

“Sandy Wastes:” Exploring and Experiencing the Great Desert

During the summer of 1819 residents of Franklin, Missouri, witnessed an unusual scene as the *Western Engineer*, a new type of riverboat, steamed into the small frontier town. The vessel was the first of its kind to have paddles mounted at the stern and was likely one of the first steam-powered vehicles most residents of Franklin ever saw. Sitting high on the water and sporting a steam vent at the bow of the ship, it was meant to appear as a great, white dragon swimming up the Missouri River.¹

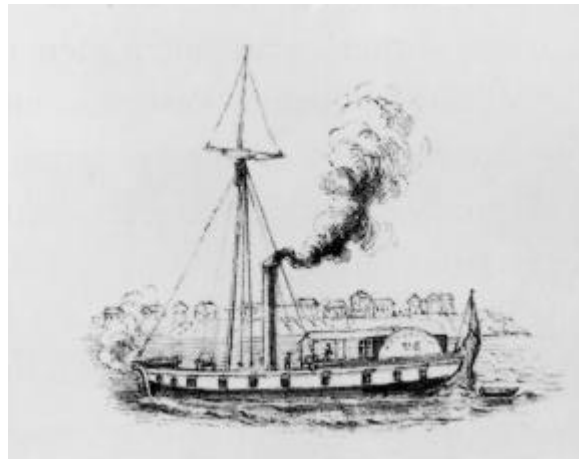


Figure 1- Titian Peale *Western Engineer*
(American Philosophical Society)

Major Stephen Harriman Long of the United States Army Corps of Topographical Engineers commanded the *Engineer* and conducted the first federally-funded western expedition since Zebulon Pike’s controversial 1806-1807 overland voyage to the Rockies. Major Long also led the first exploring party comprised of trained naturalists and artists. During the following two years, these men would endure dire hardships while traversing terrain and ecosystems unlike anything they had previously experienced. By the end of the voyage, suffering from severe hunger, want, fear, and loneliness, the expedition’s leaders sought every opportunity to reduce the scale of their journey, and the explorers’ descriptions of the “cheerless” landscape reflected their

¹ Roger L. Nichols and Patrick L. Halley, *Stephen Long and American Frontier Exploration* (Newark: University of Delaware Press, 1980), 93.

experiences on the Great Plains.

Long's contemporaries and later historians criticized the explorers and naturalists for their failure to achieve all of the goals specified in their orders and for allegedly producing few new scientific ideas. More damaging, though, has been Long's infamous use of the term "Great Desert" on his 1823 map of the plains. Hiram M. Chittenden was perhaps the most critical in his 1902 work *The American Fur Trade of the Far West* when he condemned Long for his "'false designation' of the Plains as desert, for failure to 'unlock the secrets' of the region, and for erecting a 'psychological barrier' that prevented others 'from disproving their falsehoods.'"²

Of the major explorers of the American West, Long has been comparatively overlooked, and when historians gave Long and his party any extended notice at all, they tended to echo Chittenden's assessment. Earlier exploring parties such as those led by Meriwether Lewis and William Clark (1803-1806) and Zebulon Pike have attracted much more interest; the former for their numerous successes and detailed scientific reporting and the latter for its international intrigue. Expedition historians Roger L. Nichols and Patrick L. Halley began to rehabilitate Long somewhat with their 1980 work *Stephen Long and American Frontier Exploration* by examining "the contemporary responses to the explorers' work" and by considering "carefully the scientific contributions of these investigators."³ Much of the reevaluation stems from a new understanding of early nineteenth century scientific inquiry. Subsequent research has proved much less critical, with James P. Ronda lauding Long and his travelers for their scientific and artistic achievements as he places them in the geopolitical, economic, and scientific contexts of their day.⁴

Yet, despite recent positive reappraisals of Long's expeditions, the fact remains that the major did misunderstand the region: the vast unbroken grasslands of the Plains do not constitute a desert. The science practiced by the explorers certainly influenced how they understood the region, but the field's immaturity is insufficient to explain how the naturalists drew the wrong

² Quoted in *Ibid.*, 166.

³ *Ibid.*, 158.

⁴ James P. Ronda, "Exploring the American West in the Age of Jefferson," in *North American Exploration*, ed. John Logan Allen (Lincoln: University of Nebraska Press, 1997), 9-12.

conclusion about the Plains. Nonscientific, subjective perceptions also influence how “place” is constructed, and it is those perceptions that explain how the explorers surmised they were in a Great Desert. The scientists’ expectations about the region they were to traverse, intellectual orientations, and experiences during the expedition ultimately shaped their understanding of the Plains.

