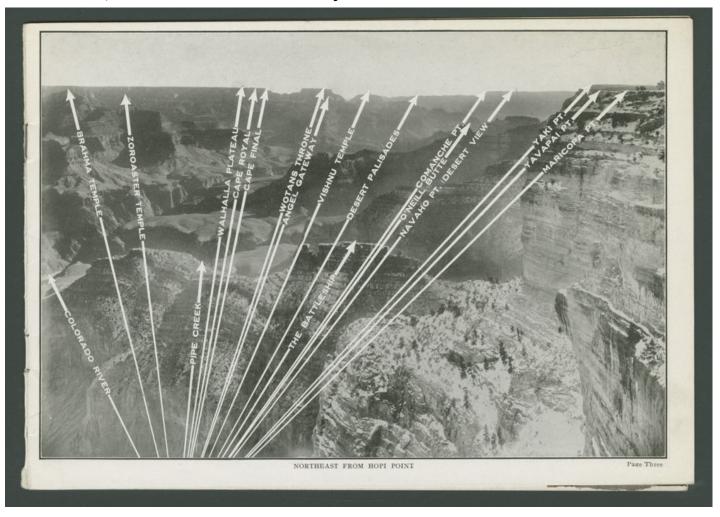




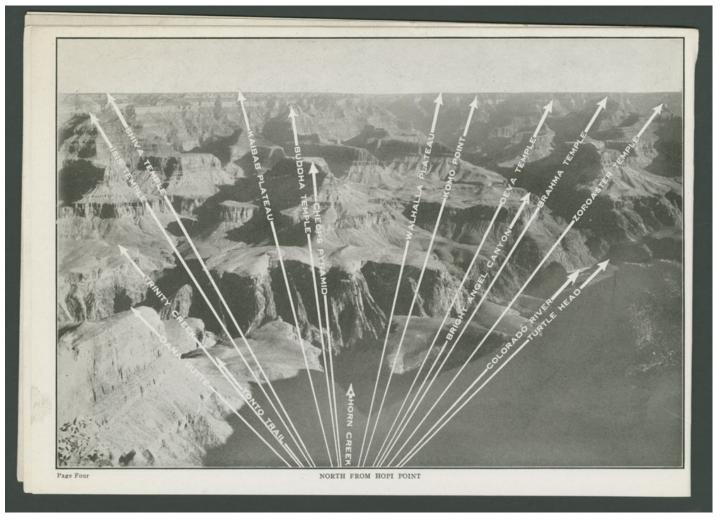




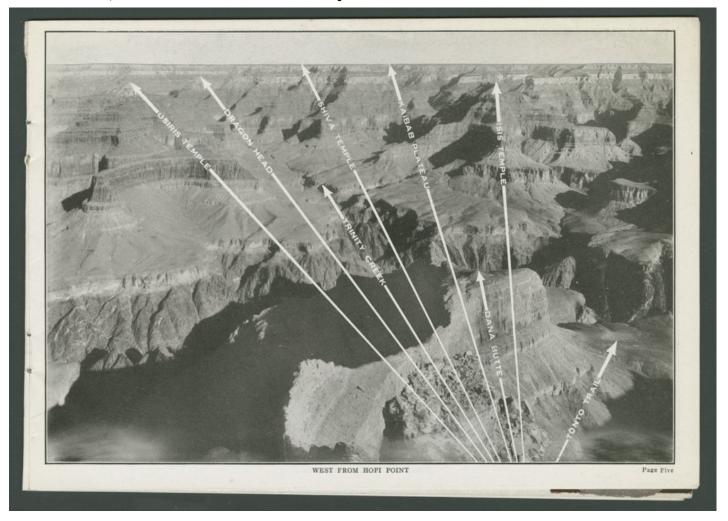




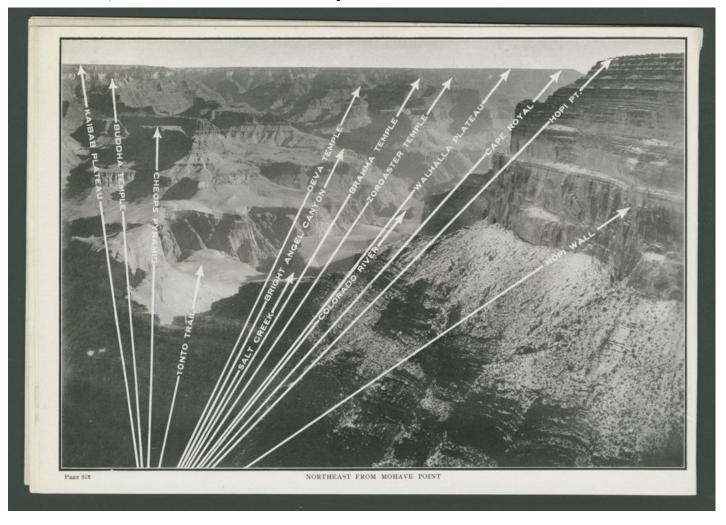




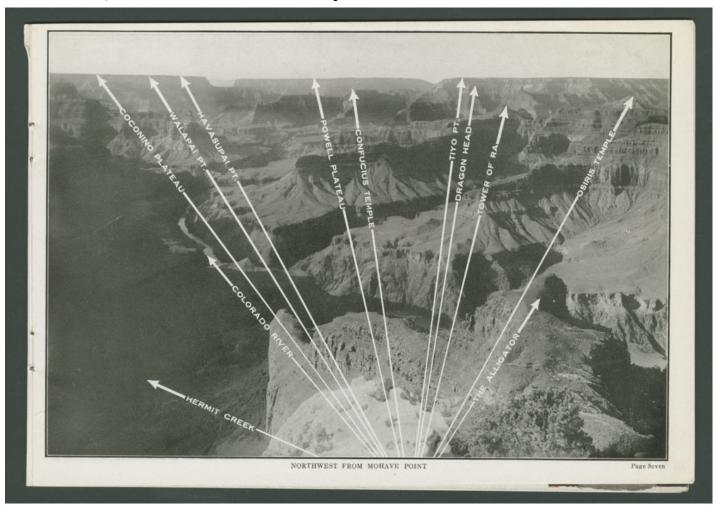




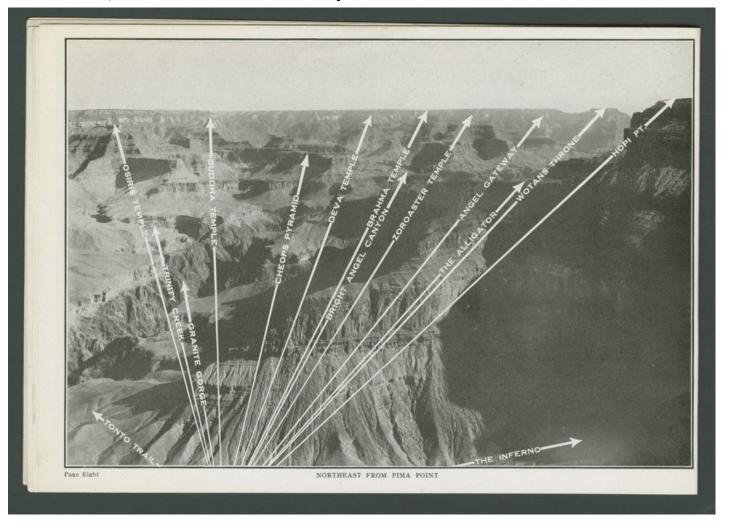




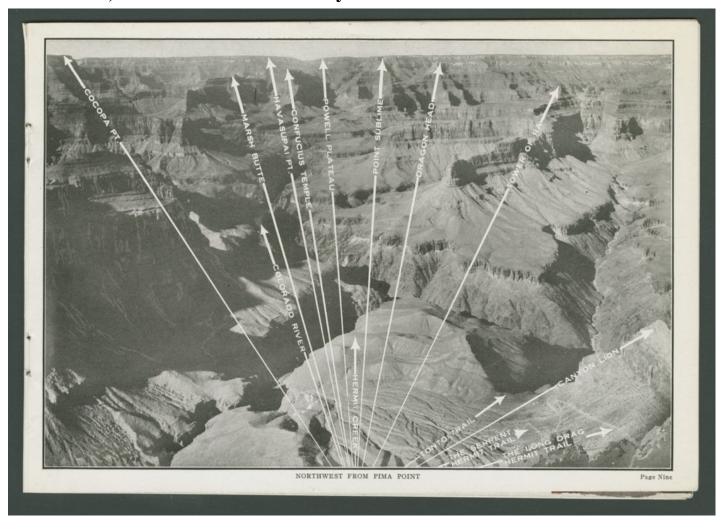






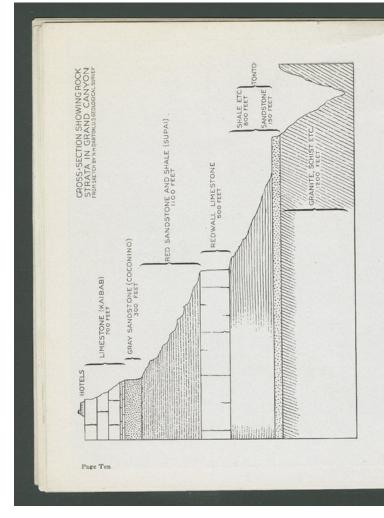








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EL TOVAR TO HERMIT'S REST

Before ordering one of the reliable four-horse coaches or two-horse surreys of El Tovar transportation department, for that memorable ride along the rim road to the new rest house, you have visited the Lookout and looked with wonder through its huge telescope at the Canyon panorama boxed-in by the projecting arms of El Tovar Point (altitude 7,000 ft.) and Yavapai Point (7,081) ft. Also you have seen Bright Angel Trail zigzagging down the abruptly sloping talus to Angel Plateau.

Through that powerful telescope, too, you have observed Indian Garden, a patch of green in the desert gray, irrigated by Indian Garden Creek, (3,876 ft.). That trail to the left leads to the plateau (3,708 ft.) overlooking the Colorado River-a distance of five and one-half miles by mulebackwhile the right-hand trail goes down Pipe Creek to the bed of the stream itself (2,436 ft), a stretch of seven miles from El Tovar as the mules go, compared with only three and a half miles on an air line.

