

A look back to the biology research that preceded the 1950s reveals major developments in the area of molecular biology and the nature of the gene. So it is no surprise that the NABT History Committee would ask the question, when is DNA addressed within *The American Biology Teacher*? NABT History Committee member Maura C. Flannery, former author of *ABT*'s "Biology Today" column, took a look, and here is her report on the 1950s.

### ○ The Search for DNA

We chose to focus on the 1950s for the simple reason that we wanted to find the first mention of DNA. Well, if I had thought about it, I would have realized that DNA would be mentioned long before its structure was determined in 1953 because its presence in chromosomes was known for a long time. The first *ABT* mention of DNA's structure came in 1958, in an article by Donald Dean of Baldwin Wallace College on how to create a model of the molecule.<sup>1</sup> I was particularly pleased to find this reference to Dean because he was one of my first friends in NABT and was an important and long-term supporter of the organization.

### ○ *ABT* in the 1950s

In the 1950s, *ABT* was slender, printed in black and white, and had a no-nonsense appearance with black-and-white photos on the cover (Figure 1). The heart of the 1950s *ABT* was the same journal we know today. There were articles by NABT presidents on the state of the organization; there were book reviews, discussions of topics from plants to bacteria, and, of course, how-to articles. The content was sparser than it is today, but it was still solid. The biggest success was the June 1960 *ABT*. It was a special issue entitled "Microbiology in Introductory Biology"; eventually, more than 50,000 copies were published, making it the single most popular issue of the journal.<sup>2</sup>

In a number of the issues I reviewed, there was a column on Biology Laboratories written by someone who called himself "The Old Fossil," of Lane Technical High School in Chicago. In 1951, he offered free to those interested some extra copies he had of *Lane Tech Handbook of Victory Gardens*, a booklet published during World War II.<sup>3</sup> So in the 1950s, there were reminders of the past, as well as prescient articles on the molecular future of biology.

*ABT* articles of the time suggest that the biology teachers of over 50 years ago encountered many of the same problems we have today, despite the fact that they didn't have to deal with texting and iPods. Kenneth Crook wrote of the spelling mistakes he'd encountered in reading his college biology students papers.<sup>4</sup> Many of these errors would seem very familiar to anyone teaching today. There was another article on collaboration between a science and an English teacher,

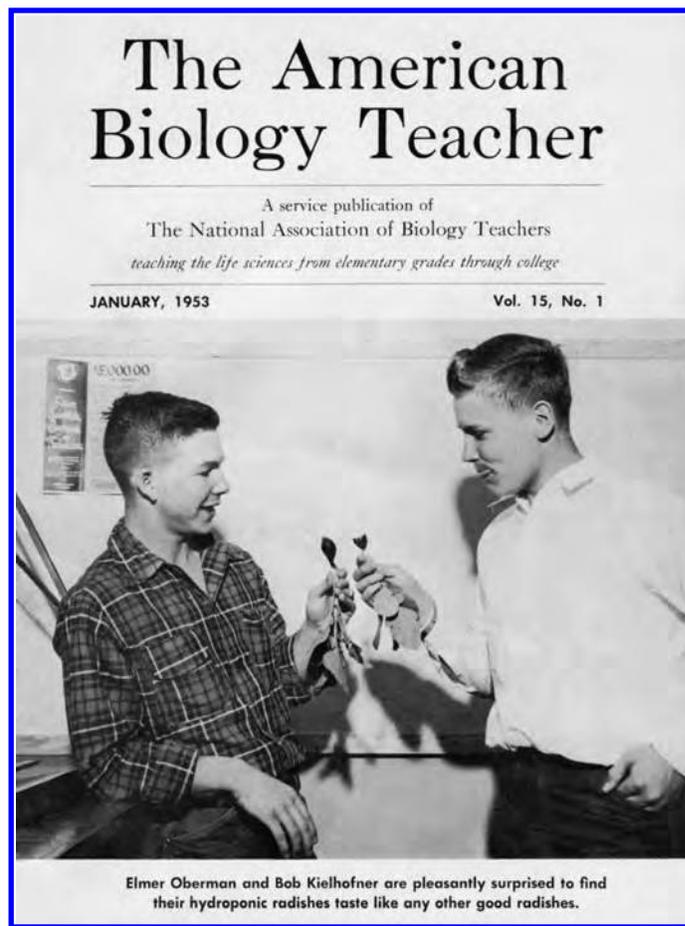


Figure 1. A sample issue from the 1950s.

perhaps a forerunner of what is now called "writing across the curriculum." In several issues there was a column called "Books for Busy Biologists" – it doesn't seem that the job was any easier back then.

