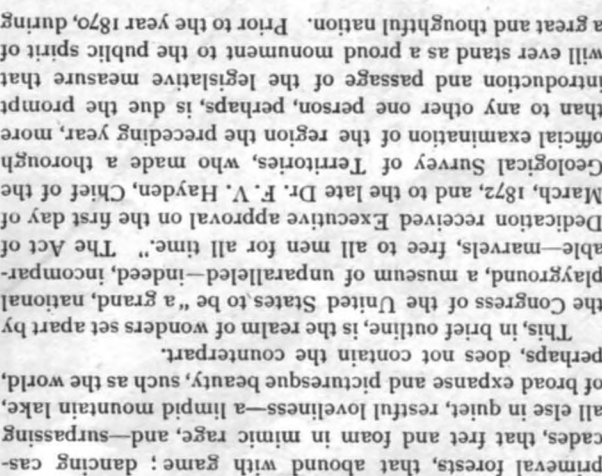


THESE MAMMOTH HOT SPRINGS, so called (numbered fifty or more in the aggregate and occupy a mound (upward of 170 acres in extent, nearly 200 feet in height, and embraced in thirteen separate and distinct terraces) composed of marl (of carbonate of lime deposited by their own action. This mound-building has gone on for ages untold, and affords the visitor to-day as much food for reflection as at any other period in its history. The temperature of the spring pool varies from 112° to 163° Fahrenheit. About the rims of their bowl-shaped basins and on the sides and bottoms of the numerous little rills formed by their bubbling, wavelike overflow, coloring matter more or less striking, and varying in tint from the most delicate shades of cream and pink to deep red, is constantly being deposited, though the greater bulk of the "formation" is devoid of color—resembling its

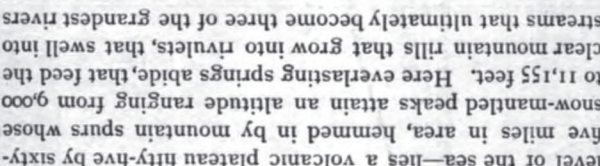
THE NEW ROAD FROM THE UPPER BASIN ACROSS THE CONTINENTAL DIVIDE, along past Kepler's charming cascades and Shoshone Lake—the practical source of Snake or Lewis Fork of the Columbia—to that gem *par excellence* of the Rocky Mountains, Yellowstone Lake, is one of the most delightful thoroughfares of the Park, and, connecting, as it does, with the road leading from the *outlet* of the lake in question to the falls and canon, makes it possible for visitors to reach all points of marked interest, lying to the south and east of Norris Basin, without retracing any part of the route—a thing heretofore impracticable.



GOLDEN GATE, a deep, narrow gorge between Bunsen Peak and Terrace Mountain, is the first point of special interest reached. While only four miles distant from the

For some fourteen miles the broad, clear, trout-stocked river flows through this beautiful green-carpeted valley, its current unbroken by rock or rapid. Suddenly it begins to narrow; its erstwhile placid waters dart along with racehorse speed, now surging in foamy rapids, now dimpling into swirling whirlpools, each successive moment serving but to augment its headlong course, and bring more distinctly to the ear the sullen roar of the tremendous cataracts that mark its fearful, twofold plunge into the yawning, flaming cañon below.

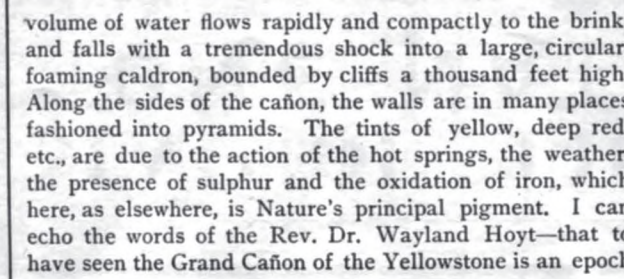
THE UPPER FALLS have a perpendicular drop of 140 feet. Rebounding from the shelving rocks in the basinlike abyss below, the falling waters dart forward in fan-shaped



