

Doctor James G. Graham and the Great Shawangunk Mastodon Discovery

In the year 1800, the successful exhumation of a cache of fossil bones belonging to an unknown prehistoric animal, intrepidly labeled by American nationalists as the New World “Behemoth,” took place in the town of Shawangunk, New York. This discovery launched a series of events that set America, then only an infant Republic, on a felicitous course during an uncertain time in her struggle for acceptance on the international stage. The following story relates the history leading up to this legendary event, local Shawangunk resident Doctor James G. Graham’s role within it—and the surprising impact both subsequently made on America’s growth.



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Forward:

In the early days of the United States of America, there existed considerable international debate about whether our new nation possessed the natural qualities it needed to sustain human civilization over long periods of time. Several European politicians and naturalists said that America was simply not fit for human habitation and viable only for reptiles and feeble men. These assertions outraged our Founding Fathers (George Washington, Benjamin Franklin and Thomas Jefferson among them), who knew that our new American nation was rich in natural resources and equal to, or better than, any other country on earth in this respect.

The primary source of the anti-American libels was *Histoire Naturelle*, written in 44 huge volumes over a period of fifty years in the eighteenth century by Georges-Louis Leclerc Comte de Buffon (portrait shown to the left). Buffon was a French aristocrat who was probably the most widely respected naturalist of his time. *Histoire Naturelle* pulled together a vast array of facts about natural history from all over the world. These publications were also the vehicle for Buffon's many ideas about the history of the earth and the organisms that inhabit it. He had never been to the New World (America), but that did not prevent him from damning it in a series of articles titled the *Theory of American Degeneracy*. In volume 9 of the *Histoire Naturelle* (1761), notably published just as France was losing ground in the New World to its archrival Britain during the Seven Years' War, Buffon suggested that America lacked the large animals of the Old World and was rife with noxious insects and poisonous reptiles. Buffon further claimed that America was more cold and damp than Europe, though contrary evidence, such as New York and Paris sharing the same latitudinal line, proved otherwise. Buffon even repeated a phony claim that anywhere in North America, if one dug down a foot or so, the ground would be frozen at any time of the year. Buffon's theory proved to be a springboard for related theories such as that promoted by Abbé Raynal. Raynal extended Buffon's theory to include European-born settlers. He promoted the damaging notion that over time, these immigrants diminished in size and strength once exposed to the harsh, insalubrious American environment. In these and other supporting texts, France's leading scientists hoped to discourage immigration to the New World, as they feared it would soon become an exclusively British colonial possession.



However, once France entered the American War for Independence and supported the rebelling colonists, the weight of Buffon's claims began to unravel for those Frenchmen who hoped to strengthen the bonds of friendship and commerce with their new allies. Franklin, too, as American minister to France, knew that Buffon's critique carried damaging import far greater than its questionable scientific value. He and his allies at the French court knew that anything that lessened the public opinion of post-war America—awash in foreign debt as a result of its War of Independence with the British superpower—would have political and financial repercussions. Buffon needed to be answered by an American spokesman, especially after the war when the infant Republic lacked diplomatic respect on the international stage. The consensus chose Thomas Jefferson, eloquent author of the Declaration of Independence and renowned for his love of natural history. Jefferson intuitively knew that what America needed—and had an abundance of—was evidence of New World animals

larger than any ever found in their Old World counterparts. This, he believed, would be enough to silence America's critics. Under the spell of Jefferson's persuasive pen in his book innocuously titled *Notes on the State of Virginia*, the focus of the debate shifted to "the great incognitum," known today as the mammoth. This creature's fossilized remains were prized among Old World savants but, as Jefferson knew, were unique to the New World and its reputation. To solve the mystery of the monster's identity thus became for Americans a matter of nationalist pride, and simultaneously brought alive an old bone of contention among Old World rivals. Since 1741, they had waged yet another war with one another—this time on the intellectual battlefield—where they competed to find and assemble the first complete skeleton of the "great incognitum." They tacitly knew that whosoever accomplished this would be in the unique position to answer many of the riddles posed by the New World. Their search for answers led them to scrutinize the mirror of natural history. In its reflection they saw the mastodon and its mysterious fate beckoning to them from across the Atlantic.

We now return to our story's origins. It is no exaggeration to say that America and its exotic flora, fauna, and native populations, quickly gripped Europeans' imaginations after its founding in 1492 by Christopher Columbus. Books and prints stressed the New World's exoticism and its seemingly unlimited natural resources, further fanning the flames of interest among collectors eager to add new objects to their "cabinets of curiosity." During the 1700s, explorers in America's western territory discovered giant, fossilized remains in an area known today as Big Bone Lick, Kentucky. Gathering choice samples, the explorers (many of whom were foreign) sent these back to scientific authorities in their native countries, including England, France, and Spain. The receiving officials placed them in royal and aristocratic cabinets of curiosity. These private collections displayed paintings alongside objects found in nature, and were the forerunners of our modern public museums of art and science. Thus before America became a sovereign entity, it already sustained a hungry and covetous Old World with curios and marvels from its soil.

