

BOOK REVIEWS¹

Edited by Paul Lucier

ALL THE LIGHT HERE COMES FROM ABOVE: THE LIFE AND LEGACY OF EDWARD HITCHCOCK. Robert T. McMaster. 2021. Williamsburg, MA: Unquomunk Press, 406 pp.

It may surprise us that there was not until 2021 a biography of Edward Hitchcock (1793–1864)—one of the leading and most accomplished American geologists and educators of the 19th century. There are numerous scholarly articles about Hitchcock’s geology, his natural theology, and even his romanticism.² But none of these tells us much about Orra White Hitchcock³ (1796–1863), for example, Edward’s accomplished partner, or about their parents or children. At last, and with skill, McMaster’s biography brings Edward Hitchcock alive in all his facets, over his long, productive, rich and complex life. The book is eminently readable.

In *All the Light Here Comes from Above*, Robert McMaster has written a narrative with imagined but historically based vignettes at the beginning of each chapter. McMaster will be known to *Earth Sciences History* readers as the author of a recent article on Hitchcock’s geological survey of Massachusetts.⁴ He also has published recently on Hitchcock’s sermons and on his natural theology.⁵ Moreover, McMaster has done an important service to Hitchcock and his world by limning this biography, and by transcribing Hitchcock’s geological survey notes, letters, private notes, sermons, teaching notes and unpublished works, as well as the autobiography of Edward’s father and memoirs of his son Edward Jr., and by providing these and many other resources on his website.⁶

The wealth of archival materials, as well as the complexity of the man Edward Hitchcock, may well have intimidated previous potential biographers. Hitchcock’s publications alone include more than 40 books and pamphlets, as well as more than 120 journal articles and dozens of newspaper entries; and he left behind extensive correspondence, diary notes and other unpublished materials.⁷ In addition, the Connecticut River Valley has rich historical archives from Hitchcock’s era, including several town historical societies, the Pocumtuck Valley Historical Society, and the archives of regional colleges, especially Amherst College. As illustrated by this book and by McMaster’s website, many of these resources are now available online and make it easy to delve even more deeply into Hitchcock’s life and times. McMaster’s biography is an excellent place to start.

¹ doi: 10.17704/1944-6187-41.1.217

² In addition to this biography, recent extended work includes Segal, Ariel Jacob, 2005, “Scientific Truth, Rightly Understood, is Religious Truth: The Life and Works of Reverend Edward Hitchcock, 1793–1864,” Master’s Thesis, University of Maryland, 189p. Pick, Nancy, 2006, “Professor Hitchcock’s peculiar bird obsession: A biographical sketch, in *Curious Footprints: Professor Hitchcock’s Dinosaur Tracks and Other Natural History Treasures at Amherst College*. Amherst, MA: Amherst College Press, 2006, pp. 1–45 plus endnotes pp. 112–115.

³ McMaster tells us that there is little archival material for Orra White Hitchcock, other than her illustrations. Before her marriage (1821), she was an instructor at Deerfield Academy with skills in natural history and illustration. She drew and painted throughout her life, for example drawing over 100 of the illustrations in Hitchcock’s 1833 report on the geology of Massachusetts, including 15 lithographed plates for the “Topographical Geology” section (McMaster, p. 183). Also see D’Arienzo, Daria, 2010, “The ‘Union of the Beautiful with the Useful’: Through the Eyes of Orra White Hitchcock.” *Massachusetts Review* 51: 294–336.

⁴ McMaster, Robert T. 2020. Edward Hitchcock’s geological survey of Massachusetts: 1830–1833. *Earth Sciences History* 39(1): 91–119. A bonus in the book-length biography, not in the ESH paper, is a figure (Figure 34) showing all the trips Hitchcock took in the years 1830–1833 in preparing the geologic map.

⁵ McMaster, Robert T. 2020 Lord is it I? The sermons of Edward Hitchcock. *Historical Journal of Massachusetts* 48 (Summer): 94–123; McMaster, Robert T. 2021. “Edward Hitchcock, Man of Science, Man of Faith.” International Research Network for the Study of Science and Belief in Society.

⁶ <https://edwardhitchcock.com/transcriptions.html> (last accessed 14 March 2022); formal archiving of McMaster’s transcriptions is in process in the Amherst archives, delayed by the pandemic. [McMaster, written communication]

⁷ Comprehensive lists in <https://www.edwardhitchcock.com/> (last accessed 14 March 2022).

