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DR. JOHN EVANS, U. S. GEOLOGIST, 1851-1861

Among the unsung heroes of our country, first place must be given to that group of early pioneer scientists, sent out by the Smithsonian Institution from 1840 to 1860, in the days when the old Northwest was bornin', into the wastelands of Oregon and Washington, and the bad lands of Nebraska, there to study the geology of the soil, and so pave the way for a great mining industry, and furnish the natural history of a new nation.

Quiet, unassuming men for the most part, they penetrated, with undiminishing courage, regions infested with predatory hordes of savages, braving untold dangers from the dreaded cholera prevalent along the Missouri River. The scorching sun, the pangs of hunger, and the extreme difficulty of transportation, the peril of a frail canoe being swept away by swift and unexplored currents, are alone sufficient to dampen the ardor to explore of the ordinary man of today, but to his ancestors the call of science was a panacea for all normal fears. Something of the spirit of Admiral Byrd and his men in Little America must have originated in just such a group as eighty years ago conducted their geological explorations in the northwestern territories of North America.

Among their numbers was Dr. John Evans, United States Geologist to the Territories of Washington and Oregon from the year 1851 until his death at Washington, D. C., in February, 1861. Apart from a paragraph in *Appleton's Cyclopaedia*, and a brief biographical sketch<sup>1</sup> which appeared in *The American Journal of Arts and Science*, November, 1861, nothing of note has been written about this early explorer, due chiefly to his sudden death before the publication of his journal, over which he had labored many years. This record still remains in its original manuscript form, but with many entries missing, in the library of the Smithsonian Museum where its presence is known to but few students and geologists.

Dr. Evans was born in Portsmouth, New Hampshire, February 14, 1812. He was the son of the Honorable Richard Evans, Asso-

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<sup>1</sup> By Charles T. Jackson.

ciate Justice of the Superior Court of New Hampshire, and Anne Wendell (Penhallow) Evans, the great granddaughter of Chief Justice Samuel Penhallow who emigrated to New England from Great Britain in 1686. Dr. Evans received his medical degree at St. Louis Medical College. On May 16, 1835, while residing in Washington, D.C., he married Sarah Zane Mills, daughter of Robert Mills, the distinguished architect of the Washington Monument, and Eliza Barnwell (Smith) Mills, daughter of General John Smith of Hackwood Park, Virginia, a Revolutionary patriot.

During his professional career as Geologist of the Smithsonian Institution, Dr. Evans was singularly honored on several occasions: in 1850, by being selected a member of the Academy of Natural Sciences, at Philadelphia; in 1854, by receiving the honorary degree of Doctor of Medicine from his *Alma Mater*; and in 1859, by his admission to the Boston Society of Natural History.

The eminent geologist, Dr. David Dale Owen, appointed United States Geologist in 1847, selected as sub-agents, Dr. John Evans and Dr. Benjamin Franklyn Shumard, to assist him in an exploration of four years duration into a part of Iowa, Wisconsin and Minnesota, and a portion of the Nebraska Territory. During the expedition up the Missouri, Dr. Owens directed Dr. Evans to proceed in advance, and deposit provisions along the route for the remainder of the corps which planned to return by that river. As part of his instructions, the young assistant was to examine the boundaries of the cretaceous and tertiary formations, west of the Missouri.

Engaged upon this duty, he was fortunate enough to secure co-operation in land and water transportation from the American Fur Company, which helped him cover a much wider territory than was hoped for by Dr. Owen. He was thus enabled to trace the cretaceous formations in different variations along the Missouri, in Fox Hills, at Sage Creek, Grand River, and within twenty miles of the Yellowstone, covering a distance of three hundred miles. Near Fort Berthold he discovered rich coal beds, which were found to be from four to six feet thick.

Finally, the peak of his exploration was reached when he came upon a strange, desolate valley, called the *Mauvaises Terres*, or "Bad Lands" of Nebraska, located high up on the White River. Here to his joy and wonderment, he found profusely scattered remains of many extinct animals of the early Tertiary Period, which were unique among all geological formations found elsewhere, and of a

character dating before the era of the mammoth and mastodon. Dr. Owen, later arriving at this very spot, exclaimed: "One might almost imagine himself approaching some magnificent city of the dead, where the labor and genius of forgotten nations had left behind them a multitude of art and skill."<sup>2</sup> What a great find for Dr. Evans, the thirty-eight-year-old geologist, to behold this unexplored region lying before him. His subsequent description of the fossil remains first won for him the attention of this country and Europe.<sup>3</sup>

In 1850, together with Dr. Shumard, he made a geological reconnoissance of the territory of Oregon. In March of the next year, the Secretary of the Interior commissioned him United States Geologist, as successor to Dr. Owen, "to institute geological researches on the main lines of the public land surveys about to be commenced in Oregon."