What the explorers expected to find in the West was largely a function of their cultural milieu. Before embarking, Long had read the works of prior explorers and was familiar with their conception of the Plains, which occasionally conflicted. Lewis and Clark considered the region something of an Eden, while Pike had previously applied the term “Great American Desert.”⁵ (Long has received the onus of this mistake, however, because he placed the designation on his map giving it a wide audience, whereas Pike restricted the observations to his narrative.) These conflicting interpretations of the region must have given Long an ambiguous preconception of the region. That Long eventually formed an understanding more like Pike than Lewis can be explained partly by the utilitarian nature of Long and Pike’s orders, but only so far: John C. Calhoun, Secretary of War in Monroe’s administration, also ordered Long to review Jefferson’s dispatch to Meriwether Lewis.

On a larger scale, Ronda presents three primary motivations for exploration in the “Age of Jefferson,” motivations that were embodied in Calhoun’s orders to the exploring party. First, geopolitical considerations fueled exploration of a region that “was both battleground and prize in an epic clash involving Russians, Spaniards, Americans, Canadians, and native peoples.” Following the War of 1812, the United States wished to resist growing British hegemony in the Missouri Territory and to improve relations with Native Americans, who were decidedly pro-British. Uncertainties over the exact location of the southern and western borders with Spain also fed U.S. interest in sending exploring parties west.⁶

Furthermore, empires of trade and control of natural resources were closely bound to

⁵ William H. Goetzmann, *New Lands, New Men: America and the Second Great Age of Discovery* (New York: Viking, 1986), 119, Nichols and Halley, *Stephen Long*, 167-68.

⁶ Ronda, "Exploring the American West in the Age of Jefferson," 9.

national control of the West. British and American fur traders scoured the Plains in search of beaver, and the Monroe administration was keen to know the extent of American resources and to protect them for eventual American use. Calhoun and Secretary of State John Quincy Adams worried that the presence of Canadian Northwest Company fur traders in the trans-Mississippi West would block American traders from the area and weaken American claims to the profitable northern Red River region.⁷

Finally, the quest for scientific knowledge formed a significant basis for western exploration in the Early National Period. Science supported exploration for imperial and economic reasons, which in turn produced additional exploration to acquire information for its own sake. As nineteenth-century fur trader Alexander Ross wrote:

The progress of discovery contributes not a little to the enlightenment of mankind; for mercantile interest stimulates curiosity and adventure, and combines with them to enlarge the circle of knowledge. To the spirit of enterprise developed in the service of commercial speculation, civilized nations owe not only wealth and territorial acquisitions, but also their acquaintance with the earth and its productions.⁸

Overwhelmingly focused on utilitarian goals, scientists and engineers went west, providing the geographical information necessary to exploit the resources required by developing markets. Suzanne Zeller reminds us that “the nature and extent of these resources could be made known quickly and efficiently only through ‘statistical,’ rational surveys. . . .” Exploration science “offered a means of assessing the habitability” of the western areas that Americans wanted to possess and a way to improve the quality of life for Americans.⁹

Despite this emphasis on practical knowledge, Enlightenment-era beliefs in science for its own sake were still a force when Long journeyed west. Moreover these theoretical impulses are clearly present in the type of research conducted by the naturalists in Long’s company. Ameri-

⁷ Ibid., 64.

⁸ Quoted in Ibid., 12.

⁹ John Logan Allen, *North American Exploration*, vol. 3 (Lincoln: University of Nebraska Press, 1997), 2. and Suzanne Zeller, "Nature's Gullivers and Crusoes: The Scientific Exploration of British North America, 1800-1870," in *North American Exploration*, ed. John Logan Allen (Lincoln: University of Nebraska Press, 1997), 191.

cans considered their country exceptional and sought to identify “those forces that contributed to its distinctive formation and striking fauna and flora.”¹⁰ This impulse was endemic in turn-of-the-century educated American society. Thomas Jefferson exhorted travelers to observe all “exterior and visible characteristics” of nature on their travels; and men and women collected botanical, zoological, and geological samples and recorded geographic, ethnographic, meteorological, and magnetic observations wherever they went. Nonexplorers were often members of scientific societies and published their natural observations. Organizations such as the American Philosophical Society and the Philadelphia Academy of Natural Sciences “were loci of power and influence that transcended their formal boundaries of interest,” and scientific achievement was “a means of social acceptance.”¹¹

Although Long’s retinue included the first professional scientists in the West, they had numerous amateur prototypes. Most notably, Lewis and Clark created some 216 herbarium sheets, 70-75 for species which were new to western science when they were collected; they also collected numerous animal specimens and made detailed ethnographic, meteorological, and cartographic observations on their voyage to and from the Pacific.¹² At roughly the same time, Jefferson and the American Philosophical Society engaged the French naturalist André Michaux to explore to the Rockies, though his itinerary was ultimately curtailed and his contributions limited. Numerous other exploring parties with hobby naturalists--many of them quite skilled--investigated the eastern states.

