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The Tragic Sense of Life: Ernst Haeckel and the Struggle over Evolutionary Thought

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Robert J. Richards. *The Tragic Sense of Life: Ernst Haeckel and the Struggle over Evolutionary Thought*. Chicago: University of Chicago Press, 2008. xx + 551 pp. Ill. \$39.00, £20.50 (ISBN-10: 0-226-71214-1, ISBN-13: 978-0-226-71214-7).

“For my part I deem those blessed to whom, by favor of the gods, it has been granted either to do what is worth writing of, or to write what is worth reading; above measure blessed those on whom both gifts have been conferred. In the latter number will be my uncle, by virtue of his own and of your compositions.” This was the way Pliny the Younger memorialized his uncle, Pliny the Elder, father of natural history, in a letter to the historian Tacitus. As we learn from Robert J. Richards’s brilliant new work, *The Tragic Sense of Life: Ernst Haeckel and the Struggle over Evolutionary Thought*, there are many similarities between Pliny the Elder and his nineteenth-century counterpart Ernst Haeckel: both did things worth writing about; both wrote books, especially in natural history, worth reading, and both shared a fateful attraction to the Gulf of Naples, which, for Pliny, turned out to be fatal, although it set the young Ernst Haeckel on his course to become one of the world’s greatest naturalists and evolutionists.

For most of the last century, Ernst Haeckel’s reception was ambiguous at best and, more often than not, he was considered to be a problematic figure in the history of biology. The reasons for this general uneasiness with Haeckel are manifold and involve matters of science, personality, and politics. Haeckel was a larger-than-life character for most of his career as a public intellectual; his science was a mixture of detailed natural history and creative speculation (representing a self-conscious nineteenth-century vision blending art and science), and his flamboyant personality had a distinctly dark and tragic side to it, which attracted students and readers and alienated his more pedestrian and conventional colleagues. His forceful philosophical and political views, his unconditional materialism and monism, grounded in evolution, and his relentless fight against religious superstition and conservative politics went against the beliefs of too many during his lifetime and after.

And then there is the issue of alleged fraud. The figures that demonstrate the biogenetic law, one of the centerpieces of Haeckel’s theory of phenotypic evolution, were supposedly doctored to make the point. While the debate about the accuracy of the images and the reasons for using identical templates for different images in a publication (economics? expediency? convention? conscious fraud?) continues to this day, Haeckel’s case has also caught the attention of the creationist movement. Together with the Fox News–style argument that there is a direct line from Darwin via Haeckel to Hitler, the issue of “fraud” is seen as “evidence” for the intrinsic flaws of evolutionary theory. All of this is plain nonsense, of course, and thanks to Richards’s detailed study of Ernst Haeckel’s life and science we can now easily see why.

The strength of Richards’s account is that he unites rather than separates the different aspects of Haeckel’s life, science, and times and that he does so with the keen eye of skilled historian and writer. The result is an immensely rich account that brings to life Haeckel’s personal journey; his romantic conception of nature,

expressed through both science and art; the tragic loss of his beloved wife; his early encounter with Darwin's theory; his numerous scientific and artistic accomplishments, from the detailed studies of marine animals exemplified by such classics as *Die Radiolarien* (1862), *Die Entwicklungsgeschichte der Siphonophoren* (1869), *Die Kalkschwämme* (1872), and *Das System der Medusen* (1879), which described and illustrated numerous new species, their morphology and development, and that are to this date rarely, if at all, surpassed hallmarks in comparative biology; his foundational theoretical work, *Generelle Morphologie der Organismen* (1866), a book that contains many conceptual innovations, including the definition of the term ecology as it is still used today; and his immensely popular accounts, such as *Die Natürliche Schöpfungsgeschichte* (1868), *Die Welträtsel* (1895), and *Die Kunstformen der Natur* (1904). The success and the wide availability of these latter works contributed to the notion of Haeckel as a "mere" popularizer, a myth with which Richards dispenses by analyzing in great detail the unifying themes behind all of Haeckel's many endeavors as well as the intricate and often symbiotic relationship between Haeckel the scientist and his cultural milieu. By explicating these connections, Richards shows what a true cultural history of science can be, one that places equal value on the cultural conditions and the intrinsic logic of science.

The Tragic Sense of Life is a monumental accomplishment. It transforms our understanding of Ernst Haeckel, the history of morphology, evolutionary biology, and the early history of developmental evolution—the integration of evolutionary and developmental biology that has lately risen to scientific prominence, as well the early history of evolutionism or *Evolutionäre Weltanschauung*. The latter also has seen a revival as evolutionary theory has been successfully applied to many areas from medicine to economics and from psychology to literature. This new evolutionary worldview has been greeted with much enthusiasm as well as criticism. One can't but help think about the words of Brecht, who, in the *Life of Galileo*, cautions: "Woe is the land that has no heroes, Nay, woe is the land that needs heroes." With Darwin solidly enshrined in the Olympus of untouchables, Ernst Haeckel, with all his passions and contradictions, with all his triumphs and tragedies, reminds us what the excitement of a scientific life lived to its full potential is all about.

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Deanne Stephens Nuwer. *Plague Among the Magnolias: The 1878 Yellow Fever Epidemic in Mississippi*. Tuscaloosa: University of Alabama Press, 2009. xv + 188 pp. Ill. \$34.95 (978-0-8173-1653-2).

The 1878 yellow fever epidemic in the American South stands alongside the 1918 influenza epidemic among the most important disease events in United States