

Outfitted for the Unknown

Explorer Titian Peale's Clothing
and Scientific Equipment

BY JENNIFER CLARK



Titian Ramsay Peale—a memorable name for a great American scientist, artist, explorer, museum curator, bureaucrat, and photographer—is a largely unknown figure today. Peale played a role in many exciting ventures of the 1800s and interacted with some of the most prominent people of his time. His adventures and discoveries never propelled him to the fame or fortune other explorers received, partly because of issues with publication of the results of his travels, but he participated in expeditions both to the West and around the world and created wonderful works of art documenting his trips.

Literally born in the family museum in Philadelphia when it was located in Philosophical Hall, Titian Peale grew up surrounded by one of the foremost natural history collections of its day. Titian's father, Charles Willson Peale, was a talented artist and scientist who founded the nation's first museum. Peale served as an aide to George Washington during the American Revolution and painted famous battle scenes of the conflict. His museum displayed these along with portraits of most of the founding fathers of the United States, a collection of mounted animal and bird specimens, and the first fossilized skeleton of a mammoth to be exhumed and preserved. Thomas Jefferson sent two grizzly bear cubs to Peale after they proved too wild for the White House (they were too wild for the museum as well, and they had to be put down after menacing the family). Peale named his children after famous artists he admired, and Titian was the youngest in a family whose collection also boasted Rembrandt, Raphaelle, Angelica Kauffman, and Rubens. Most of the boys took up the family professions of painting and natural history.¹

Peale started to practice as an artist and naturalist quite young, and his early work with caterpillars, butterflies, and moths started a lifelong interest in those creatures and led to his election to the Academy of Natural Sciences of Philadelphia when he was only seventeen. His first major collecting trip, to Georgia and Florida, was made with family friend Thomas Say and other members of the academy.

In 1819, young Peale's proven talent for painting animals, birds, and insects, and his experience in taking care of biological specimens in the Peale Museum won him a position as assistant naturalist on a major western expedition of discovery. Major

(Left) In a self-portrait, Charles Willson Peale, Titian Peale's father, raises the curtain on his museum on the second floor of Independence Hall. The museum moved to Independence Hall from Philosophical Hall when Titian was three years old, in 1802. Note the mastodon skeleton on the right. (Image: *Pennsylvania Academy of the Fine Arts*)

Stephen Long assembled a team of scientists, including Peale, to accompany Col. Henry Atkinson's Yellowstone Expedition. The expedition's major goal was to establish a military outpost at the mouth of the Yellowstone River, but it also included a scientific corps led by Long to explore and record information about the region. The group included a geologist, a botanist, Peale's friend Thomas Say as the zoologist, Stephen Seymour as the artist, and Peale as assistant naturalist. Peale's role was to collect specimens, draw them, preserve the skins, and sketch geological features of interest.²

Portrait of Titian R. Peale by his father, Charles Willson Peale, 1819. (Image: *Private Collection*)



The journey was long and dangerous, including travel up the Missouri further than any steamboat had passed before. Prior to the departure of the expedition, Charles Willson Peale painted their portraits, including this one of his son, above—partly to console the adventurers' loved ones if they didn't survive the journey.³

Samuel Seymour was the expedition's official artist, tasked with producing sketches of landscapes as well as portraits and sketches of the American Indians they encountered. However, Rembrandt Peale, Titian's older brother and arguably the best-known artist of the second generation of Peales, advised Titian to work somewhat beyond his

official role. He suggested that Titian make notes on everything and paint the Indians he encountered in their native garb, as well as their lodges.⁴

