Beyond the Hundredth Meridian

JOHN WESLEY POWELL

AND THE SECOND OPENING OF THE WEST

by Wallace Stegner

WITH AN INTRODUCTION BY
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illustrated

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They named the bad stretch Cataract Canyon, and the unknown stream, from its color and smell, the Dirty Devil. Later Hawkins and Sumner intimated that Powell named the stream for Bill Dunn, as a deliberate insult,[5] which seems unlikely. But the toils of Cataract Canyon had left them edgy: Bradley wrote that the name Powell gave this creek was "in keeping with his whole character which needs only a short study to be read like a book."[6] What he meant by that is vague; probably it has to do with the Major's impiety and refusal to observe the Sabbath.

But not everything was sour. Full on top of their fatigue and hardship the much-ridiculed hunters brought down two desert bighorn and they feasted gigantically on wild mutton — the best meat, according to mountain men, in all the West.

And the fickle river relented. From the mouth of the Dirty Devil they had fast, easy water. Their daily run jumped from a hard-won mile or two to a comfortable twenty. The walls became lower, became smooth, monolithic, salmon-colored sandstone stained with vertical stripes of "desert varnish," with maidenhair fern dripping from wet seams in the rock.

Other Canyons

Through most of its course the canyoned Green and Colorado, though impressive beyond description, awesome and colorful and bizarre, is scenically disturbing, a trouble to the mind. It works on the nerves, there is no repose in it, nothing that is soft. The water-roar emphasizes what the walls begin: a restlessness and excitement and irritability. But Glen Canyon, into which they now floated and which they first called Monument Canyon from the domes and "baldheads" crowning its low walls, is completely different. As beautiful as any of the canyons, it is almost absolutely serene, an interlude for a pastoral flute. Except for some riffles in the upper section its river is wide, smooth, deep, spinning in dignified whirlpools and moving no more than seven or eight miles an hour. Its walls are the monolithic Navajo sandstone, sometimes smooth and vertical, rounding off to domes at the rims, sometimes undercut by great arched caves, sometimes fantastically eroded by slit side canyons, alcoves, grottoes green with redbud and maidenhair and with springs of sweet water. The first white men to see it except possibly James Ohio Pattie, they felt what every river tourist has felt since: the stillness, the remoteness, the lovely withdrawn

quiet of that 149-mile river groove. This country seemed kindlier to human intrusions. They saw their first Moqui ruins on the cliffs, and the Major, climbing out to survey the country, found and used a series of ancient steps hewn in the smooth face of the rock.

Yet idyllic as Glen Canyon was, they could not relax and enjoy it. Their bacon was down to fifteen rancid pounds; they were short of everything but flour, coffee, and dried apples. After two cyclopean feasts, the mutton had spoiled in the heat, and though they saw other bighorn they were unable to bring any down. Their eyes searched the east wall for the mouth of the San Juan. A Mormon map they had placed it fifty miles below the junction of Green and Grand, while the "official" map made in Washington indicated that it was "probably 100." [7] But the river's course lay farther west than the government map put it, and that meant that the mouth of the San Juan might be a long way from where it was supposed to be.

Past the mouth of the Escalante they went without even noticing the river; it is not very noticeable, and perhaps they were all watching the east wall for the San Juan's mouth. Then in the afternoon of the last day of July they floated down toward a massive awning-striped wall that turned the river in a sharp right-hand bend. Just before the bend the San Juan came in through a trenchlike gorge from the left, a swift, muddy stream as large as White River.

Now the whole enormous drainage basin of the river was floating them, melted snow from the high Wind River peaks, and from the Wasatch, and from the Uintas with their hundred cold streams, Black's Fork, Henry's Fork, Ham's Fork, Kingfisher Creek, Brush Creek, the Uinta; the western slopes of the Colorado Rockies whose creeks poured into the Yampa and the White; the waters all the way from Grand Lake under the shadow of Long's Peak, and the tributary springs and creeks and runoff gulches that fed the Grand all the way to modern Grand Junction and Moab; and finally the San Juan, muddy from recent rains, its headwaters tangled with those of the Rio Grande in the Five Rivers country of southwest Colorado, its gathering waters coming down from the San Juan Mountains through New Mexico and what would sometime be Arizona and across the southeastern corner of Utah through the country of the Navajo. It was a big river by now, a tremendous surge of muddy water. The whirlpools started by the muddy cur-

obtained federal assistance for his expedition, was to divide the mountain West into three physiographic regions, which he called the Park Province, the Plateau Province, and the Great Basin Province.[1] The first included the Colorado and northern New Mexico ranges and the great parks between them. The second included the great region of flat-bedded plateaus and mesas stretching from the western slope of Colorado to the east rim of the Great Basin in Utah, and from approximately the 40th parallel to the Painted Desert. The third began at the Wasatch Mountains in Utah and their southern extensions, and took in all the tormented ranges and great valleys and dead sea bottoms from there to the Sierras.

