

RECOMMENDED EVOLUTION BOOKS

(Reading Levels: E = Easy
A = Average
C = Challenging)

GENERAL

(Includes Darwinian Evolution, Modern Evolutionary Theories
and Social Issues)

1. Evans, Dylan and Selina, Howard. 2005. Introducing Evolution. Totem Books (USA)/Penguin Books (Canada). (Publisher's website: www.iconbooks.co.uk)

The clever cartoon format and minimal text of this introductory book might appeal to younger students or those who tend to avoid reading. The book touches on a vast array of topics, ranging from pre-Darwinian evolutionary theories to sociobiology. There is even a quote from Richard Dawkins' The Selfish Gene (annotated below). The book's engaging illustrations can raise questions and inspire further reading. (E)

2. Zimmer, Carl. 2006. Evolution: The Triumph of an Idea. Harper Perennial.

The clear and engaging writing of this relatively large book (over 400 pages of text) should ensure student interest in many of its wide range of topics. Some noteworthy examples are the author's account of the social roots of human evolution, the evolution of the HIV virus and the evolution of sex. A pleasure to read and highly recommended. Includes an extensive bibliography. The book is part of the 2001 WGBH/NOVA Evolution Project which includes a seven-part television series. (A)

(The following books are grouped into three broad, overlapping categories. Books preceded by an asterisk (*) have some information applicable to other categories.)

DARWINIAN EVOLUTION

- *1. Coyne, Jerry A. 2010. Why Evolution is True. Penguin Books.

A highly readable and informative book that "lays out the main lines of evidence for (Darwinian) evolution." Coyne is particularly adept at illustrating how modern genetics supports major concepts of Darwin's theory—the chapter "Remnants: Vestiges, Embryos, and Bad Design" is an excellent example. Where appropriate, the author explains the weaknesses of creationism and intelligent design. His conversational tone makes the book a pleasure to read. Includes illustrations, glossary, extensive annotated bibliography and notes containing free evolution video websites. Highly recommended. (A)

2. Darwin, Charles. 2005. On Natural Selection. Penguin Books—Great Ideas Series.

This compact abridgment (3 ½” x 5 ½”—117 pages) of the original On the Origin of Species is recommended for those teachers who want students to be introduced to what is arguably the “most popular science book ever written.” Students may have to get used to the Victorian prose, but reading Darwin’s own words (rather than an interpretation of a secondary source) and following the beauty of his logic will be worth the effort. (A)

- *3. Gould, Stephen J. 1992. Ever Since Darwin. Norton.
- *4. Gould, Stephen J. 1992. The Panda’s Thumb. Norton

Even though Gould’s ideas are always fresh and thought-provoking, his essays are challenging and their ability to engage students can be unpredictable and problematic. Suggested readings from these first two collections of essays of his Reflections in Natural History Series are: from Ever Since Darwin, essays 5-8 (Human Evolution) and essay 32 (Sociobiology); from The Panda’s Thumb, essays 6 and 8 (Darwinia—Gould criticizes Richard Dawkins’ The Selfish Gene, annotated below, in essay 8), essay 9, (Human Evolution) and essays 25 and 26 (They Were Despised and Rejected). (C)

5. Miller, Jonathan and Van Loon, Borin. 1982. Darwin for Beginners. Pantheon Books.

Through innovative cartoons and witty writing, the book explains the nature of the religious and scientific climate during Darwin’s lifetime, the ideas expressed in his On the Origin of Species and the reaction of Victorian society after its publication. Despite its cartoon format, the book is surprisingly packed with information and can be very appealing to introductory students of evolution. (A)

6. Ridley, Mark. 2006. How to Read Darwin. Norton.

This slim volume (106 pages of text) is a practical guide to the understanding of On the Origin of Species. After the author provides the reader with an excerpt from Darwin’s work, he clarifies Darwin’s ideas and places the excerpt in its historical context—why these ideas were unique and how they relate to modern concepts of evolution. Ridley also devotes two chapters using this format to discuss Darwin’s The Descent of Man. This multipurpose book can be quite useful, despite the tendency for the author’s writing to be dry and impersonal. (A)

7. Shubin, Neil. 2008. Your Inner Fish: A Journey Into the 3.5-Billion Year History of the Human Body. Vintage.

As its title suggests, this is a very entertaining account of the evolutionary history of our bodies—how our vertebrate ancestors left their marks on our embryonic and adult stages. Its very informative and witty text, supplemented with a host of illustrations, make the book a pleasure to read. Highly recommended. (A)

MODERN EVOLUTIONARY THEORY

1. Barash, David P. 2004. Revolutionary Biology: The New Gene-Centered View of Life. Translation Publishers (New Brunswick, NJ).

