

1. Record Nr.	UNINA9910781938503321
Autore	Hoffmann Roald
Titolo	Roald Hoffmann on the philosophy, art, and science of chemistry [[electronic resource] /] / edited by Jeffrey Kovac and Michael Weisberg
Pubbl/distr/stampa	Oxford ; ; New York, : Oxford University Press, 2012
ISBN	0-19-991258-0 0-19-756306-6 1-283-42805-9 9786613428059 0-19-992107-5
Descrizione fisica	1 online resource (415 p.)
Collana	Oxford scholarship online
Classificazione	SCI034000
Altri autori (Persone)	KovacJeffrey WeisbergMichael
Disciplina	540
Soggetti	Chemistry - Philosophy Communication in science Art and science
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Previously issued in print: 2012.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Machine generated contents note: -- Preface -- Acknowledgments -- Introduction, by Michael Weisberg and Jeffrey Kovac. -- 1 Trying to Understand, Making Bonds, by Roald Hoffmann -- Part 1: Chemical Reasoning and Explanation -- 2. Why Buy That Theory?, by Roald Hoffmann. -- 3. What Might Philosophy of Science Look Like If Chemists Built It?, by Roald Hoffmann -- 4. Unstable, by Roald Hoffmann -- 5. Nearly Circular Reasoning, by Roald Hoffmann -- 6. Ockham's Razor and Chemistry, by Roald Hoffmann, Vladimir I. Minkin, and Barry K. Carpenter -- 7. Qualitative Thinking in the Age of Modern Computational Chemistry, or What Lionel Salem Knows, by Roald Hoffmann -- 8. Narrative, by Roald Hoffmann -- 9. Learning from Molecules in Distress, by Roald Hoffmann and Henning Hopf -- 10. Why Think Up New Molecules? by Roald Hoffmann -- 11. Protean, by Roald Hoffmann and Pierre Laszlo -- 12. How Should Chemists Think? by Roald Hoffmann -- Part 2: Writing and Communicating in Chemistry -- 13. Under the Surface of the Chemical Article, by Roald Hoffmann --

14. Representation in Chemistry, by Roald Hoffmann and Pierre Laszlo
-- 15. The Say of Things, by Roald Hoffmann and Pierre Laszlo -- 16. How Symbolic and Iconic Languages Bridge the Two Worlds of the Chemist: A Case Study from Contemporary Bioorganic Chemistry, by Emily R. Grosholz and Roald Hoffmann -- 17 How Nice to Be an Outsider, by Roald Hoffmann -- 18. The Metaphor, Unchained, by Roald Hoffmann, -- Part 3: Art and Science -- 19. Art in Science? by Roald Hoffmann -- 20. Science and Crafts by Roald Hoffmann -- 21. Molecular Beauty, by Roald Hoffmann -- Part 4 Chemical Education -- 22. Teach to Search by Roald Hoffmann -- 23. Some Heretical Thoughts on What Our Students Are Telling Us, by Roald Hoffmann and Brian P. Coppola -- 24 Very Specific Teaching Strategies, and Why They Work, by Roald Hoffmann and Saundra Y. McGuire -- Part 5 Ethics in Science -- 25. Mind the Shade, by Roald Hoffmann -- 26. Science and Ethics: A Marriage of Necessity and Choice for this Millennium," by Roald Hoffmann -- 27. Honesty to the Singular Object, by Roald Hoffmann -- 28. The Material and Spiritual Rationales Are Inseparable, by Roald Hoffmann -- Index.

Sommario/riassunto

"Roald Hoffmann's contributions to chemistry are well known; this Nobel laureate has published more than 500 articles and two books. As an "applied theoretical chemist," he has made significant contributions to our understanding of chemical bonding and reactivity, and taught two generations of chemists how to use molecular orbitals for real chemistry. Less well known, however, are Hoffmann's important and insightful contributions to the areas of scholarship surrounding chemistry. Over a career that spans nearly fifty years, Roald Hoffmann has thought and written copiously about the broader context of chemistry and its relationship to the arts and poetry. This book contains Hoffmann's essays and is organized around several major themes: chemical reasoning and explanation, writing and communicating in science, ethics, art and science, and chemical education. A few are unpublished lectures that are valuable additions to the volume. The editors have the full cooperation of Roald Hoffmann in this project. Most of the published work will be reprinted verbatim, but a few of the essays will be revised to eliminate redundancy. The unpublished lectures will also be edited since they were originally intended to be delivered orally at specific occasions. The editors will provide an introduction to the book, and some introductory material for each section. In introducing the material, they will highlight the intrinsic importance and interest of the ideas, as well as the places where Hoffmann's thought makes novel contributions to cognate areas"
