

Thomas Jefferson's Polygraph: "A Secretary Which Copies for Us What We Write"

CHRISTIAN K. DAHL

Thomas Jefferson called it "a most precious invention"¹, and "the finest invention of the present age."² He reserved such high praise not for an advance in farming techniques, not for a scientific discovery, but for a device that made his official and personal life easier. It was a mechanical letter-copying method called the Polygraph.³ He described it as, "a Secretary which copies for us what we write without the power of revealing it."⁴ Thomas Jefferson wrote tens of thousands of letters in his lifetime. This device gave him the ability to retain a clear and exact copy for his files. He had tried other copying methods, but none compared to the Polygraph in his opinion. In 1809, he wrote "I could not...live without the Polygraph."⁵

I own an original Thomas Jefferson free-franked autograph letter signed (see illustration 1). It's not enough for me to simply add a letter to my collection. I enjoy writing a description, exploring the context, and understanding everything possible about the letter's recipient and its content. I consider every letter an intimate snapshot of the writer's life and times. A detailed description enriches and enhances my prized items, and adds to my understanding of historical events. We all collect manuscripts in part because we love to learn. When I acquired the

Sir

Washington Nov. 1. 1807

I find that the candles weights will be so small & long that the small degree of warping which happens in their cooling will probably render them useless. I have therefore this day ordered 1000 lb of pig lead from Philada which I suppose costs but $\frac{2}{3}$ of the price of bar lead, to wit 10 cents, and I presume is as good for our purpose. you may expect it at Richmond in 3 weeks from this time. The oil & white lead for Mr Barry left Philadelphia Oct. 25 & I presume will be at Richmond the 2^d week of this month. I salute you with esteem.

Mr. Dinsmore.

Th: Jefferson.

Illustration 1. Thomas Jefferson to James Dinsmore, November 1, 1807. ALS. Author's collection.

Sir

Washington Nov. 1. 1807

I find that the number of sheets will be so small & long
 that the small degree of copying which happens in these copies
 will probably not be very useful; I have therefore this day
 ordered 1000 lbs of lead from Philadelphia which I believe costs
 but $\frac{1}{2}$ of the price of your lead to wit 20 cents and I presume is
 as good for our purpose. you may expect it at Westmoreland in
 a week from this time. The old & white lead for our heavy
 Gilt P. is available but as it appears will be at Charleston &
 I do not think of having it. I subscribe you with affection.

Wm. Dinsmore

T. Jefferson

Illustration 2. Thomas Jefferson to James Dinsmore, November 1, 1807 (polygraph copy). Courtesy of Coolidge Collection of Thomas Jefferson Manuscripts, Massachusetts Historical Society.

letter, I was aware that Jefferson retained a clear polygraphic copy of every letter he wrote from 1804 onwards. These contemporary copies are commonly referred to as polygraphs. In the course of my research, I found that Jefferson's original polygraph of my letter existed in the Coolidge Collection at the Massachusetts Historical Society in Boston (see illustration 2). I decided to take advantage of a rare opportunity to compare an original ALS and its polygraph side-by-side.

John Isaac Hawkins received a patent for the Polygraph in May 1803. He was an English inventor and lived in Philadelphia. The Polygraph enabled the writer to pen a letter on one side of the device while a system of connected support arms, rollers, and springs duplicated the letter on the other side. There was an "off pen" that was clamped into the device and an "on pen," which the writer held when he wrote a letter. Mechanisms clamped and advanced the paper, and drawers were built in for storage. There were two inkwells, so when the writer's pen needed to be dipped, the "off pen" would dip also. The machine used steel pens specifically made for it, but could also accommodate quill pens. Some models of the Polygraph were made to sit on a desk with a cover to protect the workings, and the entire device was hinged and portable, especially the smaller sizes of Polygraphs that improved upon larger earlier models. In 1804, the Polygraph sold for \$50, nearly \$1000 today, so it was a considerable investment. Thomas Jefferson did not invent the Polygraph, but ideas he proposed to make it better were incorporated into later models.

