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David Baron. *American Eclipse: A Nation's Epic Race to Catch the Shadow of the Moon and Win the Glory of the World.* New York: Liveright, 2017. 352 pp. $27.95 (cloth), ISBN 978-1-63149-016-3.

Reviewed by Brent Ruswick (West Chester University of Pennsylvania)

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On the first page of *American Eclipse*, David Baron describes the âvisceral connection to the universeâ and sense of being âtransported to another planet, indeed to a higher plane of realityâ that came with his first eclipse experience in 1998 (p. xi). Keen enthusiasm and wonder fill Baronâs description of eclipses and their effects on observers: âFirm hands tremble, eloquent tongues freeze, sharp minds grow addled,â and prose falls like purple rain when in the presence of âan ebony pupil surrounded by a pearly iris â¦ the eye of the cosmosâ (p. 184). Written for a broad popular audience, Baronâs retelling of astronomersâ chase of the 1878 total eclipse makes for entertaining, easily digested summer reading, replete with tales of real-life cowboys and Indians, grizzly murders, Thomas Edison, and the triumph of the American spirit.

Baron presents *American Eclipse* as the telling of a heroic national epic, of âhow an unfledged young nation came to embrace something much larger than itselfâthe enduring human quest for knowledge and truthâ (p. xii). The writing at times suggests Baron has internalized the celebratory, confident ethos of his subjects, and seemingly gives agency to Americaâs national character: the nation âwas industrializing and urbanizing, laying railways and telegraph linesâ and âcreating a maelstrom of growthâ (p. 110). Elsewhere, it âwas settling into its larger, more muscular body, and it was beginning to exert its strengthâ (p. 207). Reflecting this newfound confidence, American scientists sought to match the scientific accomplishments and reputation of England, France, and Germany. The July 29, 1878, eclipse, which traversed much of the Mountain West, promised just such an opportunity; several parties of astronomers ventured into the Rockies to test instruments and theories only possible during the fleeting minutes of totality.

American Eclipse works best when Baron pairs the popular view of the eclipse expeditions of the time as âan an uplifting narrative, a tale of a nationâs enlightenment and undeniable progressâ (p. 198) with the bitter rivalries, insecurities, and clashes of personalities among the expedition-goers. James Craig Watson, a famous asteroid-hunting astronomer, traveled west with the conviction that the eclipse would resolve in his favor a long-simmering dispute with his greatest rival, Christian Heinrich Friedrich Peters. Watson, among others, theorized that perturbations in Mercuryâs orbit around the sun could only be explained by the presence of Vulcan, a hitherto undetected planet in closer orbit to the sun. In the darkness of the eclipse, Watson would have perhaps three minutes to spot the otherwise invisible planet, winning the affirmation and victory he craved.

Maria Mitchell also traveled west to rebuke her scientific doubters. The Vassar astronomer had been excluded on account of her sex from an 1874 trip to Asia to witness the transit of Venus across the sun. Now Rear Admiral John Rogers of the US Naval Observatory chose not to include her among the many astronomers he invited to travel west with the support of funds authorized by Congress for study of the 1878 eclipse. Baron sets the expedition of Mitchell and her party of six women astronomers to Denver within the context of Coloradoâs first, failed attempt at extending the right to vote to women in 1877, and within ongoing debates over the merits of Dr. Edward H. Clarkeâs argument that women

were so biologically different from and weaker than men that, for their own health, they ought not to be educated. Hers was an especially harrowing trek into the west. Every now and then Mitchellâs plans fall apartâfor instance, when a railroad holds the partyâs astronomical equipment and luggage ransomâonly to turn around at the last moment.

