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Thesis

Lewis and Clark: an expedition of scientific origin

This being 2004, Lewis and Clark have been thrust back into the national limelight. It was 200 years ago that Lewis and Clark began their journey across the American continent. The two are noted as being America's preeminent explorers, thus are two of the most famous Americans. Past and present Americans have honored them for their achievement by naming counties, rivers and streets after the pair. Besides parade and festivals celebrating their feat, their bicentennial anniversary has inspired new scholarship and works looking into understanding exactly why the Expedition was organized.

It is essential that historians understand the motivation for sending west the Lewis and Clark Expedition because from them a precedent is set in regards to the federal government sending out many other explorers--like Zebulon Pike--for scientific purposes. The United States had purchased the Louisiana Territory in 1803, but the Lewis and Clark Expedition allowed the nation to lay claim to the land further to the west in the Oregon Territory as well. Britain, Russia and Spain had looked up and down the Oregon Territory's coastline but had yet to establish any type of fort or outpost in the area. The Lewis and Clark Expedition directly led to U.S. and Britain negotiating the Oregon Boundary Treaty of 1846 in which the United States gained the Oregon Territory outright and extended the 49th parallel boundary between the U.S. and British Canada all the way to the Pacific Ocean. So it is vital that historians determine the main motivation(s) in sending the Lewis and Clark Expedition for the very reason that the Corps of Discovery caused so many other significant moments in the development and formation of the United States.

The subject of the Lewis and Clark Expedition is not new to historical study. Historians have been dissecting it for the past 175 years. Over time the men of the expedition were not known simply as individuals but as a part of the Lewis and Clark Expedition. Lewis and Clark were the co-commanders of the venture and the party is more commonly known as the Lewis and Clark Expedition and not the Corps of Discovery; yet the two captains were not written about as individuals but only as connected to the Expedition.

Much like all other renowned Americans of their time, they had been raised to almost mythic levels throughout the 19th and early 20thcenturies. However, as historian Joyce Appleby notes, by the 1913 American some American historians, "began by smashing the pedestals upon which the Founding Fathers had stood for over a century."[1] Historians questioned why America's founders, who prided themselves as men of liberty, still had slaves. Presidents George Washington and Thomas Jefferson were still idolized but not to the degree in which they had been twenty years earlier. On the other hand, the Lewis and Clark Expedition persevered through this time and their reputation as America's great exploring team remained intact. Their journals were republished and edited over 25 times from 1814 to 1950, and translated into Dutch and German. It was not until 1965 and Richard Dillon's *Meriwether Lewis: a biography* that a biography of one of the men appeared. This helped to spark an explosion in the 1970's in the amount of secondary literature on the Expedition.

It was then that James Ronda emerged as the preeminent Lewis and Clark historian. He has written 12 books and countless articles on the topic since 1980. Throughout his writings he focuses primarily on two aspects of the Expedition. Ronda looks at Lewis and

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[1] Joyce Appleby, Lynn Hunt and Margaret Jacob *Telling the Truth about History* (New York: W.W. Norton & Company, 1994), p. 137.

Clark and their interaction with the Native Americans and also what served as the motivation for Thomas Jefferson to look west and send the two commanders across a continent.

In *Jefferson's West* Ronda offers a sweeping overview of President Jefferson and his plans and hopes for the Corps of Discovery.[2] He asks the question, how could Jefferson, a republican committed to small government and a miniscule budget, authorize the most expensive project in America's short history? A project which went onto establish the federal government's "tradition of supporting exploration and scientific inquiry."[3] Ronda addresses this issue by first analyzing Jefferson's personal writings and his *Notes on the State of Virginia* through mostly an economic and commercial lens. He utilizes both sets of volumes successfully, conveying a clear message in his analysis of Jefferson's inspiration for organizing the Lewis and Clark journey.

Ronda arrives at the same conclusion as most American historians; Jefferson's motivation for the Expedition is, as Ronda notes, "to find the shortest and most convenient route of communication between the United States and the Pacific Ocean."[4] Jefferson wanted to establish an empire that could rival England's monopoly on the fur trade. He saw this as being possible mostly because he honestly believed there was a water passage that could take American furs from St. Louis that could transverse the rest of the continent into the "Western Sea" and finally on to the Orient.[5] Ronda portrays Jefferson as being a man driven by commerce and economic goals.

Many other prominent historians have stressed commercial ends as the motivation for sending Lewis and Clark as well. In 1984 William Willingham and Leanoor Swets Ingraham

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[2] Corps of Discovery was the official name given to the expeditions spearheaded by Thomas Jefferson, though it is more commonly known as the Lewis and Clark Expedition.
[3] James P. Ronda *Jefferson's West* (Chapel Hill: University of North Carolina Pr, 2002), p. 11.
[4] Ibid., p. 24.
[5] Ibid., p. 36.

note in reference to the Expedition's formation, "Designed to promote the strategic and commercial interests of the new nation."[6] Stephen Ambrose also believes the Lewis and Clark Expedition was a purely commercial one. *Undaunted Courage* is considered to fall under the popular history category rather than that of historical scholarship, but because it is so widely read it should be considered with the other works. Ambrose focuses on Jefferson's expansionist and economic goals and rarely even mentions the scientific aspects of the journey. Ambrose notes, "The instructions emphasized practical knowledge, useful knowledge. There was no hint of encouraging exploration for its own sake or merely to satisfy curiosity about what was out there."[7] Ambrose overtly states that the Expedition was not formed to feed Jefferson's intellectual appetite. He disregards the impact the Enlightenment and the influence the American Philosophical Society (APS) had on Jefferson and other prominent politicians.

It is only in *Lewis and Clark among the Indians* that Ronda discusses Jefferson's and the other American intellectual's desire for more knowledge on Native Americans. He discusses the American Philosophical Society's involvement in tutoring Lewis in ethnography and "Promoting useful knowledge," that could then be organized into encyclopedias.[8] Ronda does not delve any further into Jefferson or the American Philosophical Society's Enlightenment influenced minds. James Ronda believes that science was in the back of Jefferson's mind, and that is where it remained: "Jefferson believed in the transforming power of useful knowledge, and the most useful knowledge the Pacific

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[6] Ed. William F. Willingham and Leanoor Swets Ingraham *Enlightenment Science in the Pacific Northwest: The Lewis and Clark Expedition* (Portland: Lewis & Clark College, 1984), p. viii.
[7] Stephen Ambrose *Undaunted Courage: Meriwether Lewis, Thomas Jefferson, and the Opening of the American West* (New York: Touchstone, 1996) p. 71.
[8] James P. Ronda *Lewis and Clark among the Indians* (Lincoln: University of Nebraska Press, 1984), p. 125.

expedition could yield was the route to the western sea. Everything else—all the botany, climatology, and ethnography—was secondary."[9]

The general consensus in regard to the core motivation of the Lewis and Clark expedition is, as Ronda said, to increase America's involvement in the west in order to gain commercial advantages over Britain. It seems that historians for the last couple of decades have accepted this is as a fact. This trend has continued all the way up until recent years. There have been relatively few authors who have strayed from the commercially motivated theory, however, just in past few years there have been a small few who have strayed and have produced works that offered a new avenue in which historians are to think about.[10]

However there is another avenue worth investigating. There is a definite lack of scholarship as regards to Jefferson and the American scientific community's push for exploration to help in the advancement of scientific knowledge and of American pride. Carlson, Ambrose, Willingham and Ingraham do not address the issue at all, and James Ronda the Lewis and Clark historian just touches upon it briefly. It is my contention that this second factor has as much to do with the sending of the Expedition as does the other theory. It seems that historians too quickly dismissed the scientifically motivated theory. Most likely these two motivations worked together to create and launch the Lewis and Clark Expedition.