Simultaneously, eastern farmers, particularly in New York's Orange and Ulster counties, were discovering the bones of these large "giants" of unknown origin while digging for marle (decayed material which they used as fertilizer) in the bogs and swamps on their land. The creatures were a great natural mystery and so were called, at the time, the Latinate "great *incognitum*" (unknown) or the biblical "*mamout*" (giant). Despite these many discoveries, no one had the fortune to find a complete skeleton. Therefore exactly what the giant looked like, and if it was unique to America, remained unknown. Not surprisingly the farmers and their neighbors were amazed by these fossils, which were quickly recognized as "New World antiquities." Some farmers stored the large bones in their barns and sheds, not knowing exactly what they were or what to do with them. They gave others to prominent and learned neighbors. These men displayed the fossils in their houses, notified scientific correspondents about the farmers' discoveries, and wrote treatises about them for both domestic and foreign readers.

One such discovery occurred along New York's Hudson River. The site was on the property of the firebrand clergyman of the American Revolution, Reverend Robert Annan. Toward the end of the Revolutionary War, General George Washington heard about the discovery of the huge bones found at Annan's farm near Hamptonburgh, Orange County, and in early December 1780 he traveled by sleigh with several of his officers to view the artifacts. Washington's astonishment over the large animal bones as his officers held them up to the light became the stuff of legend. Years later, Annan recorded the American antiquities' discovery:

A young man whom I had employed to drain a swamp on the farm dug up the "remains of a very surprising animal without taking notice of any thing except the grinders. The bones had become so soft that the spade cut them almost as easily as the clay...and being a stranger to contemplation he took no further notice of the matter... Within a day or two after, I went out to see the work and discovered the

grinders. I brought them home, ordered them to be washed; and, placing them in the order in which I fancied them to have stood in the animal's jaw, sat down astonished...I sent for a gentleman in the neighborhood ...He was as much astonished as myself."

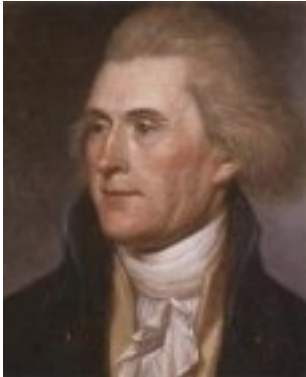
The Reverend concluded his narrative of the mastodon with the devout and rapturous exclamation of the Psalmist: "*Great and marvelous are Thy works, Lord God Almighty!*"



Near the end of hostilities sustained during America's Revolutionary War, and while awaiting the peace treaty negotiations with Great Britain to conclude, General Washington (portrait by Charles Willson Peale shown to the left) approved a request from a Hessian Army surgeon to travel freely about America. This was exceptional since the Hessians were allied with the British. However, surgeon Dr. Christian Friedrich Michaelis was a noncombatant; moreover he shared a deep common interest with Washington in wanting to solve the mystery of the bones. In the summer of 1782, Michaelis visited Washington at his Hasbrouck House headquarters in Newburgh. Michaelis learned about the prior discovery in Hamptonburgh and requested assistance for a renewed effort to dig at the Annan farm site. Washington agreed and a dozen soldiers with wagons and equipment joined him for the trip to Annan's farm. The Reverend later wrote:

"Doctor Michaelis, physician general of the Hessian troops, who, with some other gentlemen, came to my house, after the peace, and before New York was evacuated, said he could not think it had been an elephant as being in his opinion much larger. He carried some of the bones to Germany with him. Others were sent to the museum in Philadelphia, kept by Mr. Semittien [sic], and some were destroyed by careless country people whilst I was abroad..."

Michaelis' efforts to retrieve more bones at this site failed, in large part due to the heavy rains that prevailed



that summer. The Reverend gave several of the bones in his own collection to Michaelis to compensate somewhat for his inability to find more fossil remains at the farm. Although the search for the great bones would stall for several years, the undaunted Americans continued apace their efforts to counter Buffon's despicable theories.

A few years after the efforts in Hamptonburgh failed, Thomas Jefferson (portrait by Charles Willson Peale; see left) published his only book titled *Notes on the State of Virginia* (Paris; 1785). Smithsonian historian of science, the late G. Brown Goode, declared it as "the most important scientific work as yet published in America" if "measured by its influence." *Notes* was the first comprehensive account of the topography, natural history, and resources of any North American commonwealth, and Goode pronounced it "the precursor of the great library of scientific reports which have since been issued by the state and federal governments." It thus is the literary precursor of that later quintessential Jeffersonian enterprise, the Lewis and Clark Expedition, and the scientific journals it produced. The team's illustrious leaders compiled these journals according to Jefferson's instructions while exploring the American West, acquired in 1803 and transferred to America by Napoleonic France following negotiations for the Louisiana Purchase. Not surprisingly, Jefferson instructed Lewis and Clark to look for signs of the mammoth in these heretofore uncharted areas. Even earlier, as President of Philadelphia's American Philosophical Society, Jefferson had presided over a special committee expressly formed to issue a public circular. Within it they noted their readiness to underwrite an expedition for discovering a complete mammoth skeleton, declaring it as the Society's most urgent goal.