Charles Willson Peale, the painter and naturalist, acquired the American patent rights to Hawkins' Polygraph in the summer of 1803 and hired craftsmen to manufacture the device. One of his first buyers was Benjamin Latrobe, the architect and engineer. Thomas Jefferson borrowed Latrobe's Polygraph in February 1804 and from that time forward, Jefferson was never without a Polygraph. Peale wanted to sell Polygraphs and he knew that if the President was an enthusiastic customer, other buyers might follow suit. In what may be the first use of celebrity endorsement, Jefferson allowed Peale to publish a quote from one of his letters that gave a glowing recommendation of the Polygraph.⁶ Peale provided Jefferson with Polygraphs for Monticello and for the President's House in Washington, D.C. He and Jefferson tinkered with the Polygraph design incessantly, exchanging 139 letters

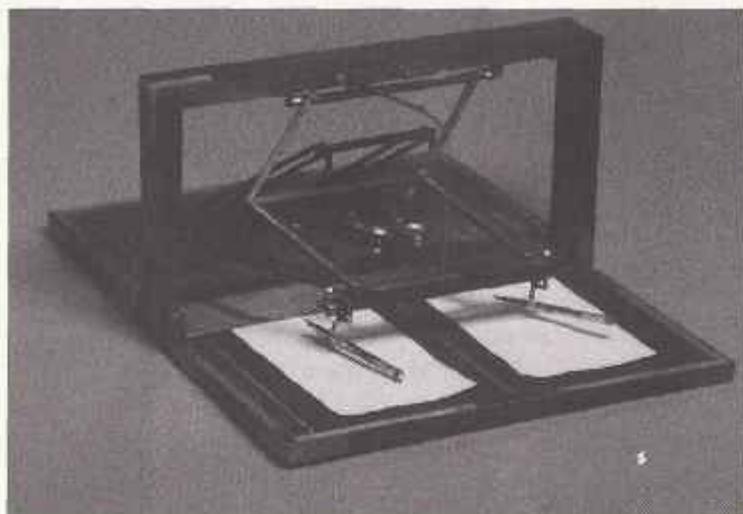


Illustration 3. John L. Hawkins' Polygraph, 1800-26. London, England. Wood, metal and brass. $7\frac{3}{4} \times 14\frac{3}{4} \times 19\frac{1}{2}$ inches. Gift of Nicholas P. Trist, 1850. Courtesy of American Philosophical Society.

relating to the device. Jefferson was uncomfortable with accepting gifts as President, so he decided to reciprocate, giving Polygraphs as gifts to friends and visiting dignitaries.⁷ He was Peale's best and most loyal customer, but sales of the Polygraph were anything but brisk, and Peale eventually lost money on his manufacturing venture, calling the business "a dear bought whistle."⁸ There is no accurate record of how many Polygraphs were made. Peale's son Rubens stated that his father sold sixty machines and that twenty were in various stages of manufacture when Peale died in 1827. The inventor, John Hawkins, made and sold at least 150 in England. The machine was fragile, so when parts were no longer available, customers probably just threw the device away. Only three examples of the Polygraph have survived. One is on display in Jefferson's study at Monticello. It was given to the University of Virginia in 1875 by Thomas Jefferson's grandson, Thomas Jefferson Randolph, and is the machine used by Jefferson for the last twenty years of his life.⁹ A second Polygraph is in the possession of the American Philosophical Society, presented in 1850 by Nicholas Trist, Jefferson's secretary (see illustration 3). Only one other survives,

given to the Franklin Institute in Philadelphia by a member of the Peale family in the early 1940s. It is currently on loan to the National Museum of American History in Washington, D.C., and displayed in the American Presidency exhibit. There is a collection of Polygraph parts, owned by Jefferson, at the Huntington Library in California.

Thomas Jefferson wanted to document his voluminous correspondence, and he especially valued making his own copies so a secretary would not be privy to his communications. He needed a method of keeping copies that he could file and reference, and he tried various copying methods. In his opinion, every copying device was inferior to the Polygraph. He wrote that he wished a good duplication system had been available years before, so he could have preserved copies of his letters during the Revolutionary War.¹⁰ Jefferson tried a device called a copy press as early as 1786, which involved wetting the original letter and pressing a thin sheet of tissue paper onto it. In 1807, Jefferson experimented with a device called the Stylograph. His description of it sounds a lot like old-fashioned carbon paper. He wrote that the Stylograph could never replace the Polygraph because, "the fetid smell of the copying paper would render a room pestiferous...."¹¹ Jefferson decided the Polygraph was the best duplication device available, and he used various models of it from February 1804 until he could write no more.