The red sandstone mass below and on the left-a continuation of El Tovar and Maricopa points—is the Battleship (5,867 The receding break in the north wall, across the river, is Bright Angel Gorge; a rude trail leads up the bed of Bright Angel Creek to the Kaibab Plateau (8,300 ft.), thirteen miles across from El Tovar by air line. The north wall here is about 1,400 feet higher than the south wall where you are standing.

The inner Canyon forms next attract attention. To the right of Bright Angel Gorge are Zoroaster Temple (7,130 ft.), Brahma Temple (7,554 ft.), and Deva Temple (7,344 ft.). On the left are Buddha Temple (7,218 ft.), Manu Temple (7,192 ft.), and Cheops Pyramid (5,350 ft.), also the notable temples of Isis (7,020 ft.), Shiva (7,650 ft.), Horus (6,150 ft.) and Osiris (6,637 ft.).

Truly it is a gallery of ancient gods and goddesses. But—the

carriage waits, my lord!

Before starting out on your voyage of discovery it is interesting to note that with a few exceptions (like Moran Point, named two decades ago after Thomas Moran, the earliest and



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most distinguished painter of Grand Canyon scenery) the rim points and plateaus, as well as the inner Canyon temples, amphitheatres, buttes, etc., now bear titles arranged in family groups and comprising familiar names borrowed from the American Indians and East Indians, from Wagnerian and Roman mythology and Arthurian legends, from Egypt and China: also from Spanish explorers, Aztec rulers and noted scientists. This official U. S. Government nomenclature now has superseded the old-time local appelations. Local usage, though, still holds good for names of special objects on the trails and drives, like Jacob's Ladder, Devil's Corkscrew, Cathedral Stairs and Long Jim Canyon.

The most unique scenic roadway in the world has been built by the Santa Fe from El Tovar westward to the head of Hermit Basin, a distance of about seven and a half miles.

It is called Hermit Rim Road. It is like a city boulevard in the wilderness, wide. smooth, dustless and the acme of engineering skill. It is built to standard width of thirty feet, with a central driveway fourteen feet wide, of crushed stone and cinders, oiled and rolled hard. It closely follows the rim from Maricopa Point, by way of Hopi and Mohave Points, to Pima Point, and thence along east side of Hermit Basin to top of the new Hermit Trail.

No other roadway in the world is built along the brink of such a tremendous abyss—where in places there is a sheer drop of 2,000 feet within a rod of the rim. Along the entire route the gigantic panorama of the Grand Canyon unfolds itself for miles and miles.

