
THOMAS JEFFERSON, BUILDER

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Director of Architectural Restoration, Thomas Jefferson's Poplar Forest

It was said about Thomas Jefferson and Andrea Palladio that "the preponderance of spiritual agreement between them was overwhelming."¹ There were of course bonds between them consisting of the mathematical correctness of classical traditions and their innovative domestic works. Their role as builders is the perhaps the most overlooked Vitruvian spiritual link. Vitruvius, the Roman architect writing in the time of Caesar Augustus, had cautioned that: "...architects who strove to obtain practical manual skills but lacked an education have never been able to achieve an influence equal to the quality of their exertions; on the other hand, those who placed their trust entirely in theory and in writings seem to have chased after a shadow, not something real. But those who have mastered both skills, armed, if you will, in full panoply, those architects have reached their goal more quickly and influentially."² Jefferson took to heart Vitruvius's advice. He cared as much about how a brick was made as he did the proper dimensions of a Roman Order. Using skilled workers and practicing quality construction became his lifelong challenge in achieving his architectural visions.³

While not a trained craftsman like Palladio, Thomas Jefferson observed and studied construction materials and techniques throughout his life. As a college student at William and Mary

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Jefferson supplemented his math and science with a voracious appetite for architecture which he began as a self-study through purchasing books. Among his first purchases were two critical works that emphasized construction as well as design: Giacomo Leoni's 1715 edition of Palladio's *The Four Books of Architecture*, and Claude Perrault's 1673 translation of Vitruvius's treatise.⁴ His role as a builder began at age 26 when he designed and supervised the construction of his own house Monticello, which also included the influence of the British Palladians.⁵ His early construction notes reveal his lifelong habit of interviewing workers, comparing processes, and calculating materials.⁶ Jefferson famously said: "Architecture is my delight and putting up and pulling down one of my favorite amusements."⁷ Monticello was his experiment in construction as well as design. Monticello was incomplete when Jefferson went to Paris in 1784. Its subsequent "pulling down" and rebuilding reflected his maturation from a five-year observation and study of European buildings. Innovative construction techniques such as Philibert DeLorme's thin wooden-ribbed dome of the *Halle aux Bleds* in Paris were of particular interest. Jefferson later used that technique for the domes at Monticello and the University of Virginia. In the end, Monticello became a

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40 year process. For Jefferson, the process of construction was as important as the mathematical truths of design.

Jefferson's belief in a "natural aristocracy" of virtue and talent extended to his workers who were an important part of reforming a national architecture. In a letter dismissing one of his workers Jefferson stated: "To have the work done in the best manner is the first object... I consider it as the interest of the college, the town and neighborhood to introduce a reform of the barbarous workmanship hitherto practiced there, and to raise us to a level with the rest of the country."⁸ To another friend he confided: "...of one truth I have had great experience that ignorant workers are always dearest."⁹ Jefferson treated his workers like it was said Palladio treated his. Palladio "...eagerly and lovingly taught them the best principles of the art, in such a way that there was not a mason, stonecutter, or carpenter who did not understand the measurements, elements and rules of true architecture."¹⁰ Jefferson likewise became the educator, using his various editions of Palladio for instruction, lending out the scarce books, and instructing craftsmen in draftsmanship as well as methods of design. In 1804 Jefferson's workman James Oldham wrote and asked to borrow a copy of Palladio's treatise. Jefferson lent him his "portable edition" and noted that the chance of finding the book in America was "slender." Jefferson sent only the "1st book on the orders, which is the essential part."¹¹ This architectural instruction extended to his friends.¹² Palladio, he said, "...was the bible. You should get it and stick close to it."¹³