Jefferson stored his retained polygraph copies alphabetically by recipient in an octagonal table of his design. Many of his polygraphs exist today in institutional collections. After his death in 1826, the copies of his letters were inherited by his grandson, Thomas Jefferson Randolph. Congress authorized money to purchase the papers in 1848, but a librarian at the State Department split the collection into public and private papers. The private papers were returned to Jefferson's descendants in 1871 and were owned by various family members until they were donated to the Massachusetts Historical Society in 1898. The public papers stayed with the Library of Congress. Today, there are thousands of polygraphs housed in both the Library of Congress and in the Massachusetts Historical Society. A collection of 172 polygraphs is housed at the Missouri History Museum, as part of the Bixby-Jefferson collection. Smaller accumulations of Jefferson's letters are held by other institutions, such as the University of Virginia, the New York

Historical Society, the College of William and Mary and the Princeton University Library, but without examination of those items, it is not possible to tell if they are original letters or polygraphs. It is entirely possible that over the past two centuries, individual polygraphs were given away or mislaid by the various Jefferson's descendants who had custody of them. Authors seeking to compile biographies and records of Jefferson's correspondence borrowed documents and letters from the Jefferson family and did not return them for years. Security at institutions was not as good in the nineteenth century as it is today. The danger for manuscript collectors is that polygraphs could exist today in private hands, masquerading as authentic Thomas Jefferson autograph letters signed.

On November 1, 1807, President Thomas Jefferson probably rose with the sun as he usually did. The sensational summer-long treason trial of his former Vice-President Aaron Burr was over, and Jefferson was back in Washington City following a late-summer sojourn at his beloved Monticello. After his normal morning routine of a cold footbath, he settled into what he once described as, "the drudgery of the writing table."¹² He wrote letters. Barring face-to-face conversation, it was his only communication choice. On that Sunday in the White House, he wrote at least seven letters. He wrote to Secretary of the Treasury Albert Gallatin, to Bishop James Madison, and to Governors William Cabell and Robert Williams. He informed his young granddaughter Anne Cary Randolph that he had received a gift of two grizzly bear cubs, and was going to send them to Peale's museum. In addition to official and personal correspondence, Jefferson ordered building supplies for Monticello and Poplar Forest, his private retreat. He told his building foreman that the supplies of pig iron for window weights and oil and white lead for Mr. Barry, the painter at Monticello, would be arriving in Richmond in a few weeks. He wrote with the Polygraph, filing a copy of each communication in his table.

I own the letter he wrote to his Monticello foreman, James Dinsmore. The existence of its polygraph is known to historians, and the transcript of the letter is printed in collections of Thomas Jefferson's papers. The polygraph of my letter is part of the Coolidge Collection at the Massachusetts Historical Society. Upon request, the staff there sent me a high-resolution image of the November 1, 1807



Illustration 4. Free-franked address leaf of November 1, 1807 ALS to James Dinsmore. Author's collection.

polygraph. They were interested and helpful when I asked if I could examine the original polygraph, and I was granted permission to see it at the Society. I brought along a high-quality copy of my original letter and was able to study the two items side-by-side.

The first and most obvious difference between an original letter and a polygraph is that the original was sent through the mail. In Stephen Koschal and Andreas Wiemer's *Thomas Jefferson's Invisible Hand*, the authors cite one instance where Jefferson did send the polygraph copy.¹³ In this case, Jefferson was sending a gift of a Polygraph to a French scholar, the Comte de Volney. He specifically noted in a postscript to a letter to Volney that, "The sheets which you receive are those of the copying-pen of the polygraph, not of the one with which I have written."¹⁴ Since Jefferson was arranging the shipment of a Polygraph to Volney, it is probable that in this unique case, he wanted to show off the quality of the copies it produced. Because my ALS has an integral address leaf with a free-frank and appropriate mailing folds, there is no doubt that it is the original and was sent through the

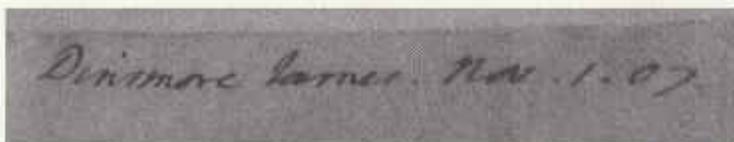


Illustration 5. Jefferson's file notation on the back of the polygraph.