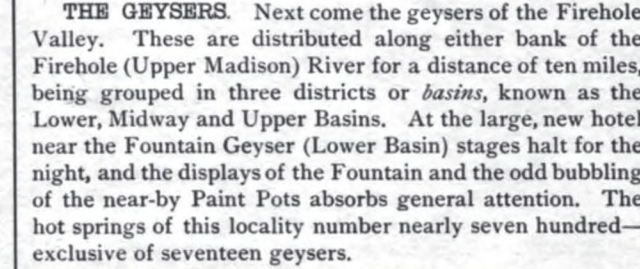
THROUGH
YELLOWSTONE NATIONAL PARK

NORRIS GEYSER BASIN is next reached, and luncheon is served. This is the oldest and among the most elevated (7,527 feet) of the thermal basins of the Park. Its hot springs, which are numerous, are in many instances curiously and beautifully formed and highly interesting; but its geysers (with, perhaps, two or three exceptions) possess less of the awfully grand eruptive power which characterize most of the geysers of the Firehole Valley. Approached on a

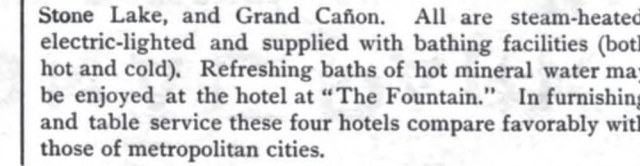
THE GREAT FALLS AND GRAND CAÑON OF THE YELLOWSTONE. "There is nothing in the Park (writes Prof. Whitwell), there are few sights in the world, so wondrous and so weird as the *Great Falls* and *Grand Cañon of the Yellowstone*. The scene from the brink of the falls, looking into the profound depth of the cañon, is of strange majesty and indescribably awe-inspiring. The advancing



GIBBON CAÑON AND FALLS. Continuing southward the visitor journeys through a stretch of cool forest, descends a long, sloping hill, and, crossing Elk Park, enters Gibbon Cañon—a rocky defile four miles in length, whose cliffs seem reluctant to open wide enough to allow both the stage road and the clear waters of Gibbon River a passage. The wild grandeur of this rugged chasm is difficult of adequate portrayal. On this side precipitous bluffs from down upon the passer-by; on that, a dense growth of pines clothes the steep mountain-side with dark-green drapery. Here, a hissing steam-vent fills the air with sulphurous vapors; there, a fiercely boiling caldron pours its scalding overflow across the roadway, beneath the very feet of the stage



THE HOTELS OF THE PARK are four in number (exclusive of the three lunch stations, at Norris, Upper Basin, and "Thumb" of Yellowstone Lake, respectively). These chief hosteli-ries are located as follows: At Mammoth Hot Springs, Fountain Geyser (Lower Geyser Basin), outlet of Yellow-

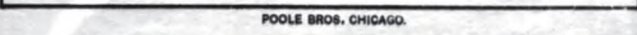


TELEGRAPHIC COMMUNICATION. The Yellowstone Park Association has telegraph service at all hotels and lunch stations (except Larry's) connecting with the Western Union Telegraph Company.

ORIGIN AND THEORY OF GEYSERS. Geysers are merely eruptive hot springs. They differ from volcanoes only in that they erupt water instead of molten lava. The name is derived from an Icelandic word meaning "gusher." The *Bunsen Theory* of geyser phenomena, endorsed by

Prof. Tyndall and other eminent men of science, is—
1. The presence of igneous rocks (still retaining their heat) at a considerable distance below the surface of the earth's crust. 2. Meteoric water (supplied mainly by snow and rainfall) having access to these heated rocks. 3. A tube by which the heated water may reach the surface. This tube is kept filled (or nearly so) with water as the result of lateral drainage. The temperature of this water-column, at any given point in the geyser tube, is below the boiling temperature corresponding to the atmospheric pressure at that point. Steam is constantly forming below, becoming sufficiently expansive in time to lift the water-column slightly. Thus the all but boiling water deep down in the tube is raised to a level where the pressure from above is less than that required to prevent ebullition. The result is an almost instantaneous generation of steam; the layers of water, being successively relieved of pressure, rising and flashing explosively into gaseous form. Then follows the

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MAP OF THE YELLOWSTONE NATIONAL PARK

Compiled from different official explorations and our personal survey, 1882.

REFERENCES. Stage Roads. Trails. Geyser Formation.

SCALE

CARL J. HALS and A. RYDSTRÖM,
Civil Engineers.

