

tellectuals in the late 19th and early 20th centuries wondered about the rise and fall of nations—in particular, their own.

Discourse about evolution thus intersected with broad social concerns, and (as in Europe and North America), authors like Herbert Spencer proved at least as if not more important than Darwin. Elshakry tells a number of fascinating stories along these lines; my own favorite comes in the chapter titled Darwin and the Mufti, which deals with the work of the great Egyptian reformer, Muhammad ‘Abduh. Born in 1849, ‘Abduh received a traditional Muslim education, eventually qualifying as an instructor in the “religious sciences” (interpretation of the Qur’an, theology, jurisprudence). His involvement with a brief and unsuccessful movement aimed at resisting British influence led to a period of exile, during which ‘Abduh worked in Beirut and, for a time, Paris. Here, his ideas about science and civilization reached maturity, so that once he returned to Egypt, ‘Abduh was ready to lead. Eventually appointed to the office of Grand Mufti, ‘Abduh’s lectures on theology and his commentary on the Qur’an develop the following argument: modern European civilization developed by way of tension between religion and science. When Christianity (particularly Roman Catholicism) was strong, science was weak. Correspondingly, science flourished when political leaders pushed the church into a lesser role.

By contrast, Arab and Muslim civilization flourished through a complementary relation between religion and science. For ‘Abduh, Islam is itself a scientific faith. The Qur’an and the example of the Prophet encourage rational examination of the world. The relative weakness of modern Muslim states has to do with a failure of the religious class to encourage the kind of mentality outlined in these basic texts. The key to a revitalization in Egypt and elsewhere involves cutting through the veil of tradition through a return to the example of the early Muslims. Religious reform is thus the way to scientific development. And Spencer’s work—in particular, on education—provided a way to speak about this in terms of evolution.

Such ideas evoked a considerable response from the Egyptian religious establishment, which read ‘Abduh’s favorable comments about Darwin and Spencer as an argument for collaboration with the British. When the mufti died in 1906, his project of reform was unfinished. One might argue it remains so. Elshakry’s wonderfully rich book adds a great deal to our knowledge concerning the reception of modern science by Arab and Muslim intellectuals.

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WAS HITLER A DARWINIAN? *Disputed Questions in the History of Evolutionary Theory.*

By Robert J. Richards. Chicago (Illinois): University of Chicago Press. \$82.50 (hardcover); \$27.50 (paper). vii + 269 p. + 5 pl.; ill.; index. ISBN: 978-0-226-05876-4 (hc); 978-0-226-05893-1 (pb); 978-0-226-05909-9 (eb). 2013.

This is an excellent collection of articles. All but the last one (Was Hitler a Darwinian?) have been published before. Most, however, have been significantly reworked for this volume. Richards is a solidly committed Darwinian. Like all of us, he knows that much has transformed evolutionary theory over the last 150 years, but Darwin’s original insights still stand at the center of the contemporary theory. What he explores are issues that remain contentious; some have to do with elements of the theory itself, others the interpretations and uses of it. The essay from which the book’s title is derived provides an excellent example of Richards’ deep historical knowledge and his analytic philosophical abilities. He deftly deconstructs the various arguments suggesting Darwin had any role, except the most superficial, in Hitler’s views, and he dispatches them to the garbage can of faulty logic and historical ignorance. The case is compelling. Even if Hitler read Darwin and was “deeply” influenced by him, that fact would cast no negative light on Darwin’s theory or on his moral character. The vile uses someone might make of Gandhi’s teachings stand apart from those teachings. Similarly, unless Darwin can be shown to have espoused anti-Semitism and grounded its justification in his theory, the use of his theory and his other views to support it involve fallacious reasoning. What also is interesting is the journey on which Richards takes us, exploring the views of others that are more likely to have influenced Nazi thinking and that are more closely aligned to that thinking.

He also tackles contemporary debates, most notably the attack of the philosopher Jerry Fodor on Darwinism, especially the mechanism of natural selection. In typical style Richards spends a substantial portion of the essay providing historical context focused mostly on the principle of divergence; a historical context that then allows Fodor to be summarily dismissed. This history makes clear that had Fodor ever read *On the Origin of Species*, he might have seen that his argument gains some traction in the characterization of natural selection in the 1859 edition: that is, the very first edition. Fodor’s Achilles’ heel is that Darwin himself in subsequent editions of the *Origin* made his theory more immune to Fodor’s claim that natural selection involves intentions. The contemporary theory of evolution obviously embraces natural selection, but has none of the intentional nonsense Fodor supposes. Things move forward, but Fodor is stuck in an antiquated concep-

tion of natural selection. Two essays explore the Darwin and Spencer connection, and Ernst Haeckel's science and philosophy. Another one delves into the views of August Schleicher. One fascinating topic that Richards explores in two essays is the moral dimension to Darwin's theory. In one, he explores Darwin's moral purpose; in another, his romantic quest, which has a moral dimension.

