

JOHN WESLEY POWELL,

Founder and Director of the Bureau of Ethnology of the Smithsonian Institution, for thirteen years Director of the United States Geological Survey, died at Haven, Me., September 23d, in his sixty-ninth year.

Although well known locally for his scientific work and enthusiasm before the civil war, and acquiring military reputation in that war, he first came prominently before the scientific world and the wider general public by his daring exploration of the great Colorado Canyon in 1869, and since that date has been a conspicuous personage among American scientists for his zeal for science, his eminent administrative ability—shown in the organization and management of geographical and geological surveys and scientific bureaus—his broad grasp of scientific questions, his varied activities in the promotion of research in several branches of science, and by a charming personality.

He was born March 24th, 1834, at Mount Morris, then a small village in the Genesee Valley of Western New York. His parents were English, his father a Methodist clergyman who came to this country but a short time before the birth of his son. The requirements of his profession caused many changes of home, and the family moved to Ohio in his early childhood; eight years afterwards to Wisconsin; and again, when the boy was fifteen years old, to Illinois, which was young Powell's home until the breaking out of the civil war, in his twenty-seventh year.

The boy was an ardent lover of nature and the migratory home of the family during the days of his youth and early manhood gave him unusual facilities to see outdoor nature under many aspects, but the conditions of his environment were very unfavorable for obtaining a college or university training. He was fond of roaming, a keen observer, and in his studies was from the first strongly attracted to the natural sciences, especially such of them as could be pursued out of doors. He studied botany and geology and used every opportunity to learn these and the kindred sciences. He was for a while in the Illinois College at Jacksonville, later in Wheaton College and still later in Oberlin College in Ohio. Unable to attend any of these continuously, he alternated between teaching school and studying when and where the opportunity occurred. To him there was no continuing curriculum or studies available and, looking to an academic degree, he studied as the opportunities offered, now while teaching in some country or village school, then as a temporary student in some college, or, while roaming.

He made excursions and collected specimens which found their way into the museums of the several colleges and societies with which he had been connected. Some of these excursions are noteworthy. He journeyed to St. Paul on the Mississippi and across Wisconsin to Mackinaw. In 1856 he descended the Mississippi alone in a row-boat from the falls of St. Anthony to its mouth, making collections on the way. In 1857 he rowed the whole length of the Ohio River, from Pittsburg to its mouth, and in the fall of that year studied the geology and mineralogy of the Iron Mountain Region in Missouri. In 1858 he made a trip down the Illinois River to its mouth, and up the Des Moines River, returning, as usual, laden with specimens.

Meanwhile he had become a member of several local scientific societies as well as colleges. These institutions had given him much encouragement and some facilities in the prosecution of journeys, but this encouragement was moral rather than pecuniary and the necessary funds for the excursions—explorations we may call them—he was obliged to earn for himself by teaching during a portion of each year.

All this brought him into acquaintance with a great variety of people, scientific and otherwise, and the experience was rich in incident and adventure. I have some most pleasing recollections of the charming way in which he recounted some of these experiences to his intimate friends; of the enthusiasm and humor with which the stories were told, and the touches of philosophy with which they were embellished.

Such was the great university where he was educated. What a training it was for his future career! It often required as delicate tact, as careful diplomacy, as ingenious planning and skillful management, as enthusiastic argument and as persistent effort to carry out his plans to success, as it did later to deal with politicians in and out of congress and to successfully carry out the great works with which his name will be associated so long as science shall be studied. Those row-boat excursions on the gentler currents of the Ohio, Mississippi, and Illinois, were the forerunners of the daring one through the madly rushing waters in the great canyon, and the plans of the great Geographical and Geological Survey of the nation had their elements in these earlier trips.

