

EDITORIAL

About the Cover: 1859 and All That

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Molecular Biology and Evolution (MBE) marks several important anniversaries in 2009. First and foremost, we celebrate Charles Darwin's 200th birthday and the sesquicentennial of the *Origin of Species* in 1859. Surprisingly, as far as *MBE* is concerned, Darwin is less popular than one might think; his name is mentioned only 122 times in the journal, whereas *Origins* is cited merely 68 times. Two taxa studied extensively by Darwin (Cirripedia and Orchiaceae) are featured on this year's cover of *MBE*.

The year 2009 also marks the 200th anniversary of the publication of the first scientific evolutionary theory, Jean-Baptiste Lamarck's *Philosophie Zoologique*. Lamarckian epigenetics seems to be experiencing a resurgence in recent scientific literature. The terms "epigenetics" and "Lamarck" appear 16 and 10 times, respectively, in *MBE*. The adjective "Lamarckian" appears only once in *MBE* attached as a negative adjective to the word "doctrine."

The term "gene" (more than 4,000 occurrences in *MBE*) was coined by Wilhelm Johannsen in 1909. It is now 100 years old, and its definition is nowhere clearer than it was a century ago. In 2009, *MBE* also celebrates the 100th anniversary of a visionary program by Edward Tyson Reichert, Professor of Physiology at the University of Pennsylvania from 1886 until 1920, to use 600 micrographs of hemoglobin crystals "to plot the evolutionary relationships among species by the divergences between their hemoglobin molecules."

The year 2009 also marks the 75th anniversary of the first three-dimensional structure of a protein (pepsin) by J. D. Bernal and Dorothy Crowfoot Hodgkin as well as the

75th anniversary of the first computer programming language (Konrad Zuse's *Plankalcul*). Another important 75th anniversary is the publication of Karl R. Popper's *Logik der Forschung*, in which he advanced the position that science is characterized by empirical "falsifiability" rather than "verifiability" of its theories. Paradoxically, Popper used Darwinian language to describe his method, whereby competing scientific theories are tested "by exposing them to the fiercest struggle for survival," while at the same time claiming that evolution as well as other historical disciplines are not scientific. Philosophers are not very popular in science; only four *MBE* articles have mentioned Popper and his dictum.

The fifth eukaryotic kingdom, Fungi, so defined by R. H. Whittaker celebrates its 50th birthday. With more than 600 appearances, it is a very popular clade with *MBE* authors. Fifty years ago, Christian Anfinsen from the National Heart Institute published an obscure book entitled *The Molecular Basis of Evolution*. It is, to the best of our knowledge, the first book to tackle Molecular Evolution explicitly. Christian Anfinsen was awarded the Nobel Prize in Chemistry "for his work on ribonuclease, especially concerning the connection between the amino acid sequence and the biologically active confirmation." His book, however, had little influence on the development of the Molecular Evolution discipline and has never been cited in *MBE*.

Finally, *MBE* celebrates its 25th birthday. Admittedly, the first issue officially appeared in December 1983, but in the old days of hard copies traveling by the now defunct method of surface mail, most readers received it, as well as the other five issues of Volume 1, in 1984.

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