mail to James Dinmore (see illustration 4). The letter is written on the typical bi-folded letter sheet common to most pre-envelope missives. The polygraph of my letter is a single sheet. It is on thinner paper stock than the original. The contemporary ink blot on the lower right of the original does not exist on the polygraph. Both the original and the polygraph have an 1804 watermark for JOHN WISE, an English paper manufacturer. Jefferson most likely bought this paper from the bookseller William Duane in Washington. An 1804 bill exists from Duane to Jefferson for reams of hot pressed paper, ink, and quills.¹⁵

Jefferson's normal practice was to fold his polygraph copy vertically down the middle of the sheet and write a filing notation at the top on the back (see illustration 5). That fold appears as a white

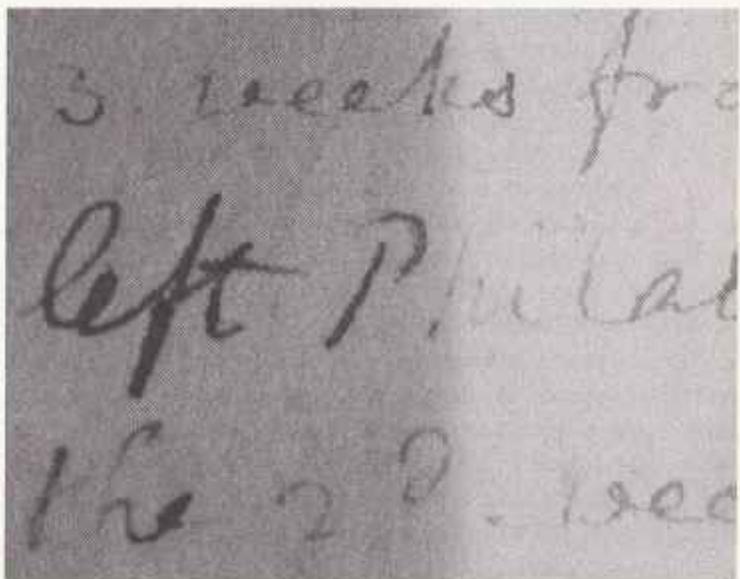


Illustration 6. Jefferson "overwriting" on the polygraph, correcting irregular ink flow.

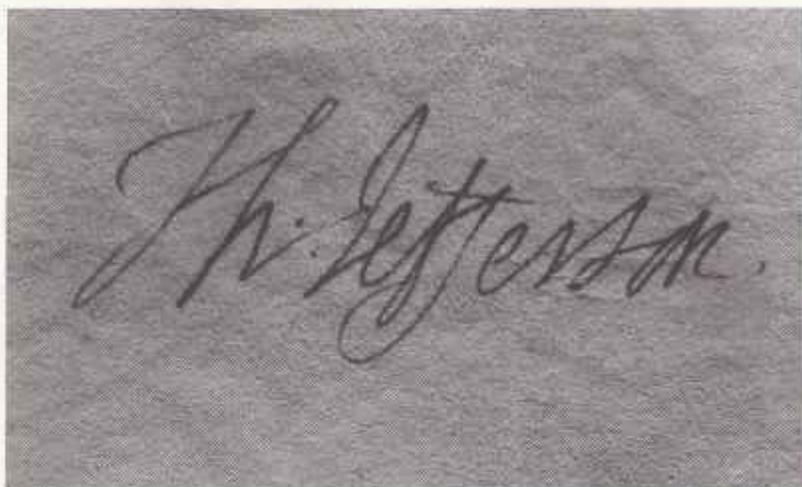


Illustration 7. Signature on the original ALS.

vertical line in the illustration of the polygraph. The notation was done in his hand, not with the Polygraph's "off pen." The polygraphic paper is thin, so the notation shows through, appearing at the top left when the polygraph is viewed from the front. The copying process was amazingly accurate, but not perfect. His pens would run out of ink at different points, and occasionally there would be problems with the "off pen" catching or skipping. Koschal and Wiemer illustrate a polygraph in their book that shows a major skipping problem, in which it appears that the polygraph paper slipped its moorings and the copying pen skipped a line.¹⁶ Jefferson had problems with ink-flow on November 1, 1807. Illustrated is a close-up of over-writing he did on the polygraph of my letter, because the "off pen" apparently ran out of ink before the "on pen" did (see illustration 6). He did the same thing on the polygraph of the letter he wrote that day to Anne Cary Randolph. This over-writing was probably done after the letters were completed, simply because he was probably not satisfied with the clarity of the copies. There are also some slight variations in letter formation, seen easily on the beginning of his signature "T" and the dots he customarily made after his "Th" (see illustration 7). When Jefferson used the Polygraph, he continued writing with it through his signature. A polygraphic cut Jefferson signature would probably have to be deemed an original signature, as