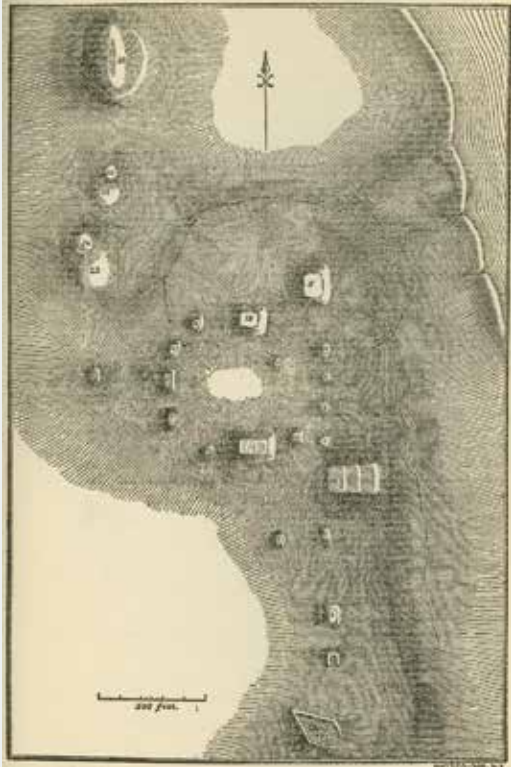
The Long contingent of the expedition traveled in a steamboat called *Western Engineer*. Built in Pittsburgh, “it was furnished with two propelling wheels placed in the stern, one of which bore in large letters the name of James Monroe, and the other that of John C. Calhoun. The President of the United States and the Secretary of War were thus represented as the propelling power of the expedition.”⁵ The bow was carved to look like a giant serpent, and steam from the boilers was vented through its mouth,

creating quite a singular sight. In his journal Peale wrote, “It will give, no doubt, to the Indians an idea that the boat is pulled along by this monster.”⁶

Travel on a steamboat down the Ohio River in 1819 was slow, with many stops for wood for fuel. The naturalists took advantage of these opportunities and explored the area along the river, documenting the wildlife they encountered. A long delay in Cincinnati gave them time to visit Drake’s Western Museum. Although small, it was one of the city’s major attractions. A 33-year-old artist and exhibit preparer was working for Drake, and although Peale did not mention him, John James Audubon recalled

A watercolor painting from one of Peale’s sketchbooks from the Long Expedition, 1820. This type of painting was actually the domain of Samuel Seymour, another member of the expedition, but Peale did a few watercolor paintings of the scenery and the people they encountered, like this study of the expedition on horseback being observed by American Indians. (Image: Yale University Art Gallery)





The 1819 Peale and Say map of the St. Louis mound group as engraved for the *Annual Report of the Board of Regents of The Smithsonian Institution, 1862*. The distance between the smaller mounds and the big mound on the north (number 27) was foreshortened on this map.

The Peale and Say map as redrawn for the St. Louis City Engineer's Office; *St. Louis Plat Map Book A, Page 23a*, c. 1840, Missouri Department of Natural Resources, Division of Geology and Land Survey, Rolla, Missouri. This map clearly shows the Big Mound in an inset in the upper right-hand corner. Note: the map is orientated with north to the right.



Investigations of the St. Louis Mound Group

During their layover in St. Louis, Peale and Say became fascinated with the Indian mounds to the north of the then-settled portions of the town. They spent time examining and documenting them, measuring the height of each and the distances between them. Say noted:

Tumuli and other remains of the labors of nations of Indians that inhabited this region many ages since are remarkably numerous about St. Louis. Those tumuli immediately northward of the town and within a short distance of it are twenty-seven in number, of various forms and magnitudes, arranged nearly in a line from north to south. . . It seems probable these piles of earth were raised as cemeteries, or they may have supported altars for religious ceremonies. We cannot conceive any useful purpose to which they can have been applicable in war, unless as elevated stations from which to observe the motions of an approaching enemy; but for this purpose a single mound would have been sufficient, and the place chosen would probably have been different.¹

Although incorrect about the number of mounds—there were twenty-six, the twenty-seventh being the old Spanish-era bastion at the northwest corner of the town—the report made by Peale and Say, accompanied by a detailed survey drawing of the mounds, provides scholars with the most important single piece of evidence about them, since they were so little altered when the survey was made. Very few investigations into Indian mounds had been made prior to 1819, which makes this report stand out and puts it on the cutting edge of research during that era.