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[9] Ronda, *Jefferson's West,* p. 36.

10 In Seduced by the West, Laurie Carlson focuses on Jefferson's fascination with the West during his work as secretary of state and president. She looks at the many expeditions he organized while President and Secretary of State but centers on the expedition he is most famous for, the Lewis and Clark voyage. She asks several questions of Jefferson but her main question is why Jefferson sent Lewis and Clark overland across America to the Pacific if there were already American ships on the Pacific Northwest Coast? Carlson strays dramatically from the current discourse. She reaches the conclusion that Jefferson's main intention for the Lewis and Clark expedition was to bait Spain into war with the United States, thus allowing Jefferson to mobilize troops against the weak Spanish in an attempt to take West and East Florida as well as northern parts of Mexico.[10] From letters between Jefferson and General Wilkinson, the commander of U.S. forces in the west, she believes that Jefferson had grown tired of trying to gain land from Spain legally and decided that Spanish forces would not offer much of a challenge.

The Enlightenment began in the latter half of the 17th century. Centered in France, but encompassing most of Europe, it marked the period in which the sciences moved from focusing on theology to studying humans and the world that surrounded them. Newton and others sought to establish laws that explained the actions of nature and human behavior. Followers of the Enlightenment wanted empirical evidence and facts that they then could construct their laws from. Information and evidence were gathered through observation and experimentation. It was this quest for knowledge that caused many Enlightenment "philosophes" to send out numerous scientific explorations.

Thomas Jefferson and the other intellectuals of America's scientific community were men of the Enlightenment as well. In 1743, Benjamin Franklin formed the American Philosophical Society in response to the establishment of scientific societies throughout Europe. Centered in Philadelphia, the APS had been formed with the intent to create an arena in which the bright minds of America could come together to debate and discuss all scientific issues. By the 1770's, it had become known as the premier intellectual institution in America, and it was well-respected by European societies. Its members--including Thomas Paine, John Adams, George Washington and Charles Willson Peale--insisted that "reliable knowledge came only from direct experience with and participation in the natural world."[11] The need to satisfy the thirst for more knowledge by American Enlightenment thinkers was one of the motivations for sending out several explorations, most notably the Lewis and Clark Expedition. The other motivation had to do with the desire to rid

[11] James P. Ronda, "Lewis & Clark and Enlightenment Ethnography," in *Enlightenment Science in the Pacific Northwest: The Lewis and Clark Expedition,* ed. Willingham, William F. and Ingraham, Leonoor Swets (Portland: Lewis & Clark College, 1984), p. 6.

themselves of thought that America was somehow inferior to Europe and establish America as a scientific, enlightened nation, which Americans could take pride in.

The members of the APS were some of the most powerful men in America. They were not only some of the smartest men in America but they also held real political power. As mentioned above, its members were presidents and governors. Those who did not hold political office did have influence in political issues—like Thomas Paine—had played an integral part in the American Revolution. Increasing their power even more, they were among the wealthiest men in the nation as well. Jefferson and Washington owned some of the largest estates in Virginia that produced bountiful crops of expensive tobacco every year. Certainly the APS had the capability and potential to pursue its own scientifically driven ambitions on a large scale; it was just a matter of when they would exercise it.

Europe, in the eyes of Americans, was the standard to which every other society was to measure up against. Europe had been the center of every literary, scientific and art movement that Americans had followed. From the Enlightenment the works of John Locke, Adam Smith and Montesquieu emerged, all of which were influential in America's movement towards independence. APS members viewed Europe as the older, more mature, perfect brother that served as the bar to which America could rise to some day; they hoped scientific knowledge was the quickest way to this ascension.

Even while controlled by Great Britain, the American landscape and its features were thought of as inferior to that of Europe. This view mainly stemmed, not from empirical evidence, but from the European intellectuals self centered view that Europe and the rest of the Old World grew the perfect vegetation which came from its perfect soil which was

looked over by its perfect climate. This was their own way of demonstrating their hemispheric pride.[12]

These intellectuals were from all over Western Europe but most came from France. The head of this line of thought was a Frenchman by the name of Georges Louis Leclerc, Comte de Buffon.[13] He was one of the leading scientific minds in the entire world; he was a naturalist, mathematician, biologist, cosmologist and author. He wrote *Histoire Naturelle* from 1749 to 1767, a 44 volume encyclopedia which attempted to describe everything known about the natural world. Before his death, he had completed the history of humans, minerals, plants and animals. However, from an American perspective his findings were a bit disconcerting. In *Histoire Naturelle* he contended that animals in America were degenerated versions of their Old World counterparts, primarily because of America's wet climate. In Buffon's eyes Africa and Asia fell under the category of belonging in the Old World. America lacked animals that could compare with hippopotamuses, elephants, giraffes or rhinos. Buffon then goes on to insult the New World twice more. He does this by stating that the New World has fewer large mammals (*quadrupeds*) and secondly that the domestic animals brought to America from Europe had grown smaller in size than their European brethren. Buffon claimed that these symptoms were caused by the wet climate in the New World. Only insects and reptiles seemed to survive in wet climates, whereas *quadrupeds* thrived in Africa and Asia where the climate was much drier.[14]

Buffon further described America as being a landscape where no one, given would choose to live; it was just too dreary a place. This was read by intellectuals of all areas. A

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[12] Editor's Note, *Notes on the State of Virginia*. ed. Frank Shuffleton, (New York: Penguin Press, 1999) p. xxii.
[13] See *Buffon: A Life in History,* (Ithaca: Cornell University Press, 1997) for a complete biography. Buffon actually was one of the first to wrestle with the similarities between man and ape. His research would help to lead to Darwin's theory of evolution.
[14] Editor's Note, *Notes on the State of Virginia*. p. xxii.

young Thomas Jefferson took great exception to this theory. While serving as Governor of Virginia from 1780 to 1783, he wrote his *Notes on State of Virginia* as requested by François Marbois, a Frenchman curious about the American colonies; but Jefferson used it was an opportunity to respond to Buffon's claim. Marbois had asked 22 questions of each American colony, but only Virginia replied with the requested information. The subjects of the queries ranged from descriptions of the rivers and road systems to the manners of the colonists.[15]

Notes on the State of Virginia was written in 1785, with the intent to rebut Buffon's argument. Jefferson's section on vegetables and animals makes this point quite clear. In it he created a complete catalogue of every type of tree, plant and fruit in the colony of Virginia, and then he separated them into four categories describing each piece of vegetation as either "1. Medicinal, 2. Esculent, 3. Ornamental, or 4. Use for fabrication."[16] Jefferson makes the point that the soil of Virginia was able to produce naturally or through cultivation an abundance of vegetation. Jefferson even made the argument that perhaps the wet climate is particularly conducive for certain types of plants, vegetables and fruits that can not be grown in the Old World's dry climate.

His main focus in overturning Buffon's claim of Old World superiority was to look at the animals of, not only Virginia, but of America as a whole.[17] By not focusing on only Virginian animals Jefferson displayed that he was not simply seeking to educate Marbois about the colony, but was directly speaking to Buffon, his followers and audience.