It is the Plateau Province, comprising all of eastern and southern Utah, part of western Colorado, and part of northern New Mexico and Arizona, that concerns us, since it is what primarily concerned Powell. Its boundaries are precise on the north and west, less certain on east and south. Essentially the province follows an ancient shoreline of Mesozoic times, when the Great Basin, the Wasatch, and part of what is now Arizona were islands or parts of the mainland, and what is now the Plateau Province was a great loop of sea. The region of plateaus with which the Powell Survey was chiefly concerned reaches from the Uinta Mountains southwestward to the Colorado River. It is mainly in Utah but includes the slice of Arizona north of the Grand Canyon, and it laps over on the east into Colorado and on the west into Nevada. It is scenically the most spectacular and humanly the least usable of all our regions.[2]

Here geological and human history have at least a poetic similarity. Here the earth has had a slow, regular pulse. It rose and fell for millions of years under Carboniferous, Permian, Triassic oceans, under Cretaceous seas, under the fresh-water lakes of the Eocene, before it was heaved up and exposed to rain and frost and running water and the sandblast winds. Mountains were carved out of its great tables and domes, river systems cut into it and formed canyons, elevations were weathered and carried away. What had accumulated pebble by pebble and grain by grain, cemented with lime and silica, folding into itself the shells of sea life, scales of fishes, the compacted houses of corals, began to disintegrate again. Vast cyclic changes have left only traces. Though the geological

geological history of the region

record in the Plateau Province is probably as clear as it is anywhere on earth, the boundary between ignorance and knowledge, between speculation and certainty, is often no more than a line of ancient fracture almost obliterated, or an enigmatic unconformity between two layers of rock, or a slight but significant change from salt water to brackish water fossils.

Human history in that country is almost as tentative, and to our foreshortening eyes nearly as long. A vague sort of knowledge, with plenty of speculation to accompany it, reaches back to that all-but-Eozoic time when the Ho-ho-kam in the southwestern desert and the Anasazi among the plateaus built their mortared houses and granaries, and lived for certain years whose remoteness is measurable by the fading radioactivity of their dead campfires, and were driven out by certain causes including drouths known to us by the starved growth rings of ancient trees. Gradually, over several generations, we have sorted out a kind of stratigraphy of the plateau peoples: Basket-Maker I, Basket-Maker II, Post-Basket-Maker, Pre-Pueblo, Pueblo I, II, or III. We can distinguish among their artifacts and compare what we know of them with what we know of their cultural heirs, the Pueblos, including the Hopi and Zuñi. We can mark the unconformities between strata of human history, and knowledge broadens down, not quite from precedent to precedent, but from inference to inference, toward historical time. By the same sort of taxonomy that classifies and groups and separates fossils, we classify and group and separate peoples and their leavings, and read history of a kind from them. Though we may be often and for long periods on solid ground, we are never quite out of sight of the half-effaced shorelines of speculation. Knowledge extends in promontories and bays; or to put it vertically rather than horizontally, the strata from remote to recent never lie so unbroken that we cannot find some line of unconformity where the imagination must make a leap. There are so many horizons, geological and human, where the evidence is missing or incomplete.

Ever since the coming of white men, the region has gone through cyclic emergence and subsidence. It emerged hotly and briefly in the sixteenth century, when tales of golden cities, the antique and seductive Cibola, drew Coronado and Cárdenas northward through the wastes only to show them, at the extreme stretch

not occasionally but everywhere, and with a curious persistence because of the way in which individual strata maintained their profiles under weathering. In any one place the piled effect might be bewildering — Baroque on Doric and Byzantine on Baroque and Churrigueresque on Byzantine, magenta on chocolate on yellow on pink — but the consistency with which any group of strata produced the same forms was very striking. The massive sandstone layer that Dutton knew as the White Wall [16] changes from sugar-white in Zion and the Capitol Reef to salmon-color in Glen Canyon, but most of the strata maintain their coloring over scores or hundreds of miles. And even the White Wall is always vividly recognizable. In Zion or Capitol Reef, in Glen or Split Mountain Canyons, in Navajo Mountain, on the Colob Plateau, it is always massive, cross-bedded, intricately filagreed by weathering; and it always erodes into domes, caves, baldheads, arches. What Powell and Dutton called the Shinárump series [17] has always the gray, mingled, banded colors, the erosional statuary like a continuous frieze in high relief, above a flowing slope of chocolate and variegated shales. Wherever the Eocene Pink Cliffs are exposed, they are layered in pink and yellow and white, and carved into statuary even more fantastic than the frieze of the Organ Rock or the Shinárump. For endless miles, in all the formations, the forms are as repetitive as if carved to a master plan, the strata level or nearly so, the thickness and colors persistent or changing only by imperceptible degrees.