A fascinating and engrossing account of how genes influence human behavior. As Richard Dawkins argues in The Selfish Gene (see below), the author's main point is that natural selection acts on the gene and not on the individual or the species. This evolutionary process can explain the existence of different aspects of human nature—why we sometimes can be altruistic or selfish, and why we behave differently toward kin than to strangers. The author's conversational tone and use of numerous examples taken from everyday life—his interpretation of the Ten Commandments is especially intriguing--make this an extremely readable book and less challenging than The Selfish Gene. Contains controversial ideas about male and female behaviors that can lead to lively class discussions. (See also Madam Bovary's Ovaries annotated below.) (A)

- *2. Barash, David P. and Barash, Nanelle R. 2006. Madame Bovary's Ovaries: A Darwinian Look at Literature. Delta.

An extremely witty, entertaining, yet immensely informative book in which Barash applies his modern evolutionary ideas (see Revolutionary Biology above) to explain behaviors of characters found in a wide array of famous literary works ranging from The Canterbury Tales to The Color Purple. This can be the ideal book if an English and science teacher decide to team teach. (See also Inherit the Wind--annotated below—for another work suitable for an English and science team-taught class.) Teachers can always apply the book's concepts to works of literature not discussed in the book. (A)

3. Dawkins, Richard. 2006. The Selfish Gene: 30th Anniversary Edition. Oxford University Press.

Probably referenced in every book on evolution published in the last 25-30 years, this is the classic book of modern evolutionary theory in which Dawkins argues that the gene is the basic unit of natural selection and that there is an evolutionary explanation for the existence of social behaviors. (See above annotation for Revolutionary Biology.) Dawkins provides many examples of animal behaviors (nonhuman) to illustrate how

“selfish” genes can account for altruism, aggression, and kin selection. Even though his arguments might seem somewhat rambling and overextended, reading the words of such an influential scientist who coined the words that have already become part of today’s scientific vocabulary—“selfish gene,” “extended phenotype” and “meme”-- can be extremely rewarding. (C)

*4. Ridley, Matt. 2003. The Red Queen: Sex and the Evolution of Human Nature. Harper.

The author discusses how evolution influences sexual behaviors in animals in this highly readable and engaging book. Since half of the book is devoted to human sexual behaviors, it can be quite popular and a fascinating read for high school students. It is filled with intriguing information about sex--anatomical and behavioral—as well as controversial ideas that should spark lively class discussions. Includes bibliography. (A)

*5. Various Authors. Spring 2009. Does Evolution Explain Human Nature? John Templeton Foundation.

Twelve internationally known scientists and professors contributed 3-4 page essays responding to the above question, providing the reader with a wide range of opinions in this intriguing slim volume. Available online at: www.templeton.org/evolution. Additional copies can be ordered by writing to: bigquestions@templeton.org (A)

EVOLUTION AND SOCIETY (Creationism and Intelligent Design)

*1. Ayala, Francisco, J. 2007. Darwin’s Gift to Science and Religion. Joseph Henry Press. (Washington, DC).

Written by an evolutionary geneticist and molecular biologist, this book is an intelligent and impassioned explanation of not only why evolution is good science, but also why evolutionary theory is consistent with religious beliefs. The book contains discussions of the history of evolution from Darwin to modern molecular theories. Ajala also gives an account of the history and nature of creationism and intelligent design. The book’s ultimate message is that religion and evolution need not be in conflict. Judging from the tone of the book, it is not surprising that the author has received several awards for his literary and political efforts advocating mutual respect between science and religion. (Ajala also was the chief witness in the 1981 Arkansas creationist trial which prevented religion from being taught as science.) (A)

2. Baird, Robert M and Rosenbaum, Stuart E (editors). 2007. Intelligent Design: Science or Religion—Critical Perspectives. Prometheus Books.