While ascending El Tovar Hill you look back across the pines of Tusayan Forest and see far away to the south a volcanic range composed of the San Francisco Peaks (12,611 ft. and 12,340 ft. respectively), near Flagstaff; Mt. Kendrick, and Bill Williams Mountain (9,264 ft.) near Williams, and Mt. Sitgreaves (9,510ft.) near Ash Fork. The San Franciscos are sharp and pyramidal in shape; the others more rounded and well wooded. Nearer by is the head of Bright Angel Trail and the hotel buildings.

On Maricopa Point (7,050 ft.) is a monument erected in September, 1913, to commemorate conferring of third degree of

masonry by the lodge at Phoenix; near here the Arizona Shriners often meet in imposing conclaves. From here, too, is obtained a view of the Desert Palisades, north of Grand View. That high tower, to the left, is a fire patrol station, where guards are on duty from May to October.

On reaching Hopi Point (7,049 ft.), noted for its sunset view, you get out and stand on the brink of a sheer wall thrust far into the Canyon's heart. Immediately in front is Dana Butte (5,025 ft.), named after the great geologist. The Battleship now is to the right. Across the Colorado, which from here can be seen in five places, are the temples on each side of Bright Angel Gorge. Right before you are the dominating walls of Shiva and Isis, and Cheops Pyramid. Below Horus Temple is the Tower of Set (5,997 ft.). Beyond these are Confucius and Mencius temples. The driver will point out the "figure 7", in the granite across from Dana Butte—the numeral is 240 feet long. On this side of the river, opposite Mencius, is Marsh Butte (4,730 ft.), named in honor of the noted paleontologist.



ON HERMIT RIM ROAD, PIMA POINT

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You fain would linger long and lovingly at Hopi, but other scenes invite. Next you ride southwest on the brink of Hopi Wall, alongside the Abyss, to Mohave Point (7,000 ft.), nearly three miles from El Tovar. Opposite this place the granite gorge is deepest, with an average of one rapid to the mile. The view eastward is shut in by Hopi Point, and you cannot see beyond mouth of Bright Angel Creek. Right below is the Alligator, corresponding in location to the Battleship. Here you alight and look through the movable pointer at various objects of interest, including Salt Creek, which heads in on the floor of the Abyss. That mountain range on the western horizon is the Uinkarets, the principal peaks being Mts. Trumbull, Emma and Logan—connected with Mt. Floyd by the Chino Plateau.

The next leg of the journey, three and four-fifths miles to Pima Point, is the longest curve in the road. Below is the Inferno, guarded by the precipice of Great Mohave Wall and drained by Monument Creek; there's a bunch of green catsclaw trees just above the rock monument at head of this creek. You get a view of the Canyon Lion, which forever sleepily crouches at the foot of Pima. The Terraces, four in number, are an interesting feature of this wall. Then come the Cut-off road, through the cedars, used to save mileage; Artist's View, where Thomas Moran got the inspiration for one of his greatest canvases; Pinyon Cove; and, finally, most wonderful of all, Pima Point (6,700 ft.), seven and a half miles from El Tovar. Your party again leave their carriage, and here see El Canyon Grande in different guise, the Tower of Ra being directly north across the roaring Colorado, whose tumult is faintly heard from beneath.

Havasupai Point (6,800 ft.), which reaches farther into the heart of the Canyon than any other of the south-rim points, here is seen much closer, as also is the mass of Powell Plateau and Point Sublime, where the river makes a bend to the north, and the granite disappears from the inner gorge. Below Havasupai Point, and out of sight, the inner Canyon temples seem to have been cut off as with a great knife, leaving queer table formations. The top of the Alligator is 1,000 feet below.

Yuma Point (6,600 ft.) is directly west of Pima, with Hermit Basin between and No-Man's Land, an inaccessible plateau, beyond. Farther on are Cocopa, Mescalero, Jicarilla, Piute and Walapai points. That old pathway which scars the abrupt western slope of Yuma Point, on the west side of Hermit Basin, is Boucher Trail, built by the pioneer pathfinder Louis Boucher. On the east side of the basin is Hermit Trail, described later; look through the pointer and you will see sections of it, far down in the depths, ending at the Hermit Camp tents. There is an even finer view of the Colorado after your carriage turns south for the last leg of the journey, at Vista del Rio. Near here the cut-off road, mainly used for freighting and telephone, comes into the main highway. Midway, at Cataract Breaks, is an outlook over the Cataract Canyon country, a wide plateau, rolling and dotted with clumps of cedar and pinyon. If time permits you will enjoy a visit to Havasupai Indian Village, in Cataract Canyon, deep in the earth—a place of gushing springs and enchanting waterfalls; the round-trip may be made in three days from El Tovar, by wagon and saddle horses.