Dutton first taught the world to look at that country and see it as it was. He corrected the common belief that the canyons were impressive because they were deep and narrow. The grandest views in all the Grand Canyon are those from such observation posts as Point Sublime, where the chasm is widest and a just proportion of width to depth is obtained. He was a student of form, as of color, and he dismissed the alpine, craggy forms among which the romantic imagination has loved to wander since Childe Harold showed it how. Those alpine forms, which are "only big and rough," do not appear in the Plateau Province. The forms that do appear have no counterparts among those which have shaped and trained our appreciation. What shall we make, he asks, of the Temples of the Virgin?

Dutton

Some of this should apply to Glen

> Directly in front of us a complex of white towers, springing from a central pile, mounts upwards to the clouds. Out of their midst, and high over all, rises a dome-like mass, which dominates the entire landscape. It is almost pure white, with brilliant streaks of carmine descending its vertical walls. At the summit it is truncated, and a flat tablet is laid upon the top, showing its edge of deep red. It is impossible to liken this object to any familiar shape, for it resembles none. Yet its shape is far from being indefinite; on the contrary, it has a definiteness and individuality which extort an exclamation of surprise when first beheld. There is no name provided for such an object, nor is it worth while to invent one. Call it a dome; not because it has the ordinary shape of such a structure, but because it performs the function of a dome.
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> The towers which surround it are of inferior mass and altitude, but each of them is a study of fine form and architectural effect. They are white above, and change to a strong, rich red below. Dome and towers are planted upon a substructure no less admirable. Its plan is indefinite, but its profiles are perfectly systematic. A curtain wall 1400 feet high descends vertically from the eaves of the temples and is succeeded by a steep slope of everwidening base courses leading down to the esplanade below. The curtain wall is decorated with a lavish display of vertical moldings, and the ridges, eaves, and mitered angles are fretted with serrated cusps. This ornamentation is suggestive rather than precise, but it is nonetheless effective. It is repetitive, not symmetrical. But though exact symmetry is wanting, nature has here brought home to us the truth that symmetry is only one of an infinite range of devices by which beauty can be materialized.
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> And finer forms are in the quarry
> Than ever Angelo evoked.[18]

It is useful to have an open mind, especially in a new country or among new ideas. Not all had it, among the western-survey men. Dr. Hayden, for one, found the forms of the northern plateau country at first startling and then tiresome. For anyone, as Dutton said, the Plateau Province was "a great innovation in modern ideas of scenery," which required long study for its understanding, and whose full appreciation was "a special culture."

Dutton

> The lover of nature, whose perceptions have been trained in the Alps, in Italy, Germany, or New England, in the Appalachians or Cordilleras, in Scotland or Colorado, would enter this strange region with a shock, and dwell there for a time with a sense of oppression,

and perhaps with horror. Whatsoever things he had learned to regard as beautiful and noble he would seldom or never see, and whatsoever he might see would appear to him as anything but beautiful and noble. Whatsoever might be bold or striking would at first seem only grotesque. The colors would be the very ones he had learned to shun as tawdry and bizarre. The tones and shades, modest and tender, subdued yet rich, in which his fancy had always taken special delight, would be the ones which are conspicuously absent. But time would bring a gradual change. Some day he would suddenly become conscious that outlines which at first seemed harsh and trivial have grace and meaning; that forms which seemed grotesque are full of dignity; that magnitudes which had added enormity to coarseness have become replete with strength and even majesty; that colors which had been esteemed unrefined, immodest, and glaring, are as expressive, tender, changeful, and capacious of effects as any others. Great innovations, whether in art or literature, in science or in nature, seldom take the world by storm. They must be understood before they can be estimated, and must be cultivated before they can be understood.[19]

Strange words in a geological monograph. Strange monograph, divided about equally between geology and nature description, salted with aesthetic speculation and illustrated like an art book by two of the painters who most helped to expand the nation's appreciation to include the strange forms and colors of the West.[20] Scattered all over that Plateau Province whose description Dutton had inherited from Powell were forms which "if planted upon the plains of Central Europe, would have influenced modern art as profoundly as Fusiyama has influenced the decorative art of Japan." Being innovations, and newly discovered, they were powerless until cultivation released them into the aesthetic consciousness. Whether they have yet been so liberated, and whether the forms and colors of the plateau country strike most of us even yet as anything more than bizarre, is an open question.

Nevertheless the cultivation does go forward, if only through the activity of a cult of enthusiasts. And a surprising number of those who fall under the spell of that country find Dutton's *Tertiary History* a bible, a wise book surviving from an earlier time. The delegation of authority which Powell made was a real delegation: Dutton is almost as much the *genius loci* of the Grand Canyon as Muir is of Yosemite. And though it is Powell's monument