Jefferson advertised that university workers should "execute with exactness" their own drawings.¹⁴ Those he had trained knew the book plates, the modules, and the language. This knowledge became a mutually understood basis for correct details. Thus James Dinsmore, who had worked at Monticello for 11 years and then worked at the University of Virginia for nearly 10 years, could ask Jefferson: "I will therefore thank you to say whether you intend using the base and cap laid down in the twelfth Plate of Palladians [sic] first book (from which the entablature is taken) or—from Plate eleven."¹⁵ The best workers also served another purpose: to train Jefferson's slaves, who could then train other slaves.¹⁶

President Thomas Jefferson was as concerned with construction details as he was with affairs of state. Jefferson sought the expertise of architect and engineer Benjamin Henry Latrobe to supervise the construction of public buildings in Washington, D.C. and carried on lengthy correspondence with him regarding construction details of the President's House and the U.S. Capitol building. Yet Jefferson stubbornly insisted on some of his own designs such as the two Palladian service wings he added to the President's House (now known as The White House) that featured an unusual flat deck on top. Jefferson's "terras roof" system is his only architectural invention that he also used at Monticello, Poplar Forest, and the University of Virginia.¹⁷ (Fig. 1) True to Palladian prototypes, the wings were sunk into the earth, avoiding the typical scattering of outbuildings and reserving the landscape for natural or man-made gardens. The same roof system over the central rotunda at Poplar

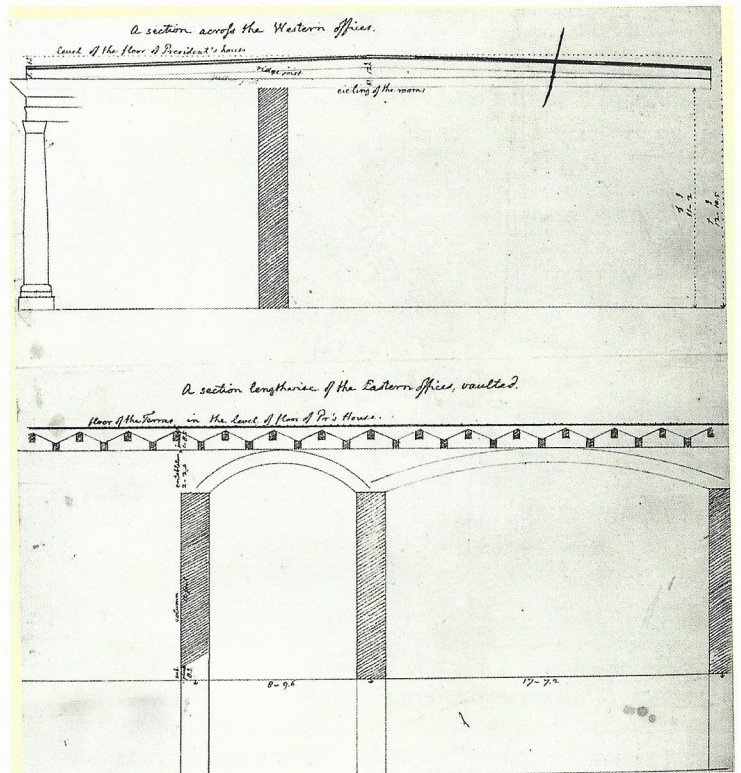


Fig. 1. Jefferson's drawing of the "terras" roof system for the White House wings. (Massachusetts Historical Society)

Forest provided another platform from which to engage nature. Jefferson's evolving innovation of these roofs lasted nearly nearly twenty years. (Fig. 2)