It was in this context of active amateur scientists, geopolitical struggle, and the quest for

¹⁰ Alan I. Marcus, "Science and Technology," in *A Companion to 19th-Century America*, ed. William L. Barney (Malden, Mass.: Blackwell, 2001), 340-41.

¹¹ Zeller, "Gullivers and Crusoes," 192-93.; Jefferson quoted in Ronda, "Exploring the American West in the Age of Jefferson," 13.; and Edward C. Carter, II, "Benjamin Henry Latrobe, 'Learned Engineer,' the American Philosophical Society, and the Promotion of Useful Knowledge and Works, 1798-1809," in *Science and Society in Early America : Essays in Honor of Whitfield J. Bell, Jr.*, ed. Randolph Shipley Klein, *Memoirs of the American Philosophical Society* (Philadelphia: American Philosophical Society, 1986), 204, 09.

¹² Paul Russell Cutright, *Lewis and Clark: Pioneering Naturalists* (Urbana: University of Illinois Press, 1969), 367.

new resources that Stephen Long led his most famous expedition from 1819 to 1820. The Scientific Expedition, as it was called, was one of three coordinated ventures known as the Yellowstone Expedition. The goal was to set up forts near the northern border, militarizing the Northwest from the Mississippi River to the confluence of the Missouri and Yellowstone Rivers. Calhoun stated that these were to be “part of a system of measures, which has for its objects, the protection of our northwestern frontier, and the greater extension of our fur trade.”¹³

The first prong, the Mississippi Expedition under the command of Colonel Henry Leavenworth, ascended to the Falls of St. Anthony in 1819 and constructed Fort Snelling at a location that Major Long had reconnoitered on his 1817 travels. The Missouri Expedition, led by Colonel Henry Atkinson, consisted of six steamboats headed for the Yellowstone River. They made little progress their first year, ascending only far enough to found Fort Calhoun, Nebraska, where sickness and disease over the winter decimated the contingent. The Missouri Expedition progressed no further upstream.



Figure 2- Route of Long's 1819-1820 Scientific Expeditions

Long's Scientific Expedition was ordered to follow the same course as the ill-fated Missouri Expedition and would include what the *Niles Weekly Register* described as “scientific characters.”¹⁴ Calhoun's orders gave them wide latitude how to conduct their work, “yet show

¹³ Ronda, "Exploring the American West in the Age of Jefferson," 64.

¹⁴ Baltimore Niles Register of 10 October 1818 quoted in Nichols and Halley, *Stephen Long*, 67.

that questions of military activity, Indian affairs, the fur trade, and transportation held the top priorities.” They were to “explore the Missouri and its principal branches, and then, in succession Red river, Arkansa and Mississippi above the mouth of the Missouri.” The explorers were to observe “every thing interesting in relation to soil, face of the country, water courses, and productions, whether animal, vegetable, or mineral. In addition to ordering Long to study the size, culture, and land claims of tribes they encountered, Calhoun also suggested that Long reread the instructions Jefferson gave Lewis and Clark and asked the American Philosophical Society to provide additional questions and suggest resources.¹⁵

Calhoun’s emphasis on utilitarian information coupled with the often frenetic pace of exploration must have constrained the naturalists’ understanding of the regions they traversed. They were directed to observe things of immediate use--items that William Cronon has termed “merchantable commodities.”¹⁶ This did not prevent the explorers from conjecturing about more theoretical phenomena, such as linking the flavor of bison meat to the grasses that they ate, but the scientists were frequently unable to verify such musings with experiments. A notable exception to the usual practice of straight observation and blind conjecture was the naturalists’ conjecture that burrowing owls living in the middle of prairie dog towns ate the rodents. After Titian Peale and Thomas Say dissected a specimen, the assertion proved false.¹⁷ Despite occasional efforts at hypothesis testing, the majority of the science displayed an emphasis on collection and classification, a practice which oriented them to view nature in a particular manner.

While the scientists shared a specific scientific orientation that influenced their conclusions about the Plains, they were very capable scientists. Not surprisingly, most hailed from Philadelphia, where Long had lived before entering the Army. For the 1819 expedition’s surgeon and

¹⁵ Calhoun quoted in Edwin James, Stephen Harriman Long, and Thomas Say, *Account of an Expedition from Pittsburgh to the Rocky Mountains, under the Command of Major Stephen H. Long, from the Notes of Major Long, Mr. T. Say, and Other Gentlemen of the Exploring Party* (Barre, Mass.: Imprint Society, 1972), 4-5.

