

Response to Written Comments—June 25, 2003 and July 9, 2003

**Submitted by Prentice Hall
July 31, 2003**

Jennifer Walker

Response to Jennifer Walker's oral testimony about Prentice Hall's *Biology*

J. Walker, Written Document 1, p. 1: "I reviewed the textbook *Biology* by Miller and Levine from Prentice Hall publishers. I support this textbook in its present form. I agree with its treatment of evolution in geologic time."

Publisher's Response:

Prentice Hall would like to thank Ms. Walker for her review and support of Prentice Hall's *Biology*.

Edwin S. Darrell

Response to Edwin Darrell's oral testimony about Prentice Hall's *Biology*.

E. Darrell, Written Document 8, p. 1: "Publishers are recruiting top-notch authors. Kenneth Miller is one of the nation's better biology instructors."

Publisher's Response:

Prentice Hall and *Biology* co-author Kenneth Miller would like to thank Mr. Darrell for his support.

Robert Dennison

Response to Robert Dennison's written comments—June 25, 2003 and July 9, 2003

R. Dennison, Document 16, p. 17: "Comments on the Discovery Institute's "Analysis of Evolution in Biology Textbooks," No. 4, Peppered Moths, 5th paragraph

Publisher's Response:

Prentice Hall would like to thank Mr. Dennison for his support of Prentice Hall *Biology*.

Bret A. Corum

Response to Bret Corum's written comments—June 25, 2003 and July 9, 2003

B. Corum, Document 20, p. 1: "Biology 9-12 Textbook Review," Summary Comments Table

Publisher's Response:

Prentice Hall would like to thank Mr. Corum for his efforts in reviewing many of the biology textbooks currently under consideration in Texas.

Center for Science and Culture: Discovery Institute

Response to Discovery Institute's written testimony about Prentice Hall's *Biology*.

Discovery Institute: Student Edition (SE), p. 424, Figure 17-8 caption

a. This book contains a drawing of the Miller-Urey apparatus accompanied by a misleading caption that states that the experiment "suggested how simple compounds found on the early

Earth could have combined to form the organic compounds needed for life.”

Publisher’s Response:

Prentice Hall’s *Biology* presents Miller and Urey’s experiments in an historical context. The text points out that the experiments were not conclusive, and also notes that the mixture of gases used by the experimenters in 1953 has, on the basis of more recent research, proven not to be an accurate simulation of the primitive Earth:

Scientists now know that Miller and Urey’s original simulations of Earth’s early atmosphere were not accurate. [Prentice Hall *Biology*, p. 424]

Nonetheless, the historic importance of the experiment is generally agreed upon, and that is the basis for the caption.

Discovery Institute: Student Edition (SE), p. 424, Section pertaining to The First Organic Molecules

b. The account in the text points out that “scientists now know that Miller and Urey’s original simulations of Earth’s early atmosphere were not accurate,” but it goes on to claim that “similar experiments based on more accurate knowledge of Earth’s early atmosphere have also produced organic compounds”—without pointing out that those compounds included toxic chemicals such as cyanide and formaldehyde but did not include amino acids.

Publisher’s Response:

Cyanide and formaldehyde are organic compounds. Their toxicity depends upon the chemical context in which they are found. Cyanide, for example, is a respiratory poison. However, during the early stages of the evolution of self-replicating molecules, functioning respiratory systems would not have existed, and therefore cyanide’s toxic characteristics would not have come into play. As the text states, some more recent experiments have produced cytosine and uracil, two of the bases in RNA.

Discovery Institute: Student Edition (SE), p. 442, Study Guide for Section 17-2

c. A study guide at the end of the chapter misinforms students that “Miller and Urey’s experiments suggested how mixtures of organic compounds necessary for life could have arisen from simpler compounds present on the primitive Earth.”

Publisher’s Response:

Miller and Urey’s experiments did suggest how such compounds could have arisen on the primitive Earth. Prentice Hall *Biology* states this within the historical context of the flaws that were inherent in the Miller-Urey experiments.

Discovery Institute: Student Edition (SE), p. 430, Section pertaining to Cambrian Period

a. This book mentions the Cambrian explosion and explains that “during the Cambrian period, the first known representatives of most animal phyla evolved.”

Publisher’s Response:

Prentice Hall agrees that this statement is correct.

Discovery Institute: Student Edition (SE), p. 430, Section pertaining to The First Organic Molecules

b. This book does not explain, however, why the Cambrian explosion poses a challenge to Darwin's theory. Thus, the book does not enable students to "analyze, review, and critique" this scientific explanation as to its "strengths and weaknesses using scientific evidence and information" (TEKS §112.43c(3)A).