Curiously, Jefferson did not plan to formally publish *Notes on the State of Virginia*; he began writing it in the summer of 1780 at the request of François Marbois, secretary of the French legation at Philadelphia. Marbois' request was actually a questionnaire about the overall health of the American confederated states and was, as French scholar Gilbert Chinard astutely pointed out, silently penned by Buffon and his associates. Realizing the invisible hand behind the questionnaire and that larger issues—including France's dangerously depleted coffers and America's precarious future—were at stake,



Jefferson threw himself into the project, refuting the Buffonian circle's claims with empirical data. Jefferson intuitively knew that the viability of the "great incognitum" was being monitored by international audiences much like an investor watches for signs of an approaching bull market. International interest in the mastodon and its fossilized remains thus became a stock indicator of sorts and—in the process—its fate became politicized as an emblem of American vitality or decline. A tacit "caveat emptor" equation, Jefferson recognized, was being formulated via the questionnaire by the French court and king. At stake were investor funds, and the health of the mastodon and the New World were seen as twin factors for measuring venture capitalists'

success. In his book *Notes*, therefore, Jefferson shrewdly used empirical science to achieve political ends. In providing extensive proof of America's great natural resources, the vigor of its flora and fauna, and the vitality of its native Indian populace, Jefferson demonstrated that the American climate was salubrious, evinced the promise of investor gains, and remained an attractive destination for Europeans considering immigration. Yet another way to refute Buffon, Jefferson knew, was to see that American exploratory teams, in the international race to find and assemble a complete mammoth skeleton, would arrive at the finish line before their European competitors. Not coincidentally, *Notes on the State of Virginia* became a manifesto of sorts that would bring together American patriot boosters, many of whom were members of, or were affiliated with, the American Philosophical Society.

Even as American Minister to France between 1784 and 1789, Jefferson, like his predecessor Franklin before him, did not pass up any opportunity to promote the health of the fledgling nation and vitality of the great *incognitum*. Residing in Paris, he would share his research with French naturalists, most notably the famed Buffon. Jefferson was only partially successful in his efforts to refute the latter's outrageous theories that harmed America. What he needed was physical proof of the existence of the great mysterious creature, which he promoted as the New World mammoth.

Within the decade following Jefferson's return to America in 1789, several Hudson Valley, New York farmers would discover more fragments of the huge mysterious bones. These findings, of little significance to the farmers, would prove instrumental in simultaneously solving Jefferson's dilemma as well as the riddle of the mammoth. While digging in their swamps for marle (or the decomposed material which they used to enrich their fields), one particularly large cache was uncovered by the farmers in 1799—and yet another in 1800.

Unknown to Jefferson at the time, an ambitious but unassuming physician from Bruyn's Mill (today the hamlet of Wallkill in the town of Shawangunk), made considerable efforts to interview each of the farmers about the mysterious fossil remains, to record the circumstances of the discovery, such as the specific soil layer (peat/marle/clay) in which the bones lay mired, and to measure and record their lengths, circumferences, and

approximate weights. Being a medical doctor and skilled in anatomy, he also assigned skeletal names to whole bones, noting where fragments once formed part of the scapula, femur, vertebrae, ribs or the like. The good doctor kept these detailed documents with his most important papers for future use, not quite sure how to explain them to the wider audience whom he entertained in his mind's eye.

This physician, Dr. James G. Graham—now making his debut as an important actor in our story—began formulating an idea. He would share his discoveries by corresponding with Dr. Samuel Latham Mitchill (1764-1831), ardent Jeffersonian and editor of the well-regarded New York City-based journal, the *Medical Repository*. The journal's readership was sophisticated and its reach wide, including points as distant as Charleston, S.C. Graham's idea quickly took root. Key letters, published by the perspicacious Mitchill in the *Repository* with Graham's consent, relayed to subscribers the doctor's meticulous accounts of the bones' discovery, condition, and their arrangement within the soil's various strata. The *Repository*, as contemporaries knew, provided readers with news from the scientific community, as did the *Proceedings*, published by the American Philosophical Society in Philadelphia. Thus, overlap between respective subscriber lists was common.