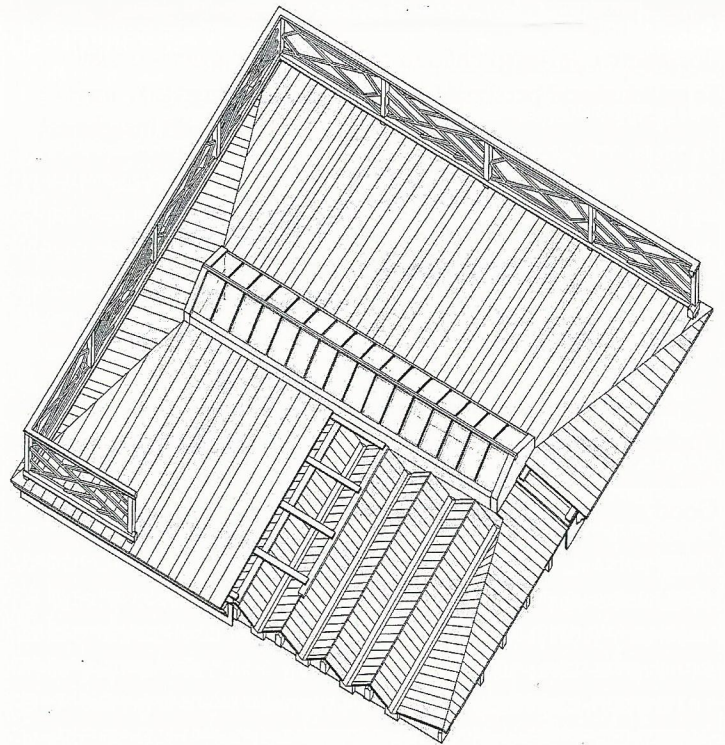


Fig. 2. Interpretive drawing of Jefferson's "terras" roof for Poplar Forest showing the decking and central skylight. (Thomas Jefferson's Poplar Forest)

Jefferson's retirement villa retreat, Poplar Forest, was also a long process. Begun in 1806, its 14-year building process

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was not due to changes but rather to the slow, pleasurable assembly of that idealistic and perfect work. (Fig. 3) Poplar



Fig. 3. Poplar Forest aerial view showing the reconstructed service wing deck. (Thomas Jefferson's Poplar Forest)

Forest served as an intellectual inspiration to Jefferson late in life. Its design reflected a “melting pot” of architectural ideas and its construction reflected a mature builder.¹⁸ What is fortuitous for us today is that Jefferson began construction of Poplar Forest while occupied as President in Washington, D.C. The detailed, explicit letters from the President’s House (now known as The White House) to the rural site in Bedford County are extraordinary and very rare as architectural documents. Jefferson had to be explicit for a design that was so unusual and personal. A few of the drawings that survive from the Monticello construction also give us an insight as to the nature of drawings referred to in letters to his workers. These drawings were much more than plans and elevations; they were early examples of what we would call “working drawings.” Even rarer are the letters from the workers back to Jefferson, giving the reality of the work. In his habit of education, Jefferson explained to his workers his rationale of a feature or a material, such as the floors: “The floor at Poplar Forest being intended for an under floor must be laid with oak. Poplar would not hold the nails, and pine is too distant & dear. All the floors of Europe are of oak, so are the decks of ships. Good nailing will secure it against warping. Perhaps it may be easier done in herring bone, as the hall floor at Monticello was. In that case your sleepers should be but 14 I. from center to center, in order that the plank may be cut into two feet lengths.”¹⁹ And even rarer still were letters between Jefferson at Monticello and enslaved craftsman John Hemings at Poplar Forest (a three day journey between the two sites). Hemings was not only literate, he was architecturally literate in the language of classical architecture.²⁰

Jefferson’s practice and experience with construction culminated in a fitting visionary project he called “the hobby of my old age.” The University of Virginia is a masterpiece whose composition, classical models, and Palladian components are well-known.²¹ For Jefferson, the design was perhaps the easy

part of what was the country’s largest construction project. From 1817 until his death in 1826, Jefferson’s role was heroic. He had conceived a new type of university, formulated its curriculum, selected its professors, chosen books for the library and equipment for the laboratories, and fought valiantly for public funds to construct it. He designed plans and elevations, wrote very detailed technical specifications, recruited workers from afar, insisted on quality materials, and supervised the work of 200 men. When the Italian stone carvers could not use local stone, Jefferson boldly ordered large Ionic and Corinthian capitals and bases from Italy in a long, complicated project that taxed even his own uncommon patience.²² The brick shafts for these columns were constructed in brick and covered with lime stucco, a trick from the Romans, used by Palladio, and taken up by Jefferson.²³

The University of Virginia has been called “The Lengthened Shadow of One Man.”²⁴ This aptly describes Jefferson’s fundamental faith in liberal arts education. But it could also represent a lifetime of building. In that sense, it was a shadow that stretched an even longer distance.