Just a few years later the St. Louis street grid was extended northward, and new construction obliterated many of the smaller mounds. Later in time the larger mounds disappeared as well, with houses built on some, one turned into an outdoor entertainment venue, and another hollowed out to form the city's reservoir. The largest mound, called by the French the "Grange de Terre," or earthen barn, was demolished in 1869 to use the dirt it contained for a railroad bed. This wanton destruction was lamented by some even at the time.

Peale was not one to forget about past research, and after finding the report of the mounds among his papers forty years after it was written, he had it published in the Smithsonian annual report. Apparently, the map of the mounds was known in the interval, however, for a draftsman in the St. Louis engineering office copied the map sometime around the year 1840 for the city's records.

END NOTE

¹ T.R. Peale, "Ancient Mounds at St. Louis, Missouri, in 1819."

that “Messrs. T. Peale, Thomas Say and others stared at my drawings.”⁷⁷

The expedition arrived in St. Louis on June 9 and was “received with a salute from a 6 pounder on the bank and from several steam boats along the town.”⁷⁸ In St. Louis they enjoyed greater hospitality than they expected, and Peale encountered a familiar face:

The day after our arrival the citizens gave us a dinner at which the officers of the 5th and 6th regiment, the rifle regiment, and all the captains of the steamboats in port were invited, that I never expected to see here. We were entertained by the band of the 6th regiment while dining. There are several

Titian Peale’s buckskin shirt, jacket, and overalls, c. 1819. (Image: National Park Service, Gateway Arch National Park)



Osage Indians in town among them an old chief whose portraits Rembrandt painted in Philadelphia some years since.⁹

It is not known when Peale commissioned a suit of clothing for himself to wear during the rigors of the expedition. It consisted of a hunting jacket, shirt, and overalls, all of buckskin. This clothing has survived and will be among the items displayed in the museum beneath the Gateway Arch. Peale may have commissioned it in any of the larger towns along his route—Philadelphia, Pittsburgh, Cincinnati, or St. Louis. William L. Brown, former National Park Service historian and expert on early men’s clothing, identified these items as having been made for Peale over the winter of 1819–1820, probably by an American Indian woman from one of the nearby tribes. This may be true of the jacket, but the shirt and overalls are constructed in the European manner, and the overalls have a stamped maker’s mark.¹⁰ Brown described the jacket as a combination of buckskin tanned in the fashion of American Indian tribes and buckskin tanned in the commercial, European manner. The hunting shirt was a simple, practical article

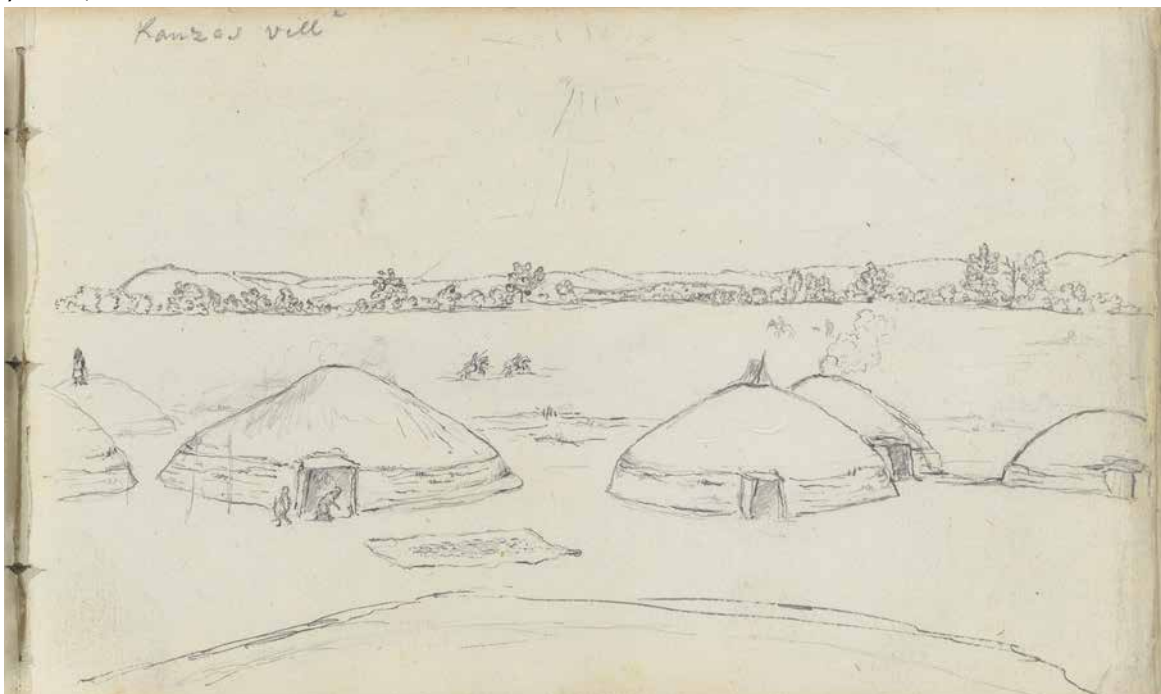
of clothing that descended from a simple peasant smock.¹¹