¹⁶William Cronon, *Changes in the Land : Indians, Colonists, and the Ecology of New England*, 1st ed. (New York: Hill and Wang, 1983), 20-23.

¹⁷ James, Long, and Say, *Account*, 313-14. and Nichols and Halley, *Stephen Long*, 128-29, 44.

botanist, Long chose William Baldwin, whom the major concluded “to the best information I can obtain . . . stands unrivaled” among his peers. Unfortunately, he also suffered from tuberculosis and died in Franklin, Missouri, during the first months of the expedition. Augustus E. Jessup, a wealthy merchant and an amateur scientist with a sophisticated interest in mineralogy and geology came aboard, as did Thomas Say. An apothecary with little formal education and “a giant in the early American scientific community,” Say, “along with Dr. Baldwin, was probably the most qualified scientist to serve with the expedition.” As a founding member of the Philadelphia Academy of Natural Sciences, Say had published several works including his groundbreaking *American Entomology*. Titian Ramsay Peale, the youngest son of Philadelphia museum curator and academic luminary Charles Willson Peale, aided in collecting, preparing, and sketching specimens. Samuel Seymour, an artist from Philadelphia about whom little is known, rounded out the scientific attachment and made numerous sketches and watercolors of the landforms and geologic features the party encountered. Two topographers, one sergeant, eight privates, and Major Thomas Biddle Jr., acting as the expedition’s official journalist, comprised the rest of the 1819 contingent.¹⁸

In the winter of 1819-1820, Long returned to Washington to secure additional funding and recruit new expedition members. Edwin James was the ideal candidate to replace the late Dr. Baldwin and the geologist Augustus Jessup, who declined to return for another year. Trained in botany, geology, and medicine at Middlebury College, by 1820 James had published on these subjects and was an active correspondent with Amos Eaton and Dr. John Torrey. Long also replaced the quarrelsome journalist Biddle (who had challenged the major to a duel over his leadership and later quit the party) with John R. Bell, an instructor of tactics at the Military Academy who was desiring some adventure.¹⁹

The scientists’ limited formal training surely stunted their understanding of the workings of the natural environment they encountered--had that been their primary aim--and Nichols and Halley concede “by present standards, these pioneer American scientists appear to have been amateurish and ill-equipped for their parts in the expedition.” Given the state of American

¹⁸Nichols and Halley, *Stephen Long*, 69-77.

¹⁹ *Ibid.*, 111-12.

science, though, “the men comprised as competent a group as could have been assembled.”²⁰ Indeed, they were keen observers of detail, collecting and describing numerous species, geological details, ethnographic observations, and cartographic readings.

Although the scientists recorded very few details in their journals about how they conducted their scientific activities, Long made careful note of the equipment he requested. The instruments they used--“a hygrometer, a measuring chain for survey work, a microscope, a theodolite, a glass horizon, a sea sextant, a watch, and several cases of ‘mathematical instruments’”--point to the descriptive form of their work.²¹ The equipment they carried undoubtedly reinforced the type of research they were familiar with conducting.

The scientists were not focused solely on describing useful resources, though. On the contrary, the naturalists were also engaged in what historian of science Thomas S. Kuhn termed the “articulation of theory.”²² The paradigm in which they were working can be best understood by considering Charles Willson Peale’s Philadelphia museum (figure 3). Housing thousands of samples (some from Long’s expeditions and many of them mounted for his paying visitors to view), both the museum and Peale’s painting of it demonstrate the Enlightenment desire to catalogue “the whole world of nature organized as it should be--according to the Great Chain of Being.”²³

²⁰ Ibid., 70-74.

²¹ Ibid., 77.

²² Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 2d , enl. ed. (Chicago,: University of Chicago Press, 1970), 73.

²³ William H. Goetzmann and William N. Goetzmann, *The West of the Imagination*, 1st ed. (New York: Norton, 1986), 4.



Figure 3 - Charles Willson Peale
The Artist in his Museum
(Philadelphia Museum of Art)

Summarizing George Daniel’s assessment of Jacksonian-era science, Alan I. Marcus writes, “[Baconian] infatuation with description, allegedly without a priori assumption, marked the sole acceptable scientific form” and “netted virtually no productive work.”²⁴ While Marcus ultimately disagrees with the scope of Daniel’s condemnation, it is important to note that the challenge of Linnean classification to amass and analyze huge collections of specimens in order to “arrive at [classification] criteria that were more comprehensive and, therefore, more ‘natural,’”²⁵ usually involved removing specimens from their natural environment.