Jefferson did not necessarily disagree completely with Buffon's statements. He acknowledges that there is no sense in comparing the number of *quadrupeds* in Africa and

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[15] Ibid., p. vii.
[16] Ibid., p. 39.
[17] Ibid., p. 43.

Asia with their American counterparts. They simply have far more.[18] What Jefferson did argue was that European animals cannot be grouped with African and Asian ones because Europe simply did not contain any animals that were on par with Africa and Asia's. Europe was too different to lump in the same category as Asia and Africa. Jefferson then says, "Let us then take a comparative view of the *Quadrupeds* of Europe and America."[19] He was turning the argument around and attacking Buffon's own land. Much like he did in the plant section, Jefferson catalogs each species of animals that was known to reside in the American colonies. He then created a table in which he compared the size of animals of both Europe and America side by side. Jefferson evaluated the sizes of bears, beavers, otters and deer. Overwhelmingly the American animals were larger than their European counterparts. Jefferson did not reiterate Buffon's claims that large animal size meant a superior land. He was simply disproving Buffon's myth.

Buffon had never traveled to America nor any other area of the New World. So how, then, did he know the weights and measures of animals living in the New World? He relied on the testimonies of trappers and other travelers who had been to the America, and had traveled back to France. As any scientist would do, Jefferson questioned the credibility of the sources. Jefferson asks, "Was natural history the object of their travels? Did they measure or weigh the animals they speak of? or did they not judge of them by sight?"[20] Buffon lacked empirical evidence, the single most important evidence to modern scientific minds. Jefferson pointed to numerous examples one of which appeared in *Histoire Naturelle*.

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[18] Ibid., p. 50.
[19] Ibid., p. 51.
[20] Ibid., p. 56.

Buffon noted in his encyclopedia that a *cabiai*[21] weighed 46lbs; however as Jefferson pointed out Buffon had taken the word of a trapper who had in fact weighed an adolescent *cabiai.*[22] A full grown *cabiai* weighs closer to 100 lbs.

Jefferson's attack on Buffon's sources and evidence further undermined the validity of the Frenchman's declaration. Even with this Jefferson wanted still more evidence to overturn Buffon's theory and bolster the image of the American continent; to do that he turned his attention to an even larger creature, the woolly mammoth.

Jefferson was very concerned with how Europeans viewed America. As much as he was concerned with political independence at the time his mind was just as busy attempting to persuade Europe, as well as himself, that America was on par with the rest of the world when it came to natural history and science. For America to measure up to Europe, Jefferson sought empirical data demonstrating the magnificence of the American natural world. Because of this he was obsessed with finding something in America in which he could take special pride. The direct result was his life long search for proof that Mammoths did indeed inhabit America at one point.

Bones had been found throughout the Mississippi Valley that led people to believe that mammoths may have roamed America once upon a time. Large grinders and tusks were found in the Tennessee Valley and Native Americans told Jefferson of odd immense bones found around the Missouri River, but a full skeleton had yet to be found.[23] Earlier in the century a partial Mammoth skeleton had been found in Siberia.[24] This led Jefferson to

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[21] Cabiai is the Latin name given to the capybara, the largest rodent in the world, which inhabits the rainforests of Brazil and Mexico.
[22] Jefferson, p. 56.
[23] Ibid., p. 44.
[24] Jefferson actually sent John Ledyard, a former British naval officer, in 1786 on an expedition alone on foot in which he would start in France and travel to Siberia to investigate China as well as the mammoth remains.

believe that perhaps Mammoths had traveled across the land bridge between Siberia and into North America, and then settled in the Mississippi Valley.[25] If a Mammoth skeleton could be found in the New World, Jefferson believed then Buffon's argument would be proven wrong on his own terms. Buffon's fixation on animal size would end up coming back to bite him, though Jefferson would have to find his own "white whale" first.

Over the next twenty-five years Thomas Jefferson sent out numerous expeditions whose orders included as their primary or secondary objective to find the remains of a Mammoth. Three in particular were significant. The first was put together in 1783, two years before the publishing of *Notes on the State of Virginia.* It was to be led coincidentally by William Clark's brother, George Rogers Clark. Jefferson wrote to Clark, "You are so kind as to keep alive the hope of getting for me as many of the different species of bones, teeth and tusks of the Mammoth."[26] Clark later turned down the offer to explore the west at that point, mostly because he was worried that he would alarm the Indian tribes he encountered.[27] This was an unusual statement considering Clark went on to become a legend as one of America's most renowned Indian Fighter. Jefferson agreed with Clark that America was not quite ready for such an expedition, however not for the same reason. Jefferson cited the lack of adequate economic resources for the delay in sending Clark westward.

Jefferson funded Ledyard with his money and secured passports from the necessary countries. However, Ledyard never reached Siberia and was turned away by Russian officials; he then traveled to Egypt where he died in 1788.

[25] Jefferson, p. 107. Jefferson firmly believed that this land bridge did exist; this is how he explained Native Americans existence in America. His main evidence was the similarities in physical features that Native Americans and Asians held.

[26] Thomas Jefferson to George Rogers Clark, 4 December 1783, *Letters of the Lewis and Clark Expedition*, ed. Donald Jackson, (Urbana: University of Illinois Press, 1978), p. 654.

[27] George Rogers Clark to Thomas Jefferson, 8 February 1784, *Letters of the Lewis and Clark Expedition*, p. 657.

Since 1783, and the proposed George Rogers Clark expedition, Jefferson had moved up politically from governor of Virginia to U.S. Ambassador to France and by 1793 had finished up his service as George Washington's first Secretary of State. Because of fundamental differences of policy, he and Washington agreed that it was best that he not return as Secretary of State for Washington's second term. This break from politics gave Jefferson the opportunity to focus on scientific matters of interest to him.

In the summer of 1792 he began discussing another possible expedition. Jefferson, as vice-president of the American Philosophical Society, proposed that the APS outfit an adventurer to explore the North American continent. By going through the APS, Jefferson would have much more control over the expedition's destination and goals. So in the fall of 1792 he began gathering donations from other APS members including President Washington. Jefferson then began the process of putting the expedition together; notably a teenage Meriwether Lewis volunteered to lead the expedition but was deterred by Jefferson.[28] Jefferson ultimately chose André Michaux, a French botanist, to lead this exploration. Jefferson was so set on establishing America as a premier intellectual power it seems odd that he would choose a Frenchman to lead the expedition. The land west of America was still owned by Spain, which was at the time on good terms with France, thus Jefferson reasoned, Spanish authorities would be less likely to force the expedition back. The American Philosophical Society's instructions to Michaux centered on him traveling towards the Pacific Ocean and acquiring information regarding "soil, climate, animals, vegetables & minerals."[29] Goals for furthering America's commerce or expanding its territory is never

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[28] Laurie Winn Carlson, *Seduced by the West.* (Chicago: Ivan R. Dee, 2003) p. 55.
[29] Agreement of Subscribers to Andre Michaux's Expedition, 22 January 1793, *Letters of the Lewis and Clark Expedition*, ed. Donald Jackson, (Urbana: University of Illinois Press, 1978), p. 668.

mentioned in any of the members of the APS's letters or notes. This expedition was intended as a scientific endeavor.

