BOOKS: HISTORY OF SCIENCE

Wallace in a Colored Spotlight

Thomas Söderqvist

So far, the evolutionist and biogeographer, spiritualist and social reformer Alfred Russell Wallace (1823–1913) has not been much of a favorite among biographers with scholarly ambitions. The first lives came soon after his death. His younger friend and admirer James Marchant edited his letters in 1916 (*1*), and two years later the young Lancelot Hogben published a short hagiographic essay (*2*). Then almost half a century lapsed before the appearance of Wilma George's analysis of Wallace's contributions to zoology (*3*) and of Amabel Williams-Ellis's admirably well-written, popular life story (*4*).

In the last four decades, "Darwin's moon" has remained in the shadow of his more famous, elder colleague. Historians of science have indulged in a prolific "Darwin industry," which has resulted in (among other things) at least six major lives, but, alas, Wallace has not received his share. The 1980s saw a number of interesting book-length studies (*5*), but none were biographies in the ordinary sense. Only recently, almost 90 years after his death, has Wallace been honored with his own list of modern biographical books. Peter Raby's charming account (*6*) came out last year, Michael Shermer has now published *In Darwin's Shadow*, and at least one other major biography is on its way.

In Darwin's Shadow is an ambitious enterprise that will interest, excite, and maybe even infuriate a wide variety of readers. From the perspective of a traditional, cultural history of science, Shermer's text is somewhat thin. The argument is intelligent and the narrative well-written, but the author often misses the opportunity to connect the threads of the life with the myriad of manifestations of Victorian science, culture, and society as recent Darwin biographers (like Adrian Desmond, Jim Moore, and Janet Browne) have done so skillfully. And there are several obvious lacunas in Shermer's references to historical studies on 19th-century natural history; the book would have gained from a more energetic engagement with up-to-date scholarship in the field, for example, Jane Camerini's work.

What makes Shermer's book interesting, however, is not so much its portrait of Wallace the man, his thinking, and his times (a picture that does not add much to what we already know from, for example, Raby's treatise), but rather the approach taken to the genres of biography and history. The generic term "scientific biography" usually means biographies of scientists, like "literary biography" refers to biographies of authors rather than biographies with certain literary qualities. Similarly "scientific history" is usually a misnomer for what should properly be called "history of science." But Shermer uses the adjective "scientific" in its literal sense. His study of Wallace is thus part of a much grander project, namely to make history and biography allegedly scientific disciplines—hence the book's secondary subtitle, "A Biographical Study on the Psychology of History," as well as its prologue, "The Psychology of Biography."

In Darwin's Shadow
The Life and Science of Alfred Russell Wallace. A Biographical Study on the Psychology of History
by Michael Shermer
Oxford University Press, New York, 2002. 442 pp. $35, £25. ISBN 0-19-514830-4.

In her intellectual biography, Wilma George explicitly abstained from investigating "the psychological reasons for [Wallace] being both spiritualist and founder of zoogeography." Shermer wants to do exactly the opposite, and in doing so he is a sort of pioneer. With few exceptions, authors of biographies have been reluctant to build their craft on scientific psychology, not to mention psychoanalysis. (Even psychologists themselves have almost always stayed away from their own discipline when writing about fellow psychologists.) Similarly, psychohistory has had an almost negligible impact.

The reason for such hesitation is probably that most biographers and historians are well aware of the difficulties in applying scientific concepts of analysis and logical reasoning to such a messy business as the course of a life. They realize the problems involved in explaining complicated historical events in the terms of individual psychologies. These are presumably also the reasons why most biographers and historians prefer to talk about their practices as arts and crafts rather than sciences.

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His "life" behind him. Wallace published his autobiography *My Life* in 1905, the year this photograph was taken in his garden at Broadstone.

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Shermer does not hesitate, however. He enthusiastically tries to break new ground for a scientific, in both quantitative and psychological senses, approach to biography and history. Unfortunately, much of his account is fairly idiosyncratic and does not take into account the large existing literature about historical theory and method; Shermer would have profited from a wider reading of the basic contributions to the field. Furthermore, some of his quantitative analysis, such as the classification of Wallace's 747 papers into subject categories, is rather trivial.

The psychological initiative has greater potential bearing. Shermer's major tool is Frank Sulloway's magisterial analysis of the causes of creativity in *Born to Rebel* (*7*), a book that has divided both the psychological and the historical communities. Sulloway's thesis is quite simple. He argues that the best single factor for predicting (scientific) creativity is birth order (older siblings are more conformist, younger ones more creative), and his book offers massive empirical evidence to support this conclusion. Wallace was the fifth living child of the family.

Shermer's little twist on the Sullowayan thesis is to talk about "heretic" rather than "creative" scientists. To substantiate his claim, he asked ten historians of science and "Wallace experts" to rate the man on a standardized personality trait inventory of 40 descriptive adjectives using a nine-step scale. (For example, they were asked to place Wallace somewhere between "ambitious/hardworking" and "lackadaisical," and somewhere between "rebellious" and "conforming.") The resulting cluster of traits "befits a heretic personality." After presenting this finding in his prologue, Shermer devotes the rest of the book to a combination of a chronological narrative and a thematic-analytical exposition of the heretic hero.