Consequently, the method of scientific collection and reporting influenced the types of conclusions the naturalists would draw. As expedition members were filling in links in the Great Chain of Being, they by necessity produced gaps in the understanding of the Plains. These gaps would ultimately allow them to characterize the Plains as the Great Desert, in part because they had so successfully removed the psychological association between the multitude of plants and animals they had collected and the “sandy wastes” from which they were plucked.

²⁴ Marcus, "Science and Technology," 336.

²⁵ Zeller, "Gullivers and Crusoes," 193.



Figure 5 - Photostat of *Prosopis glandulosa* Torr.



Figure 4 - Shell sketches in James's *Account* (1823)

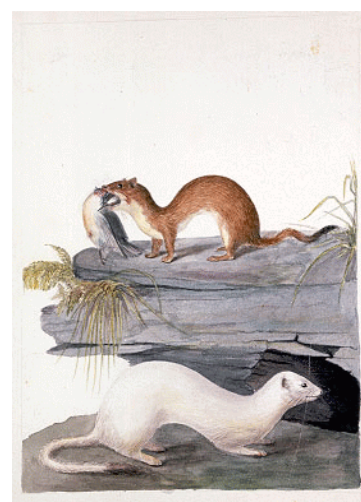


Figure 6 - Titian Peale *Mink and Ermine* (American Philosophical Society)

For example, the photostat of *Prosopis glandulosa* Torr. (figure 4)²⁶ demonstrates James's excellent preparation skills and thoroughness of description. By affixing the plant and its parts to a sheet, however, it has lost all natural context. It is no longer possible to tell the habitat in which it grew nor its relationship to neighboring organisms. The same is true of Titian Peale's sketches of shells Thomas Say collected on the 1819 leg of the journey (figure 5). Although technically exquisite, their arrangement in a regular grid on the plate forces an abstraction from their natural conditions. While most of Peale's numerous sketches and watercolors removed species from their environment, others did not (figure 6). These, however, frequently place different species in unbelievable proximity or idealize landscapes. As a result these species simply make cameo appearances in the greater ecological story of the Plains. Nevertheless, Peale's images do demonstrate that a profusion of life was present in various, nebulously defined niches in the Great Desert. Juxtaposing the scientists' recognition of the variety of life on the Plains with

²⁶ George J. Goodman and Cheryl A. Lawson, *Retracing Major Stephen H. Long's 1820 Expedition: The Itinerary and Botany*, vol. 73, *The American Exploration and Travel Series* (Norman: University of Oklahoma Press, 1995), 235.

their classification of the area as a barren waste shows the deficiency of their scientific tools to get at deep ecological understandings at the same time that it highlights the method's ability to influence perceptions of place.

Beyond these methodological concerns, however, lay the actual lived-experiences of the explorers on the range, and the naturalists' day-to-day encounters with the Plains ultimately influenced their perceptions and conclusions about the region as a whole. If it is true, as Eliot West argues, that "'place' begins in the mind, but is imagined out of the content of specific ecological habitats" and as William Deverell asserts "that the West's scenery is so powerful that its grandeur, space, and landscape have the power to imprint minds with 'dreamscapes' on which people enact real life," then it becomes easier to understand how Long and his party conceived of a Great Desert.²⁷ Each explorer was passing his individual experiences of the Plains landscape through a series of perceptual filters to produce a mental image of the region that we can only imperfectly understand. These perceptions were of a region that was hot and dry to the point of "unvaried" and "irreclaimable sterility" and which lacked animals and plants--just as a desert would--in part because the explorers themselves were hot and thirsty and lacked food and forage for their animals.²⁸

These filtered images reinforced other perceptions that the explorers generated. All things considered, the explorers visited very little of the Plains in 1819 and 1820, yet they extrapolated their conclusions to the entire region. The danger of this practice appears in their reaction to the Sand Hills immediately to the north of the Platte River. With sandy soils that are the remnants of glacial activity, the Sand Hills made the strongest impression on the travelers. Nevertheless, the other regions they passed were more representative of the Plains as a whole and were relatively well-watered and covered with thick grasses; even the sandier areas, which the explorers did not thoroughly inspect, contained a large amount of isolated wetlands when Long traversed them. In addition, in 1819 the naturalists had limited experience with the land because they did not venture

²⁷ West and Deverell summarized in Molly P. Rozum, "The Relational West," in *A Companion to 19th-Century America*, ed. William L. Barney (Malden, Mass.: Blackwell, 2001), 297.