Hermit Rim Road ends at the head of Hermit Trail. Here are the stables for the trail stock and cottages for the employes.



ANOTHER VIEW, HERMIT RIM ROAD

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And here you change from carriage to mule, if your destination happens to be Santa Maria Spring or Hermit Camp.

Hermit's Rest is described in next chapter.

HERMIT'S REST

Just before the head of the trail is reached, the carriage stops before an archaic stone arch with an ancient Spanish bell. This is the gateway to the oddest rest-place you ever rested in.

All you can see, after passing under the arch, is a wooded knoll, seemingly like other Canyon knolls, with pinyon, cedar and cactus galore—except that on the crest there is a cairn of rock from which smoke wreaths lazily float. The Below of the Hopis must be somewhere underneath. Go up the slope and you also discover a sundial, which registers the hours unconcernedly and without a tick-tock. Evidently somebody has built something here, after all. Take that downward path to the right, turn the corner, and presto a miracle! Can it be that the old cliff-dwellers have come to life, and that they have modernized their abode to fit AD 1915? That's almost the answer, for this is indeed a cave home in the cliff, and of recent days.

Outside you see rough rock walls, untouched by chisel, that form a strange façade suggesting the prehistoric cliff man, though technically a primitive form of architecture without definite status. And you see, too, a broad porch, that pushes venture-somely beyond the edge of the abyss, guarded by stone walls, buttressed by solid piers and roofed with huge unhewn pine timbers. A path carved from the solid rock leads farther downward along the steep slope of the Canyon wall.

Open a door in the glass partition that separates The Within from The Without, and you are in an entrance hall, 45 feet wide by 16 feet deep and 18 feet high, with little windows at the top on three sides for light and better ventilation. A wide arch divides this room from an alcove that is a veritable cave, walled up with huge rocks and burrowing deep into the hillside—somewhat like an Egyptian grotto, only more cheerful. Or, this alcove may be likened to an enormous fireplace, 25 feet across and stone-flagged.

Far back in the domed recess is a real fireplace that anywhere else would seem huge, and which actually is one of the biggest in America. Antique andirons, a rusty bear trap, and tanned skins of wild animals make this part of the den very picturesque. On frosty days pinyon logs burn brightly. Modern comforts are provided, in quaint garb. The furniture all is handmade, of the old Spanish type and built at the Canyon in the spirit of the antique. The whole place is lit by wrought-iron candelabra and lanterns.

Also, off of the main room, are the caretaker's quarters, a kitchenette and a rest room for ladies. The tiny kitchen is finished in Spanish peasant fashion, but is strictly up-to-the minute in practical appliances.

If the day be sunny, light refreshments are served at tables on the porch. When the weather makes indoors more pleasant, the lunch service is in the big room.

Hermit's Rest is under management of Fred Harvey, and admission is by ticket.

Hermit Basin and Hermit Gorge may be viewed from the main reception room behind a sheltering glass front, or from the open porch, or from a nook on the lower rim.

HERMIT TRAIL

A new pathway down the south wall of the Grand Canyon, called Hermit Trail, has been built by the Santa Fe, from the end of the rim road as far as the plateau just above the Colorado River, a distance of seven and a third miles. The remaining section, plateau to river, will be completed as soon as possible. A comfortable camp has been provided at plateau terminus.

Hermit Trail, like the rim road, is wide, comfortable, and constructed on the most approved engineering lines. It is four feet wide all the way, with a low protecting wall of rock on the outside. The descent is accomplished by a series of easy grades. Cuts in the solid rock, likewise heavy stone walls built up as a support, are used wherever necessary for greater safety.