### ○ Hints of Future Trends

There are some hints of future trends, such as an interest in the environment. In 1959, the NABT Conservation Committee published the *Manual for Outdoor Laboratories – Development and Use of School Grounds as Outdoor Laboratories for Teaching Science and Conservation*. This 82-page workbook was sold for \$1.25.<sup>2</sup> In *ABT*, there is a news piece noting that the whooping crane population had risen to 29, thanks to the addition of four chicks. In another bird-related entry, John Terres, the long-time editor of *Audubon*, sent a letter to the *ABT* editor suggesting that biology teachers might like to contribute

articles to his magazine; he was searching for good writers who knew biology.<sup>5</sup> In reference to another type of search, B. H. Carleton wrote on what to look for in hiring a biology teacher:

Certain minima are taken for granted, such as knowledge of the subject, technical ability to teach effectively, and suitable personality.... There are three important factors involved: (1) the ultimate aim of the teacher; (2) the kindness of the teacher (the teacher is either on 'our side' or not, the students feel); and (3) the total effect of the teacher's presence on the school as a whole.<sup>6</sup>

With a nod to the future of the discipline, there was an article in 1956 by a high school student, Bruce A. Sherwood, on preparing for a career in science. Bruce did in fact pursue such a career, but he became a physicist rather than a biologist.<sup>7</sup> In any case, his article and many others made very interesting reading for the NABT members during the 1950s.

### ○ Looking Back to Plan the Future

ABT has long been interested in documenting the history of the organization. In 1959, Oscar Riddle wrote a piece on the early years of NABT. In recalling the formation of NABT, Riddle commented that our birth date, July 1, is an important date in biology for another reason. On July 1, 1858, Darwin and Wallace jointly announced their

idea about the evolution of species to the Linnaeus Society. When NABT was celebrating its 20th birthday in 1958, evolution by natural selection as proposed by Darwin and Wallace was a century old.

In congratulating NABT on its accomplishments during the first 20 years and reflecting on the urgency for science education after Sputnik, Riddle expressed ideas that fit today:

[T]his Association has attained maturity. And I very greatly prize the chance to congratulate you. What is most pleasing is that you have movement and muscle in a time of urgent need. Yours is a part of an area of learning and science that has become vital to our national strength....<sup>8</sup>

### ○ NABT in the 1950s

In 1955, Brother H. Charles of St. Mary's College in Winona, Minnesota, prepared and edited a newsletter that *Ward's Natural Science* mailed along with the *Ward's Bulletin* to their readership. This newsletter developed into our current *News & Views*. It was at this time that members became aware that "college people" were dominating the organization. John Harrold, NABT President 1956, pointed out that the founders designated this organization for secondary teachers. To bring about an increase in teacher participation, Bob Smith was appointed Chair of the Membership Committee and convinced Denoyer-Geppert Company to print 25,000 NABT membership brochures, which were distributed

# THE EARLY BIRD



across the country. Within 5 years, NABT membership doubled.<sup>9</sup> NABT found that corporations were willing to help this young organization become established. The Ward's Natural Science advertisement can be found on the back cover of the initial issue of *ABT*. The company remains one of NABT's Sustaining Members today – a 75-year relationship for which NABT is grateful.

It was in the 1950s that NABT was officially incorporated, joined AIBS, and had a membership of 6000. The second decade brought stability, recognition of NABT's importance for science education, and a promise of more positive things to come.

## References

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## Biology Activities in the 1950s

- 1951 – Cholesterol is linked to atherosclerosis.
- 1952 – Salk produces polio vaccine.
- 1953 – Watson and Crick describe DNA.
- 1955 – Physicians report that smoking harms the heart.
- 1955 – First kidney transplant.
- 1956 – Scientists demonstrate how living things make steroids.
- 1957 – Sputnik, the first space satellite, is launched by the Soviet Union.
- 1958 – Biological Sciences Curriculum Study is founded.
- 1958 – Diabetes is found to be two distinctly different diseases: Type 1 (no insulin made) and Type 2 (body not using insulin well).
- 1958 – The First National Conference on Air Pollution occurred.
- 1959 – Scientists discovered that viruses can use the cell's machinery for reproduction.
- 1959 – Louis Leakey finds skull of oldest hominid at the time, *Zinjanthropus boisei*.
- 1960 – Sydney Brenner shows existence of RNA.
- 1960 – Successful transplant of bone marrow from one woman to another woman.

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