Unfortunately, scant information about Graham is available today, but he proved himself instrumental in bringing the Hudson River fossil discoveries before an international audience. Moreover his involvement helped answer the riddle posed by the mammoth, which figured among the most inscrutable of all late eighteenth and early nineteenth century paleontological mysteries. Not surprisingly, Jefferson's good friend Charles Willson Peale—artist, scientist, museum owner, and curator of the American Philosophical Society collections—was intrigued after reading Graham's published communications, and instrumental in forming an ensuing scientific scouting party. Indeed, the communications created quite a stir among patriots in the Quaker City, who in turn encouraged Peale to fulfill his dream of recovering the world's first complete skeleton of the great *incognitum*. Thus the first "meeting" between polymaths Dr. Graham and C.W. Peale was forged. Their subsequent collaboration would facilitate the penultimate catalyst needed for solving the most mammoth riddle of the era, and definitively silence the taunts of America's self-appointed foreign critics. And fortunately for posterity, Peale's fulsome diaries and journals, as the concluding paragraphs of this essay will relate, provide us with more details about the ingenious Dr. Graham and his important role in helping to make America's first scientific expedition a runaway success.

When news of the discovery of the large bones found in the swamps known as "Masten's Meadow" reached Graham in the summer of 1800, he rushed to ready himself. Exchanging his tailored gentleman's clothing and footwear for those of a rustic, he conjured a primordial vision of what awaited him: the journey meant travel by muddy roads, and then a requisite hike through swampy lands where "mammoth mosquitoes" grew even fatter on their victims' blood. Masten's Meadow was located in the town of Shawangunk, about three miles north of the doctor's wonderful home, which was located just west of the covered bridge in the hamlet. Uncannily, this was one of two significant fossil bone discoveries to occur on two different farms owned by *two different John Mastens*, with the second discovery happening near Newburgh, a prosperous town situated directly on the Hudson or "Old North" River.¹

Upon arrival at Shawangunk, Graham observed the excavation proceedings at the morass (swamp) where several local residents were busy retrieving the bones, then commenced recording the details about this latest discovery. These were forwarded in a letter dated September 10, 1800 to Mitchill of the *Medical Repository*.

¹ For the chronology of each discovery, please visit the www.pealemuseumofdiscovery.com website where co-author, researcher and engineer Joseph Devine has documented each site, its date of discovery, and other relevant information.

Importantly the letter itemized accounts of prior local bone discoveries from the 1790s as well as Graham's narrative of the recent exciting breakthroughs in the fossil mystery uncovered at Shawangunk. The doctor wrote in part:

“And last week another skeleton has been discovered, about three miles east of my house in the Town of Shawangunk, about 10 miles northeast of said bridge [Ward's Bridge—now Montgomery]. These last discovered bones lie about ten feet from the surface and are in a very sound state. Many of them have been raised, but some [are] much broken, especially the bones of the head, which, I am persuaded lie entire, and in their natural order.”

The letter continued:

“I have been particular in stating the relative situations and distances of this place in which bones have been found, from a certain point, to show, from the small district in which many discoveries have been made, the great probability that these animals must have been very numerous in this part of the country, for as we compare the small proportion that swamps, in which only they are found, bear to the rest of the surface, and the very small proportion that those parts of such swamps as have yet been explored, bear to the whole of such swamps, the probable conclusion is, that they must have once existed here in great numbers. And why Providence should have destroyed an animal it once thought proper to create, is a matter of curious inquiry and difficult solution.”

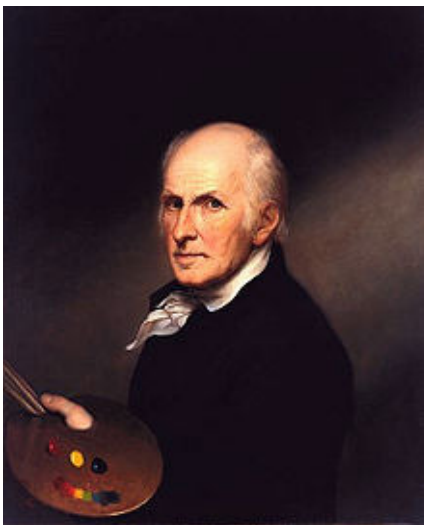
And upon reading these fine accounts of the fossil discoveries, Mitchill, as noted earlier, resolved to publish Graham's letters in their entirety. Thus, thanks to this provident collaboration, the discovery was made known to the wider world in the October 1800 edition of Mitchill's *Medical Repository*. This brought the important questions that persistently hovered over the mammoth, its probable fate, and its record for evading scrutiny, to the attention of virtually all medical doctors and *philosophes* in the transatlantic scientific community. The news—so vital to American interests—traveled fast. This time, the article tacitly pleaded, a solution was within grasp if only American ingenuity could devise a means to safely free the remaining bones—lying *in situ*—from their water-ridden, swampy grave.