The shirt features small buttons for closure and is cut round at the waist, without tails. The sleeves have drawstring closures. The overalls have a button fly and drawstrings at the ankles; the waistband is augmented with linen cloth. Each of the parts of both the shirt and the overalls is cut just as a cloth garment would have been made, except the material is finely tanned buckskin. Peale probably valued the toughness and durability of this clothing as the expedition set off for the frontier from St. Louis on June 21, 1819.¹²

By October 11 the *Western Engineer* had reached its furthest point in traveling up the Missouri River in the vicinity of modern Omaha, Nebraska. The naturalists made a winter camp they called “Engineer Cantonment,” while Long traveled back to Washington to report on the progress made and to attempt to secure more funding for the expedition. The naturalists kept busy making observations and sketches and interacting with the local Indians. It was at Engineer Cantonment that Thomas Say classified the coyote for science as *canis latrans*, with Peale providing the illustration. Apparently, Peale was handy at building traps and was also a crack shot; at one point it was noted that he “killed two deer with a single shot.”¹³

When Long returned to the cantonment in early

A sketch of a Kansa earth lodge village from one of Peale’s sketchbooks kept on the Long Expedition, 1820. Peale usually made pencil sketches of his subjects in these smallish journals that could be easily transported. (Image: Yale University Gallery of Art)



1820, he carried a completely different set of orders. A financial crisis and shifting political and funding imperatives ended the Yellowstone Expedition and changed the objective of Long's scientific work. The group's new mission was to venture out to the Rocky Mountains, and on the return trip to explore and document the Red River, now a vital waterway that formed part of the border with Spain, according to the Adams-Onís Treaty between the United States and Spain settled in 1819. Long replaced a few members of the team, adding Edwin James, a botanist, geographer, and geologist who was tasked with writing the account of the expedition for publication.¹⁴



The snow petrel—one of only three birds that only breeds in Antarctica—as drawn by Titian Peale. (Image: National Park Service, Gateway Arch National Park)

Peale meticulously documented his sketches and detailed drawings, assigning numbers to each to match them to the specimens captured in the field. As the scientific work of the expedition began once more, Peale used the supplies and items he brought with him to aid his field work.¹⁵ Since much of his work centered upon entomology, an insect collection kit would have been extremely useful. The kit Peale used in 1819 survives and is part of the collection displayed in the new museum. It consists of a leather box that held a glass vial, folded papers to store specimens, a dissecting needle, some wooden tweezers, a card labeled “Titian Ramsay Peale,” and two pencils. Two insect collecting nets that look a bit like tennis racquets hinged together were known as “forceps nets” or “flappers,” and also constituted part

of his equipment. One of Peale's butterfly drawings contains an illustration of this type of net. “It was used for taking insects from foliage; the frames were closed upon the specimen, which was then transfixed with a pin inserted through the gauze.”¹⁶