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Footnotes:

1. Fiske Kimball, *Thomas Jefferson, Architect* (1916; reprinted, New York: Da Capo Press, 1969), p. 23.
2. Ingrid D. Rowland and Thomas Noble Howe, *Vitruvius, Ten Books on Architecture* (Cambridge: Cambridge University Press, 1999), p. 21.
3. Previous works related to Jefferson and workers are: William B. O’Neal, “*The Workmen at the University of Virginia, 1817-1826*,” *Magazine of Albemarle County History* 15 (1955-56): pp. 36-43; Richard Cote, “*The Architectural Workmen of Thomas Jefferson in Virginia*” (Ph.D. diss., Boston University, 1986); Frank E. Grizzard, Jr., “*Documentary History of the Construction of the University of Virginia, 1817-1828*” (Ph.D. diss., University of Virginia, 1996); Jack McLaughlin, *Jefferson and Monticello: The Biography of a Builder* (New York: Henry Holt & Company, 1988). Details of both design and construction of the University of Virginia’s original buildings is also found in an on-going series of Historic Structure Reports (1988-present) in the Office of the University Architect.
4. William B. O’Neal, *Jefferson’s Fine Arts Library: His Selections for the University of Virginia Together with His Own Architectural Books* (Charlottesville: University of Virginia Press, 1976); E. Millicent Sowerby, *Catalogue of the Library of Thomas Jefferson*, 5 Volumes (Charlottesville: University of Virginia Press, 1983).
5. Among the many works that treat Jefferson as a designer are: Kimball, *Thomas Jefferson, Architect*; Frederick D. Nichols, *Thomas Jefferson’s Architectural Drawings: Compiled and with a Commentary and a Check List* (Charlottesville: Thomas Jefferson Memorial Foundation and University of Virginia

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Press, 1961) and “*Jefferson: The Making of an Architect*,” in William Howard Adams, ed. *Jefferson and the Arts: an Extended View* (Washington, D.C.: The National Gallery of Art, 1976); William L. Beiswanger, *Monticello in Measured Drawings* (Charlottesville: Thomas Jefferson Memorial Foundation, 1998, revised 2011); William Howard Adams, *The Eye of Thomas Jefferson* (Charlottesville: University of Virginia Press, 1981); William Howard Adams, *Thomas Jefferson's Monticello* (New York: Abbeville Press, 1983); William L. Beiswanger, “*Essay in Architecture*,” in *Thomas Jefferson's Monticello* (Charlottesville: Thomas Jefferson Memorial Foundation, 2002); Charles E. Brownell, “*The Classical Tradition and Virginia Architecture, 1770-1870*,” in Charles E. Brownell, Calder Loth, William M.S. Rasmussen, and Richard Guy Wilson, *The Making of Virginia Architecture* (Richmond: Virginia Museum of Fine Arts, 1992); Richard G. Wilson, ed. *Thomas Jefferson's Academical Village: The Creation of an American Masterpiece* (Charlottesville: Bayly Museum and University of Virginia Press, 2001); Hugh Howard, *Thomas Jefferson Architect* (New York: Rizzoli, 2003).

6. Edwin Morris Betts, *Thomas Jefferson's Garden Book* (Philadelphia: The American Philosophical Society, 1944), p. 34.

7. Cited in B.L. Rayner, *Sketches of the Life, Writings, and Opinions of Thomas Jefferson* (New York: A. Francis and W. Boardman, 1832), p. 524.8. Thomas Jefferson to Hugh Chisolm, 31 Aug 1817, *Jefferson Papers, Special Collections Library*, University of Virginia.