²⁸ James, Long, and Say, *Account*, 305, 24.

far from the Missouri River, lest they get separated from the *Western Engineer*.

Long dictated a tremendous pace for the explorers, largely because Calhoun's orders forced them to cover a great area. The major shares a great deal of the blame, though, for he suggested the itinerary and was late in getting started. The *Engineer*, which Long had conceived and redesigned several times in the autumn and winter of 1818 was slowly constructed and proved unreliable on the water, pushing Long to cover more distance when the ship was mobile. The newness of steam technology and the rivers themselves conspired against the crew. Sludge from the thick Ohio, Mississippi, and Missouri Rivers routinely clogged the steam chambers, which had to be drained, cleaned, refilled, and brought back to steam. The ship's deep draft induced groundings on sandbars, although the aft placement of the paddle wheels prevented floating logs from becoming a serious issue. Expedition members could and frequently did walk along the riverbanks and made better time than the *Engineer*. Nevertheless, it was difficult to conduct thorough science at this pace, so the occasional lacunae from traveling gave the naturalists a chance to gather specimens and work on their notes. Not coincidentally, much of the research of the Scientific Expedition was completed while the explorers were in winter quarters in 1819-1820. In 1820, because Long and his men had to cover more area than the prior year, "distance and speed became more important than quality or thoroughness of investigation."²⁹ During both years, the crew endured bouts of rapid motion frequently averaging twenty miles per day, followed by days where they made little, if any, progress.

Another reason for the tremendous pace in 1820 is that Long and the others wanted to hasten the end of their expedition. Privation, difficulty, and fear were constantly with them, emotions which colored their perceptions of the Plains. The money that Congress promised for the 1820 expedition never materialized, and Long was incapable of properly outfitting the expedition. After waiting too long for money that did not appear, the expedition set out from Engineer Cantonment (near present-day Omaha, Nebraska) with a meager month's food supply, inadequate scientific equipment and specimen storage, and only six extra horses.³⁰ Lacking funds and trade goods, the major found it impossible to barter for necessities or hire guides. Trappers and Native

²⁹ Nichols and Halley, *Stephen Long*, 110-11.

³⁰ Ronda, "Exploring the American West in the Age of Jefferson," 67.

Americans worried the crew with tales of extreme heat, thirst, bad terrain and attack from Pawnee warriors.

The explorers started up the Platte at a time when forage dwindled and the weather grew hot. Biting flies, “nettles,” and high grasses slowed them, and sickness and injury took their toll. Despite the harsh conditions, the scientists made daily observations, usually in the early morning and evening. Long halted the party every Sunday for the naturalists to gather specimens and write about their research, but it was becoming more difficult to do properly. When one explorer caught a mule deer, science gave way to hunger; Titian Peale was given scant time to sketch the animal before the other members cooked and devoured it.³¹ On multiple occasions hungry members of the expedition deserted, indiscriminately taking scientific notes and specimens along with the food. Other times, Pawnee stole scientific equipment from Long and James, who were understandably upset and grew more suspicious and untrusting of Native Americans in general. Assuming simply that they were thieves, the scientists did not realize that gift-giving was a normal part of Plains Indian culture, and when the naturalists lacked trade goods, their hosts simply helped themselves to reciprocate the trade for food and information they had provided.

After more than a month on the dusty plains, July 14, 1821, marked a point of relatively considerable success: James and a small contingent succeeded in ascending Pikes Peak, which Long renamed “James’ Peak” in his honor. From there James saw that the south fork of the Platte did not curve to follow the Front Range but issued from the Rockies, allowing the group to claim success on one of their objectives without actually achieving the source of the Platte.³² The ascent was a scientific success as well. James noted large rodents that were likely marmots and became the first naturalist to collect alpine plants in the Americas, a collection that “proved to be one of the major botanical contributions of the expedition.”³³

By the time the party reached Pikes Peak they were weary of further westward travel. Their hardships and desires to be finished with the expedition were already appearing in their records. “The monotony of a vast unbroken plain, like that in which we had now traveled . . . is

³¹ James, Long, and Say, *Account*, 306.

³² Ronda, "Exploring the American West in the Age of Jefferson," 68.