BOOK REVIEWS

An apt biographer with training in biology, geology, theology and natural history, McMaster has taken a deep dive into the world of Edward Hitchcock, following in the footsteps of art historian Robert Herbert (1929–2020), who late in his career focused on the work of Orra White Hitchcock.⁸ In addition, Herbert transcribed and wrote about Edward Hitchcock's lifelong correspondence with Benjamin Silliman,⁹ about his romantic naturalism,¹⁰ and about the study of Connecticut Valley fossil tracks involving Edward Hitchcock and others¹¹ (archival materials are cited in McMaster's book). Indeed, Robert McMaster dedicates his Hitchcock biography to Robert Herbert.

The biography fills us in on Hitchcock's family and early life, when he developed a lifelong interest in and passion for science, fostered by an uncle and beginning with astronomy and almanacs. The temporary loss of Hitchcock's eyesight prevented his intended matriculation at Harvard College and moved him toward natural history and geology. Hitchcock's only formal education in science were courses in chemistry and mineralogy he attended at Yale College, where he also studied theology, as a non-matriculated student. At this time, he developed a lifelong relationship with Benjamin Silliman (1779–1864), founder of the *American Journal of Science and Arts*, where many of Hitchcock's studies were published.

Hitchcock's geological career began in 1815 with publications on basalt columns and on a lead mine. Remarkably, in 1818—the very first year of the *American Journal*—he published the first detailed geological map of a region of the United States.¹² He went on to formal roles as Massachusetts state geologist and a professor at Amherst College, where he also became the third president and saved the College from near ruin. He was involved in the establishment of Mount Holyoke College¹³ the historically women's college, and of the University of Massachusetts (founded in 1863 as the Massachusetts Agricultural College). Hitchcock's most notable scientific contributions include his Massachusetts geological surveys and maps;¹⁴ his career-long study and collection of fossil footprints and other trace fossils, which established the field of ichnology;¹⁵ and his pioneering and long-lived textbook *Elementary Geology*.¹⁶ He was also a founding member and president of the Association of American Geologists and Naturalists (AAGN, established 1840), the parent organization of the American Association for the Advancement of Science (AAAS, established 1848). Many more accomplishments and of course more detail are presented in McMaster's biography.

⁸ Herbert, Robert L. 2008. *A Woman of Amherst: The Travel Diaries of Orra White Hitchcock, 1847 and 1850*. Bloomington, IN: iUniverse, Inc. Herbert, R. L., and Daria D'Arienzo. 2011. *Orra White Hitchcock: An Amherst Woman of Art and Science*. Hanover, NH: University Press of New England.

⁹ Herbert, Robert L. undated. *The Complete Correspondence of Edward Hitchcock and Benjamin Silliman, 1817–1863: The American Journal of Science and the Rise of American Geology, transcribed and annotated with an introductory essay*. Amherst College Archives and Special Collections, <http://bit.ly/2m6vnxHitch>.

¹⁰ Herbert, Robert L. 2010. The sublime landscapes of western Massachusetts: Edward Hitchcock's romantic naturalism, *Massachusetts Historical Review* 12: 70–99.

¹¹ Except for the romantic naturalism article, Herbert's work on Edward Hitchcock is unpublished but archived and readily available; it is cited in McMaster's biography, as well as online at edwardhitchcock.com.

¹² Hitchcock, Edward. 1818. Remarks on the geology and mineralogy of a section of Massachusetts on Connecticut River, with a part of New-Hampshire and Vermont. *American Journal of Science* 1: 105–116; the map also includes a cross section. Hitchcock's 1822 map (published in 1823) covers more area and shows significantly more detail. William Maclure's 1809 map is the first geological map of part of North America, covering all of the eastern U.S. with a broad brush.

¹³ Founded in 1837 as Mount Holyoke Female Academy, by Mary Lyon, a friend and sometime boarder of the Hitchcock's.

¹⁴ See notes 2 and 10; also, Hitchcock, Edward. 1841. *Final Report on the Geology of Massachusetts*. Amherst, Mass.: J. S. and C. Adams.