By early spring of 1793 Michaux and his group had gone as far as Kentucky when his real motivation for volunteering for the expedition came to light. With the support of the French Republic, he was hoping to incite fighting from Spanish forces while in Spanish territory, thus starting a war between America and Spain. When his scheme was realized by the APS they, with the help of the French government, recalled him back and sent him home to France.[30]

Jefferson's two attempts at sending a scientific expedition westward had both failed to even get past the Mississippi River. However, the Michaux venture had provided Jefferson with the opportunity to be the central planner for an expedition. This experience would prove significant a decade later when he put together the instructions for the Lewis and Clark Expedition. In the meantime, he had grown so frustrated that he would not speak or write of organizing another voyage for a full decade.

After returning to public office and serving as Vice-President to John Adams he was elected to the presidency in 1800 in one of the closest contests in presidential history. Once in office he realized that he now had the necessary power to create an expedition that could be sponsored by the United States. In 1803 he delivered a message to Congress, expressing his desire to create an expedition that would pursue "the extension of the public commerce among the Indian tribes."[31] Throughout his message he scarcely even mentioned increasing scientific knowledge of the western lands.

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[30] Editor's Note, *Letters of the Lewis and Clark Expedition*, p. 669.
[31] Jefferson's Message to Congress, 18 January 1803, *Letters of the Lewis and Clark Expedition*, p. 12.

In order to get the venture sponsored by the federal government he had to persuade Congress that this was not a scientific journey. The *U.S. Constitution* was interpreted by many as saying that Congress could not grant funds for a "purely literary or scientific" journey.[32] Jefferson had to cast the potential expedition as a commercial venture to the public and Congress that would help to stimulate the American economy. But in private, his true motivations were revealed in a letter to a French naturalist, where Jefferson writes, "we are now actually sending off a small party…to enlarge our [knowledge] of the geography of our continent, natural history, soil and climate."[33] It is in this letter to Lacépède that Jefferson first coins the Expedition as a "voyage of discovery."[34] The term embodies exactly what Jefferson had intended for the expedition. In response to Jefferson's letter, Lacépède comments, "the movement of enlightenment has been from east to west. The inhabitants of the United States, if they do not reject this destiny, will one day halt and reverse this movement."[35] The United States' attempts at advancing enlightened knowledge were not unrecognized by Europeans.

In March 1803, Jefferson approached a British diplomat in America about securing a passport for the travelers. Edward Thornton, saw right through Jefferson's statement. He told the British Secretary of State of his encounter with the President and what his real intentions were: "the constitution of the United States…does not permit the general government to offer bounties for the promotion of discoveries or for the advancement of science."[36] President Jefferson was acting as the scientific community's main lobbyist in

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[32] Edward Thornton to Lord Hawkesbury, 9 March 1803, *Letters of the Lewis and Clark Expedition*, p. 25.
[33] Jefferson to Bernard Lacépède, 24 February 1803, *Letters of the Lewis and Clark Expedition*, p. 15.
[34] Dumas Malone, *Jefferson the President: Second Term, 1805-1809* (Boston: Little, Brown and Company: 1974), p. 176.
[35] Bernard Lacepede to Jefferson, 13 May 1803, *Letters of the Lewis and Clark Expedition*, p. 46.
[36] Edward Thornton to Lord Hawkesbury, 9 March 1803, *Letters of the Lewis and Clark Expedition*, p. 25.

getting its thirst for new knowledge quenched as well as promoting America as a nation that commanded the respect of France and England in terms of intellectual prowess.

Picking a leader for the expedition was the next step in the creation of the Corps of Discovery. Jefferson wrote to fellow APS member, Dr. Caspar Wistar, and described his perfect leader, "a person...adapted to the woods & some familiarity with the Indian character, joins a perfect [knowledge] of botany, natural history, mineralogy & astronomy."[37] Expertise in the sciences was just as important to Jefferson as was being a good woodsman. Unfortunately this ideal person just did not exist. So Jefferson looked for someone who had demonstrated good leadership skills and the ability to learn new things quickly. Fortunately for the president he only had to look to his personal secretary's desk to find his man.

Meriwether Lewis had learned the ways of the woods while growing up in the backcountry of Virginia and his service in the army provided the means for him to acquire the necessary leadership and observation skills. Very luckily, almost randomly, he had been selected from a lot of fifty other qualified men who sought the position as the President's personal secretary. The selection of Lewis as expedition leader was met with some criticism from APS members back east who thought someone with a scientific background similar to Michaux's should have been selected. The Michaux expedition had proven to Jefferson that the head of the venture would have to be as capable of a leader as he was a scientist. He defended his selection of Lewis and retorted to opponents and described Lewis and his qualifications, "guarded by exact observation of the vegetables & animals of his own country...sound understanding and fidelity to truth so scrupulous that whatever he should

[37] John E. Bakeless, "Lewis and Clark's Background for Exploration," *Journal of the Washington Academy Sciences* 54 (1954) p. 335.

report would be as certain as if seen by ourselves."[38] Lewis had shown the ability to learn scientific processes, thus Jefferson planned on using the APS network of intellects to help further Lewis' knowledge and prepare him for his journey across the continent.

The months of February and March 1803, President Jefferson spent writing APS members seeking their aid in educating Lewis. He asked Benjamin Smith Barton to prepare Lewis in "botany, zoology, or of Indian history." The men of the APS, Jefferson knew, were very willing to do whatever they could to promote the further advancement of the sciences in America. In his letter to Barton he writes, "I make no apology for this trouble, because I know that the same wish to promote science...will induce you to aid in promoting it."[39] Dr. Caspar Wistar, was a professor of astronomy at the University of Pennsylvania, considered by many as the leading astronomer in America, and he also happened to be a member of the APS. Knowledge of the stars and sky was incredibly pertinent to the success of the expedition; it would allow Lewis to make an accurate prediction of his location and later aid William Clark in his production of a map. Thus Jefferson did not shy away from asking him for assistance: "He (Lewis) will be in Philadelphia within two or three weeks any advice or hints you can give him will be thankfully received."[40]

Most of the members of the American Philosophical Society had known of the expedition before they received Jefferson's letters, primarily because Jefferson was still serving as vice-president of the APS and was still very much involved in its affairs. He constantly consulted with members on the wording he would use in his proposal to Congress or when seeking passports. So upon Lewis' arrival in Philadelphia most all of his tutors had

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[38] Malone, p. 174.
[39] Jefferson to Benjamin Smith Barton, 27 February 1803, *Letters of the Lewis and Clark Expedition*, p. 16. Dr. Benjamin Smith Barton was a naturalist, physician and lecturer at the University of Pennsylvania. Many years later he aided Jefferson in his attempts to publish Lewis' journal.
[40] Jefferson to Caspar Wistar, 28 February 1803, *Letters of the Lewis and Clark Expedition,* p. 17.

already created a list of queries they wanted answered. Dr. Benjamin Rush, the most well-respected physician in the United States, made a list that centered on the medicine, morals and religion of Native Americans. He seemed very concerned with the whether or not Native Americans west of the Mississippi had been exposed to syphilis and yellow fever yet.[41] If a particular tribe looked especially ravaged by the sicknesses Rush firmly advised that Lewis aid them.[42]

Caspar Wistar also requested information of Lewis upon his return. Wistar in a letter told Jefferson he had just finished reading *Voyages from Montreal* by Alexander Mackenzie, an Englishman who trapped and traded through much of central Canada and claimed to have visited the waters of the Columbia River.[43] Mckenzie's account peaked Wistar's interest. He, too, was curious about the western Native Americans, but his questions focused mainly about what types of animals lay to the west. Wistar, an astronomer, was very concerned with receiving data back. Besides being the leading American astronomer Wistar was also the foremost authority on fossils in America. In his time with Lewis, he spoke mostly about the mammoth bones that had been found recently in Kentucky and instructed Lewis on the proper method in excavating fossils from the earth.[44]

Jefferson set up numerous other tutoring sessions in Philadelphia for Lewis, who met with a mathematician, a physician and a surveyor among others before his departure. Lewis

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[41] Benjamin Rush to Lewis, 17 May, 1803, *Letters of the Lewis and Clark Expedition*, p. 50. See David Barton's *Benjamin Rush* (Aledo, TX, Wallbuilder Press: 1999). Rush helped to found America's first anti-slavery society as well as Dickinson College. He also was integral in helping Thomas Paine's writing of *Common Sense*. Continuing with Rush's political biography he was the only doctor to sign both the *Declaration of Independence* and the *U.S. Constitution*.

