

With increases in membership, advertising, and activities, the 1960s brought about positive changes within NABT. The publication of two BSCS versions (Green and Blue) had a significant impact on biology education, and NSF was promoting teacher professional development experiences throughout the country. These changes are reflected in both *ABT* and *News & Views*.

### ○ The Changes

With NABT growing, and the work distributed to volunteers across the country, organizing the “28,000 pieces of correspondence, processing of over 8,000 memberships and subscriptions, selling back issues of the journal and dozens of other responsibilities” became unmanageable. In response to the “chaos,” President Muriel Beuschlein (1962) asked Dr. Jerry Lightner, a teacher in Great Falls, Montana, to become acting secretary-treasurer. With Lightner in this position, structure came to NABT. However, it was not until 1 July 1965 that Lightner began his tenure as the full-time Executive Secretary of NABT. For 27 years, volunteers – most of whom had full-time teaching positions in addition to their work for NABT – administered NABT (Jeffers & Lightner, 2001). Reflecting on this change, Paul Klinge, *ABT* editor (1959–1969), pointed out that with the appointment of an Executive Secretary “good officers and leaders are still important” (Klinge, 1966b).

With a central office and a full-time executive, a new constitution and set of by-laws were written. The 25th Anniversary was celebrated, and the first independent NABT Convention was held in 1968 in Anaheim, with attendance over 2,800. NABT was one of the first organizations to use the new Anaheim Convention Center adjacent to Disneyland, with the Disneyland Hotel serving as convention headquarters (Jeffers & Lightner, 2001).

### ○ New Ideas

In the early 1960s, the NABT Board of Directors established the Outstanding Biology Teacher Award program (OBTA). Dr. Robert Yager (NABT President 1970–1971), currently Professor of Science Education, University of Iowa, became the first OBTA director. He was successful in getting the awards recognized in all states (R. Yager, pers. comm.) This was quite an accomplishment without the electronic communications we have today.

The early 1960s also produced some ideas that resurface periodically within NABT. One idea was the Foundation for Excellence in Biological Education (FEBE). This would be a private foundation that would solicit funds from individuals and industry to support OBTA

and other special NABT projects. A second idea was the production of single-topic paperback books built around reprints of articles from *ABT* (Jeffers & Lightner, 2001). After the success of the microbiology special issue in the June 1960 *ABT*, special-topic issues flourished in the 1960s. The October and November 1963 issues of *ABT* focused on “Space Biology”; the August 1965 issue focused on “Radioisotopes in Biological Research Teaching”; and the August 1966 issue’s topic was “Plant Pathology.” These special issues were sponsored by scientific societies. *ABT* special-topic issues continue today, but they are not sponsored by scientific societies. It was under Paul Klinge’s editorship that *ABT* changed format, increased in pagination and issues, developed special issues, and changed the balance and types of articles. Color first appeared on the cover of *ABT* in January 1962 as green A, B, T.

### ○ Relevance of Biology Education

Many of the editorials of the 1960s reflect on the importance of biology education from the perspective of its relevance to society. In his October 1966 editorial, Klinge points out that professional researchers must be able to explain issues to decision-makers and that biologists must educate adults to vote wisely (Klinge, 1966c). Later, he asks “How shall we make biology a valuable instructional time so as to help future citizens tackle and wisely solve the big biological problems of our time and the future...?” (Klinge, 1969b). Glenn E. Peterson (NABT President 1978) of BSCS wrote in the November 1968 editorial, titled “The challenge of our times,” that teachers need to give students information about food supplies, birth control, pollution, behavior, and disease (Peterson, 1968). The nature of the student was also considered in Klinge’s editorials. The January 1966 editorial emphasized education for all and urged recruiting biology teachers for the 20% of the students who had difficulty meeting success in school. He makes the case with the statement that “through education comes freedom.” The January 1969 editorial emphasizes that national policy requires that our efforts be directed to the whole spectrum of education’s clientele (Klinge, 1966a, 1969a).

### ○ BSCS, NSF, *ABT* Editorials

With the advent of BSCS, biology teachers found themselves in one of two camps: the descriptivists and the experimentalists. Phillip R. Fordyce (NABT President 1963) sounded an alarm about this division in his editorial “Rushin’ menace.” On this new approach he quotes Paul Brandwein: Isn’t it our task as teachers to *uncover* rather than *cover* it? (Fordyce, 1962). Sound familiar? Those who

remember the introduction of BSCS curricula know that they were a complete departure from the most widely used phylogenetic approach and had a significant effect on all future biology texts. Many teachers first learned about the BSCS curricula through advertisements for BSCS Green and Blue versions appearing in *ABT* in the 1960s.

Paul Klinge praised the NSF Institutes that supported this new curriculum but was concerned that what was being taught was not being practiced in the classroom of those teachers who participated in the Institutes (Klinge, 1964). Kenneth Bush went further, saying that it is “easy to teach a body of facts” but teachers need assistance with laboratory activities, which require a tremendous amount of teacher time (Bush, 1964). These new curricula prompted the increase in the teaching of evolution and the use of live plants and animals. Arnold Grobman (NABT President 1966) saw that these increases also resulted in court cases (Grobman, 1966). It was now obvious that evolution was central to biology teaching, as described in the December 1967 *ABT* featuring “Evolution and Teaching.”

## ○ Looking Back to Appreciate What Is Now

You might have some fun thumbing through the *ABT* issues of the 1960s. The March 1964 *ABT* described teaching tools: overhead projector, tape-slide programs, masonite chips for DNA, time-lapse photography, flipping coins for genetics, and pegboards. The April 1964 issue described a mechanical smoker for kymograph drums and had ads for filmstrips. Don't forget the self-threading 16-mm and cartridge-loading 8-mm projectors. Those were the “good old days”?

## ○ Future Trends

Predicting the future is always a guessing game, but some of the authors in *ABT* were not shy. Klinge expected that NABT would be publishing two journals to meet the diverse needs of the members (Klinge, 1969c). In the February 1962 issue, a short update on page 90 stated that “A wide array of scientific and technical information in libraries and information centers would be available to researchers faster under an Air Force proposal to establish a materials processing capability” (Anonymous, 1962). Could this be the forerunner of the Internet? Then there is Donald W. Stotler, who in the November 1969 *ABT* took on the idea of “Biology Teaching – 2000 AD.” His first prediction about biology teaching is that “Probably it will no longer be a separate function since biology will likely be absorbed into some larger pursuit” (Stotler, 1969). His arguments are interesting to read.

## ○ The 1960s Teach Us about Excellence in Biology Education

The impact of molecular biology and the importance of opportunities to develop an understanding of the process of science helped to inspire a generation of biology educators. They became more active

in NABT, and the organization grew under the leadership of Jerry Lightner, the first Executive Secretary. Under the *ABT* editorship of Paul Klinge, members were kept up-to-date with new approaches to teaching and learning and were alerted to some of the difficulties in teaching topics such as evolution and ecology. The 1960s provide a model of a vibrant organization built and maintained through an active membership. Just as today, NABT relies on active, engaged members to grow the organization. Be inspired by the 1960s – get involved to move NABT to an even better future for biology education.

## ○ Acknowledgment

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