Fortune deigned to smile on the American “mammoth project.” Within two weeks, Dr. Graham's letters were read to an assembled group of science advocates at the American Philosophical Society, then presided over by its president-elect Thomas Jefferson (then simultaneously serving as United States Vice-President). The APS basked in its transatlantic reputation as America's oldest and most preeminent scientific organization. Its fame extended back to 1743, when it was founded by the widely respected Benjamin Franklin—whose legendary stature had assumed even greater proportions by 1800. As Jefferson and APS members keenly realized, to successfully retrieve and assemble the first mammoth skeleton—a dream nurtured and doggedly pursued by the world's scientific elite—would only further burnish the Society's luster, prestige, and standing within the international scientific *and* political communities. Steps for achieving success were thus quickly formulated and acted upon.

Jefferson's first move was to write to his political and scientific correspondent “Chancellor” Robert Livingston of Clermont, New York, for help. Livingston's manor was situated fairly close to the recent fossil discovery sites, but his attempts to honor Jefferson's request to purchase the bones met with failure. A compelling question immediately presents itself, i.e., why did Livingston's mission fail? Unfortunately, until further evidence surfaces, a definitive answer remains elusive, but suggests itself in more grey areas. Livingston's letter communicated to Jefferson that the Shawangunk farmers, possibly suspicious of his motives, refused to

part with the fossil remains, which they regarded as their communal property. In so doing, they pointedly demonstrated that neither they nor the bones were, under the new laws supporting the infant Republic, automatically the local patroons' or manor houses' property. Newly attached to the Jeffersonian fold, Livingston nonetheless retained the aura and privilege associated with the old guard, or that of the Hudson River aristocracy. Hence, we can assume with confidence that in socially restive and divided 1800s New York, the farmers likely interpreted Livingston's request as an anachronistic and misplaced sense of entitlement or even as an imperious command. Incensed and recently empowered by the growing franchise, they boldly outlined to Livingston's intermediary their plans to exhibit the fossils for their *own* financial gain.

Perhaps, had Livingston made the journey to Shawangunk and made the request in person rather than through an intermediary (whose name and conduct in the matter remain unknown today), his mission would have met with success. Did the farmers of Shawangunk realize that Jefferson was the factor behind Livingston's request? Successive events, as we shall see, suggest that they did not at the time of Livingston's intervention. In hindsight, it is easy to envision Jefferson having an epiphany upon receiving Livingston's news, and mentally slapping his forehead before sending off another series of letters on the matter to Caspar Wistar, his friend, confidante, and the APS' co-curator of collections along with that other Jeffersonian confidante, C. W. Peale. Relating his epiphany to Wistar, a new plan was devised amongst the trio. Peale, whose fame rested on his reputation as a man eager to democratically teach everyone about God's creation through the medium of display, art, and science, was quickly recognized and recruited as the man to get the job done. Thus briefed on recent developments and the delicate nature of the problem, Peale was soon on his way New York City and the offices of the Jeffersonian Mitchill, from whom he received letters of introduction, and from thence to Shawangunk and the residence of Dr. James Graham.



Arriving at the dock in Newburgh, Peale (self portrait shown to the left) scrambled to locate someone to give him the details surrounding Graham's "*account of the bones found in that neighborhood,*" and directions to his house. Peale also recorded in his diary in his inimitable hand on that same day (23 June 1801) that he eventually was able

"to obtain a Horse and Chair and before Dinner took my departure & reached Doctr Grayhams early in the afternoon. I choose to take my dinner at an ordinary Inn about 4 miles distant from the Doctrs. The Doctrs family received me with much politeness, and the Doctr proposed to accompany me to Mr. Masten's on whose farm the greatest number of the great bones had been found, but as it would be too late to examine the bones that Evening the Doctr proposed to take an early breakfast and then take our ride, distant 4 miles.

The greater part of the skeleton was here brought together, yet many [bones] was still wanting—but as the head & neck & the greater parts of the 3 legs, also the bones of the hips, I thought I could get nothing more, at least drawings of them would give satisfaction for each part such as I thought most interesting."

With this first goal in mind and with Masten's permission, Peale began sketching the mammoth bones arranged on the floor of the farmer's barn. That evening, Peale was invited to eat dinner with the Masten family, and the sons inquired if he would like to purchase the bones? Carefully, Peale replied that he would if the price was not too high, and spoke out loud his fears that a traveling exhibition of the bones, such as the farming community

had allegedly planned, would not return the anticipated profits. Implicit in this statement was the notion that he, on the other hand, had a permanent museum within the offices of the APS. Here he would exhibit the reconstructed mammoth so closely connected to Jefferson's reputation as the "mammoth" friend of the people, and the enemy of the Federalists who continued to mock these affections. A vote of confidence for Peale's mammoth project equaled a vote for Jefferson's expanding "empire of liberty." By early the following day, Peale had earned Masten's confidence and his promise that the bones and the right to exhume the remainder belonged to him. Peale's manner, predicament, and honesty had resonated within the farming communities' heart while Livingston's entreaties had, predictably, fallen on infertile ground.