His school changed when the great rebellion broke out. He enlisted as a private in the army and rose through the successive steps of lieutenant, captain, and major, in which office he lost his right arm at the battle of Shiloh. As soon as he recovered he returned to his post and continued in the service until the very end. He was made lieutenant-colonel and in the last days of the war received the commission of colonel,

which he declined, not wishing to enter the profession of war, but the military title of major clung to him through life. His war experiences may here be considered as a sort of post-graduate study, following the gentler training of previous years, a schooling, both as private soldier and commander of a regiment, a training in the management of men in both field and office, and for bolder exploration.

The war over, he refused a lucrative civil position in his own town, as he already had a higher military one, and accepted a much less remunerative position as Professor of Geology, and Curator of the Museum of the Illinois Wesleyan University at Bloomington, which was followed later by a similar position in the Illinois Normal University.

In 1867, Professor Powell visited the Rocky Mountains of Colorado, taking with him his class in geology, for the double purpose of exploration and research, and for the instruction of his students in field work. He was practically the pioneer in the actual and practical introduction of extensive expeditions with students as a part of their college training for future field work, a phase of college instruction since so extensively practiced and which has been so rich in results.

Major Powell, on this excursion, became interested in the Colorado Canyon and its surroundings. For a century or more vague rumors of this region and its wonders had reached the outer world: stories of its awful and mysterious chasms, absolutely impassable and entirely preventing passage over the region. The stories became much more numerous and the information more definite after 1850, when the gold-seekers attempted to reach California; but curiously little was accurately known more than that the waters of the Rocky Mountains, from as far north as the 43d parallel, found their way through an awful canyon hundreds of miles in length to the borders of California and thence to the Gulf. It was reputed to be many thousands of feet deep. One and another had been on its brink here and there; that was about all, except the disappearance of luckless travelers who had by accident got into it at certain points.

In 1868 Major Powell organized a little party of mountaineers and others and explored a portion of the region, studied the problem, resolved on the exploration of the canyon, and finally went into winter quarters on the White River. From there he made further reconnaissances and other preparations for the bold work he had planned.

The transcontinental railroad, then under construction, had progressed far enough to bring in such supplies and appliances as were not otherwise obtainable, and in the early spring of 1869 the expedition left its winter quarters on White River

and proceeded to where the Union Pacific Railroad crosses the Green River. Four small row-boats had been built in Chicago for the specially dangerous voyage and transported on the still unfinished railway to this place.

The small party consisted of but ten men. Their make-up is noteworthy. Of his nine companions, Major Powell describes four as having served in the army—in the war recently over; three were described as “hunters and trappers”—“Indian fighters” is incidentally mentioned; one as “a pensive young man;” and one was an Englishman “looking for a glorious trip.”

With rations sufficient to last ten months, the little fleet started on its perilous trip on May 24th. The departure is briefly chronicled in the narrative. The people at the crossing turn out to see them start, he tells us, and “we raise our little flag, push the boats from shore, and the swift current carries us down.” They disappear from the outside world and emerge from the mouth of the Grand Canyon August 29, and the next day arrive at the mouth of the Virgin River.

But not all of them. Only a few days earlier, the dangers of the passage becoming even greater than before, and a place occurring where it was thought they could get out of the canyon, ahead of them rapids or falls that seemed more dangerous than any before encountered, the dark abyss beyond visible but a short distance, three of the men resolved to leave the party while they could. They took out with them duplicate notes, that the results of the trip might not be lost with the party. They made their escape, and along the river below watched for fragments and traces of their abandoned companions.

Of the voyage itself and its brilliant success, of the results that grew from it, of the adventures and experiences encountered, I need not speak further. The subject forms a brilliant chapter in the annals of exploration and adventure in the interests of science.

Never was a bolder voyage planned and executed. I know of no equal in the annals of exploration and navigation. While comparisons between this and polar exploration are difficult, yet, there were in this features of the possibilities which seemed such eminent probabilities of disaster, and the dangers were of such a kind, as to deter the attempt. The disastrous end of the expedition, and the manner in which it would come about, seemed so plain that several of our enterprising newspapers published more or less minute accounts of its sad end; all of the party but one being lost was the most common plan of the tales; the nature of the dangers were such that one of the party had to be saved or no story written, ex-

cept the disappearance of the party at an unknown time and place.

