BOOK REVIEW

Ontogeny does not recapitulate phylogeny, it creates phylogeny: a review of *The Tragic Sense of Life: Ernst Haeckel and the Struggle over Evolutionary Thought*, by Robert J. Richards

Brian K. Hall*
Department of Biology, Dalhousie University, Halifax, NS, Canada B3H 4J1

*Correspondence (email: bkh@dal.ca)

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Then he [Jung] laid his hand out flat against her skin and made the shape of the child inside.

“You ever hear the phrase *ontogeny recapitulates phylogeny*?” he said.

“I’m sure I’d remember if I had,” Emma laughed. “I couldn’t begin to tell you what it means.”

“Man called *Haeckel*. Ernst Haeckel. Biologist. German. Long dead—but controversial in his time. We had to study him at university . . . a disciple of Darwin’s. Disciple and extrapolator. Went a few steps beyond the master, so to speak. Such as: *ontogeny recapitulates phylogeny*.”

“Heavens—what huge words!”

“*Ontogeny—the origin and development of the individual,*” pronounced Jung tapping out [the words] on Emma’s stomach. “Like your little fish in here,” he added.

“Haeckel said: *ontogeny recapitulates phylogeny*—but what he should have said is *ontogeny repeats phylogeny* . . .”

“And yet, there’s more to be had from Haeckel’s theory than mere biology . . .”

“No, Carl Gustav. No. Not more. I’m tired. It’s after two o’clock in the morning.”

Exchange between Carl Jung and his pregnant wife Emma as told in Pilgrim by Timothy Findlay (1999, pp. 288–291).

Having first appeared in hardcover in June 2008, release in August 2009 of a paperback printing of *The Tragic Sense of Life: Ernst Haeckel and the Struggle over Evolutionary Thought* follows a pattern established by the University of Chicago Press (UCP), a pattern that makes informed and informative books available at bargain-basement prices.

This authoritative “intellectual biography” of Ernst Haeckel (1834–1919) by the historian and philosopher of science and psychology Robert Richards has been the subject of several reviews. Perhaps the most interesting for our purposes is that by Gliboff (2009). Why single out this review? Because Gliboff’s own book (Gliboff 2008) includes an informed and extensive discussion of the influence on Haeckel of H. G. Bronn, the German paleontologist who supervised the translation into German of Darwin’s *On the Origin of Species*. Gliboff’s book has been reviewed (Bowler 2009; Meyer 2009) and the two books compared in a review by Lynn Nyhart, a noted historian of German morphology and morphologists (Nyhart 2009) (A third book-length treatment of Haeckel is also available; Di Gregorio 2005). In comparing “Richards’s emphasis on charisma and passion” with “Gliboff’s overall . . .
picture of scientific advance.” Nyhart (2009) contrasts how these historians “have chosen two radically different strategies to understanding Haeckel’s place in German evolutionism …” (pp. 1170–1171).

Why this interest in a dead German white male whom the UCP tells us in an advertising blurb “is better known as a divisive figure than as a pioneering biologist.” One reason alone is sufficient. Ernst Haeckel was the preeminent German, European, indeed international proponent and disciple, propagandist, and popularizer of Darwin’s theory of evolution by natural selection. Haeckel’s influence, which began in 1864, was fostered and enhanced by Haeckel himself until his death 55 years later, and has been continued in virtually every evolution and introductory biology textbook even since.

Steepled as he is in German Romanticism, knowledgeable as he is in the origins of evolutionary theory, and skilled as he is as a historical researcher and consummate writer, we can all be grateful that Robert Richards devoted 15 years to Haeckel and all things Haeckelian. The result is a brilliantly written biography based on exhaustive analysis of primary literature and an important reevaluation of the position in the history of embryology and evolution into which Haeckel has been placed (thrust?) in E. S. Russell’s *Form and Function: A Contribution to the History of Animal Morphology*, written almost a century ago (Russell 1916). Haeckel has been tackled by researchers from many fields including historians and philosophers of science interested in grand theories, biologists investigating the relations between embryonic development and evolution, and political scientists exploring whether Haeckel’s role in the history of transcendental morphology and embryology. Most other analyses, such as Gliboff (2008), situate Haeckel but not Darwin within German idealistic morphology.

Richards (and Gliboff) provides evidence that Haeckel followed the interpretations of evolution (and used similar terminology) to that developed and published by H. G. Bronn (1800–1862) the German paleontologist who supervised the translation into German of Darwin’s “On the Origin of Species.” At Darwin’s invitation Bronn added his own comments, notes and a closing chapter, although the latter placed Darwin’s natural selection in the light of Bronn’s own views, which required separate creations for the origin of new groups. Richards interprets the evidence as showing both Haeckel and Darwin as having been influenced by earlier research in transcendental morphology.

Haeckel’s treatise *Generelle Morphologie der Organismen (General Morphology of Organisms: Broad Principles of Organic Forms and Sciences, Founded by the Mechanically Reformd by Charles Darwin Theory of Descent. Volume 1: General Anatomy. Volume 2: General history)* was published in 1866 (Haeckel 1866). This magnum opus was thought out, written and printed within a year—rather like a PhD thesis: “It was written and printed in less than a year. I lived then...
quite like a hermit, allowing myself barely 3-4 h sleep daily, and worked all day and half the night. I lived in such strict asceticism that I must really be amazed to stand alive and healthy before you today.”

Haeckel’s evolutionary views were balanced, on the one hand not invoking archetypes but seeing the record of ancestry in embryos, and on the other, finding a place for adaptation in the generation of diversity. Haeckel set his own course, neither adopting any of the forms of orthogenesis (directed evolution) popular at the time, nor embracing the course, neither adopting any of the forms of orthogenesis (directed evolution) popular at the time, nor embracing the course, neither adopting any of the forms of orthogenesis (directed evolution) popular at the time, nor embracing the course, neither adopting any of the forms of orthogenesis (directed evolution) popular at the time, nor embracing the course, neither adopting any of the forms of orthogenesis (directed evolution) popular at the time, nor embracing the course, neither adopting any of the forms of orthogenesis (directed evolution) popular at the time, nor embracing the course, neither adopting any of the forms of orthogenesis (directed evolution) popular at the time, nor embracing the course, neither adopting any of the forms of orthogenesis (directed evolution) popular at the time, nor embracing the course, neither adopting any of the 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