Publisher's Response:

It is the consensus of biologists that the Cambrian period does not present a "challenge" to Darwin's theory. In fact, analyses of the Cambrian explosion have appeared in the scientific literature proposing mechanisms for animal diversification that are entirely within the Darwinian framework.

Discovery Institute: Student Edition (SE), p. 385, Figure 15-17

a. The book uses photographs of actual vertebrate embryos instead of drawings. Nevertheless, the embryos shown are from the three vertebrate classes (bird, reptile, and mammal) whose embryos most resemble each other; the other four vertebrate classes are omitted.

Publisher's Response:

The other four vertebrate classes were omitted from Prentice Hall *Biology* for reasons of space. If included, they would show essentially the same patterns as the existing photos.

Discovery Institute: Student Edition (SE), p. 385, Figure 15-17 caption

b. The accompanying caption misleadingly states: "In their early stages of development, chickens, turtles, and rats look similar, providing evidence that they shared a common ancestor." In fact, the photographs show embryos midway through their development instead of at their earliest stages.

Publisher's Response:

The rat photograph depicts the first trimester of development, while the other two do not. Publisher will replace those two photographs with early stage images.

Discovery Institute: Student Edition (SE), p. 385, Section pertaining to Similarities in Embryology, 2nd paragraph.

c. The accompanying text informs students that "Haeckel fudged some of his drawings to make the earliest stages of embryos seem more similar than they actually are," but it fails to inform students that Haeckel's "earliest stages" were actually midway through development. In fact, vertebrate embryos in their earliest stages are strikingly different, and their differences do not fit the pattern predicted by Darwin's theory.

Publisher's Response:

SE page 385, Section pertaining to Similarities in Embryology, 2nd paragraph, 3rd line, change to:

“...early stages...”

Eleanor Hutcheson

Response to Eleanor Hutcheson’s written testimony about Prentice Hall’s *Biology*.

E. Hutcheson: Student Edition (SE), p. 1046, Section pertaining to Transmission of HIV: “Although HIV is a deadly disease, it is not easily transmitted. It is not transmitted through casual contact. HIV can only be transmitted through the exchange of blood, semen, vaginal secretions, or breast milk. There are four main ways that HIV can be transmitted:

- through any form of sexual intercourse with an infected person;
- through shared needles or syringes that are contaminated with the blood of an infected person;
- through contact with blood or blood products of an infected person;
- from an infected mother to child, either during pregnancy, birth, or feeding.”

Missing from their list is the most important item of transmission—homosexual activities. Why are the textbooks so ashamed to mention these words? Why do we have this conspiracy of silence? Must we protect the homosexuals? NO. We need to protect the young high school students by telling them the complete truth.

Publisher’s Response:

Prentice Hall *Biology* (page 1046) addresses the issues identified. The phrase “any form of sexual intercourse” includes anal intercourse.

E. Hutcheson: Student Edition (SE), p. 1047, Section pertaining to Can AIDS Be Cured?, 3rd paragraph: “Unfortunately, the knowledge that HIV can be treated (and not cured) has given people worldwide the idea that HIV infection is not as serious as it was a decade ago. In one year, more than 5 million people around the world became infected with HIV, including roughly 800,000 people under the age of 15. That same year, more than 3 million people around the world died of AIDS, bringing the total number of deaths worldwide to more than 20 million people.”

The figures given are out of date. HIV/AIDS has doubled in the world since this book was written. There are 40 million cases in Africa alone. Russia, India, and Asia are also joining the United States with HIV/AIDS statistics. Told to someone in a pub in Johannesburg, South Africa, “do not worry about loss of habitat for the animals in Africa. In ten years most of the people will have died of AIDS and then there will be more space for the elephants.” Frightening, is it not? Our government is spending 5 billion dollars this year to help those in Africa with HIV/AIDS. This country and its educators do not even wish to tell the young people the truth concerning their soon to be possible future death from HIV/AIDS in 15 years.

Publisher’s Response:

The statistics stated in Prentice Hall *Biology* are supported by the December 2002 report by the Joint United Nations Program on HIV/AIDS—ISBN 92-9173-253-2.

E. Hutcheson: Teacher’s Edition (TE), p. 1048, Issues in Biology: “Have students role-play a conference about the issues...representative of an American pharmaceutical company, minister

of health of an African country, president of the World Health Organization, and an expert consultant on AIDS prevention education...”

Text pushed \$\$ for prevention, for AIDS orphans in Africa.

Publisher's Response:

The activity described requires students to investigate both sides of a critical issue, in accordance with TEKS 3: “The student uses critical thinking and scientific problem solving to make informed decisions.”