



Symmetry through the Eyes of a Chemist

By Magdolna Hargittai, Istvan Hargittai

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It is gratifying to launch the third edition of our book. Its coming to life testifies about the task it has fulfilled in the service of the community of chemical research and learning. As we noted in the Prefaces to the first and second editions, our book surveys chemistry from the point of view of symmetry. We present many examples from chemistry as well as from other fields to emphasize the unifying nature of the symmetry concept. Our aim has been to provide aesthetic pleasure in addition to learning experience. In our first Preface we paid tribute to two books in particular from which we learned a great deal; they have influenced significantly our approach to the subject matter of our book. They are Weyl's classic, *Symmetry*, and Shubnikov and Koptsik's *Symmetry in Science and Art*. The structure of our book has not changed. Following the Introduction (Chapter 1), Chapter 2 presents the simplest symmetries using chemical and non-chemical examples. Molecular geometry is discussed in Chapter 3. The next four chapters present group-theoretical methods (Chapter 4) and, based on them, discussions of molecular vibrations (Chapter 5), electronic structures (Chapter 6), and chemical reactions (Chapter 7). For the last two chapters we return to a qualitative treatment and introduce space-group symmetries (Chapter 8), concluding with crystal structures (Chapter 9). For the third edition we have further revised and streamlined our text and renewed the illustrative material.

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Editorial Review

Review

Reviews of previous editions

"This has to be the most delightful book on symmetry ever written!" *F.L. Pilar, Elementary Quantum Chemistry*

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"This beautiful book... looks at symmetry as a unifying theme in the nature of things." *Mathematical Reviews*

"...gives the reader a broad perspective..." *The Mathematical Intelligencer*

"An outstanding book that succeeds admirably on a number of levels..." *Bowker's Good Reading*

"I warmly recommend it to all chemists." *Journal of Chemical Education*

"Succeeds not only in demonstrating how central [in] the study of all fields of chemistry symmetry consideration [is] but how these same concepts of symmetry can be traced through all our cultural traditions unifying and contrasting diverse endeavors in literature, music, and art." *Journal of the American Chemical Society*

"The book...to which I shall return frequently and with considerable pleasure." *Chemistry and Industry*

From the reviews of the third edition:

"This book ... is the first to include introductory chapters devoted to each of these manifestations of symmetry. ... Magdolna Hargittai and Istvan Hargittai ... provide a variety of examples of symmetry in art and decoration, and use examples from these areas throughout the book to illustrate chemical concepts. This work is useful for academic and professional chemists, and could even be of interest and possible inspiration to designers and artists. Summing Up: Recommended. Upper-division undergraduates through professionals; general readers." (A. Fry, *Choice*, Vol. 47 (1), September, 2009)

From the Back Cover

Symmetry through the Eyes of a Chemist, 3rd Edition

Magdolna Hargittai and István Hargittai are PhD's (Eötvös University), DSc's (Hungarian Academy of Sciences), and Dr.h.c.'s (University of North Carolina). They are currently affiliated with the Department of Inorganic and Analytical Chemistry and Materials Structure and Modeling Research Group of the Hungarian Academy of Sciences at the Budapest University of Technology and Economics. They are also members of the Hungarian Academy of Sciences and the Academia Europaea (London).

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About the Author

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