[42] Rush also contributed to the voyage by generously donating hundreds of his famous "Rush's Pills". These pills were prescribed for almost every aliment, from headaches to a broken leg. "Rush's Pills" contained calomel and jalap in doses of up to 10 to 15 grams, which together acted as a very quick and violent laxative, thus cleaning the system of all impurities.

[43] McKenzie's journals full title is as follows: *Voyages from Montreal on the River St. Laurence Through the Continent of North America to the Frozen Pacific Ocean In the Years 1789 and 1793*.

[44] Ambrose, p. 91.

was a very willing student, and with the mentorship of the top minds in America, he had become as close to Jefferson's ideal leader as was possible.

While Lewis was in Philadelphia receiving the short lessons on the sciences, the spring of 1803 found President Jefferson anxious for the Expedition to embark. He wrote numerous letters to Lewis in the months of March and April. He seemed to come up with questions daily that he wanted answered, most all of them were scientifically related. While in the streets of Washington Jefferson had noticed a man's robe made out of a fur which Jefferson was not familiar with. Like with the mammoth, Jefferson is concerned just as much with general scientific knowledge as he is practical information. Jefferson was not interested in the latest in men's fashion, but he was intrigued about an animal of which he had no knowledge. Jefferson was rather certain that the skin was of an animal that lived in the land Lewis was about to venture out into. "If there be such a thing there now" Jefferson wrote, "you can either observe & report it to me."[45] His questions illustrate the fact that Jefferson's thoughts were centered on scientific, as well as commercial matters in regards to the Expedition.

In June of 1803 while Lewis was putting together his arsenal in Harpers Ferry, Virginia, Jefferson sent him the official instructions for the Expedition. This letter was for Lewis only and was never shown to Congress nor any others not directly involved in the establishment of the Corps of Discovery. In it, Jefferson outlines the trip and sets the destination as "the western sea," but he also includes numerous broad questions he would like answered related to Native Americans, the "soil & face of the country, the animals, especially those not known in the U.S., the remains or accounts of any which may be deemed

[45] Jefferson to Lewis, 23 April 1803, *Letters of the Lewis and Clark Expedition*, p. 43.

rare or extinct."[46] His last request directed Lewis and company to keep an eye out for mammoths or their remnants. Most still believed that mammoths still did exist but had been pushed further and further west by human settlements.[47] Mammoths remained a priority for Jefferson, finding a living one or a skeleton would allow America to claim the only one of its kind in the world.

Jefferson also instructed Lewis to keep a journal of his observations during the journey. This journal, Jefferson hoped, would serve as an almanac to the land west of the Mississippi. But when making written observations in journals Jefferson and the APS had very specific directions for all explorers. They sought "very exact descriptions of what the (explorers) see of that kind, without forming any theories."[48] Clearly the American scientists only wanted the cold empirical facts and data which then would allow them, the more qualified experts, to make the right and rational deductions and theories. This speaks directly to one of Jefferson's criticisms of Buffon. The Frenchman relied on the word of other men and did not require accurate documented weights and measures of trees, plants and animals. Because of the inaccuracy of his data, his conclusions were false. It was Jefferson and the men of the APS's goal to utilize Lewis' journal to theorize on and categorize correctly the newly observed minerals, Native Americans, plants and animals.[49]

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[46] Jefferson to Lewis, 20 June 1803, *Letters of the Lewis and Clark Expedition*, p. 62. In his instructions to Lewis, Jefferson hoped that half of Lewis' would wait at a port on the Pacific Ocean for a ship to carry them back around Cape Horn to Washington with one copy of the journal. Unfortunately the only established port was Spanish controlled and was located on Vancouver Island, over 300 miles north of Lewis and Clark's Pacific settlement of Fort Clatsop.

[47] The theory of extinction did not come along until decades later.

[48] Jefferson to Charles Thompson, 20 September 1789, *The Papers of Thomas Jefferson,* ed. Julian P. Boyd, (Princeton: University Press, 1950) vol. 12: p. 159.

[49] The study of Native Americans was conducted by men of the APS because they saw them as a scientific matter. They saw Native Americans as what white men were like during an earlier social evolutionary stage. Studying Native Americans was like studying the people of Europe several hundred years ago. Native Americans were hunter and gatherers, and sometimes farmers, thus had yet to evolve to the white man's current stage of commercial growth and industry.

On his journey from Washington to Pittsburgh in the summer of 1803 Lewis contacted his old army friend Col. William Clark and with little effort enticed Clark to accompany him and co-command the Expedition. William Clark was a career army officer who had been Lewis' superior while they served together. Lewis understood himself well enough to know that he would need a capable leader that would not hesitate in disciplining the men when needed; Clark's skill as a mapmaker was a bonus.[50]

With their medical supplies and arsenal in tow, Lewis and Clark set down the Ohio River in September on large dugout canoes until they reached Kentucky. There Clark recruited several more able-bodied infantrymen and Lewis traveled with a small team to Big Bone Lick, Kentucky. It was there that Dr. William Goforth had found large bones early in 1803 that belonged to what he thought were mammoths. Goforth studied the bones carefully and determined that the bones and teeth were very similar to an elephant or a hippopotamus, but were too large to belong to either animal. Thus he reasoned the bones belonged to the mammoth. Jefferson learned of the deposit of bones through fellow APS member and museum curator Charles Willson Peale. Lewis met with Goforth and was given the privilege (thanks to Jefferson's prodding of Goforth) to handle the bones and tusks that had been excavated. The opportunity to ask Goforth questions and study the mammoth remains up close would allow Lewis to better understand the great animal and what to look for while on the journey. In Lewis' letter to Jefferson, written directly after his meeting with Goforth, Lewis writes, "The Doctr. Presented me with two handsome specimens, the one a grinder of the Elaphant [*sic*], the other, that of the Mammoth."[51] He describes the bones to Jefferson

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[50] Ambrose, p. 104. William Clark was appointed as second in command; however Lewis continually spoke of Clark as a co-commander. Following the return of the Expedition, due to Lewis' persistence, Clark received equal payment by the government. He later marries in St. Louis and oversees the publishing of Lewis' journal.
[51] Lewis to Jefferson, 3 October 1803, *Letters of the Lewis and Clark Expedition*, p. 127.

in a lengthy letter: "That the tusk of the Mammoth is well defined… the lamina of both the flat and the conic tusks."[52] Clearly Lewis was growing much more comfortable with scientific matters and terms, much to the delight of Jefferson. This short detour had allowed for Lewis to demonstrate his advance in knowledge to Jefferson and other members of the APS.[53] The scientific community most assuredly felt at ease with Lewis leading the party west and returning with an abundance of fresh knowledge and information capable of increasing American nationalism in the sciences.[54] By studying the enormous mammoth bones Lewis began to feel much like the rest of the American scientific community. He felt immense pride in the fact that a beast of this magnitude inhabited America at one point. Finding an intact skeleton or a living specimen he hoped would garner the attention of the American public to the fact that by living in America they had much to have pride in.