Dr. Charles Thomas Jackson, a fellow geologist, remarks<sup>4</sup> in his sketch of Dr. Evans that he worked faithfully on this commission, exploring the falls of the Missouri to Flat Head pass, in the Rocky Mountains, as far as the Columbia River, continuing his explorations in the valleys of Flat Head Lake and Bitter Root Rivers, and crossing the Bitter Root mountain range, 125 miles wide, thence to the country of the Spokane, to Clear Water, Snake, Walla Walla, Utiilah, John Days, and Falls rivers to the Columbia, finally reaching Oregon City, towards the end of 1852.

Dr. Jackson writes that he received "specimens of rocks for description, and of coals, ores or iron, lead and copper, and a piece of very remarkable meteoric iron, for analysis," all collected by Dr. Evans from these regions. He further adds that many specimens of rocks, fossils, minerals and soils were sent to the most skillful mineralogists, paelaeontologists, botanists and chemists in the United States, among whom were Dr. David Dale Owen, Professors Abram Litton, Joseph Leidy, B. F. Shumard, and Lesquereux. In all this work, Dr. Evans kept a faithful day by day report which he hoped to have published upon his return. He also discovered Cadotte Pass in the Rocky Mountains, though it bears the name of a later explorer.

Many accounts of his adventures in the Rockies, detailing narrow escapes from Indian bands on the war path, have been lost, but a few still remain as evidence of the extreme hardship and danger

<sup>2</sup> Report of a Geological Survey of Wisconsin, Iowa and Minnesota, by David Dale Owen (1852), p. 197.

<sup>3</sup> Appleton's Cyclopaedia: John Evans.

<sup>4</sup> American Journal of Science and Arts, v. XXXII., Nov., 1861.

undergone in the progress of a day's work. Once, he was on the point of starvation, and compelled to eat his own dog, after, as Dr. Jackson quotes him, he had "thrown away bread to preserve stones." His journal vividly describes the fatigue of the mountain climb, in storms and terrific heat, when the poor mules that carried his supplies were exhausted to the point of giving up their gallant struggle. From six o'clock in the morning until sun-down his work continued daily with the same stalwart spirit that marked it at the outstart, in spite of every obstacle.

To the superstitious Indians whom he met in the Rockies, the white man with his mysterious work appeared to be sent from the Great Spirit, with wonderful powers to chase away the demon cholera. His reputation for curing the dread disease served him well in winning the friendship of hostile Indians, and he was given the Indian name of "the man who kills the cholera." One story has it that he saved the son of a chieftain from this feared death, and in return received as a gift a great buffalo skin upon which appeared Indian writing. A small portion of this valuable relic was purchased in 1919 in New Orleans, La., from descendants of Dr. Evans to be presented to the Smithsonian Museum.

At another time, when his life and the lives of his party were at stake, he instilled awe in the hearts of the simple savages, by means of his sextant, bringing the sun down to earth by his magic, so they thought. Thus while reports kept coming to his ears of dreadful massacres committed in his very footsteps, Dr. Evans proceeded unscathed, a friend of the Indians, and a great medicine man, to be loved and feared by all.

The old newspaper files of Olympia, Washington, for 1853 to 1854, furnish the next episode in the adventurous career of the geologist, for they chronicle the Great Pacific Railroad Expedition, led by Isaac Ingalls Stevens, Governor of the Washington Territory, in which Dr. Evans acted as guide and geologist. Governor Stevens, before starting, wrote<sup>5</sup> Secretary of War Jefferson Davis, March 25, 1853, telling him of the planned exploration, and of the proffered services of Dr. Evans:

"The distinguished geologist, Dr. John Evans, who has gone over the greater portion of the country between the Mississippi and the Pacific, has explored two of the passes in the Rocky Mountains north of the South Pass, and has received much information of the topography of the country, has kindly given me much valuable in-

<sup>5</sup> *The Life of Governor Isaac I. Stevens* by Hazard Stevens, (1900), v. 1, p. 287.

formation, and is ready to co-operate with all his energy in a plan whereby each shall render every possible faculty and best promote the public service without an unnecessary expenditure of means."

The exploration was two thousand miles long, and about two hundred and fifty miles wide, extending from St. Paul, Minnesota, to Puget Sound. Dr. Evans' party started from St. Louis up the Missouri, about May 18, 1853, travelling on the American Fur Company's steamboat. Most of his work was carried on in the Bad Lands, collecting specimens, and in studying the geology and topography of the route taken. At Sage Creek, Nebraska, he spent some time geologizing the cretaceous formation of a new fossil species, later preparing a written description of his work. On March 3, 1854, Governor Stevens wrote him from the steamer *America*.<sup>6</sup>

"Dear Sir:

All the geological papers and the reports of the expedition made by any member of it, either to myself or to the chief of a party will be turned over to you for the necessary examination; and none will be published except in connection with your report or reports. I wish you to communicate your views freely in reference to this matter, the mode of publication, etc.

All the expenses incurred in the co-operation is chargeable to the Treasury, and I will endeavor to provide means for refunding the amount expended by you. . . . Please to forward your accounts at your earliest convenience.

