

The Philosophy of Zoology Before Darwin. A Translated and Annotated Version of the Original Text by Edmond Perrier

Alexander McBirney (translator) and Stanton Cook and Gregory Retallack (annotators)
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The nineteenth-century was an exciting time in the history of science—the heyday of natural history and the formal beginning of biology and anthropology. Jean-Baptiste Lamarck argued for the inheritance of an organism's acquired characteristics and formalized the term biology. Charles Lyell popularized Hutton's theory of uniformitarianism in his 1820 publication of *Principles of Geology*. In 1859, Darwin published *On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life*. Botanical, biological, and ethnographic assemblages were collected by explorers and natural historians and subsequently sent back to museums for interpretation and popularization. By the end of the nineteenth-century, natural history was a more structured intellectual endeavor and, as a result, diversified into a variety of sub-disciplines. Cabinets of curiosities were formalized into legitimate scientific problems with a plethora of accompanying scientific and philosophical explanations (Cardiff 1984; Coleman 1977; Dear 2009).

Generally, the history of biology is divided into periods of "pre" and "post" Darwin—the publication of *On the Origin of Species* provides a useful historical break and modern biology can easily trace its intellectual phylogeny back to that publication as a starting node in its history. Current histories of biology generally adopt either a biographical focus (e.g., Janet Browne's *Charles Darwin*) or historiographical focus for their research (e.g., Adrian Desmond's *Archetypes and Ancestors*). These types of histories are particularly useful to a modern reading audience—they make sense of and interpret the various relevant historical, intellectual, and sociological contexts. They are not, however, primary documents or sources for the historical event or phenomenon. A book of such sources, itself a historical synthesis, however, introduces a historical perspective and historical context for a subject's intellectual history.

The Philosophy of Zoology Before Darwin. A Translated and Annotated Version of the Original French Text by Edmond Perrier is one such text. Jean Otave Edmond Perrier is, perhaps, a less-well known French zoologist appointed to the *Museum National d'Histoire Naturelle*—first as a naturalist-aide in 1868, then as the Chair of Natural History of Molluscs [*sic*], Worms, and Coals (1876–1903), and, eventually, was appointed the Director of the Museum from 1900–1919. Perrier's research focused on invertebrates—echinoderms and earthworms—and he traveled extensively for his research from 1880–1885. Although an early "convert" to Darwinian

evolution and a champion of the idea of natural selection, Perrier is unique in his appreciation of the "intellectual phylogeny" that preceded Darwinian thought, particularly in the context of French biology and natural history. He champions Lamarck's place in France's intellectual history and describes how much science was "lost" as a result of Cuvier's academic bullying. To Perrier, beetle collectors, fossil hunters, explorers, writers, and naturalists could, and did, make important theoretical contributions to science.

First published in 1884, in *The Philosophy of Zoology Before Darwin* Perrier takes an historical approach to unfolding the inner-workings of, what is for him, contemporary biology. His text illustrates the place and legitimacy of the *longue durée* perspective from the Romantic period—in that mindset, form follows function which follows explanation. Perrier's writing as an historical explanation mirrors the biological phenomenon he describes; his explanations about biological phenomenon comprise an intellectual phylogeny in more than just the metaphoric sense. In Perrier's history, biology begins with the Ancient Greeks which, then, are the "ancestors" for later biological thought—the Ancient Greeks emphasize the legitimacy of biology's search for "ultimate causes" in the Aristotelian sense. The ideas of the Ancient Greeks are modified, changed, or not by various scholars of the Middle Ages (i.e., analogous to a species changing through time due to environmental pressures) and, finally, the ideas of the Ancient Greeks share only "ancestral characteristics" with contemporary nineteenth-century biological notions of species, change, and evolution. His history takes, as a starting premise, the concept that particular ideas and notions of "modern" scientists are really "outgrowths" of earlier philosophical premises and arguments. Perrier's nineteenth-century text—his account of the philosophical underpinnings of zoology and natural history before Darwin's publication of *On the Origin of Species*—is truly an evolutionary tree of ideas, people, and philosophy.

Perrier's text provides brief sketches of major and important figures in the history of biology (zoology, as he terms it) before 1850. Each biographical sketch is a few pages that outlines the major research intellectual contributions of an individual (from Democritus to Bacon to Goethe, with particular emphasis on French researchers and research traditions) with Perrier's summary of the contribution of the individual's work to the greater research problems of nineteenth-century biology, particularly those individuals

he feels that history has maligned or ignored. In the introduction, Perrier states that his text is not a complete, encyclopedic treatise on all research ever to impact biological study—rather, it is meant as an overview. This new translation of Perrier's work introduces Perrier to our contemporary intellectual world—earlier translations of his work were cumbersome and clunky and Perrier's own writing a bit convoluted for the modern reader. McBirney (the translator) with the help of Cook and Retallack (the annotators) have carefully examined Perrier's original text and notated it with the historical implications of Perrier's statements for the modern reader. However, McBirney admits that in order to do this, they "[were] forced to take considerable liberty with the original wording" to keep their translation and annotation in the spirit of Perrier's original writing (p. xv). Moreover, some of the annotations and footnotes put Perrier's comments into the context of modern debates in biology (e.g., Intelligent Design) that seem to detract from the historical context of Perrier's original writing.

With so many contemporary histories of biology, histories of natural history, histories of natural philosophy, histories which neatly package primary sources into a historiographical or narrative context, it begs the question, is there value, then, in reading historical syntheses, such as Perrier's *The Philosophy of Zoology Before Darwin*? In short, yes. To make an archaeological analogy, these historical syntheses are the artifacts by which intellectual history is reconstructed. Historical syntheses show contemporary readers and historians what was valued within the scientific, intellectual, and sociological communities—in short, what it meant to "do science" or to proffer legitimate explanations for biological phenomenon. While contemporary histories or historiographies are useful (analogous to an interpretation of an artifact assemblage or an interpretation

of that assemblage within a broader cultural context) the original history provides the reader with the historical moment and emphases within nineteenth-century biological research.

The Philosophy of Zoology Before Darwin. A Translated and Annotated Version of the Original French Text by Emond Perrier is a welcome and much-needed addition to a huge volume of literature in the history of biology. As McBirney notes in his introduction to this translation, he was surprised to find Perrier's history so ignored within the canon of history of biology. Perrier's history provides a unique synthesis of pre-Darwinian philosophical assumptions—he traces these premises throughout the centuries and millennia of their influence in his short, informative, biographical sketches. The book is a solid reminder of a time in the history of biology when history itself carried legitimate explanatory power.

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