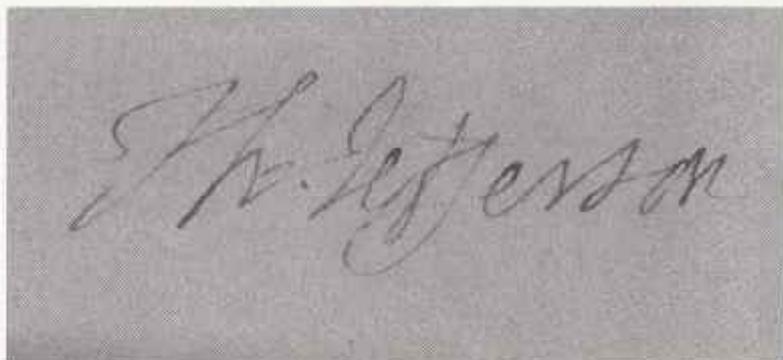


Illustration 8. Signature on the original ALS.

it would be difficult if not impossible to tell one from the other (see illustration 8). The only possible difference would be the weight of the paper, but that is not conclusive enough to rule on originality. Both the polygraph copy and the original ALS are exactly the same size, $9\frac{1}{4}$ by $7\frac{1}{4}$ inches. The writing stops and starts with the same top, bottom and side margins. There is a mounting strip on the left of the polygraph I examined. After the Coolidge Collection was microfilmed, the items were bound into volumes. The manuscripts in the collection have since been removed from their binding. On the lower left corner on the back is a penciled library acquisition notation. The polygraphs in the Library of Congress have circular stamped markings, usually in the upper right on the first page, a handwritten "Copy" notation, and a stamped acquisition number at the lower left of the first page.

My overall impression in making the comparison is that the polygraph of my letter does not have the bold look of the original. The "off pen" writing looks relatively scratchy and feathery. Both the original letter and its polygraph are in excellent condition. But the mechanical pressure exerted on the copying pen was no match for Jefferson's sure hand. It is fairly easy to see the differences between a polygraph and an original when viewed side-by-side. But that opportunity is rare. Over the years, letters have been separated from their address leaves and the ravages of time have left their marks. But certain "tells" can still exist. Normal mailing folds should be present on an original. There could also be remnants of Jefferson's wax seal present on an original

I find the
 that the small
 will probably
 ordered 1000.
 but $\frac{3}{4}$ of the p
 as good for ou
 3 weeks from

Illustration 9. "Ghost-writing" on the left margin of the polygraph.

ALS. The paper stock of a polygraph is thinner than Jefferson's normal letter sheet. A single vertical fold and a contemporary Jefferson filing notation on the back are indicative of a polygraph. It is possible that the filing notation could be trimmed off and mailing folds could be

created. In that instance, measurements would be useful to tell the difference between an original and a polygraph. If the top margin is close, be suspicious, because Jefferson's filing notation may have been removed. As always, *caveat emptor!* Another "tell" is the date. Jefferson starting using the Polygraph extensively in February 1804, and he used several models until his health began to fail in 1826. Any letter he wrote before 1804 does not have a polygraphic twin, but it has to be assumed that there is a copy of every letter he wrote after that date. Jefferson wrote some letters that he duplicated with a copy press before 1804. These copies are on thin tissue paper and are blurry and indistinct.