This is the only Canyon trail with a southern exposure for the first thousand feet at top, thereby rendering it comparatively

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EXTERIOR VIEW OF HERMIT'S REST

free from cold winds and snow; being more sunny, it is more cheerful. The lower section opens into the main gorge along Hermit Creek, with an easy grade. The scenery is varied—a new thrill for almost every turn in the trail.

At present Hermit Trail is regularly operated for camping parties who either wish to stay one night in the Canyon and come back the next day—the Hermit overnight trip—or stay two nights down below and come back up Bright Angel Trail on the Hermit Loop trip. If pressed for time one may stop at Santa Maria Spring, about one-third the way down, take lunch there, and return to the rim during the afternoon. As this section is developed, other outings will be provided.

You have decided to go down Hermit Trail, and in company with a few congenial travelers, chaperoned by an experienced guide, have been conducted to the mule best suited for your weight or height. You mount, perhaps with trepidation, but soon discover that the mule is familiar with trail work, so your only job is to stay in the saddle and enjoy the journey.

Shortly after leaving the rim, you enter Trail Top Gulch, and for nearly one mile are in the Kaibab limestone strata—the

topmost layer of this gigantic layercake. The summit of Mesa Eremita is seen 400 feet below. At the White Zigzags, which take you to the floor of Hermit Basin through the crossbedded Coconino sandstone, you encounter a fine piece of trail work. Big Jim Spring—named for the Supai Indian next in line to the present chief—is 100 yards to the right, and 1,200 feet below the rim. Near Red Top, where the Supai red sandstone begins, two other short trails from the rim join Hermit, viz., Waldron Trail and an extension of Dripping Spring Trail.

From Red Top the way leads for the most part along the top of the red wall, with intermediate ups and downs, to Four-Mile Camp, four miles by trail. To the left you look into the dark depths of Hermit Gorge, which gets deeper and deeper, darker and darker, with each rod northward. Right across, on the same strata, is the old Boucher Trail.

At Santa Maria Spring luncheon is served from the saddle bags in a quaint rustic shelter, and the mules are watered; just overhead is Four-Echo Rock, from which, as the name indicates, a quadruple echo may be heard. The Red Zigzags are easily negotiated. Breezy Point is appropriately named; a stiff breeze nearly always blows here.

From Point Lookout a view may be had of Hermit Camp, far below. Last Chance Spring, a trickling affair, offers the last chance to get a drink of pure water until camp is reached.

Near the top of Cathedral Stairs the trail enters the blue limestone wall, the way below being blasted out of hard rock. Here you are five miles from starting point and have dropped down nearly half a mile—some drop, if it all had happened at once! The Cathedral Stairs are similar to Jacob's Ladder, except that there are more drops and the zigzags are briefer. It's somewhat like going down a flight of steps, for the next 400 feet. On the way you look ahead and see the Sentinel, a huge figure, chiseled in rock where the knife-blade top of the Canyon Lion appears silhouetted against the sky.

Next you enter the softer carboniferous shale and sandstone strata, down the Long Drag and the Serpent to where Tonto Trail leads east along the plateau. Then comes the last lap, into Hermit Camp. By this time you are perfectly willing to



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dismount and let the mule be relieved of its saddle. Saddle off, the mule kicks up its heels, hee-haws in joyful strain, and disappears over a rise headed for a corral where alfalfa and corn are ready to be munched. Later you hear all the mules galloping along the side trail to the creek, for a long swig of aqua pura.

ALTITUDES, DISTANCES AND FORMATIONS, ON HERMIT TRAIL

Name	Number of feet below Rim	Distance from Top of Trail	Strata
Trail Top Gulch			Kaibab Limestone
Mesa Eremita (top).	400		
White Zigzags (top).	750	.8	Cross-bedded Sandston
Big Jim Spring	1200	1.6	
Hermit Basin	1300	1.7	**
Waldron Trail			
(bottom)	1300	1.7	
Dripping-Spring Trail			
(bottom)	1350	1.8	**
Red Top	1350	1.9	Supai red-sandstone.
Hermit Gorge	1400	2.	**
Santa Maria Spring.	1700	2. 2.2 2.2	**
Four-Echo Rock	1800	2.2	**
Red Zigzags (top)	2000	3.8	"
Four-Mile Camp	2150	4.	**
Point Lookout	2200	4.	
Last Chance Spring	2150	4.1	*
Breezy Point	2200	5.	
Cathedral Stairs (top)		5.1	Blue Limestone
" "(bottom)		5.7	11
The Sentry	2500	5.3	44 44
Long Drag (top)	2700	6.	Tonto Shale
Serpent (top)	3100	6.3	11 11
Tonto Trail	3400	6.7	44 44
Hermit Camp	3500	7.3	11 11
Hermit Creek	3700	7.4	44 44



