

Restriction enzymes, Earth Day, DDT and fragile bird eggs, oil shortages, CFCs, “Lucy,” and punctuated equilibrium. Ebola virus outbreaks, Three Mile Island, Baby Louise Brown, and mandating the teaching of creationism in some public school biology classes. All these were resonant events in biology in the 1970s. Yet an even wider range of topics was presented to the membership in the 90 issues of *ABT* and numerous *News & Views* that document life for the professional biology teacher in that decade. Ecology, the environment, and evolution were the triple “E’s” that permeated the decade. The “E’s” are reflected in *ABT* covers, editorials, articles, and conference titles and speakers.

### ○ Covers

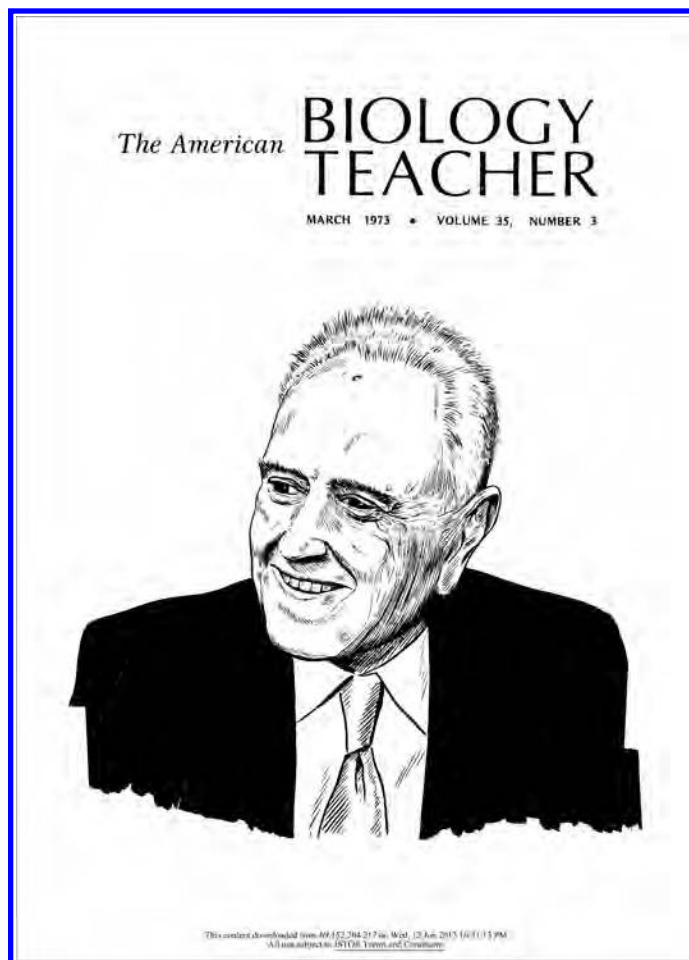
Journal covers continued as basic drawings in black and white or collages of information. The May 1972 cover, “Escape...THE REAL IS OUTSIDE...*get into it*,” draws focus to the dual issues of environmentalism and ecology. The covers for the first three issues of *ABT* in 1973 portray Garrett Hardin, G. Ledyard Stebbins (ecology and environment), and Theodosius Dobzhansky (evolution) (Figure 1). The March 1974 cover displays a collage of headlines from the *LA Times* and *Memphis Press-Scimitar* on the Evolution–Creationism conflict in teaching. May 1975 heralded the new NABT office in Reston, and October 1978 commemorated the 40th Anniversary of the NABT with signatures of early members and the first 1938 *ABT* cover.

### ○ Editorials

Two *ABT* editors wrote passionately and prolifically during the 1970s: Jack L. Carter from January 1970 to May 1974 and Joan Creager throughout the remaining years of the decade.

In 1972, Carter turned to issues of political import, writing a timely editorial on the “Politics of Education” in which he introduced the Fund for Freedom in Science Teaching:

This past summer the United States Supreme Court handed down an important decision concerning the rights of teachers to free expression under the First Amendment...biology teachers who insist that teaching the creationist story of the origin of life has no place in a biology classroom may find themselves in need of similar protection. For this reason the National Association of Biology Teachers has established the Fund for Freedom in Science Teaching and is asking science teachers to support it. (Carter, 1972b)



**Figure 1.** Theodosius Dobzhansky. Sketched by Tom Williams of Bethesda, MD. Cover of the March 1973 issue of *The American Biology Teacher*, vol. 35 (3).