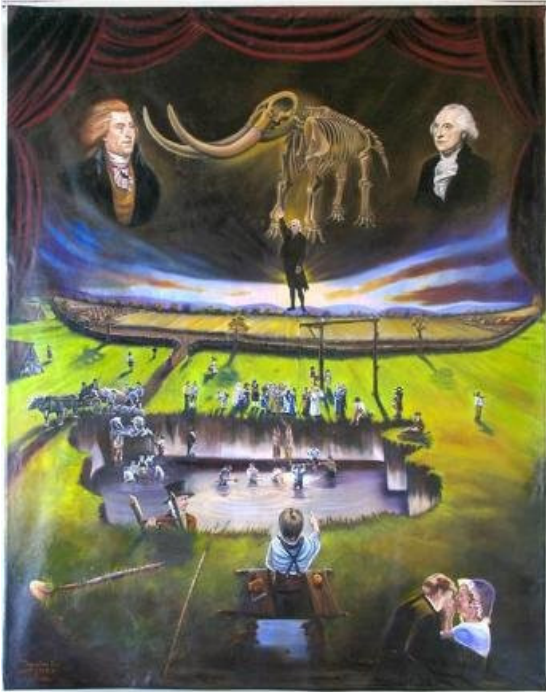
Making his way back to Philadelphia, Peale briefly displayed the collection of bones in New York where they were viewed by large crowds, including Vice-President Aaron Burr. Peale then shipped the collection to Philadelphia by boat to prevent overland damage to them, while he took the faster overland route home. News of the newly acquired bone collection caused quite a stir throughout the land, as newspapers were quick to promote the importance of the Peale acquisition and the luster it conferred on Jefferson's reputation as the "mammoth" President. Kline's *Carlisle Weekly Gazette* further reported that "*Mr. Peale has now the bones of a great American animal and, within the space of two or three months, he expects to have it within his power to put together a complete skeleton for the museum.*" Faithfully Peale wrote while still in New York to Jefferson the good news; even the magnitude of the approaching task did little to temper his excitement: "*The pits dug to get the bones I possess, are large, and now full of water, and one of them is 12 feet deep, and from the situation of the morass and the surrounding lands, it appears a Herculean task to explore the bottom where the remainder of the bones are supposed to lay.*"

Upon arrival in Philadelphia in July 1801, Peale applied to the APS for funds to cover the expense of exhuming the remaining bones found on Farmer Masten's farm and other nearby areas. Not surprisingly, the APS granted Peale the princely sum of five hundred dollars to complete his mission. That same month, Peale received an offer from President Jefferson, which would prove to be critical toward Peale's mission. The Jefferson offer was for equipment, pumps and wagons from the fledgling United States Army and Navy. It is interesting to note that the offer of material assistance to Peale represented some political risk to President Jefferson. His political opposition among the Federalist Party had consistently lampooned Jefferson's preoccupation with the mammoth. Federalist leaning newspapers had tarred Jefferson with unflattering satires to highlight what they viewed as his careless attention to a ridiculous bone mystery while the nation's problems went unsolved.



Once back in Newburgh, Peale was again greeted by Dr. Graham, who would host the Peale team throughout their visit. Dr. Graham also proved quite useful with introductions to the local gentry, including farmers and laborers. Peale's team included his son, Rembrandt (also an accomplished artist), museum assistant Jotham Fenton and Dr. James Woodhouse, a professor of chemistry at the University of Pennsylvania. To drain the large morass, Peale designed a large wheel, which would act as a giant pump, powered by humans walking inside. To make this great device, Peale hired a local millright, who was able to erect the huge structure that included a huge tripod and a mill wheel, twenty feet in diameter (Peale's historical-mythical painting of the event is shown to the left). This structure drew hundreds of curious local residents, many of whom were anxious to provide the power needed to operate the huge pump by walking inside to turn the wheel and buckets, which brought the water to a long wooden channel and disposed of it, via a long wooden aqueduct, far away from the morass. Peale had to hire several local laborers to work in the pit. An

occasional ration of rum also fueled the enthusiasm. Work at the Masten Farm lasted approximately two weeks and the effort yielded several more bones. However, Peale did not yet have a complete skeleton so he was not ready to give up his hunt for more mammoth bones.