The expedition ventured across the Great Plains, exploring along the Platte River to the Rockies. James described the prairie as “desolate” and “disgusting.”¹⁷ Peale collected specimens, and he and Seymour continued to paint and sketch their surroundings. They encountered “prairie dogs, pronghorns, black-tailed jackrabbits, wapiti, badgers, prairie wolves, golden eagles, white-tailed deer, ravens, great horned owls, even the crustacean inhabitants of transient pools.”¹⁸ They marveled at the abundance of wildlife on the plains. When they reached the Rockies, Edwin James and two other members of the team ascended Pike's Peak—something Pike had been unable to do himself thirteen years earlier.

Unfortunately, the return trip was fraught with missteps and problems. Three of the soldiers deserted while the party was still on the Great Plains, taking with them not only horses, but also scientific specimens and journals, none of which were ever recovered. The remaining members of the expedition made an error in navigation and traveled back along the wrong river—the Canadian, the largest tributary of the Arkansas River—instead of the Red River, which they were tasked with exploring. This failure, coupled with their portrayal of the Great Plains as a “desert” incapable of becoming useful land, made the expedition look like a failure. They simply couldn't imagine that this land could become a place for agriculture based on the techniques in use in their time.¹⁹

In terms of biological research, the expedition achieved much, collecting and documenting many different species. Over the course of the expedition Titian Peale collected numerous specimens and executed 214 drawings and paintings.²⁰ His diary from the period after the group passed Fort Osage in western Missouri is lost, but it was obviously available to Edwin James when he wrote the final report of the mission. Many of Seymour's images were also lost, but many of Peale's sketches from this period survive. His deep interest in all living creatures, especially insects and birds, kept him busy making a record of the wildlife they encountered. Seymour and Peale also recorded many of the earliest western images of American Indians—more than a decade before paintings by George Catlin and Karl Bodmer.²¹ They influenced literature as well: James Fenimore Cooper mined the account of the

expedition for details about the land and people that he used in his book *The Prairie*.²²

After the expedition, Peale had a long and varied career. He continued exploring and illustrating—he worked as artist for Charles Lucien Bonaparte, nephew of the Emperor Napoleon and a well-known ornithologist. Peale produced ten plates for Bonaparte's *American Ornithology* after traveling to Florida to observe the birds in their natural habitat.²³

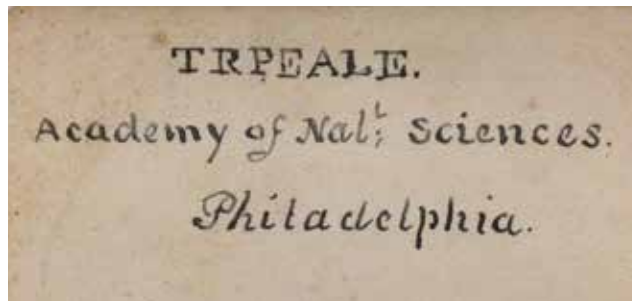
He traveled to Colombia, drawing and collecting butterflies. In 1833 he planned to publish a work by subscription to consist of one hundred plates of *Lepidoptera* (butterflies and moths). The subscription to his work was to have been published in groups of four plates every two months and costing ten dollars a year. Sadly, only one number of this planned project was ever published, with only twenty-eight subscribers enrolled.²⁴

Titian Peale became curator of his father's museum after Charles Willson Peale died in 1827 at the age of 86. Titian Peale joined another major expedition, the United States Exploring Expedition of 1838–1842 (known as either the U.S. Ex. Ex. or the



Titian Peale's paintings of Wilson's Phalarope, Piping Plover, and Schinz's Sandpiper from Charles Lucien Bonaparte's *American Ornithology, or, The Natural History of Birds Inhabiting the United States, Not Given by Wilson: with Figures Drawn, Engraved, and Coloured, from Nature*, 1833. (Image: Biodiversity Heritage Library, scanned by the Smithsonian Institution)