The use of member donations was documented in *News & Views*:

Last year the NABT Fund for Freedom in Science Teaching expended \$3,374.79 to successfully combat inclusion of religious doctrine in California elementary science textbooks... The General Assembly of the State of Tennessee enacted legislation which amended Tennessee’s Code [to state that] “any biology textbook used for teaching about origins or creation of man and his world shall be prohibited from being used as a textbook

unless...an equal amount of emphasis on the origins and creation of man and his world as the same is recorded in other theories, including, but not limited to, the Genesis account in the Bible.”... The Board of Directors...considers the Tennessee legislation to be unconstitutional... and has therefore retained legal counsel in Tennessee, and before the end of 1973 it will challenge the legality of the above legislation. (*News & Views*, 1973)

In October 1975, *News & Views* confirmed that “on August 20, U.S. District Judge Farnak Gray Jr., and the Tennessee State Supreme Court, each ruled unconstitutional...the so-called ‘Genesis Law’.... The decisions marked the successful termination of NABT’s legal challenge of the Tennessee law.” Although NABT was successful in this fight, Jack Carter recently expressed disappointment in NABT’s

failure and inability to develop the Fund for Freedom that was to become an endowment fund to protect schools and teachers from the likes of the religious right, where the courts might become involved. (Personal communication with Pat Waller, 2010)

Under Creager’s editorship, guest editorials challenged both teachers and research scientists to *communicate to the lay public in understandable ways* regarding human genetics education (1977). As the decade was closing, editorials included topics such as sexist language and sex discrimination (1978), bioethics, intellectual development, concept maps, cognitive styles, special education, quality-of-life environmental issues, alternative technology, and other topics of debate (1979).

## ○ Articles Reflect the Times

Science was under attack in the 1970s, and NABT rose to the challenge, cooperating with other teachers’ organizations to oppose the undermining of science education in California and elsewhere (Carter, 1972a). Theodosius Dobzhansky’s article “Nothing makes sense in biology except in the light of evolution,” based on his address to the membership at convention, was published in *ABT* in 1973. In November and December of 1977, the *ABT* posted an order blank for a compendium on the Evolution–Creationism Controversy. This set of reprints brought together, for the first time under one cover, a wide variety of information designed to answer most questions regarding the theory of evolution and the evolution–creationism “equal time” controversy.

In 1978, the March and April *ABT* presented a two-part special issue set on careers written “especially for *ABT* to meet the interests and needs of biology students and their teachers and counselors.” *Finding Out More about Careers in Biology* predicted that by the mid-1980s, the supply of secondary teachers would exceed the requirements because of a loss in student enrollment.

Biology education was being reviewed. Jane Butler Kahle’s February 1979 *ABT* article about the characteristics of teachers revealed that 50% of secondary science teachers read a professional journal and that an average of 2.4 articles were read each month. Research indicated that 55% of science teachers considered the lecture the most important learning technique and that 9% of science teachers never used manipulative materials in their classrooms (Kahle, 1979). If this survey were taken today, what would we find?

The practice of special-topic issues of *ABT* continued with issues focused on “Interdisciplinary Environmental Education” (February 1975) and “New Dimensions in Biology Education” (March 1979).

## ○ Convention Highlights

Convention themes and speakers attested to the three-E’s theme for the 70s: “Environmental, Population, Molecular and Behavior Biology” with Barry Commoner (1970, Denver); “The Life of a Lake” (1971, Chicago); “Biology and Evolution” (1972, San Francisco) with featured speakers Sherwood Washburn on Human Evolution, G. Ledyard Stebbins on “Plant Evolution in Action and in Retrospect,” Jacques-Yves Cousteau on the “Evolution of the Sea,” Garret Hardin on the “Inescapability of Future Evolution,” and H. Bentley Glass on “Evolution and the Courts.” Nobel Prize awardee George Beadle, Sydney Fox, Roger Tory Peterson, Marc Lappe, Sam Postlewait, Edward Kormondy, Mary Budd Rowe, George Fishbeck, and Rep. Morris Udall participated in NABT conventions during the decade.

NABT acknowledged the significant contributions of well-known biologists and biology educators. Many current NABT members will recognize the names of these 1970s Honorary Member recipients: Garrett Hardin, Stanley Williamson, Paul DeHart Hurd, Addison E. Lee, John Alexander Moore, William V. Mayer, and Paul E. Klinge.

