



Faszination Chemie. 7000 Jahre Kulturgeschichte der Stoffe und Prozesse. By *O. Krätz*. Callwey, Munich 1990. 331 pp., hardcover DM 148.00.—ISBN 3-7667-0984-4

When a book begins with a dedication "to the memory of Don Domenico Emanuele Cajetano, Count Ruggiero, Prince of Salerno... whose association with the mighty of this world, was to me, despite his sad end, a shining, though unfortunately never attainable, example. And remains such. Wherever the hangman at Küstrin in 1709 may have thrown his poor raven-gnawed remains, may God make the earth light for him!" you know that you are going to face neither a boring chemical text nor a pretentious art critical analysis.

Indeed, this dedication is an indicator of the wonderful style of the author of this book, *Otto Krätz*. In full command of the history of our science, he brings chemistry to life because it is a living enterprise to him. So within the book you will not only read *Cajetano Ruggiero's* story, but also be faced with the wall paintings, on religious and alchemical themes, with which this alchemist, master of deceit and the politics of his time, decorated a cell in which he was once imprisoned. And you will see reproduced a broadside announcing *Ruggiero's* demise.

To *Krätz* the history of chemistry is one with its present. He tells the story of the transformers of matter with style and wit—with an understated humor I will dare call British. And with a fantastic hoard of illustrations, drawn often from artifacts or books at the Deutsches Museum, where he has long worked (and obviously had fun...).

Especially strong is the extended discussion of alchemy, long a problem for chemists who would like to take the protochemistry, smile at the deceit, and forget the philosophy that powered this world view. *Krätz* does alchemy justice. He also has a wonderful, informed discussion of early synthetic materials. Here and nowhere else, you can learn about "Walosin", a synthetic fishbone for corsets, and the remarkably beautiful plastics from milk products. Hundreds of illustrations, some in the text, but most gathered in a section occupying over half the volume, grace this book.

My only disappointment is that Dr. *Krätz's* story of our science by and large ignores the spiritual essence of the past century of chemistry. This is the molecule. It is true the external world still sees substances, too many of them, and their transformations. But in the mind of the chemist, even the most applied one, today roams freely the image, replete with distances, angles, bonds and functional groups, of the molecule. He or she, that imagined chemist, knows and thinks of matter transforming molecularly on the microscop-

ic scale. The author of this book shows us *van't Hoff's* models and a perfunctory α -helix. But nothing more of the way a chemist views the world today. It's a missed opportunity.

But this is a minor complaint about a truly beautiful book. It should be read by all, given as a prize to outstanding high school students the world over. It would make a lovely present by a chemist to her husband's non-chemist parents. "Faszination Chemie" makes wonderful episodic reading. With *Otto Krätz* as a witty, informed guide we see chemistry as an integral part of world culture, created by real people changing the stuff of this beautiful world.

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The Chemistry of Organophosphorus Compounds. Vol. 1: Primary, Secondary, and Tertiary Phosphines, Polyphosphines, and Heterocyclic Organophosphorus(III) Compounds. Edited by *F. R. Hartley* (Series: The Chemistry of Functional Groups, Series Editor: *S. Patai*). Wiley, Chichester 1990. XIV, 739 pp., hardcover £ 185.00.—ISBN 0-471-92607-8.

This first volume of a four-volume series on "The Chemistry of Organophosphorus Compounds" was published in 1990 as part of the renowned series "The Chemistry of Functional Groups", edited by *S. Patai*. Many years have passed since the last major handbooks on the organic chemistry of phosphorus were published and, therefore, a new comprehensive work in the area of organophosphorus chemistry is certainly welcome. The seven-volume handbook "Organic Phosphorus Compounds", edited by *G. M. Kosolapoff* and *L. Maier*, appeared in the 1970s, and even the phosphorus supplements of the Houben-Weyl series are almost ten years old.

Primary, secondary, and tertiary phosphanes, as well as heterocyclic phosphorus(III) compounds, are treated in this first volume. The second volume, planned for 1992, will cover phosphane oxides, sulfides, and selenides. Phosphonium salts, ylides, and phosphoranes are the subject of the third volume, and phosphonous, phosphinous, phosphinic, and phosphonic acids, as well as their halogen derivatives, will be dealt with in the fourth and last volume.

It is difficult to judge the overall handbook just on the basis of the first volume, although certain tendencies are apparent and are bound to characterize the entire handbook. The first volume begins with an introductory chapter written by the editor, *F. R. Hartley*. The following chapters cover organophosphorus(III) compounds in terms of such general topics as structure and bonding, electrochemistry, free radical reactions, and thermochemistry (including here not only organophosphorus compounds). Phosphane complexes of transition metals and the biochemistry of phosphanes are also considered. These chapters, as well as those treating particular classes of compounds, are written by experts in the field.

The chapters are, in part, very detailed, clearly written, and well organized. Coverage of the literature is extensive but not exhaustive; even the recent literature is taken into account. Several chapters are almost monographs and are well suited to give an overview of a particular area.