Wilkes Expedition) as the chief naturalist. A wildly ambitious venture, the expedition consisted of six ships and 346 men—including nine scientists and artists. The expedition circumnavigated the globe and explored portions of the coast of Antarctica, visiting Fiji, Australia and New Zealand, the Philippines, Hawaii, the Cape of Good Hope, and the northwest



Peale's card from the collection of his scientific equipment. (Image: National Park Service, Gateway Arch National Park)

coast of the United States, including the Columbia River.²⁵

Though it included a scientific corps—and this may be the voyage's greatest legacy—the expedition's purpose was as much to produce navigable charts as scientific inquiry. This led to conflicts between the leader of the expedition, Charles Wilkes, and the scientific team. Though frustrated by Wilkes' leadership, Peale still had amazing opportunities for research. On this voyage Peale and two of the artists in the group used a new tool, the camera lucida—a device that projected an image of an item that could be traced on a piece of paper to make sketches and drawings. Peale was the only member of the scientific group who traveled through the South Polar Sea for the first sighting of Antarctica.²⁶ In 1841, Peale suffered a devastating blow to his research as many of his specimens and notes were lost when the ship on which he traveled, the U.S.S. *Peacock*, ran aground in the Columbia River and sank. In spite of this loss, the expedition produced 4,000 artifacts—Peale alone collected 2,150 birds, 134 mammals, and 588 species of fish.²⁷

Major disagreements between the scientists and Wilkes over the production of the reports and the sheer inability of the young nation to handle the scope of the collections meant that it took many years for publication of scientific data and for the specimens to find permanent homes. The newly formed National Institute of the Promotion of Science took over the collection and created an exhibit in the Patent Office Building in Washington, D.C., in 1842.²⁸

Peale's fortunes continued to fall, both personally and professionally. In 1849 his wife and daughter both died of tuberculosis. That same year, the Philadelphia Museum failed, and the natural history collections were sold, some of them to P.T. Barnum, who had opened a museum nearby that had helped to drive the Philadelphia Museum out of business.²⁹ Due to fires and subsequent sales, it

is difficult to trace the history of where the natural history specimens ended up, though a few went to the Museum of Comparative Zoology at Harvard University—perhaps five bird specimens from the Long Expedition.³⁰ However, due to Peale’s careful specimen preservation, many of the actual butterflies and moths collected by Peale on the U.S. Exploring Expedition (U.S. Ex. Ex.) are still extant at the Academy of Natural Sciences at Drexel University. They are housed in the innovative bookish cases he designed and constructed, allowing the viewer to see both sides of the specimens. This amazing resource, one of the oldest natural history collections in America, was conserved and photographed by the Academy of Natural Sciences and is viewable online.³¹

The Collection of the Exploring Expedition became wildly popular. Over the course of the next decade, more than a hundred thousand people made their way each year to the Patent Office to view the exhibit, Charles Dickens and Ralph Waldo Emerson among them. Peale’s explorations once again found their way into the literature of the day. In addition to Cooper, Herman Melville also mined Wilkes’s *Account of the United States Exploring Expedition* for material for his book. Despite this, it was difficult for Wilkes to secure funding to prepare the multitude of reports. Wilkes argued with Peale over the zoology report, and few copies were printed, with most of those burning in a fire at the Library of Congress. Wilkes took Peale off the payroll in 1848, and the final zoological report was written and published in 1853 by another scientist. No report on entomology emerged, and Peale’s research on *Lepidoptera* on the expedition was never published.³²

This conflict with Wilkes hurt Peale’s professional reputation, and with the museum closed, he had to turn to another profession to support himself, taking a position at the U.S. Patent Office.³³

It seems too wild to be coincidental that Peale found a position with the U.S. Patent Office, the very organization whose building was the home of the U.S. Ex. Ex. Exhibit; perhaps he chose the position to be close to the collections. He worked for the Patent

Peale’s photograph of the Statue of Freedom before it was placed atop the United States Capitol Dome. Peale’s photographs document many of the iconic structures of Washington during their construction. This statue was designed by Thomas Crawford and cast in bronze by Clark Mills. One of Mills’ skilled workers on this project was an enslaved laborer named Philip Reid. During the course of casting the statue, Reid earned his own freedom when Lincoln signed an Emancipation Act that released certain persons held to service or labor in the District of Columbia in 1862. (Image: Library of Congress)