There is a unique and curious feature in the November 1, 1807 polygraph I examined. Throughout the copy, there are faint traces of another letter (see illustration 9). This "ghost writing" is most visible at the left margin. There is a faint second signature, traces of writing between the lines of this polygraph, and an indistinct dateline. It is probable that the "ghosting" is unique to this polygraph and is a result of storage with a letter written with a Stylograph, the other copying system Jefferson tried in 1807. Jefferson took delivery of a Stylograph in October of that year.¹⁷ He experimented with it, writing several stylographic letters during the next few weeks. It was a portable system, but quite messy and the paper it used smelled bad. A stylographic letter written to James Dinsmore on October 18 may account for the "ghosting" on the November 1 polygraph, as a lot of the faint writing can be correlated. The Stylograph used a translucent sheet as the top sheet. Paper infused with coal on both sides was placed in between the top sheet and the letter he wanted to send. No ink was involved, and the letter was written with a pointed stylus. The double-sided "carbon" paper created a reverse image on the back of the translucent top sheet and a missive on the bottom that could be free-franked and sent. His retained stylograph copy was the top sheet. Stylograph copies are easily discerned because the paper is translucent and has a reverse image of the letter on the back. He folded the copy and made a filing notation, just as he did with the polygraphs. When the Coolidge Collection was bound, the two items were not abutted, but I think that at some point the October 18 stylograph to Dinsmore and the November 1 polygraph to Dinsmore

were stored one after the other by recipient and date. It could have happened in Jefferson's own alphabetic filing system, while all the Jefferson papers were at the Library of Congress, or after the private papers were returned to the family. Some leaching of the carbon on the mirror image occurred over time and created the "ghost writing" on the polygraph. In a November 5, 1807 letter to Charles Willson Peale, Jefferson wrote, "further trial of the Stylograph convinces me it can never take the place of the Polygraph..."¹⁸

It is interesting to think about the comparative market value of a known polygraph and a known original. In the case of modern official correspondence, the autopen is considered of little value to collectors. A polygraph is a contemporary copy, and I think if a Jefferson polygraph came on the market, it should be in a unique price class. He did handle them, he made a handwritten notation on them and he occasionally made corrections where the "off pen" ran out of ink. They certainly are more valuable in comparison to a modern-day autopen because the "signer" need not even be present when such an item is created. I have seen one auction item that I felt might be a polygraph rather than an original Jefferson ALS as described in the sale. The description of the letter included the fact that there was a docket in Jefferson's hand on the reverse of the single-page letter. The "tell" in this case is that the recipient, not the writer, would docket a letter for the purpose of filing. The "docket" on this item was most likely Jefferson's filing notation for his retained polygraph copy. There were also no apparent mailing folds on the letter. It would have been interesting to have seen the hammer price if it had been described as a polygraph.

Thomas Jefferson was inventive, curious and interested in everything. Today, he would be the sort of person that would update his cell phone at every opportunity and download any app that could make his life easier, more interesting and more convenient. The Polygraph was the app of his era, and even though his extensive use of it can present an authentication dilemma to manuscript collectors, it gives historians an immeasurable treasure. Our understanding of his life and times is exhaustive because of his penchant for preserving copies of his letters. History is richer and better served as a result.

Notes

Christian K. Dahl is a collector. As a young man, Chris discovered a William Wirt free-frank in an auction lot of stampless covers. That chance find sparked a life-long interest in material signed by Cabinet members, Presidents, and other American and world luminaries. Chris is a freelance television cameraman, and has worked on a variety of events, including golf tournaments, Mr. Rogers Neighborhood, David Frost interviews, the Olympics, and the World Series.

¹Thomas Jefferson (hereafter TJ) to Charles Willson Peale, August 19, 1804. Founders Online, a website administered by the National Archives in cooperation with the University of Virginia, featuring the papers of John Adams, Benjamin Franklin, Alexander Hamilton, Thomas Jefferson, James Madison and George Washington (hereafter Founders Online). Accessed March 5, 2015. <http://founders.archives.gov/documents/Jefferson/99-01-02-0257>

²TJ to James Bowdoin, July 10, 1806. Founders Online. Accessed March 5, 2015. <http://founders.archives.gov/documents/Jefferson/99-01-02-3997>

³For this article, Polygraph with a capital "P" refers to the machine, polygraph with a small "p" refers to the retained copy Thomas Jefferson made with the machine.

⁴Ibid., TJ to James Bowdoin, July 10, 1806.

⁵TJ to Charles Willson Peale, January 15, 1809. Founders Online. Accessed March 5, 2015. <http://founders.archives.gov/documents/Jefferson/99-01-02-9549>

⁶Silvio A. Bedini, *Thomas Jefferson and His Copying Machines* (The University Press of Virginia, 1984): 99.