Between September and late spring 1804 Lewis and Clark made their way down the Ohio River, then connected with the Mississippi River and traveled north to St. Louis. Along the way the two commanders made their final preparations for their journey. They bought and traded for the rest of their supplies and hired on the last of their men, most of whom were military men and one Frenchman, chosen for his skill with sign language skill, which would help the party establish relations with Native American tribes. In St. Louis Lewis received a large parcel, sent by Dr. Rush, which included medical supplies and more instructions on dealing with possible illnesses like syphilis and advice on keeping the men fresh.[55] Rush

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[52] Lewis to Jefferson, 3 October 1803, *Letters of the Lewis and Clark Expedition*, p. 129.
[53] Lewis sent several fossils via boat to Jefferson; unfortunately the boat sank along with most of the bones, save a jaw bone and grinders. After reading this letter, Lewis was voted in--with the support of Jefferson, Charles Willson Peale and Caspar Wistar--as a member of the American Philosophical Society.
[54] The APS members had been so impressed after meeting Lewis and with his letters from Kentucky that on November 21, 1803 the APS elected in Meriwether Lewis as a member.
[55] Benjamin Rush's Rules of Health, 11 June 1803, *Letters of the Lewis and Clark Expedition*, ed. Donald Jackson, (Urbana: University of Illinois Press, 1978), p. 54.

believed that many Native Americans would be inflicted with syphilis and advised Lewis to prescribe Rush's pills to combat the illness. As a doctor, Rush wanted to cure every human's pain and suffering but Rush also was hoping to get on the good side of the Native Americans. Rush hoped that by helping the Native Americans they would return the gesture and give Lewis and Clark any information regarding the surrounding country. Using his medical expertise to help gain knowledge about things unrelated to medicine, Rush demonstrated his Enlightenment urge to learn everything about the natural world.

The 29 person party set out from St. Louis at 6:00 a.m. on May 22, 1804. They headed up the Mississippi a few miles until turning west onto the Missouri River. From there they planned on following the Missouri River as far as it would take them, then set up a camp alongside a pleasant Native American village for the winter months when necessary. Writing in his daily journal, Lewis included data on every aspect of plants and animals and took note of the position of the stars. The pirogues, a type of dugout canoe, and keelboat were too loaded--mostly with ammunition, trinkets to trade with Native Americans and whiskey—to take on caged animals or their skins. Because he could not bring back many specimens it was pertinent that Lewis write as meticulous notes as possible. While on a side excursion Lewis shot and killed two birds, he describes them in his journal: "The tail has eleven feathers the outer of which are an inch longer than those in the center gradually tapering inwards…the largest or outer feather is 2 ¾" that of the shortest 1 ¾."[56] Lewis used a thousand words to describe the bird's measurements, physical appearance and even the sound it made. Though not an artist by any means, Lewis included a drawing of the bird alongside the description, which would allow Charles Willson Peale, the APS's artist, to recreate the

[56] Meriwether Lewis 5 August 1804, *The Journal of Lewis and Clark,* <http://www.pbs.org/lewisandclark/archive/idx_jou.html>

bird more accurately. Lewis spent hours on end describing and making note of the land and the plants and animals that lived upon it. This devotion to making clear and concise observations hints at the fact that Lewis understood without a doubt what was wanted of him by the APS.

Lewis took pride in many of these American animals and plants. While in present day North Dakota, he trekked off on his own to explore the land surrounding the river. He came to the crest of a hill a looked over the land below and saw a herd of pronghorn antelope. Something frightened them and as a herd they fled. Lewis noted in his journal on September 17:

> "I had this day an opportunity of witnessing the agility and the superior fleetness of this animal (pronghorn) which was to me really astonishing...it appeared rather the rappid [*sic*] flight of birds than the motion of quadrupeds. I think I can safely venture the asscertion [*sic*] that the speed of this animal is equal if not superior to that of the finest blooded courser."[57]

Lewis was almost right; the pronghorn is the fastest mammal in North America but is second only to the cheetah in the world. Jefferson and the men of the APS must have taken great satisfaction in knowing that an animal of the pronghorn's grace and speed lived in their country.

The party continued north along the Missouri River through September until they encountered the Mandans, a peaceful Native American tribe that had already encountered many white trappers and hunters throughout the years. Lewis presented a peace medal to the chiefs and gave a speech President Jefferson had prepared for all of the tribes the Corps of Discovery came across.

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[57] Meriwether Lewis 17 September 1804, *The Journal of Lewis and Clark*

As the winter weather in North Dakota grew severe, Lewis and Clark made camp across the river from the Mandans and named it Fort Mandan. With all the time Lewis had at Fort Mandan, no new entries were found in his journal. His journal entries stopped in late September and did not resume until late March when the party had already started westward again. It seems that either he simply did not write or more likely these entries were lost during the two year journey. APS members had made several inquires about Native Americans, specifically Dr. Benjamin Rush and Benjamin Barton. Spending a full winter with one tribe offered Lewis the opportunity to observe Native Americans as no other person had. Lewis was well schooled in the science of ethnology thanks to the lectures of Dr. Rush and Barton; plus both intellectuals had given the explorer specific questions and topics they wanted addressed as pertained to Native Americans.[58] There is little doubt that a man of Lewis' dedication towards the mission and to Jefferson would have taken notes during such an opportunity.[59]

What is certain is that during the party's stay at Fort Mandan Lewis did put together a collection of items that he found along the way from St. Louis to their current location. In April 1805 just as the group was setting off down the Missouri, Lewis sent the specimens and an invoice of the items back to St. Louis with two of members of the Corps of Discovery, who were then to travel back to Washington to deliver it to the president. Included in the package were antelope skins and skeletons, "a living burrowing squirel [*sic*] of the prairies",

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[58] Ethnology is the study of the division of humankind into races, their origin, distribution, and relations, and the peculiarities which characterize them.

[59] It is during this time that Toussaint Charbonneau, a French Canadian fur trader who had lived among the Hidatsa and Mandans, along with his wife Sacagawea, joined the Corps of Discovery. Charbonneau served as very valuable translator along the journey, who clashed with the brash Clark often. Sacagawea, a Shoshone, helped the party secure horses before they climbed Continental Divide in Idaho.

four live magpies, a Mandan pot and specimens of "earths, salts, and minerals".[60] In all Captain Lewis sent back over 26 different items.[61] In Lewis' accompanying letter he told Jefferson that these items were to be forwarded to and investigated by the APS. It is odd that Lewis was sending back items; he conjured up some theories about the relatives of some of the plants and animals but did not offer much description on where the items were found or how they were acquired. Just as the APS instructed Lewis, he kept his own theories to a minimum. Lewis seemed to be simply an instrument of the APS.

Jefferson received the items in early fall 1805, and looked over the specimens and Lewis' brief analysis. In a letter to Charles Willson Peale, he writes, "I have some doubts whether Capt. Lewis has not mistaken the Roe for the Antelope."[62] Jefferson was not upset at Lewis for theorizing but could not help but criticize the captain's analysis. He reiterated to Peale that Lewis was a smart explorer but had better keep to exploring and not to scientific analysis. He simply wants the facts and the knowledge from the expedition; he and his fellow intellectuals can then examine the data and hypothesize.