Among the conflicts that Baron follows into the American West, he is most interested in Thomas Edisonâs pursuit of scientific respectability and the fantastic claims he made concerning his newest invention, the tasimeter. Baron recounts how, in his early career, Edison sought recognition as a scientist as well as an inventor, and felt the humiliation of the scientific community when in 1875 they rejected his premature and incorrect claim to have discovered a new, fundamental force of nature. Now Edison claimed to have invented a device of astonishing sensitivity to heat, which could settle the scientific question of whether the corona itself generated heat during a total eclipse, when it was the only part of the sun visible. Baron treats readers to several enjoyable stories of Edison as he soaks in the scenery while riding on his trainâs cowcatcher and later is accosted by the drunk, sharp-shooting cowboy performer Texas Jack.

Baron has a fine eye for the slice-of-life stories of practical indignities, real and imagined dangers, and logistical challenges involved in the travelersâ westward journeys, though at times the digressions risk losing the plot. Edison fans in particular will be pleased with Baronâs humanizing and sympathetic portrayal, and his careful attention to the exasperating, finicky behavior of the tasimeter. He convincingly links American interest in the eclipse to a broader scientific nationalism and ethos of Manifest Destiny. Edisonâs, Mitchellâs, Watsonâs, and several other figuresâ harrowing adventures chasing eclipses in Asia and the American West also suggest how nineteenth-century observers constructed a highly gendered view of science as an invigorating, manly endeavor.

These themes however receive little critical scrutiny. Baron notes that he ârelied almost exclusively on original sourcesâ (p. 240). The limited engagement with relevalent secondary source literature noticeably limits *American Eclipseâs* ability to contextualize the eclipse chasers within larger narratives than the steady march of progress. The treatment of opposition to women in higher education in particular lacks dimension. Perhaps because of his focus on Mitchell, Baron writes as if all American women experienced gender in similar ways. In introducing womenâs changing roles in the Gilded Age, we are told that women, âlong confined to the home and to challenges of childbirth and child rearing, [now] were rebelling against cultural stricturesâ (pp. 5-6). *American Eclipse* also tends to reduce the source of misogynistic opposition to womenâs education to the 1873 publication of Dr. Clarkeâs *Sex in Education; or, A Fair Chance for the Girls*. When Mitchell completes her expedition and, a short time later, the women of the Association of Collegiate Alumnae conduct a survey that refutes Clarkeâs claims of the deleterious effects of education, Baron declares that âthe case was effectively closedâ (p. 213). This too tidily reduces the problem to a single foil that, once speedily dispatched by a few educated white women, paves the way for a rapid and uncontested advance in equality for all women.

In actuality, the opposition within academia and medicine to womenâs advancement in higher learning was both broader and longer lasting. In 1869 neurologist George Beard identified neurasthenia, or a form of nervous exhaustion generally due to overworking the brain. Beard and especially Dr. S. Weir Mitchell then popularized differential treatments for neurasthenia based on a personâs sex, reflecting popular prejudices of the era. Educated white women who complained of nervous exhaustion got prescriptions for six weeks of seclusion, bed rest, and avoidance of all reading and deep thinking; men got orders to take vacations roping cattle and hiking in the Mountain West.[1] The ârest cureâ and the âWest cureâ for women and men, respectively, only grew in popularity from the 1870s through the 1890s. Not addressing this is a missed opportunity since, as Baron notes, Edison was suffering from nervous exhaustion when he decided to head west to test his tasimeter. Doing so would have been seen as a respectable therapeutic choice for an intelligence and well-off man in 1878. Bringing this up in *American Eclipse* might have allowed for a more explicit comparison of the different ways cultural expectations weighed on Edison and Mitchell as they made their ways westward.

But these are criticisms that will matter most to professional historians, and we likely are not Baronâs primary audience. Well timed for publication in advance of the August 21, 2017, total eclipse viewable across much of the heartland, *American Eclipse* is an enjoyable and informative read. It lionizes the ambitious and courageous pursuit of scientific knowledge demonstrated by its subjects, and reminds us of a time when the American public supported the pursuit of scientific knowledge as an expression of patriotism and national pride.

Note [1]. Anne Stiles, âGo Rest, Young Man,â *Monitor on Psychology* 43 (January 2012): 32.

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