Office for 25 years, first as an assistant examiner and then as principal examiner in the Division of Fine Arts and Photography. The U.S. Ex. Ex. Collections went on to become one of the founding collections of the Smithsonian, the official National Museum of the United States, and were displayed there. Peale tried to obtain a position at the Smithsonian, but he lost the opportunity to a younger man.³⁴

During this period, Peale adopted a new medium as an artistic outlet, turning to photography in the early days of the art and becoming one of the first well-known photographers in America. He took the image of the Statue of Freedom, below, in 1863 shortly before it was placed atop the U.S. Capitol Dome along with many other images in the District of Columbia, now held by the Photographic History Collection at the National Museum of American History. His hundreds of images of the nation’s capital in the 1850s and 1860s produced a valuable record of this period of construction of many of the landmarks of democracy, including very early images of the National Mall.³⁵

Peale never attained national fame or recognition for his work. In retirement, he worked on his *Lepidoptera* again, but failed to publish. He continued to collect specimens and reworked some of his early sketches—including some from the Long Expedition—into oil paintings. He published a treatise on the mounting of *Lepidoptera* for the *Smithsonian Institute Annual Report* of 1863. By the time of his death, his work “had passed from natural history into the world of art.”³⁶

Perhaps the time has come to finally recognize the impact of the work of Titian Peale—130 years after his death, his masterwork, *The Butterflies of North America*, was published in 2015 by the American Museum of Natural History, showcasing his beautiful color plates.³⁷ It seems entirely appropriate that a collection of artifacts belonging to a man whose life was spent in, around, and collecting for museums should have his insect kit and exploring garb on display for the public at the Gateway Arch in St. Louis.