Lewis and company continued their journey westward in early April 1805; the goal was to reach to the "Western Sea" before winter. They made their way down the Missouri and overland until reaching the Bitterroot Mountains of present western Montana. From there they walked alongside and floated down the Columbia River to the Pacific Ocean. There they made camp at Fort Clatsop on the Oregon side of the Columbia. Once again the

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[60] Lewis to Jefferson, 7 April 1805, *Letters of the Lewis and Clark Expedition*, p. 235-236.

[61] All but one of the magpies survived the trip east; the one living bird served as the model in Alexander Willson's *American Ornithology*, and was then sent to Charles Willson Peale's museum where it spent its last months. Several Akiras, including a chief, went along with the artifacts back east where they were greeted by the president. The Akiras were allies of the Mandans and lived in roughly the same vicinity. Both were enemies of the Sioux. However, a division was caused between the U.S. government and the Akiras when one of the traveling Akiras died while in St. Louis.

[62] Jefferson to Charles Willson Peale, 6 October 1805, *Letters of the Lewis and Clark Expedition*, p. 260-261.

party settled for the winter alongside a Native American tribe. The Clatsops had already been exposed to white men to the surprise of Lewis. One of the chiefs in fact wore an English sea captain's coat.[63]

The men did not stray much from the fort; they found the weather to be too miserable to venture out in, and thus both Lewis and Clark were given the opportunity to catch up in their journals and maps. Lewis focused on botany, perhaps because in their trip along the Columbia he encountered trees and forests of which he had never seen before. At Fort Clatsop alone, he discovered ten trees that had never been documented before. He collected, labeled and preserved as many leaves, plants and cones that were possible. Lewis very rarely used Latin when discussing plants or animals, though he did, to the APS's chagrin, conduct analysis in comparing what he saw in the west with what he knew back east. Surprisingly there are no letters or journal entries from APS members addressing Lewis' journal analysis of specimens he encountered. This must be because either he had made accurate claims or at least ones that the scientists agreed with, or perhaps they were just so happy to have any data that they dared not criticize the collector of the information. Paul Russell Cutright, a present day naturalist, says about Lewis' writings, "He nevertheless supplied adequate data on color, shape of wings, number of and length of tail feathers, color of iris, and note."[64]

Scientist Velva E. Rudd, one of the leading American botanists in the 1950's, questioned Jefferson's decision in not sending along a trained botanist along the expedition. In her article, from the *Journal of the Washington Academy of Sciences,* she notes, "Had a professional botanist accompanied the party, a more complete and important collection might

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[63] Ambrose, p. 323-334.
[64] Paul Russell Cutright, *Lewis and Clark: Pioneering Naturalists* (Urbana: University of Illinois Press, 1986), p. 258.

have been made."[65] This of course is true; Lewis' career was not the study of plants but in the army. However he had been given a crash course in botany from the two leading American botanists at the time, William Hamilton and Bernard McMahon. The APS simply wanted enough data from which they could get a taste of what lie west in the Missouri River Valley. Secondly, had Jefferson sent a botanist, why not send an expert in every scientific discipline? Perhaps then Jefferson should have sent an ethnologist and a naturalist and a zoologist and a geologist. By doing this, Jefferson would be enlarging a party that was attempting to transverse the continent peacefully. Keepings numbers to a minimum it allowed the Corps of Discovery to look as non-threatening as possible to Native American tribes.

Cutright explains that Lewis was better than any professionally trained scientist at the time. He notes, "Lewis was blessed with capabilities often missing in naturalists, particularly an outstanding, inherent observational competence…and an objective, systematic, philosophical approach to understanding the natural world."[66] Cutright's main argument is that a trained scientist would be biased while searching for information in the field; perhaps having a theory in mind already then looking for data that supports the theory's thesis. Jefferson did not discuss this issue in letters during the captain selection process. But possibly Jefferson was thinking this, but did not want to offend any of his fellow science colleagues and accuse them of being non-objective when it came to science. Enlightenment men prided themselves on their objectivity.

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[65] Velva E. Rudd, "Botanical Contributions of the Lewis and Clark Expedition" *Journal of the Washington Academy of Sciences*. Vol. 44 No. 11. (November 1954). p. 356.
[66] Cutright, p. 398.

While Lewis worked on his journals, Clark put the final touches on his map. Clark's creation was the first map that brought the western half of the continent together. Previously maps only included the Pacific coast or the Missouri Valley. It was one of the most important products that came from the Expedition. Firstly it provided general information on what the continent looked like, where the mountains began and rivers flowed and the APS was able to use it when they organized future expeditions. They put into detail the route in which they wanted the explorer to follow. Secondly, and more importantly, the map instilled a sense of ownership in the minds of Americans back east. The United States was the only nation to have a complete map of the territory, and thus they believed they had more right to it than did Britain or Spain or France. Americans could look at the map and note just how immense the United States already was after the purchase of the Louisiana Territory and how much larger it could be one day. This fed directly into Jefferson's already established expansionist ideas.

The Corps of Discovery left Fort Clatsop on March 23 by canoe and headed back up the Columbia. Lewis felt that he had already described and documented enough new species along the journey west that it was more important to report back to the president as quickly as possible. After they crossed the Bitterroots Lewis and Clark decided to split up and explore territory in which they missed while they traveled west to the Pacific. Clark went down the Yellowstone, while Lewis traveled down a tributary of the Missouri; by mid-August the two parties eventually reconnected in present day North Dakota. With the current flowing in their favor they made their way back to St. Louis quickly and with surprisingly little conflict. As the party got within 100 miles of St. Louis they began noticing cows alongside the riverbank a sure sign that they were close and by September 15 they floated past several small

American settlements that had not been there two years before. The Corps of Discovery was met with joyous gun shots and shouts by everyone. Most had given up on the Expedition, citing either death by Native Americans or by the Spanish. Lewis' package, sent in winter 1804 from Fort Mandan on the way west, was the last communication the country had had with the party. September 23, 1806 Lewis and Clark set foot in St. Louis where they were met with great jubilation and curiosity. For everyone but one in the party it marked the end of their journey and service to the U.S. government. Lewis on the other hand, had only completed half of his obligation to the APS and Jefferson.

Lewis had accrued hundreds of pages of data and drawings while on the journey, but he still had to sort through and organize it all so that it could be published. To the dismay of everyone the publishing process would not be completed until 1814, eight years after Lewis had completed the trip.

Immediately after he arrived in St. Louis, Meriwether Lewis sat down and drafted a letter to the president announcing the party's return. The letter told Jefferson the route in which the Expedition took and of the many Native American tribes they came in contact with. Lewis also gives an inventory of the objects he had brought back for the APS and Jefferson. Skins of sea otters, bighorn sheep, mule deer, an "extensive collection of plants...and obtained 10 vocabularies" were among the objects that Lewis transported back with him.[67]

Jefferson received the letter one month later, and replied at once. He responded and described the great pleasure and joy he felt upon reading Lewis' announcement of arrival letter. Lewis' long absence troubled the president greatly, "The unknown scenes in which

[67] Lewis to Jefferson, 23 September 1806, *Original Journals of the Lewis and Clark Expedition*, ed. Reuben Gold Thwaites, (Madison: Arno Press, 1905) p. 337.

you were engaged & length of time without hearing of you had begun to be felt awfully."[68] Jefferson most definitely saw Lewis as a friend first and scientific instrument second. He instructed Lewis to stop whatever he was doing, and travel to Charlottesville where they could meet. This meeting would take a few months before coming to fruition, Lewis while traveling east stopped to visit his family as well was met with many celebrations as he passed through towns.

