BIRTH OF A TEXTBOOK

Writing a textbook is laborious work and is done for love, not for monetary rewards

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The first rule of textbook preparation could go something like this: “If you knew what you were going to go through, you’d never write one,” according to first-time textbook author David W. Ball, associate professor of chemistry at Cleveland State University.

Another first-time author, I. David Reingold, professor of chemistry at Juniata College in Huntingdon, Pa., told himself that he would never write a textbook. Plus, he swore that if he ever did write one, he would certainly never teach from it because it would already include all his best examples, explanations, and jokes. But when he finally got frustrated by the lack of a suitable textbook for the freshman-level organic course that Juniata offers instead of a typical general chemistry course, Reingold had to eat those words.

These two professors and countless others have taken the plunge and written textbooks. What compels them to devote so much of their time to this arduous task? What are their experiences when they do?

To answer those questions, C&EN spoke with the authors of four new first-edition textbooks. These books include one textbook each in general chemistry, organic chemistry for freshmen, physical chemistry, and biochemistry.

Two of the books—Ball’s “Physical Chemistry” and Reingold’s “Organic Chemistry: An Introduction Emphasizing Biological Connections”—were written by newcomers to the business of publishing textbooks.

When Ball first started teaching at Cleveland State in 1990, he didn’t like the physical chemistry textbook the university was using. Neither did another of his colleagues who started at about the same time. “We didn’t care for certain ways the material was presented or what material was presented,” Ball says. The next year, they switched to another text, but they weren’t satisfied with that one either. In his first five years, Ball estimates that he taught from four different physical chemistry texts.

One of his complaints about most physiological chemistry texts is that they are “encyclopedias masquerading as textbooks.” Professors and graduate students like them because they make good reference books, Ball says. However, “my experience is that students don’t like them as the first-time textbook at an undergraduate level,” he says.

Finally, he decided to write his own. He wrote sample chapters and got contract offers from two publishers. “When I signed a contract, I was forced to write the rest of it,” he says. To avoid re-creating the type of encyclopedic tome he dislikes, Ball left out “specialty topics” such as molecular beams and photochemistry, focusing instead on “developing the core topics,” he says.

Like Ball, Reingold got into textbook publishing because existing books didn’t suit him. Juniata had changed its curriculum so that the introductory chemistry course focused on organic chemistry. The faculty believed that such a class prevented the first-year chemistry course from being a repeat of high school chemistry. In addition, organic chemistry seemed more relevant to the biology majors who also take introductory chemistry.

To make it appropriate for all students as a first course, content for the organic class was scaled back. “We took the content of a typical sophomore organic course and dumped everything the biologists don’t need,” Reingold says. “Then we added a bunch of introductory material because they haven’t just finished a year of freshman chemistry.” (Chemistry majors take an additional organic class in their junior year to hit the rest of the topics found in a traditional organic class.) For the first five or six years of the new approach, Reingold taught his class using existing books. But he found them to be unsatisfactory because they lacked sufficient introductory materials and contained many topics that biologically oriented students don’t need. He made do by writing his own introductory materials to augment the organic texts.

Finally, he realized that nobody else would write the textbook he wanted, so he