Friedrich Burdach, and Karl Ignaz Lorinser "argued against the active policies of Prussian and Austrian authorities" (p. 205) and for the individual's ability to regulate his own health. Yet Lempa suggests that the relaxation of anti-cholera measures in Hamburg in 1831 reflected "the economic interests of the commercial bourgeoisie" (p. 203) more than it did an assertion of bodily autonomy.

If state regulation interfered with freedom in the case of cholera, the state-imposed curriculum in the secondary schools threatened the delicate balance of pupils' health. Lorinser again played a major role in this "overburdening" controversy, calling for fewer class hours, but not gymnastics, as the cure. Lempa notes the irony of the direct opposite being the result, as the controversy ultimately helped "Turnen regain its legitimacy, which indirectly challenged the dietetic tradition" (p. 226).

Written by an author using his second or third language, the book contains many awkward constructions; it is not an easy read. At times, the numerous long notes threaten to overwhelm the reader: eighty-one pages of them accompany just 152 pages of text. Obvious errors are few, but readers familiar with the overburdening debates of the 1880s and 1890s or the decades-long discussions about women's fitness for higher education will take exception to Lempa's claim that the 1830s marked "one of the last instances in the nineteenth century when German educators debated the relationship between the education of the mind and the body" (p. 217).

Lempa's portrayal of the advocates of dietetics appears to betray sympathy for their ideals. Yet, as Allan Mitchell has shown, such a concern with "bodily autonomy" led to 300,000 deaths from smallpox in France in the thirty years after Prussia had introduced mandatory vaccinations.

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The Tragic Sense of Life: Ernst Haeckel and the Struggle over Evolutionary Thought. By Robert J. Richards. Chicago and London: The University of Chicago Press. 2008. Pp. xx + 551. Cloth $39.00. ISBN 13: 978-0-226-71214-7.

Robert J. Richards's outstanding new biography of Ernst Haeckel (1834-1919) should be of much interest to all scholars of modern German history, above all because it addresses head-on a number of allegations concerning the relationship of Haeckel's thought to the rise of Nazism. If Richards is Haeckel's defender, he has much reason to be so: until now, scientists and their historians have portrayed

Haeckel as, at best, a mere epigone and popularizer (Darwin's bulldog in Germany), and, at worst, as a fraud, an ideologue, and a forerunner of the Nazis. This impressive biography rehabilitates Haeckel as a scientist and defends him against charges of having contributed to the rise of the Third Reich.

In exquisite detail Richards's exhaustively researched, well-written, and beautifully illustrated book places the man Ernst Haeckel at the heart of its story: a passionate individual whose loss of his young wife shortly after their marriage became a driving force in his science and helped to give his life a tragic sense. Indeed, a long, loveless second marriage served largely to frustrate him and to drive him on further to satisfy his emotional needs by scientific work as well as by popularizing science and by becoming a public intellectual. Richards shows how Haeckel became a leading specialist in marine invertebrate biology (including morphology, embryology, and systematics), as well as a leading evolutionary theorist, ecologist, and biogeographer. (In 1866, Haeckel coined the term "ecology.") In so doing Richards establishes that, despite his later reputation for scientific speculation, Haeckel was in fact a solid practitioner of observational science. Building on his own earlier work, *The Romantic Conception of Life: Science and Philosophy in the Age of Goethe* (2002), Richards portrays Haeckel as a Romantic scientist in the tradition of Goethe, Humboldt, and Schleiden. Like them, he argues, Haeckel sought some sort of ur-type that might account for the morphology and development of the organism as a whole and that would simultaneously explain its individual features. This outlook attracted him to Darwinian evolutionary theory, and it lay behind his development of what he called the biogenetic law ("ontogeny recapitulates phylogeny"): that the embryological development of an individual follows the same morphological course taken by its own species in its development. The law dominated biological thought for much of Haeckel's professional lifetime and became the centerpiece of his evolutionary interpretation of life.

Haeckel's greatest talent, however, lay in his ability to connect his own and others' empirical work to Darwin's views of evolution by means of natural selection and to make those views accessible to a broad audience. Building on Darwin's *Origin of Species*, Haeckel became the foremost evolutionary theorist and popularizer of science of his day. He first became widely known for his *Natürliche Schöpfungsgeschichte* (1868), which contributed more than any other single work (including Darwin's own writings) to the public's understanding of Darwinian evolutionary theory. Haeckel became Darwin's greatest advocate, both in Germany and beyond. Nearly three decades later, his *Die Welträthsel* (1899) became a world-wide best seller. It placed evolutionary theory at the heart of Haeckel's own philosophical analysis, a doctrine he dubbed "monism," or the belief that mind and matter were merely the surface manifestation of some deeper metaphysical entity. Haeckel "waged war" against religion, Richards

argues, even as his monism itself became tantamount to a religion. Through these and other strident books, advocacy of teaching evolution in the schools, and opposition to established religions of all sorts, Haeckel became the *bête noire* of the religiously minded.