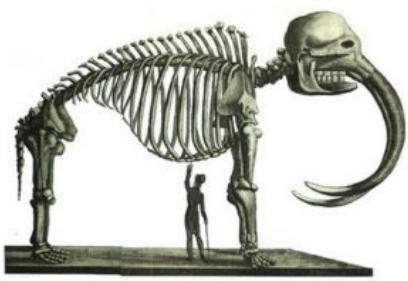


Graham offered to guide the Peale team to a site twelve miles to the west, where another farmer had found large bones seven years before. Peale walked the twelve miles to Montgomery, known then as Ward's Bridge, alongside his wagons. Once in Montgomery, Graham introduced Peale to Dr. Gallatin, a local physician, who, in turn, introduced the Peales to Captain Joseph Barber. Barber showed the huge rib bones that he had found years earlier, and generously donated them to Peale's growing "national" collection of bones. Barber also offered to let Peale dig in his morass, for no cost. Peale's new team of laborers quickly began to dig a deep ditch to drain the morass of the standing water. The dig site was slightly higher than the surrounding terrain, so the ditch proved to be very effective. Once the ditch was dug, the laborers began the effort to probe for bones and to begin their careful removal (the 2006 mural of the exhumation at Barber's farm, as envisioned by famed local artist Shawn Dell Joyce, is shown to the left). In Joyce's composition the boy sitting on the platform represents 12-year-old Samuel Eager, a local resident. Young Samuel, excited about the unfolding events, ran the two miles to and from his home each day to see this wonderful dig. Each night, the Peale team

made the now shorter trip to Graham's Shawangunk home for a good meal and a well-deserved rest.

While working at the Barber farm, Peale had to secure permission from the local clergy to work on Sundays. If he had failed to do this, he could legally have been jailed. Support for Peale's effort grew rapidly among the area physicians, clergy, and residents so getting this necessary approval was immediate. After weeks of effort, Peale's collection grew larger but still the prized lower jawbone remained elusive. Barber and Graham showed additional sites to Peale, including the farm of the Reverend Annan, who was, by this time, living in Boston. Peale decided not to dig at the Annan site but the group traveled westward for five miles into the town of Crawford and the farm of Peter Millspaw, where several bones were previously found. There, in a large peat bog, the Peale team simply poked sharpened rods into the ground to sense for hard objects. Once a "clunk" was heard, the digging began and the Millspaw site offered even more bones and, finally, the prized lower jaw. Upon seeing the lower jaw and thinking that the mammoth (as the mastodon was then called) was a fierce carnivore, Peale exclaimed "*Gracious God, what a jaw. How many animals have been crushed by it!*" The inventory of bones now suggested that the Peale team could likely erect two complete skeletons of the great beast.

Once the digging ceased and the Peale expedition team's return to Philadelphia was imminent, their host and friend, Dr. James G. Graham, offered some additional bones from his own collection. These he had acquired while interviewing several farmers during the previous decade. The offer pleased Peale very much and the whole Peale team extended their sincere appreciation for his wonderful hospitality and assistance throughout their visit. If Graham had not written about the Shawangunk discovery one year earlier, the Peale expedition might never have occurred. It was clear that the exhumation of the bones at Masten's Farm and surrounding areas launched what later become famous as the first U.S. scientific expedition to successfully acquire the world's first complete skeleton of a prehistoric animal. Dr. Graham had much to be proud of as he watched his new friends pack the remaining bones away carefully for the trip home.



News of the Peale expedition's success was immediate throughout America. Not only had the Peales unearthed an animal larger than anything ever found in Europe, the great news worked quickly to counter the outrageous claims of American degeneracy made many years earlier by Buffon. Buffon's theory was now officially dead, both here and in Europe. America had a new

national icon, a true source of national pride and a new sense of national purpose. The mammoth became a household word and President Jefferson used the political triumph to promote his reputation as the mammoth President and for further westward expansion. The Federalists were in political retreat. After a private viewing for APS members, the Peale skeleton was displayed in Philadelphia on Christmas Day, 1801, to huge crowds. Peale had originally mounted the tusks downward, thinking the animal to be a fierce carnivore. Soon after, the guests at Jefferson's Presidential mansion in Washington D.C. were to gaze at another national icon, the Mammoth Cheese. The cheese was made by the ladies of Cheshire, a small Berkshire, Massachusetts farming community, with the milk of 900 cows and most importantly, as they noted, "not one drop came from a Federalist cow." The cheese measured 18 inches in height, four feet in diameter and weighed 1200 pounds. The ladies made the cheese to note their appreciation to Jefferson for his efforts to discover the great mammoth, now politicized by him as representing the "mammoth power of the American people." It was their intent to show the tremendous appreciation that they had for Jefferson and America's new, nationalist icon. News of the cheese spectacle raced throughout America, further promoting the political triumph of the democratic-Jeffersonians.

The following year, Peale's sons Rembrandt and Rubens brought a second skeleton constructed from extra bones to Britain. There it was viewed by thrilled crowds, and Rembrandt had carefully placed his portrait of Jefferson nearby. In 1802 and 1803, Rembrandt would write two very detailed accounts of the mammoth discovery and several sketches of the skeleton and selected bones. His 1803 *Disquisition of the Mammoth* provided extensive accounts of the expedition and proof that President Jefferson attributed the demise of the Buffonian theory as having resulted directly from the Peale discovery. Still hoping to learn more about the mammoth, President Jefferson directed Lewis and Clark to look for signs of the mammoth, whether dead or alive, on their journey to the west. Clearly Jefferson still hoped that the animal might exist in American's uncharted western territories.

