The Origins and Evolution of the College Science Textbook

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College science textbooks, developed and published for specific college and university courses, originated in the US after the Second World War. Their origins and evolution are described, and the reasons why mainstream American texts dominated international markets during succeeding decades explained. One textbook written and published in the UK in 1978, Atkins’s *Physical Chemistry*, broke into this competitive marketplace, becoming, and today remaining, the leading textbook in its field in the world. The story of how the Atkins text managed this feat is described. Finally, the future of the college science textbook, as the publishing industry faces the challenges of the internet age, is considered.

Keywords: publishing history, textbook development and publishing, college publishing, textbook history, science textbooks

A few years after retiring from book publishing, I decided to set down for a general audience an account of life as a commissioning editor in science. The result, *Publishing and the Advancement of Science: From selfish genes to Galileo’s finger* (Rodgers, 2014), deals with two sorts of publishing, ‘trade’ and ‘college’. An outsider might allow the possibility that the stories behind the publishing of some successful popular science books could perhaps tweak the interest of the general public.
reader, but textbooks? Could there really be anything about the world of science textbook publishing capable of captivating the imaginations of non-specialist readers? The answer is actually yes.

What we would recognize as science textbooks first appeared several hundred years ago (see, for example, Hannaway, 1975), but college science textbooks, meaning those developed and published with specific college and university courses in mind, originated in the United States after the Second World War. The big course textbooks that resulted from these developments were reasonably priced, a consequence of the healthy print runs made possible by a large domestic market, and they dominated international markets during succeeding decades. Was it possible for a mainstream college science textbook written by a British author and published in the UK to break into and succeed in this competitive international marketplace? This account of the origins and evolution of the college science textbook includes the story of how one book managed this remarkable feat: Peter Atkins’s Physical Chemistry, which, following the publication of its first edition in 1978, became, and remains, the leading physical chemistry textbook throughout the world.

The Origins and Early Days of College Science Publishing

In 1982, I reviewed John Hammond Moore’s book Wiley: One hundred and seventy-five years of publishing for Nature. Being an official company history, it was written in an earnest, respectful style, but I found one of its strands absorbing: the evolution of the college science textbook. ‘College’, a generic term first coined in North America to mean post-secondary education, was adopted by the publishing industry to refer to the area of business devoted specifically to textbooks. The story of the college science textbook as big business essentially began in the 1940s when the US government enacted its GI Bill of Rights. This entitled veterans of the Second World War to educational assistance, thus boosting the demand for college textbooks which had begun in the early 1940s and which in turn arose from the armed services’ large-scale provision of technical training. The bonanza for American textbook publishers came to an abrupt end in 1948, and not simply because the last of the ex-GIs had completed their college education. The boom had fostered complacency, since little effort was required on the part of publishers to satisfy returning GIs who were prepared to put up with dull, old-fashioned textbooks. Their successors straight from school were more particular. Textbook publishers found that they would have to mend their ways, and gradually they did.

Textbooks in the early days were the result of the buckshot approach: the publication of books with a broad appeal that might be adapted to specific course needs. In the 1950s, the search for the customer began after a textbook had been produced. In those days, the role of basic introductory textbooks in providing a reliable and substantial backlist income for the publisher was yet to be fully appreciated. Things began to change during the 1960s and the ‘development’ of science textbooks became more professional: in the United States the era of college publishing had begun. A pair of figures relating to a shift in Wiley’s share of the college market during the 1960s rubs the point in. In 1961, their list contained 18 college titles with annual sales of 10,000 copies or more; by 1971, the figure had risen to 46.

The Wiley company history provides a fascinating glimpse of the genesis of a famous science textbook published in 1960, Halliday and Resnick’s Physics for Students of Science and Engineering. What a prosaic title! Why did it become famous? All mainstream science textbooks have prosaic titles—they are simply the titles of the course for which they have been developed—but the books themselves are never referred to by their titles, but by the names of their authors. ‘Halliday & Resnick’ became famous because it sold in prodigious quantities, and thus made real money for the authors and the publisher.

How do the really successful textbooks, and ‘Halliday & Resnick’ is one, actually begin life? It is a chancy business, for all the talk there may be about careful planning; the right author and the right editor must come together just when the market is ready for what they will eventually develop. Towards the end of 1954, one of Wiley’s college editors, Robert B. Polhemus, happened to be visiting Resnick at the University of Pittsburgh. A number of publishers had been urging Resnick and his departmental colleague Halliday to turn their lecture notes into a textbook. Polhemus noted this in his report to Wiley’s New York office, continuing.