The whole exercise and its importance for biography as an allegedly scientific genre hang on the validity of such quantification of personality traits. Some of the "Wallace experts" were not particularly amused, and Shermer provides verbatim quotes of some of

their responses (he is to be admired for this). The Darwin biographer James Moore, for example, believes that "Sulloway's method is profoundly unhistorical (I told him so) and next to useless for understanding Wallace." Moore argues the result will not be a composite portrait of Wallace, but of "what experts guess, suppose, or presume about him."

In other words, the "objective" method Shermer used to characterize Wallace's personality produces a measure of the culture of late-20th-century history of science rather than a portrait of Wallace. The author—the director of the California-based Skeptics Society and founder of *Skeptic Magazine*—not only gives us a fairly one-dimensional Wallace, he seems not to understand that his story, too, is embedded in a contemporary culture. If anybody plays the role of the true skeptic here, Moore does. And so do I.

References and Notes

1. J. Marchant, Ed., *Alfred Russel Wallace: Letters and Reminiscences* (Cassell, London, 1916).
2. L. T. Hogben, *Alfred Russel Wallace: The Story of a Great Discoverer* (Society for Promoting Christian Knowledge, London, 1918).
3. W. George, *Biologist Philosopher: A Study of the Life and Writings of Alfred Russel Wallace* (Abelard-Schuman, London, 1964).
4. A. Williams-Ellis, *Darwin's Moon: A Biography of Alfred Russel Wallace* (Blackie, London, 1966).
5. These accounts include A. Brackman, *A Delicate Arrangement: The Strange Case of Charles Darwin and Alfred Russel Wallace* (Times Books, New York, 1980); M. Fichman, *Alfred Russel Wallace* (Twayne, Boston, 1981); H. Clements, *Alfred Russel Wallace: Biologist and Social Reformer* (Hutchinson, London, 1983); and J. L. Brooks, *Just Before the Origin: Alfred Russel Wallace's Theory of Evolution* (Columbia Univ. Press, New York, 1984).
6. P. Raby, *Alfred Russel Wallace: A Life* (Chatto and Windus, London, 2001).
7. F. J. Sulloway, *Born to Rebel: Birth Order, Family Dynamics, and Creative Lives* (Pantheon, New York, 1996).

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Ancient Roots Forced into Modern Pots

James E. McClellan III

Early in *Lost Discoveries*, noted science writer Dick Teresi explains that he began investigating non-Western scientific traditions to combat exaggerated claims made for them in the name of multicultural awareness. Along the road, however, he converted to the view that all of the great civilizations and many lesser societies developed sophisticated understandings of the natural world. In this he is correct, of course, but his enthusiasms have led him to craft a misleading, indeed pernicious, account of those cultures and their connections to the modern scientific enterprise.

Lost Discoveries
The Ancient Roots of Modern Science —from the Babylonians to the Maya
by Dick Teresi
Simon and Schuster, New York, 2002. 463 pp. $27, C$41. ISBN 0-684-83718-8.

Teresi combats a strawman: that the Greeks alone originated science, that Europeans revived natural philosophy in the Renaissance and created modern science in the Scientific Revolution, and that "nonwhite, non-Western" cultures "conducted no science." In place of this Eurocentric caricature, he promotes another. Teresi claims that today's science either is derivative of knowledge developed in the non-Western world or lacks originality because many of the world's peoples long ago perfected understandings of nature that modern science is only now recognizing (hence the "lost discoveries" of the book's title). To cite just three of many outlandish examples, did you know that "two hundred years before Pythagoras, philosophers in northern India had understood that gravitation held the solar system [sic] together," that Babylonian cosmology incorporated views of the big bang and Alan Guth's inflation, or that "the Higgs field showed up many centuries ago in ancient India, under the name *maya*"?

The issue is not whether human societies developed often sophisticated and always useful understandings of nature and of number. It is a commonplace that they did. The earliest civilizations in Mesopotamia and Egypt elaborated mathematical systems and astronomies that influenced the Greeks and indirectly the modern world. The 60-minute division of the hour and the 365 days of the year provide testimony enough to this fact. We know that "Arabic" numerals originated in classical India, and who today would deny original contributions by medieval Islamic scientists or their impact on later European science? (Teresi is informative on these points, if less original than he seems to think.) Similarly, at least since the appearance in 1954 of the first volume of Joseph Needham's monumental *Science and Civilization in China* (*1*), the theoretical and practical accomplishments of Chinese investigators have been universally recognized. And likewise, the field of archeo-astronomy has uncovered the achievements of Mesoamerican and South American mathematics and astronomy—although how pre-Columbian societies, cut off from the Old World, formed part of "the ancient roots of modern science" is a mystery Teresi does not reveal to us.

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