In 1808, French naturalist Georges Cuvier, upon seeing Rembrandt's sketches and notes, declared the animal to be a new species and he gave it the name *mastodont* or *mastodonte*. Jefferson would refer to the animal (actual image shown below) as the mammoth throughout his lifetime. Cuvier also indicated that the animal was extinct, like many other species he had so previously designated. This declaration caused many people and clergy alike to become more comfortable with the notion of extinction; as a likely answer to the animal's demise the theory of extinction was well on its way to finding universal acceptance. The Peale discovery also offered a giant step forward in science, for these mounted skeletons now gave scientists the opportunity to conduct comparative anatomy with skeletons of living species.

It is difficult to think of an event in American history that had such a wide-ranging effect on the worlds of culture, science, and politics, both on the American and international stages, as did the great Peale expedition of

1801. The contributions of Dr. James G. Graham may once have been forgotten in local and American history, but such is no longer the case. As his recent biographer Libby Ross notes in the Winter 2010 *Newsletter for the Historical Society of Shawangunk and Gardiner*, Graham faithfully served his community as a country physician, but more nationally he served his state and district as a distinguished member of the legislature. He moreover served during the American War of Independence as a militia commander. He labored for



technological advancements as a member of the prestigious Society for the Promotion of Agriculture, Arts, and Manufacturing, which offered advice to farmers and manufacturers regarding innovations that would assist with economic development. Despite all of these distinctions, we predict that he will best be remembered for his role in helping unearth America's first prehistoric animal, the mastodon known then as the mammoth. May he always be fondly remembered!

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For further information, see author Katherine C. Woltz and Joseph E. Devine's related publications (below):

As contributing authors to the narrative for the Barber exhumation site depicted in Peale's history painting for the *National Registration of Historic Places*, available on the official www.pealemuseumofdiscovery.com website.

Please see Katherine C. Woltz's "Painting for Nation and Fame: Peale, "Bonepatte," and the Mammoth Transatlantic Antiquities Project," a chapter in her Ph.D thesis titled "Framing the New Republic: History Painting and American Cultural Politics, 1786-1826," (*forthcoming*).

Please also see Joseph E. Devine's meticulous reconstruction of fossil sites examined by the Peale expedition, available on the official www.pealemuseumofdiscovery.com website.

Note: Katherine and Joe are acting members of the research staff for the Peale Museum of Discovery, coming soon to the Montgomery, NY location of the Peale exhumation. The museum is intended to be a wonderful place of learning and fun for people of all ages, including families with children. Its projected plan is to have a nature trail linking all of the Peale discovery sites in the area. For a wonderful view of the museum and material related to this exceptional historical event, please visit the museum web site, link below.

Peale Museum <http://www.pealemuseumofdiscovery.com/>

News: In October of 2009, the National Park Service voted to include the site of the Peale Museum as a National Landmark with *national significance*.

Epilogue

A local history nugget: It is said that Gail Borden, of the famous Borden family, liked the name of the Wallkill River so much that she was instrumental in renaming the hamlet where Dr. Graham lived. It was formerly known as Brown's Mill or Bruyn's Mill, each mill located on opposite sides of the river.

The incredible irony is that two farms yielded mastodon remains one year apart, in 1800 and 1801, and were located 12 miles distant from each other, and owned by farmers of the same name, John or Johannes Masten.

Young 12-year-old Samuel Eager, who watched the dig at the Barber farm in 1801, would later become a lawyer and also Orange County's first historian. His writings, 46 years after the Peale expedition, would provide many details about the mastodon dig, otherwise unknown.

The locations of the mastodon exhumation sites identified in this essay are as follows:

- Year 1800 - Shawangunk, the Johannis Masten farm – Site of the current Kobelt Airport and the Nu-Cavu Restaurant.
- Year 1801 - Newburgh, the other John Masten farm – Brookside, located behind the current Target Plaza
- Year 1801 - Montgomery, the farm of Capt. Joseph Barber – Site of the proposed Peale Museum of Discovery, located directly across the road from Valley Central High School
- Year 1801 - Crawford, the location of tenant farmer, Peter Millspaw – located at 5.2 miles from the Montgomery bridge west on Rt 17K, just prior to Bullville, NY.

President John F. Kennedy told a White House roomful of Nobel Prize winners in 1962: *"I think this is the most extraordinary collection of talent, of human knowledge, that has ever gathered together at the White House, with the possible exception of when Thomas Jefferson dined alone."*

Thomas Jefferson was "the education president" who established the University of Virginia and with it the idea of public education available to all.

Thomas Jefferson was the founding father of environmentalism in his political-naturalist book, *Notes on the State of Virginia* (first private printing in Paris, 1784), his only formal publication.

Please see the companion document, [Shawangunk1800-Details-June2010.pdf](#), for the images of maps, texts, deeds and other documents, uncovered by the authors, during the research into this essay.