

Smitten by Stone: How Geologists Found Paradise in the Grand Canyon

By
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Many of us take for granted that the Grand Canyon is a unique, awesome, and inspiring place. But this has not always been the case as the first conquistadors and explorers out west expressed everything from disinterest to contempt for our now beloved ditch. In fact, it took exactly 318 years before anyone with a European heritage would perceive the Grand Canyon as anything other than a barrier to travel, finally sounding a siren call to humanity to wake up and stop complaining about it. This comes across as very strange to us today, living in a world full of modern conveniences. But the notion that a landscape could hold value simply for being big or colorful or, even, just there, had to first be conceived through some specific avenue of appreciation. The avenue through which the canyon was first comprehended as “grand” was of course, geology.

There is no written record for how prehistoric Native Americans viewed the Grand Canyon. But if modern tribal viewpoints offer a clue, it is likely that they viewed the canyon as a living entity, embodying spirit and power. They most certainly appreciated the canyon on many levels but to say that they viewed the canyon entirely or always favorably, removes them from the full range of the human experience. As we all know from living with the canyon for decades, the canyon often “bites” and doesn’t distinguish between “native” or “foreigner.” There certainly must have been times – numerous times – when these Native Americans felt at odds with such a dynamic and sometimes vengeful place. This likely created in them a level of disassociation that is the subject of this thesis (visit any abandoned pueblo or overgrown cornfield for evidence of this disassociation).

As it concerns the written record of the human experience at Grand Canyon, there are numerous instances where it can be shown that our more recent ancestors did not truly understand or appreciate the canyon landscape. Beginning with the first conquistadors attached to the Coronado Expedition in August 1540, we see that the canyon was too large of a dimension for them to comprehend its worth. They could only relate the size of some boulders within the canyon to the Tower of Seville, an edifice 282-feet tall. This is less than the thickness of the Hermit Formation.

It would be 236 years before the next Euro-American visited the canyon such was its perceived worthlessness. Fray Francisco Garces descended to the land of the Havasupai to proselytize to them and felt put off by this “prison of cliffs and canyons.” Fifty years later in 1826, James Ohio Pattie became the first American citizen to see the canyon, apparently walking west to east along its southern rim and proclaiming his pleasure from having emerged “from these horrid mountains.”

The last in this line who could find no value in the canyon was perhaps the most famous of them all, Lt. Joseph Christmas Ives. His oft-quoted passage about the canyon being a “profitless locality” and remaining “forever unvisited and undisturbed” makes for good camp

fun and laughter but sadly reflects an emotion that regrettably still exists in certain people who only view the canyon as a place for profit or a resource to disturb.

How ironic that the very first people in modern times to see the inherent value and worth of Grand Canyon would be a member of the very same Ives Expedition, Dr. John Strong Newberry. He served as the expeditions naturalist but was trained as a geologist who immediately forgot everything that had been said and written about the canyon from the previous 318 years. He knew the canyon was something special and made the very first observation about the nature of its existence – that it was erosion by the Colorado River that had created it. Before this time, no one had ever imagined that rivers could accomplish such an extreme feat of erosion. Everywhere he saw the correspondence of strata from one side to the next and knew that it was “the exclusive action of water” that had created the gorge. He wrote, “The Colorado Plateau is to the geologist a paradise.”

Newberry’s enthusiasm spread throughout the geologic community and it certainly must have inspired a certain Civil War veteran to further explore the course of the river. In 1869 John Wesley Powell made his historic first descent and lest we imagine that he undertook the journey for mere glory, he repeated the trip two years later to clean up his water-soaked notes. Powell noted, “We continue our journey gliding along through a strange, weird, grand region. The landscape everywhere away from the river is of rock – cliffs of rock, tables of rock, plateaus of rock, terraces of rock, crags of rock – ten thousand strangely carved forms.” Powell was hooked and recruited another generation of geologists to explore the region more fully.

By 1880, Clarence Dutton was roaming the North Rim country deciphering the geologic secrets of this area, adorned as he said “with a multitude of magnificent features.” He continued, “A perpetual glamour envelopes the landscape. It is never the same, day to day or even hour to hour. Every passing cloud, every change in the position of the sun, recasts the whole.” Dutton would write a near tear-jerker of a monograph called “The Tertiary History of the Grand Canyon District.” It humbles the soul, even today, to read the emotion and excitement in his words.

Of the conquistadors, explorers and trappers who came upon Grand Canyon between 1540 and 1858, not one of them came back for a second visit. Of the very first geologists to see the canyon – Newberry, Powell, Gilbert, Dutton, and Walcott, each of them came back again and shouted to the world that here was “paradise,” “perpetual glamour,” and “majesty.” Geology was the portal through which our forbearers gave up the outdated notion of what constitutes scenery and hastened our appreciation of the arid lands of the west.

Other fields of study would have awakened our culture to the splendors of the Grand Canyon had geology not beat them to it. This thesis is not to say that the canyon could only first be appreciated through its geology. But our destiny to savor and preserve this space was catalyzed by the newly emerging field of geology. In a way, the appreciation of the canyon could not have commenced without an understanding of the processes and history of the earth, which were just becoming known. Had the explorers themselves had geology as their guide, our appreciation of the Grand Canyon would have occurred much sooner.

(With appreciation to Dr. Stephen Pyne, who wrote the Book, “How the Canyon Became Grand,” and revealed to us the gifts of Grand Canyon’s first geologists).