This is a relatively large collection of writings compiled in the aftermath of the Dover, Pennsylvania 2005 court decision in which a federal district court judge ruled that intelligent design is not science (Kitzmiller et al. vs. Dover Area School District et al.). It contains articles by defenders of intelligent design, including Michael Behe (see below) and defenders of evolution, including Stephen Jay Gould (see above) and Kenneth Miller (see below). The book also contains excerpts of writings of historical interest by Charles Darwin and William Paley. (A)

*3. Behe, Michael. 2006. Darwin's Black Box: The Biochemical Challenge to Evolution. Free Press.

In this controversial book, a biology professor and proponent of intelligent design proposes that natural selection cannot explain evolution at the molecular level and is unable to account for the existence of “biochemical machinery.” Because the machinery is “irreducibly complex,” it must have been “designed.” He cites several examples of human “irreducibly complex” systems, including the flagella that line the digestive system, the blood clotting biochemical cascade, and antibody production. The book is extremely readable; symbols indicate technical portions that might be troublesome. Recommended for providing alternative points of view in inquiry-based classes of evolution. (For criticisms of his ideas see annotations of Darwin's Gift, Only a Theory, Evolution vs. Creationism, and Why Darwin Matters.) (A-C)

4. Lawrence, Jerome and Lee, Robert E. 2007. Inherit the Wind. Ballantine Books.

This classic play (also a 1960 movie) that was partly inspired by the 1925 Scopes Trial might appeal to teachers who are considering team teaching an English/science class. Although the playwrights explicitly state that it is not an historical play, it does contain some of the language of the trial and some of the play's major characters bear an unmistakable resemblance to the trial's “colorful figures.” (E)

*5. Miller, Kenneth R. 2009. Only a Theory: Evolution and the Battle for America's Soul. Penguin Books.

Although Miller's book covers roughly the same range of content found in Ajala's Darwin's Gift (see annotation above), the two books convey different messages. Whereas Ajala attempts to reconcile the facts of evolution with religious faith, Miller—as the book's subtitle suggests—sees intelligent design as particularly destructive, dangerous to society and “an enemy of science.” Miller's writing is very clear and highly readable. (He is the coauthor of four high school and college textbooks read by “millions of students nationwide.”) Includes endnotes with extensive references. (A)

6. Scott, Eugenie C. 2004. Evolution and Creationism: An Introduction. Greenwood Press. (Westport, CT).

This is an excellent source book packed with information covering all aspects—historical, legal, educational, political, scientific, and religious—of the creationism/evolution controversy. Although its intended target audience is “bright high school students and college undergraduates,” Evolution and Creationism is quite readable and avoids typical textbook writing styles. There is a tremendous amount of information for a book of its size (fewer than 300 pages). Includes a very extensive bibliography including reliable online resources. (A)

- *7. Shermer, Michael. 2006. Why Darwin Matters. Times Books (Henry Holt).

A former creationist and later college professor of psychology and evolution, the author’s main objective is to demystify evolution for Christians and conservatives who believe in ID and why acceptance of evolution need not preclude religious beliefs. The author devotes the bulk of this book explaining all aspects of ID, not only the nature of its arguments, but also its flaws and why it is not science. He then puts evolution in perspective by explaining how evolution has enriched our lives and raising questions that evolution still needs to research. He writes with an objective tone that avoids alienating or offending anyone, while strongly defending his thesis that ultimately Darwin does matter. Very readable; includes a bibliography that contains pro-ID and pro-evolution books and websites. (A)

- *8 Wells, Jonathan. 2000. Icons of Evolution: Science or Myth—Why Much of What We Teach About Evolution is Wrong. Regnery Publishing. (Washington, DC).

In this book the author, who has two Ph. D.s--in religious studies and molecular/cell biology--explains why ten examples of evolution (“icons”) supporting Darwin’s theory that students learn in public schools are myths and misrepresent the truth. The book’s appendix contains the author’s evaluation of ten biology textbooks. Includes endnotes with references. Recommended for provided alternative points of view in inquiry-based evolution classes. (For criticisms of his ideas, see annotations for Only a Theory and Evolution vs. Creationism.) An accompanying DVD is also available. (A)