ALCOVE AND FIREPLACE, HERMIT'S REST

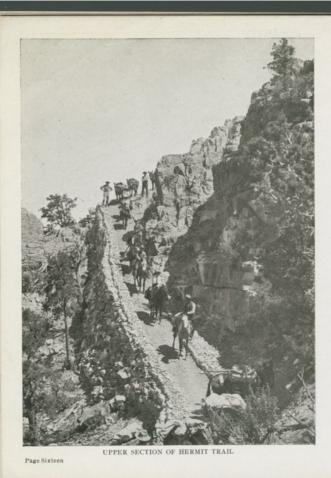
Your camp is in charge of a Fred Harvey chef. Meals are served in a central dining-room. Your tent, one of several, with accommodations in all for a party of twelve, has a wooden floor and sides. A double cloth roof insures ample ventilation. For cool evenings and mornings a stove is provided. There are Navaho rugs on the floor, and the beds—two to a tent—are the kind to induce sleep, were any such incentive necessary. Before retiring you have had the opportunity of bathing in Hermit Creek.

Next morning, up bright and early, you start on foot for the Colorado River, along a natural trail in the bed of the stream. Hermit Rapids rush and roar where you debouch on the big flood, and here you remain for some time, in wonderment and awe. The return to camp is uneventful. But whether you go back up Hermit Trail, or travel leisurely along Tonto Trail to Bright Angel and reach the top of the world again late on the third day out from El Tovar—always you will remember that first night and the first morning Down Below; the sunset and afterglow; the starshine, moonrise and morning star, followed by

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the shadowy advance of sunrise across the faces of the cliffalways you will hold in memory their miracle of color and light, their unearthly beauty.

CANYON GEOLOGY

The average man measures long periods of time by cen-

turies. That's about his limit of understanding.

The geologist reckons otherwise. To him a hundred years are but the tick of a clock, the passing of a summer cloud. He deals in eons as you do in minutes, and thus is able to measure, after a fashion, almost inconceivable time.

Searching for a convenient yardstick, the building of our earth is first thought of as divided into four eras-proterozoic (before life), paleozoic (most ancient life), mesozoic (life midway), and cenozoic (recent life). That is simple enough, for "life" is indicated by fossils in the rocks.

Periods are lesser divisions of the eras. In the proterozoic era there are two periods-archaean and algonkian. The paleozoic era has six periods—the cambrian, ordovician, silurian, devonian, carboniferous and permian. The mesozoic era divides into the triassic, jurassic and cretaceous periods. The cenozoic era has five periods-eocene, oligocene, miocene, pliocene and pleistocene.

You don't have to know all these geologic terms. But these four you must bear in mind, because they are the primer of canyon geology, viz., the archaean, algonkian, cambrian and carboniferous rocks, which are among the very oldest of earth's strata. The later rocks undoubtedly were here once, nearly 12,000 feet of them, on top of what today is top, but in some remote age they were shaved off and lost.

Yet the canyon itself, that great trench in earth's crust laying bare the successive layers, is accounted geologically modern. It happened, so scientists say, only yesterday.

Stand almost anywhere on the south rim and look at the north wall-from 10 to 13 miles across-which is the southern limit of the Kaibab plateau. That north rim is three times as far from the Colorado River as is the south rim, and is 1,000 to 1,500 feet higher, viz., 5,300 to 6,000 feet above the river,







LUNCH AT SANTA MARIA SPRING, HERMIT TRAIL

compared with 4,500 feet. It is like a section of layer cake, each of different material and color—or like gigantic beds of titanic masonry.

Begin at the top and go down. For the first 3,000 feet or more, the wall descends by cliffs, steep slopes and narrow ledges. Next comes a wide terrace, the Tonto platform; along its edge is a cliff 100 to 200 feet high. Lastly comes the inner granite gorge, V-shaped, and 1,000 to 1,200 feet deep, with the river flowing at the bottom in a trench 250 to 300 feet wide.

