

Book Reviews

Chemistry Today and Tomorrow: The Central, Useful, and Creative Science. By Ronald Breslow. American Chemical Society, Washington, DC. 1997. ix + 134 pp. 18 × 25.5 cm. ISBN 0-8412-34640-4. \$19.95.

"We often hear about 'toxic chemicals' or 'chemical pollution' without hearing about the absolutely central role that chemistry plays in human well-being. In this book I attempt to present a more balanced picture," explains Ronald Breslow in his preface to this volume, written to include an audience of "students who might enter careers in science". And in many ways he has achieved his goal in this slim treatise, once one gets past the arrogance of the title.

The book consists of eight chapters that briefly introduce chemistry in general, medicinal chemistry, chemical contributions to everyday life, environmental aspects, computers and chemistry, enzymes and catalysts, synthetic chemistry, and structural chemistry. The exposition is presented as a Socratic dialogue, in which questions such as "How do medicinal chemists design or discover medicines?" are posed and then answered. These complex topics are lucidly explained in relatively simple language and are attractively illustrated by many useful color pictures and graphs and even some chemical formulas. Each chapter concludes with a section entitled "The Future".

After the appalling exhibit on chemical science at the Smithsonian in 1995 (the development of oral contraceptives was presented as an attempt at black genocide), one can certainly agree with the author that clarification is needed, and on that basis his book might be just the right birthday gift for a favorite teenage niece or nephew. But in his zeal to extol the importance of chemistry, Breslow adopts an elitist stance that diminishes his message. To proclaim chemistry as "the" central, useful, and creative science is bad enough, but what is one to make of "chemistry remains the leader by far in its concern with all that is possible in the world, not just that which is found in nature"? Tell that to a molecular biologist or mathematician! And "in modern pharmaceutical companies about half of the research scientists are chemists" may have been true of Syntex in the 1960s, but surely not of Genentech in the 1990s.

What is lost in all of this is the importance, the effectiveness, and the joy of modern interdisciplinary research, and the interdependent role of chemists in the teams that carry it out to provide the societal benefits that are discussed in this book. An understanding that no single science has preeminence in matters of utility and creativity is crucial to young people considering

chemistry as a career, and they should know that the success of a research team depends on a high degree of mutual respect in its members. Although the "centrality" of a particular science may not exist any longer (if indeed it ever did), interdependence is not really new to science either; more than 300 years have passed since Newton wrote "If I have seen further, it is by standing on the shoulders of giants".

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Books of Interest

Advances in Experimental Medicine and Biology. Platelet-Activating Factor and Related Lipid Mediators 2. Volume 416. Roles in Health and Disease. Edited by Santosh Nigam, Gert Kunkel, and Stephen M. Prescott. Plenum Publishing Corporation, New York. 1996. xiv + 401 pp. 17 × 25.5 cm. ISBN 0-306-45506-4. \$120.00.

Methods in Molecular Biology. Volume 83. Receptor Signal Transduction Protocols. Edited by R. A. J. Challiss. The Humana Press, Totowa, NJ. 1997. xi + 275 pp. 17 × 23 cm. ISBN 0-89603-418-6. \$69.50.

Methods in Molecular Biology. Volume 74. Ribozyme Protocols. Edited by Philip C. Turner. The Humana Press, Totowa, NJ. 1997. xiv + 492 pp. 16 × 23.5 cm. ISBN 0-89603-389-9. \$74.50.

Learning More Biochemistry. 100 New Case-Oriented Problems. By Richard F. Luduena. John Wiley & Sons, Inc., New York. 1997. xxv + 303 pp. 15.5 × 23 cm. ISBN 0-471-17054-2. \$39.95 (pbk).

Subcellular Fractionation. A Practical Approach. Edited by J. M. Graham and D. Rickwood. Oxford University Press, New York. 1997. xx + 339 pp. 15.5 × 23.5 cm. ISBN 0-19-963494-7. \$55.00 (pbk).

Ecto-ATPases. Recent Progress on Structure and Function. Edited by Liselotte Plesner, Terence L. Kirley, and Aileen F. Knowles. Plenum Publishing Corporation, New York. 1997. xiv + 294 pp. 17 × 25.5 cm. ISBN 0-306-45584-6. \$110.00.

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