¹⁵ First article: Hitchcock, Edward. 1836. Ornithichnology—description of the foot marks of birds, (Ornithichnites) on New Red Sandstone in Massachusetts. *American Journal of Science and Arts* 29: 307–340; culminating work *Ichnology of New England: A Report on the Sandstone of the Connecticut Valley Especially Its Fossil Footmarks Made to the Government of the Commonwealth of Massachusetts*. Boston, Mass.: William White, 1858.

¹⁶ Hitchcock, Edward. 1840. *Elementary Geology*. 1st edition. Amherst, Massachusetts: J. S. and C. Adams. (Thirty-one editions, 1840–1868).

BOOK REVIEWS

In concert with his studies of natural history, Hitchcock was devoutly religious within the tradition of natural theology and spent his life reconciling science and religion.¹⁷ Hitchcock bridged the evolution in the interpretation of northern-latitude surficial deposits as related to floods to icebergs to ice sheets; in this regard, Hitchcock was similar to William Buckland (1784–1856). And more than many other devout natural historians of his era (*e.g.*, Benjamin Silliman), Hitchcock continued to write and speak prolifically about his religious faith throughout his life, and how geology and natural history fit into his world view.¹⁸ His evolving scientific interpretation of ‘diluvium’ and his discomfort with ideas about transmutation were well within the mainstream of his generation of natural historians. Hitchcock just wrote and talked more about his faith than most.

McMaster makes a clear and convincing case that Hitchcock’s natural theology strongly inspired, but did not scientifically affect, his practice of geology. McMaster treats equally Hitchcock’s deep religious faith and his abiding passion for natural history, especially geology. Some early chapters delve into Hitchcock’s sermons from the period when his primary occupation was as an ordained minister, and when he studied theology at Yale. Hitchcock participated in the New England revival, moving (back) to a more orthodox Congregationalism, after some exposure to Unitarianism, which he rejected. Throughout the biography, McMaster balances Hitchcock’s religious and scientific lives, as well as his passion for nature and for temperance.

McMaster tells us much about how Hitchcock suffered from many physical maladies over his lifetime—particularly forms of dyspepsia—as well as from a foreboding of imminent death. While McMaster shies away from calling Hitchcock a hypochondriac—or a workaholic—he makes the case that Hitchcock’s medical issues and his expectation of death (at any time) were actually goads to his productivity. Hitchcock at times was obsessed with his reputation, something he himself ‘confessed’. McMaster makes the case that Hitchcock was prone to and proud of his ‘sparring’, starting with his first scientific work in 1814 that challenged data in a published almanac. McMaster devotes a chapter to the almanac story, and one to the 1840s controversy with James Deane over priority in the study of fossil footmarks.

Despite his physical maladies, Hitchcock was an active field researcher, and he reveled in a romantic (and healthy) exploration of nature. McMaster tells us, for example, about Hitchcock’s delight in leading ‘mountain days’—Amherst College’s annual senior class excursion to the summit of some local mountain. Robert Herbert also addresses Hitchcock’s treatment of landscapes as romantic, and A. J. Segal makes the case that Hitchcock’s vocations and temperament can be characterized, not just by science and religion, but by the three r’s: religion, rationality and romanticism.¹⁹ McMaster’s biography left me with a sense that Hitchcock—teacher, parent, host and proselytizer—had a warm, personable and inspiring character.

The biography includes copious quotations, some lengthy, and many illustrations, including many by Orra White Hitchcock. The illustrations are of moderate quality in reproduction; ones with text can be difficult to read. All illustrations are credited and give us a broad sense of the life and times of the Hitchcock family and of New England. The index is dominated by proper nouns (except for subheadings under Hitchcock and Amherst College). Rather than footnotes, McMaster uses chapter notes and references, though thorough, were sometimes frustrating when trying to track down a source. Nevertheless, I am confident in the scholarship of this work and recommend it to scholars as well as to anyone interested in history. Robert McMaster has ably tackled the long, complex and fascinating life of Edward Hitchcock and provided online resources to many of the original materials; he deserves our gratitude.

Joanne Bourgeois, Professor Emerita, Earth and Space Sciences, University of Washington, jbourgeo@uw.edu

¹⁷ This topic is covered in some detail in Segal, 2005, see note 1.

¹⁸ For example, Hitchcock, Edward, 1851. *The Religion of Geology and Its Connected Sciences 1st edition*. Boston, Mass.: Phillips, Sampson, and Company. Two subsequent editions.

¹⁹ Herbert, Note 9; Segal in Note 1, his Chapter 2.