Very truly yours,

Isaac I. Stevens,

In charge Expd."

By 1855, the geologist, now vastly experienced, was prepared for his greatest undertaking, further exploration in the Washington and Oregon Territories, under his own command. Upon this expedition he worked zealously until 1860, preparing his elaborate report, which, had it been published, would have proved invaluable to science, his country and the public. Unfortunately, in spite of every effort on his part to get Congress to pass the necessary bill for publishing the report, favorably viewed though it had been, his untimely death halted the procedure, and the outbreak of the Civil War utterly prevented fruition of his desire. The Legislature of Oregon had passed a bill<sup>7</sup> December, 1857, concerning the publication of Dr. Evans' Journal, thus far completed, which read:

"Whereas the able, faithful and accomplished geologist, Dr. John Evans has spent much time in the geological reconnoissance of

<sup>6</sup> Evans Family Collection.  
<sup>7</sup> Evans Family Collection.

Oregon and Washington Territories and whereas it is understood that much valuable information indicating the locality of the country possessing mineral and agricultural wealth was obtained by said geologist: and also that said geologist collected and forwarded for scientific examination a large amount of geological specimens, and whereas the information acquired by such reconnoissance, collection and examination, will be comparatively lost to this country at large, and to science unless publication thereof be made.

RESOLVED by the Council, the House concurring that a Delegate in Congress be and he is hereby requested to put before Congress the propriety and importance of the publication by that Honorable Body of the report of Dr. Jno. Evans of his geological reconnoissance of Oregon and Washington Territories.

(Signed) H. D. O'Bryant,  
President of the Council,  
Ira F. M. Balter,  
Speaker of the House."

"Attest

J. B. Micon, Clerk  
Passed: Dec., 1857."

Dr. Evans received a salary of \$3248 from the United States General Land Office for his services from March 4, 1857, to April 15, 1858, or about \$8 per day. His other expenses were as follows: to Dr. B. F. Shumard, for drawings of fossils, \$150; to Abram Litton for analysis of soils and ores, \$1270; to Dr. B. F. Shumard for determining and describing fossils, \$540; to Dr. Owen for analysis of soils, coal and ores, \$200; to Dr. Charles T. Jackson for the same, \$1,045; to N. Dubois, for services on the map of Oregon, \$176; to Taylor and Maury for stationery, \$43.75; and to Joseph Leidy, for drawings for plates, \$272; or a net total of \$6944.78.

In his report, Dr. Evans mentioned a remarkable meteorite which he discovered, and for which the Smithsonian is still seeking. Of this rare discovery, Dr. Jackson writes:<sup>8</sup>

During the Indian War in that region (Oregon), Dr. Evans ascended Bald Mountain, one of the Rogue River range, which is situated from thirty-five to forty miles from Port Orford, a village and port of entry on the Pacific coast, and obtained some species of metallic iron, which he broke off from a mass projecting from the grass-covered soil on the slope of the mountain. He was not aware of its meteoric nature until the chemical analysis was made, but the singularity of its appearance caused him to observe very closely its situation, so that when his attention was called to the subject he readily remembered the position, form, appearance and magnitude of the mass and manifested the most lively interest in pro-

<sup>8</sup> Journal of American Arts and Sciences.

curing it for the government collection at Washington, a duty I doubt not that he would have been commissioned to perform had his life been spared.

Dr. Evans estimated the cost of moving the meteorite to be from two to three thousand dollars. It would have to be carried by pack mules down Bald Mountain, forty miles to Port Orford, thence my steamer to San Francisco, where it would afterwards be transported around the Horn to Boston, finally being delivered at the Smithsonian. Eventually some geologist may happen upon this lost meteorite, and be given sole credit for its discovery.

The final work of Dr. Evans began with his appointment by President Buchanan as geologist of the Chiriqui Exploration Expedition to the Isthmus of Panama,<sup>9</sup> which set out on board the U. S. S. *Brooklyn*, August 13, 1860, and returned November 24, 1860. In the Chiriqui Lagoon he discovered coal beds measuring in thickness in some places 73½ feet, the finest bituminous coal in America, dating from the Eocene Tertiary Age.

Dr. Evans was charmed by the Chiriqui climate, and intended eventually to move there with his family. He slept out of doors for ten nights in a hammock stretched under a palm leaf roof, with the land breeze passing over a nearby swamp, without as he said, suffering any inconvenience, and "Not a moment's ill health." But his constitution was certainly weakened by such exposure, for a few weeks after he returned to Washington, D. C., he proved an easy victim to pneumonia. He died at the age of forty-nine, with his best work not yet accomplished, and without the full recognition he deserved.

As a last effort to save her husband's work, the widow of Dr. Evans petitioned Congress, Dec. 17, 1861, to raise appropriations for publishing the geologist's journal. She was unsuccessful.

RICHARD X. EVANS

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<sup>9</sup> For a full report of this expedition, see Exec. Doc. No. 41, 36th Congress, 2d Session.