ENDNOTES

- ¹ Robert Cushman Murphy, “The Sketches of Titian Ramsey Peale,” *Proceedings of the American Philosophical Society* 101:6; *Studies of Historical Documents in the Library of the American Philosophical Society*, Dec. 19, 1957, 523–31.
- ² Maxine Benson, *From Pittsburgh to the Rocky Mountains: Major Stephen Long’s Expedition, 1819–1820* (Golden, Colo.: Fulcrum, Inc., 1988), 8.
- ³ Howard Ensign Evans, *The Natural History of the Long Expedition* (New York and Oxford: Oxford University Press, 1997), 24.
- ⁴ Charlotte M. Porter, “The Lifework of Titian Ramsey Peale,” *Proceedings of the American Philosophical Society* 129: 3 (September 1985), 301.
- ⁵ T.R. Peale, “Ancient Mounds at St. Louis, Missouri, in 1819,” *Annual Report of the Board of Regents of the Smithsonian Institution* (Washington, D.C.: Government Printing Office), 1862.
- ⁶ A.O. Weese, ed., “The Journal of Titian Ramsey Peale, Pioneer Naturalist,” *Missouri Historical Review* 41:2 (January 1947), 149.
- ⁷ Evans, *The Natural History of the Long Expedition*, 31.
- ⁸ Weese, “The Journal of Titian Ramsey Peale, Pioneer Naturalist,” 159.
- ⁹ *Ibid.*, 160.
- ¹⁰ Although difficult to decipher because the brand or stamp is sporadic in its clarity, the maker’s mark seems to say “A. WRIGHT, Buckskin, Skin, & Glove Manufactory.” The final line is so far undecipherable—it may contain the name of the place of manufacture. A search of city directories for Philadelphia, Baltimore, Pittsburgh, Cincinnati, and Boston for 1819 failed to turn up a Wright clothing, tailoring, or buckskin tannery business. St. Louis did not publish its first city directory until 1821, and the firm likewise does not appear there. Any leads on a location for this business would be very helpful to the National Park Service.
- ¹¹ William L. Brown III, “19th Century Buckskin Hunting Shirt/Jacket,” *Smoke Signals* (May/June 2011), 2.
- ¹² Weese, “The Journal of Titian Ramsey Peale, Pioneer Naturalist,” 162.
- ¹³ Evans, *The Natural History of the Long Expedition*, 72.
- ¹⁴ *Ibid.*, 84.
- ¹⁵ Today, Peale’s sketchbooks are in the collections of Yale University Art Gallery, while other drawings are housed at the American Philosophical Society. Kenneth Haltman, *Looking Close and Seeing Far: Samuel Seymour, Titian Ramsey Peale, and the Art of the Long Expedition, 1818–1823* (University Park: Penn State University Press, 2008), 113.
- ¹⁶ R.S. Wilkinson, “Cover Photo: A Note About Nets,” *The Michigan Entomologist* 1:3 (December 1966).
- ¹⁷ Benson, *From Pittsburgh to the Rocky Mountains*, xi.
- ¹⁸ Richard G. Beidleman, “The 1820 Long Expedition,” *American Zoologist* 26 (1986), 309.
- ¹⁹ *Ibid.*, 312, and Benson, *From Pittsburgh to the Rocky Mountains*, xv.
- ²⁰ Neal Woodman, “The Stephen H. Long Expedition (1819–1820), Titian R. Peale’s Field Illustrations, and the Lost Holotypes of the North American Shrews *Sorex Brevicaudus* Say and *Sorex Parvus* Say (Mammalia: Soricidae) from the Philadelphia Museum.” *Proceedings of the Biological Society of Washington*, March 2009, 120.
- ²¹ Benson, *From Pittsburgh to the Rocky Mountains*, xvii, and Evans, *The Natural History of the Long Expedition*, 24.
- ²² Benson, *From Pittsburgh to the Rocky Mountains*, xviii.
- ²³ Porter, “The Lifework of Titian Ramsey Peale,” 302.
- ²⁴ John V. Calhoun and David M. Wright, “Remarks on the Recent Publication of Titian R. Peale’s ‘Lost Manuscript,’ Including New Information about Peale’s *Lepidoptera* Illustrations,” *Journal of Research on Lepidoptera* 49, 21–51.
- ²⁵ Nathaniel Philbrick, *Sea of Glory: America’s Voyage of Discovery, The U.S. Exploring Expedition, 1838–1842* (London: Penguin, 2004).
- ²⁶ Antony Adler, “From the Pacific to the Patent Office: The United States Exploring Expedition and the Origins of America’s First National Museum,” *Journal of the History of Collections* 23: 1 (May 2011), 49–74.
- ²⁷ Philbrick, *Sea of Glory*, 77–78 and 332.
- ²⁸ Adler, “From the Pacific to the Patent Office,” 49.
- ²⁹ Woodman, “The Stephen H. Long Expedition (1819–1820), Titian R. Peale’s Field Illustrations, and the Lost Holotypes of the North American Shrews,” 125.
- ³⁰ *Ibid.*, 125–26.
- ³¹ “The Historic Titian Peale Butterfly and Moth Collection,” Images of the Peale Butterfly and Moth Collection, The Academy of Natural Sciences of Drexel University, 2004, clade.ansp.org/entomology/collections/peale/.
- ³² Philbrick, *Sea of Glory*, 332–42, and Adler, “From the Pacific to the Patent Office,” 55–58.
- ³³ Porter, “The Lifework of Titian Ramsey Peale,” 303–4.
- ³⁴ *Ibid.*, 348–50.
- ³⁵ Angela Modany, “Titian Ramsay Peale: Washington, D.C., in Collodion,” National Museum of American History, Smithsonian Institution, 21 Feb. 2012, americanhistory.si.edu/blog/2012/02/titian-ramsay-peale-washington-dc-in-collodion.html.
- ³⁶ Porter, “The Lifework of Titian Ramsey Peale,” 310.
- ³⁷ Calhoun and Wright, “Remarks on the Recent Publication of Titian R. Peale’s ‘Lost Manuscript,’” 31.