9. Thomas Jefferson to Charles Yancey, 23 July 1821, *Jefferson Papers*, Library of Congress

10. Paolo Gualdo, 1616, in Douglas Lewis, *The Drawings of Andrea Palladio* (Washington, D.C.: International Exhibitions Foundation, 1981), p. 4.

11. Thomas Jefferson to James Oldham, 24 December 1804, *Jefferson Papers*, Special Collections Library, University of Virginia.

12. When Jefferson sold his principal library to the Library of Congress, he wrote his friend James Madison “we are sadly at a loss here for a Palladio. I had three different editions, but they are at Washington, and nobody in this part of the country has one unless you have.” Madison did have one and sent it to Jefferson. Thomas Jefferson to James Madison, 15 November 1817, cited in Grizzard, *Transcriptions*, p. 152.

13. Issac Isaac Coles to John H. Cocke, 23 February 1816, *Cocke Papers*, Special Collections Library, University of Virginia.

14. Cited in Bryan Clark Green, *In Jefferson's Shadow: The Architecture of Thomas R. Blackburn* (New York: The Virginia Historical Society and Princeton Architectural Press, 2006), p. 6.

15. James Dinsmore to Thomas Jefferson, 1 July 1819, Grizzard, University of Virginia, *Transcriptions*, p. 529.

16. While there was a widespread practice of “hiring out” skilled enslaved craftsmen, Jefferson had more than enough work for his skilled labor on his own projects.

17. This roof system was also used at James Madison's Montpelier following Jefferson's recommendation, and at Bremond where Jefferson's workman John Neilson tried it. For the White House wings, see Travis McDonald, “*The East and West Wings of the White House: History in Architecture and Building*,” in *White House History*, 29 (Summer 2011), pp. 44-87.

18. The essential nature of Poplar Forest came from the ancient Roman villa; Jefferson's owned Robert Castell's *Villas of the Ancients*. From the British Palladians, James Gibbs, Robert Morris, and William Kent Jefferson took his favorite shape: the octagon.

19. Thomas Jefferson to John Perry, 29 March 1808, *Jefferson Papers*, Henry Huntington Library, San Marino, California.

20. Poplar Forest was begun in 1806 when Jefferson is still president and used by him from 1809 to 1823. It is perhaps the most perfect demonstration of an ancient Roman villa to be found in the United States. For its construction history see Travis C. McDonald, “*Constructing Optimism: Thomas Jefferson's Poplar Forest*,” in *People, Power, Places* (Knoxville: University of Tennessee Press, 2000), pp. 176-200. For a general history of Poplar Forest see S. Allen Chambers, Jr., *Poplar Forest and Thomas Jefferson (Forest, Virginia: The Corporation for Jefferson's Poplar Forest, 1993)*, and Travis McDonald, “*The Private Villa Retreat of Thomas Jefferson*,” in *White House History*, 18 (Spring 2006), pp. 4-23.

21. The University of Virginia was listed along with Monticello in a thematic listing for architectural genius, and association with universal ideas. Poplar Forest is on the Tentative List to join that thematic listing for the same criteria.

22. William B. O'Neal, “*Michele and Giacomo Raggi at the University of Virginia: With Notes and Documents*,” *The Magazine of Albemarle County History*, 18 (1959-60), pp. 5-31. There is even a reference to Jefferson taking a chisel and showing the Italian worker how to carve a volute. Wilson, Thomas Jefferson's Academical Village, p. 41.

23. Jefferson used the same technique at Barboursville, Poplar Forest, and Monticello where the color of the render was meant to match the real stone of the bases and capitals. James Madison also used the technique at Montpelier where Jefferson acted as his architectural advisor.

24. Phillip Alexander Bruce, *A History of the University of Virginia, 1819-1919: The Lengthened Shadow of One Man*, 5 Volumes, (New York: Macmillan, 1922).