The light buff formation at the top is the Kaibab limestone, 560 feet thick, cherty, and full of marine fossils. It first recedes in a gentle slope where the trees grow, and then rises in a wall of gray.

Beneath this is another light-colored formation, the crossbedded Coconino gray sandstone, 350 feet thick, presenting a

The next is of bright red color, due to oxide of iron; it consists of alternating beds of hard sandstone cliff and soft shale slopes, about 1,100 feet thick, and known as the Supai forma-

Further down is the Red-wall or "blue" limestone, 550 feet thick and very hard, so finely grained it seems to be a single bed; its precipitous cliffs are stained red by wash from the strata above; in this formation occurs Jacob's Ladder, on Bright Angel Trail, and Cathedral Stairs, on Hermit Trail.

These four make up the Aubrey group of sedimentary rocks, and were laid down during the carboniferous period.

The horizontal formations below the Red Wall form the Tonto group, of the cambrian period. In order, from top to bottom, they are—Muav limestone, thin-banded and grayish green, 380 feet; Bright Angel shale, 325 feet; and the basic rocks—Tapeats sandstone, hard, brown and 100 to 250 feet thick, forming the floor of the Tonto platform.

You may notice that these strata are not at the same height everywhere. This is due to fractures or "faults," along which the rocks on one side are much lower than on the other, but

All these nearly horizontal strata rest on a level surface of archaean and algonkian rocks, through which the river has cut

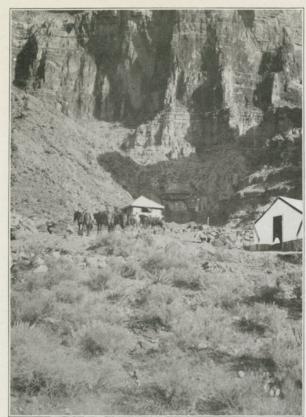


TRAIL PARTY RESTING AT RED TOP

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HERMIT CAMP, PRESENT TERMINUS OF HERMIT TRAIL



HERMIT RAPIDS, COLORADO RIVER, GRAND CANYON

a lower inner gorge. The sombre-hued rocks of crystalline schist and gneiss, with dikes of molten granite, are known as the archaean, and represent the earliest geologic period. Back of the archaean and uptilted in some places (notably in the valley northeast of Grand View, and just west of the mouth of Bright Angel Creek) or visible above the granite, are the Grand Canyon series of algonkian rocks, chiefly shale of a bright vermilion color, soft and sloping, underlaid by limestone and overlaid by heavy beds of brown quartzite.

That, in brief, is what you see today.

Geologists agree that the rocks of each period represent an uplift and subsidence of the upper crust, extending over incalculable time, each subsidence being followed by sedimentary deposits on the sea bottom, ultimately forming a new series of rocks.

Imagine this huge mass, say three and a half miles thick, gradually lifted up, and forming a plateau with an area of 13,000 to 15,000 square miles. The top two-thirds, except an isolated butte here and there, was next eliminated by erosion, and then the Colorado River began to cut the Grand Canyon through the lower third.



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Nobody knows to what extent, if any, seismic disturbances originally may have helped to make the Grand Canyon, but the masterful influence of erosion is plainly to be seen. The Canyon has not stopped changing. Every decade it gets a fraction deeper and wider, by erosion only. Today, it is not only a geologic marvel but a dream of ineffable beauty. That beauty of form and color is yours to enjoy without asking—though human curiosity always will query the when and the how.

NOTE.—Except Bright Ang I Trail (which is leased by private interests and on which toll is charged) all the other modern facilities for getting around at the Grand Canyon have been provided at great expense by the Santa Fe Railway for free use of the public. A systematic development of roads and trails now makes it possible for visitors to see the most interesting sights easily and in comfort. Hermit Rim Road and Hermit Trail were wholly built by the Santa Fe at an expense of over \$100,000. Thousands of dollars also have been spent by that company in improving and maintaining the roads to Grand View, Desert View and Yavapai Point; and in fixing up Tonto, Dripping Spring and Waldron Trails; likewise many pathways have been opened up through the woods on the rim. The Lookout, Hopi House and Hermit's Rest provide unique entertainment; admission to latter is by ticket.



COLORADO RIVER, FOOT OF HERMIT TRAIL



CATHEDRAL STAIRS, HERMIT TRAIL

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