⁷Ibid., 117-120.

⁸Ibid., 155.

⁹Ibid., 183.

¹⁰TJ to Charles Willson Peale, August 19, 1804. Founders Online. Accessed March 5, 2015. <http://founders.archives.gov/documents/Jefferson/99-01-02-0257>

¹¹TJ to Charles Willson Peale, November 5, 1807. Founders Online. Accessed March 5, 2015. <http://founders.archives.gov/documents/Jefferson/99-01-02-6713>

¹²TJ to Charles Thomson, January 9, 1816. The Thomas Jefferson Papers, Library of Congress. Accessed March 5. <http://memory.loc.gov/cgi-bin/query/r?ammem/mjtj:@field%28DOCID+@lit%28qj110164%29%29>

¹³Stephen Koschal and Andreas Wiemer, *Thomas Jefferson's Invisible Hand*, privately printed, 2007, 42-43.

¹⁴TJ to Mr. Volney, February 8, 1805. Founders Online. Accessed March 5, 2015. <http://founders.archives.gov/documents/Jefferson/99-01-02-1123>

¹⁵William Duane to TJ, November 27, 1804. Founders Online. Accessed March 5, 2015. <http://founders.archives.gov/documents/Jefferson/99-01-02-0729>

¹⁶Ibid., Stephen Koschal and Andreas Wiemer, 55.

¹⁷TJ to David Gelston, October 9, 1807. Founders Online. Accessed March 5, 2015.

<http://founders.archives.gov/documents/Jefferson/99-01-02-6535>

¹⁸Ibid., TJ to Charles Willson Peale, November 5, 1807.

Sources

Stephen Koschal and Andreas Wiemer, *Thomas Jefferson's Invisible Hand*, privately printed, 2007.

Silvio A. Bedini, *Thomas Jefferson and his Copying Machines*. Charlottesville: University Press of Virginia, 1984.

The Coolidge Collection of Thomas Jefferson Manuscripts, Massachusetts Historical Society
<http://www.masshist.org/collection-guides/view/fa0031>

The Thomas Jefferson Papers, The Library of Congress
http://memory.loc.gov/ammem/collections/jefferson_papers/

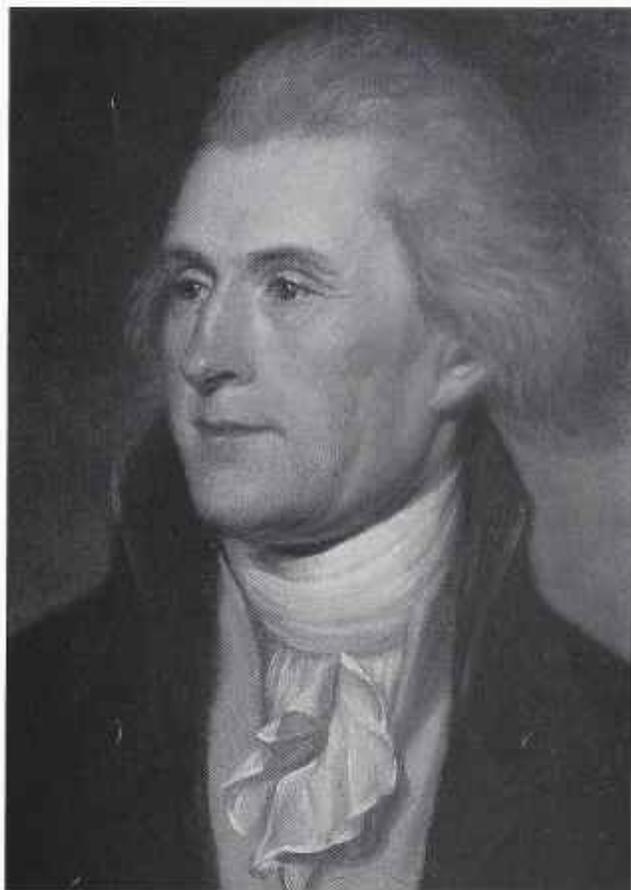
National Archives, Founders Online, <http://founders.archives.gov>

Lillian B. Miller, ed., *The Selected Papers of Charles Willson Peale and His Family*. New Haven: Yale University Press, 1988.

Manuscripts

Volume 67 – Number 2

Spring 2015



Thomas Jefferson