³³ Nichols and Halley, *Stephen Long*, 129, 32-33.

little less tiresome to the eye, and fatiguing to the spirit, than the dreary solitude of the ocean,” James recorded in his journal a few days before the ascent.³⁴ Four days after the party reunited, James and Long turned to the south to seek the Arkansas, where Long again split the party in two: Bell and a small party headed down the Arkansas, Long and James continued south to the Red. After descending for some distance, the realization that he had mistook the Canadian for the Red dawned on Long. Hungry, despondent, and tired of the Plains, James transferred his emotions to the environment, imbuing it with a sense of comfortlessness and desolation:

This harsh and guttural noise [of the thousands of bison near camp] was varied by the shrill bark and scream of the prairie wolves, and the howling of the white wolves, which are also abundant. The wild and dissonant sounds, were associated with the idea of the barren and inhospitable wastes, in the midst of which we were then reposing, and vividly reminded us of our remoteness from the comforts of civilized society.³⁵

When Bell and Long’s parties reunited at Fort Smith on the Arkansas River, the members of the Scientific Expedition had covered more than fifteen hundred miles since they left Engineer Cantonment. Despite this rapid pace and the loss and theft of samples, the naturalists and artists had collected and generated an immense volume of data. During the 1819-1820 expeditions, Thomas Say collected several thousand insects and shells, many of which were unknown to Western science. James and Baldwin were similarly prodigious in the field of botany; Dr. Torrey reported receiving a collection of “about 700. Many of these . . . are exceedingly interesting, & not a few are new species.” Titian Peale rendered “124 drawings of animals, birds, insects, plants, fishes, snakes, lizards, and shells.” For his part, Samuel Seymour produced more than 150 pictures demonstrating the unique scenery of the Plains and showing the region’s inhabitants and wildlife. Expedition scholars Nichols and Halley remind us, “this vast collection of sketches, drawings, and pictures included illustrations of plants never seen by eastern naturalists,” and when combined with the physical samples, “afforded scholars in Philadelphia an opportunity to enlarge

³⁴ James, Long, and Say, *Account*, 306.

³⁵ *Ibid.*, 461.

their knowledge without having to travel west.”³⁶

These scientific results challenge Long’s characterization of the region. While no desert is devoid of life, the naturalists had collected a prodigious number of specimens, with enough biological diversity to hint at the presence of water in sufficient amounts to sustain a large number of competing species. However, the challenge to Long’s assessment is more ambiguous in the expedition’s written and visual record. Expedition members recorded experiencing extremely dry regions. For Long and others the appellation of “Great Desert” was not hyperbole but rather an honest description of the terrain as the explorers compared it to other regions. Their descriptions were largely visual, and their experiences at the time amplified what they saw. James commented on “the intense reflection of light and heat from the surface of many tracts of naked sand” which were bounded by the Rocky Mountains, “forming the shore of that sea of sand, which is traversed by the Platte. . . .” Elsewhere he described the region as “one thousand miles of dreary and monotonous plain.” Parts were a “sterile and Sandy trace;” others “sandy wastes and thirsty inhospitable steppes.” Bell regarded the region as “a dusty plain of sand and gravel, barren as the deserts of Arabia.”³⁷ The lack of variety appears integral to the conception of desert, with Long praising the wildlife along the South Platte that “relieved the uniformity of its cheerless scenery.”³⁸ These descriptions of desolation and thirstiness mirror the want and privations the unprepared explorers keenly felt as they passed through the region.

Samuel Seymour’s aquatints and engravings both reinforce and challenge the assertion of a vast desert. Seymour’s *Distant View of the Rocky Mountains* (figure 7) combines a large amount of negative space throughout with iconographic elements--such as fossil bones, Native Americans, and bison--to produce an “epic” American image with a “sense of awesome space and a vast level plain.” Aesthetically, one might argue that this is indeed a desert, largely devoid of visual interest, which is why the fabricated visual elements are required. However, other, more

³⁶ Nichols and Halley, *Stephen Long*, 173-75.

³⁷ James, Long, and Say, *Account*, 314-16.

³⁸ Quoted in Donald Worster, *An Unsettled Country : Changing Landscapes of the American West*, 1st ed., *Calvin P. Horn Lectures in Western History and Culture* (Albuquerque: University of New Mexico Press, 1994), 65.

accurate images such as *View of James Peak in the Rain* (figure 8), with its lush vegetation, clearly show, that the “whole country is *not a desert*.”³⁹



Figure 7 - Samuel Seymour *Distant View of the Rocky Mountains*



Figure 8 - Samuel Seymour *View of James Peak in the Rain*

Considering Seymour’s *Distant View*, William H. and William N. Goetzmann conclude that “the artist’s feelings of awe or wonder at the moment of viewing inevitably allowed his emotions to give form and character to the pictures,”⁴⁰ allowing him to envision a landscape that was wide and empty (*i.e.*, desert-like) for at least one canvas. Long and others were similarly influenced by subjective internal processes, namely anxiety, memory, and prejudice, when they

³⁹ Goetzmann and Goetzmann, *The West of the Imagination*, 10-12.