Still, Haeckel may have been his own worst enemy: his claims about human embryology and accompanying illustrations especially got him into deep trouble. Richards shows that Haeckel had extraordinary artistic talent. Yet it was precisely his carelessness with a set of scientific illustrations that severely damaged his reputation. In the first edition of the *Natürliche Schöpfungsgeschichte*, Haeckel published a set of illustrations purportedly showing different stages of embryological development in a dog, a human, a turtle, and a chicken that were aimed at demonstrating the biogenetic law empirically. He had, however, modeled his illustrations on those of other anatomists, and charges of fraud were leveled against him. Worse still, he also presented three illustrations of very early-stage embryos that were, in fact, one and the same illustration. Although Haeckel changed and clarified his illustrations in subsequent editions, the damage was done. Ever since he has been attacked by opponents of Darwinism. Richards argues, by contrast, that Haeckel made only minor, inadvertent errors stemming from alterations made from his original, public lectures. Richards judges this not as a case of "gross fraud" or intentional misrepresentation but rather as "a very minor infraction," and believes that these (and other) charges against Haeckel should be seen within the context of opposition to Darwinism and as a response to "Haeckel's aggressive personality."

Haeckel's anthropological views also brought him trouble. He was certainly a believer in the hierarchy of the races, as Richards acknowledges. In his *Natürliche Schöpfungsgeschichte*, Haeckel included a stem-tree of the human species that had a definite racist tinge to it: races were represented hierarchically. But as Richards explains, racial categories and a racial outlook were widespread among nineteenth-century scientists and others. He argues, too, that Haeckel gave no evidence of anti-Semitism. On the other hand, while Haeckel praised "cultured" Jews assimilated to Germany, he (once) expressed concerns about unassimilated east European Jews. Richards judges that Haeckel was, to say the least, no racial anti-Semite; rather, as a Darwinian and monist he was opposed to all religions (including Catholicism, Protestantism, and Judaism), except his own (Monism).

Richards's sensitive biography of Haeckel the man and scientist convincingly defends him against his sundry critics, not least Stephen Jay Gould, Daniel Gasman, and Richard Weikart, who have declared Haeckel to have helped to pave the way for the formation of the Nazis' biological views and their consequences. Richards believes that these and other critics have taken Haeckel's words and views out of context; that their analyses are mono-causal; that they have failed to point to other cultural figures who expressed similar thoughts and were "recruited" by the Nazis; or that they have failed to demonstrate

any anti-Semitism on Haeckel's part or to note that Nazi representatives themselves rejected Haeckel's views. By contrast, Richards characterizes Haeckel as having modernist convictions, as being variously a liberal or a socialist, and a nationalist or an internationalist. Even as he recognizes Haeckel's shortcomings, Richards convincingly defends him against his contemporary and posthumous detractors. He sees him as a tragic, romantic figure, whose original scientific research became eclipsed by his popularizations, his monistic philosophy, and the passion with which he expressed himself. Richards's study should become the definitive biography of Haeckel.

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Geschichtswissenschaft in Zentraleuropa. Die Universitäten Prag, Wien und Berlin um 1900. By Pavel Kolář. Berlin: Akademische Verlagsanstalt. 2008. 2 Halbbände. Pp. 580. Paper €57.90. ISBN 978-3-931982-54-6.

This book examines the transformation of the discipline of history at three central European German-language universities in the period from approximately 1870 to the accession of the Nationalist Socialists to power in 1933 in Berlin, in 1938 in Vienna, and in 1939 in Prague. Even more innovative than the in-depth narrative is the methodological approach and the theoretical assumptions on which the study is based. Kolář rejects the ways in which historiography has generally been written (for example, as a history of ideas, of the social context of historical studies, or with a focus on major historians). He denies that there are clear-cut developments in history as a discipline. He prefers to write a history "from below" that centers on the large number of individual historians who affect changes in historical attitudes and influence the ways in which the discipline moves. He stresses that there are no "paradigms" (p. 19), but sees the transformation of historical studies as the result of the "active engagement of historians" (p. 20), each of whom has different interests and aims. He proceeds from Pierre Bourdieu's conception of cultural "capital" by which the historians in a "socially constructed constellation" or "field" assert their "power" (p. 19), so that the actions of the historians, although individualistic, are not fully voluntaristic.

This Bourdieuan notion is particularly well applicable to the *Ordinarienuniversität* as it existed at all of the German-speaking universities in which a small number of *Ordinarien* (full professors) had virtually full control over subordinated