At his home in Monticello, Jefferson had already made preparations for the new western artifacts. A room had been created, called Indian Hall, in which Jefferson could display the skins and Native American objects Lewis had collected.[69] A president taking ownership of objects collected during an expedition funded by the federal government may seem odd.

At the time there was but one museum in the United States dedicated to natural history, it also happened be the only museum open to the public. It was created by Charles Willson Peale, loyal member of the APS, in 1786 and was located in Philadelphia (to no one's surprise). Peale hoped to bring America's natural history to the American people.[70] As an APS member Peale convinced the others to name him curator of the Philosophical Society's scientific collections, this allowed Peale to stock his museum. Unfortunately for Peale there was not an abundance of specimens available to display in his museum. Thus Peale was one of the APS's biggest expedition advocates. Much like Jefferson, Peale was consumed with finding a mammoth. However, unlike Jefferson he was not concerned with

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[68] Lewis to Jefferson, 23 September 1806, *Original Journals of the Lewis and Clark Expedition*, p. 345.
[69] Ibid., 345.
[70] Charles Willson Peale to Museum Investors, March 1792, *The Selected Papers of Charles Willson Peale and his Family,* p. 12.

overturning Buffon's claim.[71] In a letter to Andrew Ellicot in 1802, a fellow APS member Peale outlines his objective, "spreading a knowledge that gives to main an interest in every object of his sight or feeling."[72]

Peale also was America's leading painters. Earlier in life he was the preeminent portraitist in the country but as his mind turned toward natural history so did his brush. By 1800 he mainly painted the birds, mammals and plants of the museum. While Lewis was away on the Expedition, Peale wrote to Jefferson and expressed his desire to illustrate Lewis' journal upon his return.[73] Peale got his wish and aided in the publishing of the journals.

Most of the artifacts that came back with the party ended up in the arms of the APS. Peale, as curator of the APS's scientific collections, then placed the specimens in his own museum, allowing the public to view the artifacts. Lewis brought back birds, plants and even two live bear cubs for Peale. Peale was so grateful to Meriwether Lewis for his fine collecting skills that Peale constructed a wax figure of Lewis and put it on display in the museum.[74] Peale was so satisfied with the Expedition from a scientific perspective that he lionized Lewis with a wax statue.

Peale along with William Hamilton and Bernard McMahon had much to gain from the discoveries of Lewis and Clark. Hamilton and McMahon were America's experts on botany and horticulture. Both were from Philadelphia and had been members of the APS for over ten years. They sought drawings and data on every type of plant Lewis encountered on his journey. They no doubt wanted to increase their breadth of knowledge they held about plants. They also requested a variety of seeds from the Missouri River Valley that they then

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[71] Editor's Note, *The Selected Papers of Charles Willson Peale and his Family*, p. 110.
[72] Peale to Andrew Ellicot, 28 February 1802, *The Selected Papers of Charles Willson Peale and his Family*. p. 211.
[73] Peale to Jefferson, 4 July 1806, *The Selected Papers of Charles Willson Peale and his Family*, p. 644.
[74] Peale to Jefferson, 29 January 1808, *The Selected Papers of Charles Willson Peale and his Family*, p. 1055.

hoped to cultivate in the east. Perhaps one of these new seeds produced a crop that was easier to maintain or outputted more fruit or vegetable than the plants native to the east. That would be greatly beneficial to all of America.

Lewis received tutoring from the pair pertaining to how to properly identify certain classes of plants as well as how to document new findings and species. McMahon was concerned with what types of fruits and vegetables thrived in the west. After he heard Lewis and Clark had returned he wrote to President Jefferson in December 1806, "I hope to procure some seeds…a small portion of every kind would render me essential service."[75] He later asked specifically for cucurbita and a species of corn not found natively in the Eastern United States.[76]

William Hamilton also requested and received seeds gathered by Lewis. In the letter that accompanied the seeds President Jefferson wrote, "The descriptions of plants will add considerably to our botanical possessions and equally add to the natural history of our country."[77] These new plants and other vegetation excited the president greatly. Jefferson had very high hopes for the Expedition and initially was very satisfied with what Lewis presented to him.

After welcoming Lewis back in December and discussing the journey, Jefferson wrote to the members of the APS, "I am again to return tribute of my thanks for the continued proofs of favor from the American Philosophical Society."[78] Jefferson felt satisfied with Lewis' initial report of the Expedition's findings, thus he had to thank his fellow APS members for their help in establishing and organizing the venture.

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[75] Bernard McMahon to Jefferson, 26 December 1806, *Letters of the Lewis and Clark Expedition*, p. 355.
[76] Cucurbita is a type of gourd, very similar to a squash.
[77] Jefferson to Hamilton, 22 March 1807, *Letters of the Lewis and Clark Expedition*, p. 389.
[78] Jefferson to APS, 12 January 1807, *Letters of the Lewis and Clark Expedition*, p. 360-361.

Two years after the party's return and Jefferson had been able to digest more of Lewis' findings he boasted to Bernard Lacépède, a French scientist, "I can assure you that the addition to our knowledge, in every department, resulting from this tour has entirely fulfilled my expectations…and that the world will find that those travelers have well earned it's favor."[79] Lewis and Clark's success in obtaining new scientific knowledge boosted Jefferson's image of America. Jefferson's scientific motivations and goals for the Expedition had been overwhelmingly achieved.

After my research I have come to the conclusion that American Enlightenment thinkers, like Rush and Jefferson, were integral to the establishment of the Lewis and Clark Expedition. Their urging and support were largely responsible for getting the Expedition formed. However, historians have largely focused on the seeking of commercial and economic gains as the only motivation for the formation of the Expedition. Though it seems the advancement of knowledge and science in general has been forgotten by scholars as another possibility. It seems wrong to cast aside and forget this scientifically motivated theory. Thomas Jefferson, the central organizer of the Expedition, was one of America's top Enlightenment thinkers, how then can the theory be dismissed? Someone with such ideals and values had to have been inspired to form the Expedition at least partly because of scientific reasons.

In the first couple of decades of the United States' existence Jefferson and members of the APS had obtained knowledge about the land they inhabited. Though being Enlightenment men they always were on the lookout for more information. The American west presented them with an area of which no one had written very extensively about. A

[79] Jefferson to Bernard Lacépède, 14 July 1808, *Letters of the Lewis and Clark Expedition*, p. 442-443.

scientific expedition offered them the opportunity obtain the necessary data so then American intellectuals could categorize new species and publish the previously unknown knowledge. They jumped at this new prospect and helped to push for the formation of such a venture. Though Jefferson knew he could not make the Expedition a solely scientific one. The venture was formed originally with scientific intentions but had to incorporate commercial and economic objectives so to appeal to a wider audience and garner enough support from Congress to help finance the voyage.

The Corps of Discovery had been founded with two primary objectives: to find a route to the Pacific Ocean and to scientifically investigate the Missouri River Valley. Thomas Jefferson and the American Philosophical Society hoped Lewis and Clark would return with an abundance of facts and data of America's western frontier. This information, the APS hoped, could then be used to help launch America as a scientific power and satisfy their thirst for general scientific knowledge.

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