⁴⁰ *Ibid.*, 12.

developed their dreamscapes.

Warnings to the explorers from frontier residents and soldiers before they embarked, coupled with tense stand-offs with Native Americans during the journey, infused a sense of foreboding to their experiences of the region. Furthermore, James recollection of the desert as a cheerless place far from home, hearth, and “civilized” society presages the experience of numerous overlanders on the Great Plains and the Snake River Plain during the 1840s, such as Alonzo Delano who lamented the “barren reaches of table land, the bare hills, the desert plains” which separated him from his home and family.⁴¹

Long’s own assessment of the region draws greatly upon his expectations of fertility required by an agricultural economy. Unlike his boyhood home in New Hampshire and the farming regions of Pennsylvania where he later lived, the prairie appeared too dry to support human activity:

In regard to this extensive section of country, I do not hesitate in giving the opinion that it is almost wholly unfit for cultivation, and of course uninhabitable by a people depending upon agriculture for their subsistence. Although tracts of fertile land considerably extensive are occasionally to be met with, yet the scarcity of wood and water, almost uniformly prevalent, will prove an insuperable obstacle in the way of settling the country.”⁴²

The concept of desert for Long was intimately tied to agricultural and human productivity. For a nation that required fertile lands for a burgeoning empire of democratic yeomen and natural resources for a developing market-oriented economy, the Great Plains appeared to hold as little promise as the “deserts of Arabia.”

In this respect, Long and James give very similar assessments to earlier European and North American explorers, such as Zebulon Pike, who engaged in “conscious or subconscious attempts to convey impressions of environmental conditions analogous to those in their native lands.” Suzanne Zeller called such explorers “Gullivers,” who “reported their observations in terms relative to the familiar standards of home.” G. Malcolm Lewis has pointed out that such

⁴¹ James P. Ronda, "Dreaming the Pass: The Western Imagination and the Landscape of South Pass," in *The Big Empty: Essays on Western Landscapes as Narrative*, ed. Leonard Engel (Albuquerque: University of New Mexico Press, 1994), 19.

⁴² Long quoted in Nichols and Halley, *Stephen Long*, 167.

descriptions of the Plains usually used words and terms like “champion (champaign) land, barren land, meadow, prairie, savannah, desert, and plain,” because, like similar areas previously encountered elsewhere, they had few natural resources that turn-of-the-century nations wanted when compared to northern and eastern lands. The Great Plains were understood in various ways and as various places in an essential sense years before Long borrowed Pike’s “Great Desert” moniker.⁴³

It is unfortunate that Long should have attracted so much attention primarily for his misapplication of the term “desert.” By doing so, he inadvertently interfered in the emerging manifest destiny of Americans to overrun the continent. The effective western border he seemed to propose reached barely half-way across the possible extent of the nation. While it is possible that he did slow expansion to the Plains, within three decades a torrent of migrants would make their way through the region and draw their own conclusions. Indeed historian Martyn J. Bowden has shown that the idea of the West as a garden held more currency among Long’s contemporaries than the idea of a desert West.⁴⁴

The early appraisals of the West given by Long and other naturalists are complex and require careful consideration, especially when viewed in conjunction with their own scientific evidence which seemed to contradict their conclusions. The volumes of textual, visual, and physical data generated by the explorers ultimately yielded a fairly balanced view of the Plains: a region that is at once hot and dry and yet well-adapted to life, just not necessarily human life. In this respect Long’s conclusions about the habitability of the region prefigured John Wesley Powell’s conclusions about the need for irrigation to aid development in his 1876 *Arid Lands* report. Moreover, Long blazed the trail for a new type of federally-sponsored western expedition that included scientists, artists, and (later) photographers as an integral part of balanced explora-

⁴³ G. Malcolm Lewis, "The Cognition and Communication of Former Ideas About the Great Plains," in *The Great Plains: Environment and Culture*, ed. Brian W. Blouet and Frederick C. Luebke (Lincoln: Published by the University of Nebraska Press for the Center for Great Plains Studies University of Nebraska, 1979), 32-34, Ronda, "Dreaming the Pass," 13, Zeller, "Gullivers and Crusoes," 190-91.

⁴⁴ Ronda, "Exploring the American West in the Age of Jefferson," 68.

tion. Though these explorers were often serving the utilitarian and imperial interests of the state, like Long they strove to help an expanding nation understand and create itself by looking at the land. The conclusions of Long's party indicate the role of ideological orientation and expectation in the creation of place at the same time that they caution against trusting our initial reactions to alien environments.

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