

BOOK REVIEWS

The Periodic Table and a Missed Nobel Prize, Ulf Lagerkvist (Erling Norrby, Ed.), World Scientific, Singapore, 2012, xii + 122 pp, ISBN 978-981-4295-95-6, \$22.

The cover of this small volume proffers a juxtaposition of tantalizing topics. The periodic table is an area of evergreen interest to chemists, and the appeal of Nobel Prizes extends well beyond chemists. The title promises a tale of Nobel glory denied and the cover shows that Mendeleev was the person so denied. Unfortunately, however, much of the book is peripheral to what the title portends—although much of it is interesting in its own right. The disconnect between the book's title and its contents may leave readers disappointed, though; it left me disappointed.

Having led with an assessment that is hardly a ringing endorsement, I feel a bit churlish in criticizing the work of a posthumous author; after all, Prof. Lagerkvist (1926-2010) cannot defend his work. Indeed, it is difficult to fault the author, the editor, or the publisher for the book's deficiencies. After all, the editor and the publisher acted to make sure that Lagerkvist's last work came to fruition. At the same time, Lagerkvist cannot be faulted for a work that may not have been ready for publication or that may have changed in focus over the course of writing.

The story of the book and a brief biography of the author are recounted in editor Erling Norrby's foreword. Lagerkvist was a biochemist, a member of the Royal Swedish Academy, and a reviewer for Nobel committees in chemistry. After his retirement, he turned to writing, including memoir, popular science, and history of science. Shortly before his death in 2010, he was awarded a grant to publish a book with World Scientific entitled *The Bewildered Nobel Committee*—a book that turned

into the one reviewed here. Norrby's foreword got the book off to a good start, presenting interesting material unlikely to be already familiar to its readers. And if the foreword was not strictly on the topic defined by the book's title, it was certainly relevant to the circumstances surrounding the very publication of the book.

The main text comprises three sections titled "Elements, Atoms and Molecules," "Atomic Weights and their Relation to Chemical Properties of the Elements," and "The Elusive Nobel Prize." One might expect from the book's title that these sections correspond to a pre-history of the periodic law, the development of the periodic law, and the Nobel prize not awarded to Mendeleev. Certainly the middle section fits such a scheme, but the first and last sections include much trekking far afield.

The first section gets the main text off to a somewhat inauspicious beginning. Its brief treatments of Giordano Bruno, alchemy, and the phlogiston theory are rather distant from the title topics, even as background for the development of the periodic table. Furthermore, these topics are treated more as symbols than with the contemporary historical sensibility of trying to understand the past in its own context. Bruno, for instance, "has become a symbol of the free and independent scientist" even though, as the next sentence notes, "he was a mystic and a poet rather than a scientist." The phlogiston theory is said to have warped chemistry until Lavoisier overturned this "Alice-in-Wonderland kind of chemical thinking."

The latter portion of the first section and the whole of the second have the virtue of treating one of the book's major topics, the development of the periodic table. That material is undermined somewhat by a number of errors

and by the fact that most of the information is widely available from other sources (and likely, therefore, to be already familiar to many readers). The errors are mostly minor, such as persistent misspelling of Avogadro and a misidentification of Mendeleev's second (improved) published periodic table as his original. There is also a significant misstatement that Mendeleev predicted three noble gases to fill atomic weight gaps. The fact that later in the book the author states that noble gases were unsuspected by Mendeleev leads me to believe that this error—and perhaps others—would have been caught by the author in the course of revisions and proofs if he had had the opportunity.

The third section, comprising about half of the book's main text, contains much material that is both interesting and likely to be unfamiliar to its readers. Most of this final section describes the Royal Swedish Academy of Sciences from its founding through the early days of the Nobel Prizes. I enjoyed reading this material, focused on the heroes of early Swedish science and their successors, some of whom (Linnaeus, Scheele, Berzelius, and Arrhenius) became leading figures in European science even though they operated on its periphery.

The last ten pages of the section tell the story of the failure of the Swedish Academy's Nobel committee to make Mendeleev a Nobel laureate. Much is made in this section of the provision under which the Nobel

Prizes were to recognize recent achievements as a reason why Mendeleev was not even nominated in the very first years of the prize: the periodic table was too old and well established for his accomplishment to be considered recent. Then the Nobel Prize awarded to William Ramsay in 1904 cited both the discovery of the "inert" gases and their placement in the periodic system. This apparently put the periodic system back into the minds of the Nobel committee and provided grounds for recognizing one of its principal inventors—recent research (namely Ramsay's) having shed new light on the significance of Mendeleev's work. Mendeleev was nominated for both the 1905 and 1906 prizes, and indeed was initially the favorite of most of the committee for the 1906 award. How that award came to be bestowed upon Henri Moissan is described in some detail. Mendeleev died early in 1907, making him thenceforth ineligible for consideration.

In sum, readers informed about the contents of the book will find that there is much to like in this slim volume. Readers who judge the book by its cover, however, may well be disappointed.

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