Some years later, while smoking an after-dinner cigar with some of his friends, he gave his reasons for his faith in undertaking it. I told him that for some years previous to his famous trip, I had been much interested in that canyon and had picked up all the rumors and information pertaining to it that I could, and being in Colorado while he was making the trip was intensely anxious as to his fate, for I thought it was a mad scheme; the canyon was a long and vastly deep one, cut mostly in strata lying relatively level, that owing to unequal hardness the erosion created waterfalls; that I had been reared in central New York where such waterfalls were especially numerous, cited Niagara and various other examples elsewhere; that this long and deepest canyon in the world was mostly in such rocks; that he embarked on the river at over 6000 feet elevation, to emerge some 500 or more miles below at nearly the sea level, the river having an average fall of ten or fifteen feet per mile and I had assumed that there must be great falls, and that the explorer must approach them from above.

He answered in substance, "Have you never seen the river? It is the muddiest river you ever saw. I was confident that I would find no considerable falls. Rapids I expected, of course, but not falls. I was convinced that the canyon was old enough, and the muddy water swift enough and gritty enough to have worn down all the falls to mere rapids. I entered the canyon with confidence that I would have no high falls to stop us, although there might be bad rapids, and I believed that we might overcome them in some way,—*and we did.*"

The next year he induced Congress to establish a geological and topographical survey of the Colorado River and its tributaries; it was placed under his direction and on it he was engaged much of the following ten years.

Incident to this, he became interested in the study of the arid regions and the problem of their improvement, also the impounding of the floods of the western rivers for the double purpose of controlling the floods and using the water for irrigation. The present hydrographic survey of the country is the outcome of his interest in this matter.

Between 1865 and 1875 many surveys in the western country were established, acting independently of each other, often in competition as well as rivalry, but not mutually helpful, and working under different departments of government.

Major Powell took an early and active part in the efforts that came up for a more satisfactory adjustment of these and their unification under a more rational system of operation. After much agitation, discussion and opposition, Congress finally, in

March, 1879, discontinued the separate surveys and established the United States Geological and Geographical Survey, under the Department of the Interior, and Clarence King was appointed Director.

Beginning with his first visit to the Rocky Mountains, Major Powell began ethnological and anthropological studies of the American Indians, for the Smithsonian Institution.

Ten years later, in 1876, Professor Henry, the then secretary, placed this along with other accumulated material pertaining to this subject in his hands, for arrangement and publication. The next year, his first volume of "Contributions to North American Ethnology" was published by the Geological Survey. Later followed five more of these quarto volumes under the same auspices.

With the establishment by Congress of the Geological Survey, the Bureau of Anthropology was also established in the Smithsonian Institution and Major Powell made Director, an office he retained twenty-three years and until his death, and the annual volumes of "Contributions" have continued in the same general form.

Mr. King resigned the directorship of the Geological Survey in 1881, and Major Powell was appointed his successor, retaining however the direction of the Ethnological Bureau, and for thirteen years he administered both offices, and both institutions were greatly widened in their work and improved in their methods under his administration.

In 1894 he resigned the office of Director of the Geological Survey and since then has devoted himself more to other work, ethnological, anthropological, psychological and philosophical.

Major Powell was endowed with an eminently philosophical mind, had great administrative ability, was rich in suggestions and fertile in originating and planning, in devising new work and methods and in improving old ones; had a personality of great force, persuasive in inducing men to do, and he inspired the confidence of those with whom he held official or social relations. He was a powerful advocate of reform in laws affecting the permanent welfare of the West and was for many years one of the most conspicuous personages in the scientific corps under the government. He was a member of the National Academy of Sciences and of other societies and clubs, and several colleges and universities conferred academic degrees upon him.

Major Powell was a faithful and genial friend, and his most interesting individuality made him many friends. He died of apoplexy. His wife and a daughter survive him.

WM. H. BREWER.