This is an excellent collection: well written, rigorous, and exceptionally informative.

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ALEXANDER WILSON: THE SCOT WHO FOUNDED AMERICAN ORNITHOLOGY.

By Edward H. Burt Jr. and William E. Davis Jr. Belknap Press. Cambridge (Massachusetts): Harvard University Press. \$35.00. xiii + 444 p.; ill.; index. ISBN: 978-0-674-07255-8. 2013.

Alexander Wilson was a weaver, a poet, a union organizer, an editor, a schoolmaster, a cloth salesman, a land surveyor, and a cowherd. Not necessarily in that order. More than anything he was an ornithologist. He did not just notice birds, he observed them—closely. He paid attention to the scales on their legs, the shapes of individual feathers, the ways they used their beaks and feet, their habitats, and the ways they lived their lives. Without the optical accoutrements of modern birding, he studied specimens, but he also watched birds in nature and would bring them into his home so that he could view them up close. We know this, in part, through his writings. But just as today—when those who notice the finest distinctions of avian plumage or shape always seem to be the birders who paint and draw—the real sign of his expertise is his artwork.

Burt and Davis have compiled this art, for the first time presenting the sketches and paintings made in preparation for Wilson's treatise *American Ornithology* (1808–1814. Philadelphia (PA): Bradford and Inskeep) all in one place. The artwork is paired with short extracts from Wilson's writing and brief commentaries on what we can glean from each illustration. The commentaries are fascinating, albeit a bit repetitive, with many references to Wilson's tendency to paint birds in unrealistic postures (tails twisted, feet held above the water) to show off anatomical or plumage features, his innovation of painting backgrounds to illustrate habitats, and so on. The repetition is perfect (and perhaps necessary) if one uses the book as a reference, dipping in to learn about an individual piece. Read straight through, however, I found it a little distracting, despite being embedded within insightful discussions of how the final artwork came to be.

The long central chapter, focused on the art, is bookended by essays on Wilson's life and place in the history of American ornithology. These provide important context, especially to readers unfamiliar with Wilson or the times in which he lived—a time when, unannounced, a peddler of bird books “stopped at the White House and knocked on the door” (p. 50) and proceeded to spend an afternoon discussing birds and science with the nation's president.

This book is important for those interested in the history of natural history—from either a scientific or artistic perspective. The authors are clearly Wilson fans, so hopefully they will not mind that I often found myself thinking that I should put the volume down and go dig out the original text instead. Who can compete with lines like: “Its flesh, also, as was to be expected, tasted of fish, or was what is usually termed *sedgy*” (p. 133) or “a boy, not long ago, brought me a large basket full of crows” (p. 36)? By reminding us of these lines and illuminating the accompanying paintings, the authors have done a service both to their subject and to the many ornithologists who have followed.

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ON THE ORGANIC LAW OF CHANGE. A Facsimile Edition and Annotated Transcription of Alfred Russel Wallace's *Species Notebook of 1855–1859*.

Annotated by James T. Costa. Cambridge (Massachusetts): Harvard University Press. \$49.95. xiv + 573 p.; ill.; index. ISBN: 978-0-674-72488-4. 2013.

When Alfred Russel Wallace traveled to the Malay Archipelago, arriving on April 18, 1854, he was a young man of 31 years, but was already a seasoned field biologist and inquisitive, productive scientist. In the absence of a university education, he had learned early in life to read voraciously, and developed his ability to critique the writings of others based on his own research and field observations. Four years of conducting research in the Amazon Basin allowed him to publish papers in some of the premier scientific journals of his day, a heady experience that must certainly have given a boost to his confidence in his ability to deal with physical stress, make unique observations on geography, biology, and anthropology, and come to new understandings about the nature of life. When he left for the Malay Archipelago, he knew what issues were burning brightest in the minds of Europe's foremost biologists, and he fully intended to find answers to some of the most fundamental among them: why are there so many species of organisms, and how are they produced?

Fortunately, Wallace left behind a trove of letters (J. van Wyhe and K. Rookmaaker. 2013. *Alfred Russel Wallace: Letters from the Malay Archipelago*. Oxford