



CHICAGO JOURNALS



History
of
Science
Society

Nicolaas Rupke. Richard Owen: Biology without Darwin.

Author(s): John M. Lynch

Source: *Isis*, Vol. 102, No. 2 (June 2011), pp. 374-375

Published by: [The University of Chicago Press](#) on behalf of [The History of Science Society](#)

Stable URL: <http://www.jstor.org/stable/10.1086/661693>

Accessed: 08/07/2011 13:55

Your use of the JSTOR archive indicates your acceptance of JSTOR's Terms and Conditions of Use, available at <http://www.jstor.org/page/info/about/policies/terms.jsp>. JSTOR's Terms and Conditions of Use provides, in part, that unless you have obtained prior permission, you may not download an entire issue of a journal or multiple copies of articles, and you may use content in the JSTOR archive only for your personal, non-commercial use.

Please contact the publisher regarding any further use of this work. Publisher contact information may be obtained at <http://www.jstor.org/action/showPublisher?publisherCode=ucpress>.

Each copy of any part of a JSTOR transmission must contain the same copyright notice that appears on the screen or printed page of such transmission.

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.



The University of Chicago Press and The History of Science Society are collaborating with JSTOR to digitize, preserve and extend access to Isis.

<http://www.jstor.org>

of the book, that Majorana could still be awarded the Nobel Prize since his death was never proved and, therefore, he *might* still be alive.

As for the popularization of science, Magueijo tries hard to explain Majorana's science and the complexities of nuclear physics with the help of simple visual aids, including electrons that look like spermatozoa. I'm not sure, however, that the reader who needs the almost childish explanations found in Chapter 2 can easily follow the intricacies of Chapters 25 and 26.

JAUME NAVARRO

Peter Paret. *The Cognitive Challenge of War: Prussia, 1806.* x + 164 pp., illus., bibl., index. Princeton, N.J./Oxford: Princeton University Press, 2009. \$22.95 (cloth).

The four chapters of this short book, originally presented as the 2008 Lee Knowles Lectures, explore "response to innovation in war" (p. 1). Specifically, Peter Paret dissects Prussia's reaction to the twin defeats of Jena-Auerstadt at the hands of Napoleon. "No other army had been defeated as severely as the Prussians" in 1806, says Paret, "and in response no army broke as quickly with the past, or perhaps as sharply" (p. 102). In Kuhnian terms, which Paret eschews, Napoleon inaugurated a revolution in warfare. How did Prussia react?

After an introductory chapter on the disaster at Jena-Auerstadt, Paret devotes one chapter each to literary and artistic responses, political and institutional reforms, and, finally, conceptual analysis—the "cognitive challenge" of his title. No one familiar with Paret's *oeuvre* will be surprised to learn that Carl von Clausewitz, the Prussian military officer and philosopher, appears in all three analytical chapters.

Chapter 1 sets up this analysis by demonstrating that the Prussian military and civilian leadership failed to comprehend the revolution in warfare embodied in the French army of 1806, which Napoleon said was the best he ever led. Once engaged, the Prussian leaders could not adapt on the run. The second chapter, on literary and artistic responses to the defeat, is perhaps the most original and the most controversial. Paret continues his recent work in the history of art, arguing in this case that artists such as Christian Gottfried Geissler and writers such as Friedrich von Schiller and Heinrich von Kleist "[broke] down the social and emotional isolation of war" (p. 68) by interpreting it for the Prussian people. But this begs the question of whether the artists and writers apprehended the

war correctly or even usefully and whether the public they addressed understood their work. To make that argument, Paret must himself interpret these artists and writers. But this removes the modern reader by two degrees of separation from the events themselves, depending first on the artists and writers and then on Paret to interpret what happened. Paret's answer to this concern is that Clausewitz, the real focus of this book, read Schiller and, by extension, absorbed the other artistic and literary currents that swirled about the defeated Prussia.

Chapter 3 is more traditional, tracing the history of the famous Prussian reform movement through the remainder of the Napoleonic era and into the postwar conservative reaction, in which Clausewitz wrote his masterpiece, *On War*. The last chapter builds on Paret's argument that "some of the pragmatic responses to the problems raised in 1806 . . . became steps toward an understanding of war in its totality, war as such" (pp. 104–105). Here he compares the two great students of Napoleonic warfare, Clausewitz and Antoine-Henri Jomini. Paret credits Jomini with more insight and analytical power than is normal in such comparisons, but Clausewitz nonetheless emerges as rising above all others to "the cognitive challenge of defeat" (p. 77). While Jomini wrote about warfare, Clausewitz wrote about war.