## ○ The Devil’s Advocate

In 1970, a section of *ABT* called “Devil’s Advocate” debuted. A small bulleted paragraph indicated its focus: *the right to dissent, to question and challenge the norm of popular ideas... Speak out – become the devil’s advocate*. This section of the journal had several name changes during the 1970s, but the focus remained on the right to challenge the status quo. In 1975, the column morphed into “Controversies” and included topics like the scientific method as a process, not a method; the removal by Congress of 9.2 million dollars for NSF activities; and how “teachers should deal with values about science.” Next the column became known as “Perspectives.” NABT President-elect Jack Carter wrote “On being an informed professional,” on the struggle to define the role of public education in America (Carter, 1976). Other topics included interdisciplinary how-to, justifying human experimentation, bringing animals and plants into the United States, and, in December, a challenge to NABT to become the major agent for improvement in biology education at the college and high school levels. Carter called upon biology teachers to show the “relationship between our present scientific knowledge, the importance of the inquiry process to mankind, and the democratic political decision-making process” (Carter, 1977).

One of the challenges of 1977, still relevant today, is that NABT needed to convince biologists that “the continuance of their research freedom and funding is dependent upon the level of biological literacy in the general population.” There was a call for individual members to help our association reach the goal of improved biology teaching by their participation, personal contribution, and involvement. No matter how teachers get involved in an association, be it NABT, NEA, AFT, AAUP, or another organization, success will be based “only in proportion to participation by biology teachers” (Kolb, 1977). An always relevant essay, written by NABT treasurer Jerry Resnick, was on the topic of “High school biology: making it

exciting and meaningful" (Resnick, 1977). He included applications to daily living, regional concepts associated with the immediate environment of the student, career opportunities, lab experiences, independent study projects, and provisions for periodic evaluation.

The decade closed with "Perspectives" attempting to encourage the integration between science and the humanities, the back-to-basics trend whereby teachers must understand the social change and impact of science on lives, and a more global perspective on environmental awareness.

## ○ The Organization

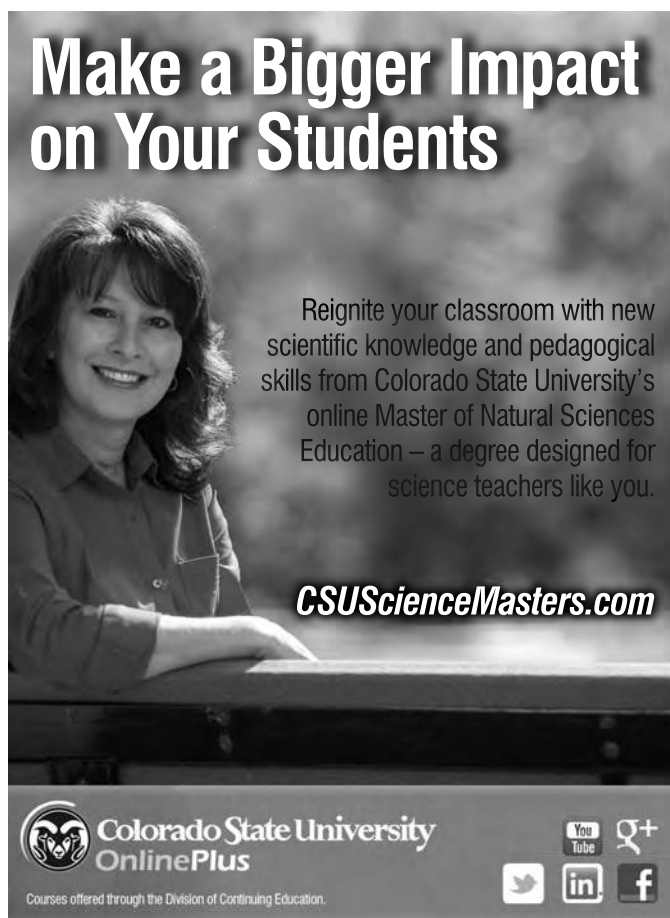
During this time of national attention on the biological topics of ecology, the environment, and evolution, NABT had a strong structure made known through *ABT*: the journal editors, Review Panel, Publications Advisory Committee, and the Board of Directors, including officers, directors, and committee chairpersons. In 1973, Jerry Lightner assumed the role of first executive secretary (director), in addition to managing editor of the *ABT*. He retained that role until 1979, when Wayne Moyer was named NABT's second executive director. It is interesting to note that the directors-at-large included such famous names as Garrett Hardin and Edward J. Kormondy, two leading biologists and environmentalists. In 1979, distinguished scientists like Barbara M. McClintock and Anton E. Lawson were listed as members of the *ABT* Review Panel. The "NABT Profile" reflecting this structure was published in the *ABT* (vol. 40, no. 6, September 1978) and in the Chicago convention program. As the 1970s ended, NABT had 6,253 members and journal subscriptions

of 4,299. Income for the year was \$296,042, with an excess of \$6,900 (Jeffers & Lightner, 2001).

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