Massé). Nonetheless, readers finally may want to construct their own version of this quite original portable dial. Thanks to this excellent study we now have a very complete working tool that allows us to know all the ingenuity embedded in these rare sundials.

Palais de la Découverte DENIS SAVOIE

AN AMERICAN OF MANY LIVES

Two Brides for Apollo: The Life of Samuel Williams, 1743–1817. Robert Friend Rothschild (Universe, Inc., New York, 2009). Pp. xxx + 469. $29.95 (paperback). ISBN 978-0-595-51093-1.

Samuel Williams (1743–1817) was a man of many lives: minister, astronomer, professor, journalist, naturalist, and historian. The first half of his life was lived in eastern Massachusetts in what passed for cosmopolitan surroundings in eighteenth-century New England; the second half was lived on the frontier in Vermont as a fugitive from justice. Robert Rothschild's well-written biography of Samuel Williams carefully lays out these successive careers and notes the interconnectedness of his life with that of political and religious events of the period.

Williams was born in 1743 in rural Waltham, Massachusetts, the son of a Congregationalist minister and member of a distinguished Puritan family with roots back to 1638 in the colony. He was but one generation removed from the bloody Deerfield raid of 1704 in which Native Americans allied with the French murdered or captured members of his father's family. His grandfather, the Rev. John Williams, survived and wrote *The redeemed captive returned to Zion* (1707). Samuel Williams's own childhood was marked by peace, and he entered Harvard College in 1757. Like every Harvard student, he attended the prescribed lectures of John Winthrop, the Hollis Professor of Mathematics and Natural Philosophy. But he must have had a spark that caught Winthrop's eye, since the professor in 1761 took Williams up to Newfoundland as one of his two student assistants to observe the transit of Venus. This astronomical expedition was a formative experience. When Williams returned home to prepare for the ministry, he continued his own observations with a 4-ft reflecting telescope and clock. The scientific highpoints of his later career were all related to astronomy.

In 1765 Williams was elected minister of the Congregational church in Bradford, Massachusetts. He made time for astronomy between sermonizing, observing in 1769 a second transit of Venus from Newburyport. After fifteen years in Bradford, Williams was called back to Cambridge in 1780 to succeed John Winthrop as the Hollis Professor. At Harvard, Williams continued the general course of experimental lectures on scientific topics, but also expanded the curriculum with the addition of specialized courses — one on astronomy and another on comets. In 1780, he led a Harvard expedition to see a total eclipse of the Sun from Penboscot Bay, Maine (recording the phenomenon of Baily's beads fifty-six years before Baily), and in

1786, at the request of the General Court of Massachusetts, he undertook a geodetical survey of the Commonwealth's disputed border with New York.

Alas, Williams's days at Harvard were numbered. He was a flashy dresser and his family lived beyond their means. By 1788, he was deeply in debt and had misappropriated Harvard funds. When caught having forged a receipt for repayment of a loan and facing two indictments from the Middlesex County Supreme Court, he fled to Vermont, which was then an independent state (not yet part of the federal Union) and so put him beyond the reach of the Massachusetts court.

In the last part of the biography, Rothschild recounts Williams's life in Vermont, describing his establishment and editing of the *Rutland herald*, his writing *The natural and civil history of Vermont* and the *History of the American Revolution*, and his co-founding of the University of Vermont. It is the first part of the biography, however, that will be of interest to readers of *JHA*. Rothschild himself places more value on this part as well. According to the author, the "two brides" in the book's title refers to Venus and the Moon, which appeared to make contact with Apollo, the Sun, during the transits of Venus and eclipse of the Sun. Rothschild claims that Williams's observations of these very rare celestial events shaped his life and early work.

Much archival work went into this book, to the credit of Rothschild, for few of Samuel William's personal papers survive. Readers will enjoy reading snippets from the diary of John Quincy Adams about Williams as a teacher and weasely letters from the traitor Benjamin Thompson (Count Rumford) to his former mentor. The book is spiced with the comings and goings of John Hancock, Samuel Adams, John Adams, James Bowdoin, and John Winthrop in the theatre of the American Revolution as well as in Harvard's chambers, which were also full of snarky politics. Even so, the book is written in a very even-tempered manner with chapters divided into many short topical sections. The narrative lacks great highs and lows, but the absence of drama in this biography is perhaps faithful to what we can know for certain from the limited documentary sources on which it is based.

Harvard University SARA J. SCHECHNER

MEASURING LONGITUDE BY TELEGRAPHY

Finding North America: Longitude by Wire. Richard Stachurski (University of South Carolina Press, Columbia, 2009). Pp. x + 239. $29.95. ISBN 978-1-57003-801-3.

This book tells a story. Focusing on the U.S. Coast Survey from the early to mid-nineteenth century, Stachurski narrates the development of a telegraphic method for measuring longitude. It is a competently told story, in the main, and Stachurski provides a readable overview of this important technological development for a general audience. Based largely on published sources, embellished with some imagined scene painting, *Longitude by wire* aims to bring a vivid set of characters to life in a drama of public science writ large.