Clausewitz posited three kinds of theory: utilitarian or prescriptive, pedagogic, and cognitive. Clausewitz's cognitive theory of war, including his most famous insight—that war is a continuation of politics by other means—drew much of its power from the disaster at Jena-Auerstadt. While Jomini tried to explain how Napoleon had won, Clausewitz tried to understand the fundamental nature of war. In doing so, he constructed a profound and timeless analysis that transcends the defeats of 1806, even the revolution of Napoleonic warfare. Paret's achievement in this elegant extended essay is to show how *On War* emerged not just from the wreckage of Jena-Auerstadt, but also from the political, social, artistic, and literary context in which it was conceived.

ALEX ROLAND

Nicolaas Rupke. *Richard Owen: Biology without Darwin.* xxiv + 344 pp., illus., tables, bibl., index. Revised edition. Chicago/London: University of Chicago Press, 2009. \$29 (paper).

The Natural History Museum in London recently unveiled its Darwin Centre, the most significant expansion of the museum since it

opened at its present site in 1881. Instrumental to the original formation of the museum was Sir Richard Owen, the anatomist who served as superintendent of the natural history department of the British Museum and whose driving vision it was to see a national museum of natural history. The work under review sees Owen's advocacy for the museum as key to understanding his *oeuvre* and furthermore attempts to rehabilitate Owen from previous depictions.

Nicolaas Rupke's book is an abbreviated version of his out-of-print (and expensive) monograph *Richard Owen: Victorian Naturalist* (Yale, 1994). In omitting some material and slimming the work down from 480 pages, Rupke seeks to streamline his argument and make it more accessible to students. He has succeeded admirably. While not a traditional biography, the work offers specialists and tyros an accessible overview of both Owen's accomplishments and the institutional politics of nineteenth-century science. As such, it will maintain Rupke's status as the premier expositor of Owen's ideas and remains a vital source for students of the time period.

After a brief introduction, Rupke offers an examination of how Owen negotiated the political landscape—at both the national level and that of the metropolitan anatomists and surgeons—to advocate successfully for a natural history museum in South Kensington. This is followed by two chapters examining Owen's opportunistic adoption of both Continental transcendentalism and Cuvierian functionalism. The former was associated with the metropolitan scientists, while the latter was of interest to the Paleyite Oxbridge set; and Owen had to please both camps if his vision was to be fulfilled. The remaining three chapters deal with matters Darwinian and are likely to be more familiar to historians of this period.

Rupke's work is most certainly a needed corrective to earlier depictions of Owen, and he skillfully demonstrates that Owen was not a fundamentalist objector to transmutation but had his own theory of evolution through what he termed the "continuous operation of the ordained becoming of living things" (p. 161). Yet much is still missing here, even given the non-biographical approach that is adopted. While Rupke briefly notes the prickly nature of Owen's personality, he generally omits consideration of how that personality must have influenced his interactions with the very scientists and administrators who were central to his project. The rivalry between Owen and Gideon Mantell is quickly glossed over (with Rupke clearly siding with Owen); and no mention is made of Owen's

appropriation of the work of Channing Pearce, the revelation of which resulted in his being voted off the councils of the Zoological Society and the Royal Society. This criticism should not be seen as undermining what Rupke has achieved in *Richard Owen: Biology without Darwin*; it is merely to point out that a fuller understanding of Owen requires the integration of Rupke's scholarship with that of others.

After Owen's death, a bronze statue of him was erected on the grand staircase of the Natural History Museum, replacing a marble Darwin that was eventually relegated to the tearoom. In 2009, no doubt in conjunction with the bicentennial celebrations, Darwin replaced Owen. This timely reissue of Rupke's work reminds us that without Owen there would be no Darwin Centre and that perhaps Owen's statue should have remained in place.

JOHN M. LYNCH

Suman Seth. *Crafting the Quantum: Arnold Sommerfeld and the Practice of Theory, 1890–1926.* vii + 376 pp., illus., index. Cambridge, Mass./London: MIT Press, 2009. \$32 (cloth).

Arnold Sommerfeld is remembered today as one of the important contributors to the development of atomic and quantum theory and as an outstanding teacher of two generations of theoretical physicists in Munich. Suman Seth's *Crafting the Quantum* greatly enriches our understanding of Sommerfeld's unique role in shaping the emerging field of theoretical physics in Germany in the early decades of the twentieth century. Tracing Sommerfeld's career from his formative years in Göttingen and Aachen, which preceded his appointment as professor of theoretical physics in Munich in 1906, to the rise of quantum mechanics in the mid-1920s, Seth examines the way in which Sommerfeld fashioned a distinctive style of theoretical physics, which he appropriately labels the "physics of problems." This approach, which emphasizes the use of mathematical techniques for the solution of specific problems, is carefully distinguished from the "physics of principles," which found its clearest expression, albeit in different ways, in the work of Planck, Einstein, and Bohr. This contrast in styles, which emerged in the early decades of the twentieth century, forms the central historiographical approach of this fascinating and insightful book.

Part I deals with the emergence of the physics of problems. In Chapter 1 the origins of Sommerfeld's style are situated in the context of educational reforms involving the interplay between