



# The ACS Style Guide



▶▶▶▶▶ THIRD EDITION

# The ACS Style Guide

Effective Communication  
of Scientific Information

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Lorrin R. Garson  
*Editors*



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# Foreword

I fell in love with chemistry when I was 13. I fell in love with writing at the age of four when I learned to read. Indeed, my love of writing, and of writing well, was inspired by my love of reading. Perhaps that is true for all writers.

Fortunately for me, I have been able to combine my love of chemistry with my love of reading and writing in a long career as a science communicator and journalist. Most recently, I served for eight and a half years as editor-in-chief of *Chemical & Engineering News*, the flagship newsmagazine of the American Chemical Society. This gave me ample opportunity to read all of the stories in *C&EN* every week, not once but twice and sometimes three times; write weekly editorials and occasionally longer stories; and indulge my love of chemistry vicariously, as I read the scientific papers we highlighted in *C&EN*.

But writing is not as easy as reading. Writing and communicating take a great deal of skill and effort. One of my favorite quotations on the subject of writing comes from the novelist John Irving, who observed in *The World According to Garp* that a writer never reads for fun. It's true for me. When I read a sentence that is well crafted or even better, a scientific paper that is full of well-crafted sentences, I am always trying to figure out how the author managed to express a complicated idea with such ease and grace.

The goal of *The ACS Style Guide* is to help authors and editors achieve that ease and grace in all of their communications. To my mind, there's no reason why scientific papers should not be as easy to read as a good novel. That's a tall order, I realize, but if you read through this style guide, you will have all the tools

you need to help you achieve that goal. It's a wonderful reference book that I keep on my bookshelf and refer to often. I hope you will as well.

MADELEINE JACOBS  
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# Preface

Since publication of the second edition of *The ACS Style Guide* in 1997, much has changed in the world of scientific communication—and yet, many things remain the same.

During the past eight years, electronic dissemination of scientific, technical, and medical (STM) information has come to fruition. In chemistry, both the American Chemical Society and the Royal Society of Chemistry have made their scientific journals available on the World Wide Web and have digitized their respective publications back to the 19th century. Commercial publishers, who publish most of the world's chemical information, have likewise made their publications available on the Web. Publications in other scientific disciplines, engineering, and medicine have also taken this digital pathway. Whereas traditional journals continue to be printed and used, electronic delivery has greatly expanded the availability and reading of STM information far beyond what could have ever been envisioned with paper journals. Most manuscripts are now written with de facto standard word-processing software and adhere to formats developed for electronic creation and processing. Most manuscripts are submitted electronically, principally via the Internet on the Web. Communications among editors, reviewers, and authors are now largely electronic, as is communication between editors and production facilities and printers.

Regardless of the mode of information creation and delivery, the necessity for accurate information communicated in a clear, unambiguous manner, coupled with the ethical behavior of all participants, remains the same. As Janet Dodd wrote in the preface to the second edition, “In the midst of all this change, the comforting thought is that one goal of authors and editors has not changed: to communicate information in the most understandable and expedient fashion in

publications of the highest quality. To accomplish that goal, we need guidelines. This book is intended to guide and answer questions for authors and editors, to save them time, and to ensure clarity and consistency.”

## Third Edition

The third edition aims to continue such guidance while broadening the scope of the book to accommodate changes in technology and the homogenization of international scientific publishing. New topics in the third edition include chapters on

- ethics in scientific communication;
- submitting manuscripts via the Web;
- preparing and submitting publisher-ready figures, tables, and chemical structures, including information about various software programs to create artwork;
- formatting manuscript references to electronic resources and information on reference-management software; and
- markup languages, in anticipation of the classification and capture of scientific information in yet-to-be-defined structures.

The chapters on peer review, copyright, the editorial process, and writing style and word choice have been extensively rewritten. Although language certainly evolves with time, there have not been substantial changes in English during the past seven years. The chapters on grammar, punctuation, spelling, and conventions in chemistry remain largely the same as in the second edition. The use of typefaces, superscripts and subscripts, Greek letters, special symbols, numbers, mathematics, units of measure, and names and numbers for chemical compounds are generally unchanged, although some of the existing rules have been clarified. Some new rules and examples have been added to reflect new fields in chemistry, such as combinatorial chemistry and chemical biology. In all chapters, errors have been corrected (and almost certainly new errors inadvertently introduced!), and some changes have been made to reflect changes in practice, particularly as related to electronic issues.

Several features have been added to the third edition to improve the readers' ease of use:

- The contents are reorganized into two sections. The first section, “Scientific Communication”, contains chapters giving readers information on broad topics such as ethics in scientific communication, writing style and word usage, and submission of manuscripts using a Web-based system. The second section, “Style Guidelines”, contains chapters that give specific rules and examples. For instance, in these chapters readers will find infor-

mation on such topics as grammar, punctuation, and spelling; formatting numbers and specialized chemical conventions; when to use special typefaces; how to format references; and how to create figures, tables, and chemical structures.

- Throughout the book, the arrowlike icon (►) precedes rules. These rules may refer to grammar, word usage, or punctuation rules. Also, the icon may precede rules for creating publisher-ready artwork, rules about styling chemical terms, or rules about formatting names and chemical compounds. Examples are given under the rule to further illustrate it.
- Attention is drawn to particularly important topics by the use of reminders and boxes. Reminders are bounded by horizontal rules and are identified with a small pencil icon (✎); they contain a brief note on a single topic. Boxes are numbered sequentially within each chapter and contain more extensive information on a specific topic. Reminders and boxes that contain ACS-specific information are identified by a small ACS phoenix icon (◈). We believe that identification of these key issues in this manner will be helpful to readers.

Because of the desire on the part of the publisher to increase the use of the third edition of *The ACS Style Guide*, it is being made available on the World Wide Web. It is expected that periodic updates will be made to the electronic edition, which would not be feasible for the printed version. Additionally, if readers would like to request clarification of rules, they may do so by contacting the publisher at [styleguide@acs.org](mailto:styleguide@acs.org) or by addressing correspondence to The ACS Style Guide, Books Department, American Chemical Society, 1155 Sixteenth Street, NW, Washington, DC 20036.

Although *The ACS Style Guide* is written with an emphasis on chemistry and, to some extent, a focus on ACS journals, we believe that it has wide applicability to the sciences, engineering, medicine, and other disciplines. Chemistry is a mature science that cuts across virtually all basic and applied sciences.

Science in its broadest sense has always been an international activity. However, there is an increasing trend toward internationalization of scientific communication. For example, for the past several years, the majority of authors publishing in ACS journals reside outside North America. English has become the lingua franca of science in the same way that French once was the international language of diplomacy and commerce. The venerated *Beilsteins Handbuch der Organischen Chemie* has been published in English for a number of years. The prestigious journal *Angewandte Chemie: International Edition in English* conveys internationalization and the English language merely by its title. The premier publications *Science* and *Nature*, both published in English, have broad international authorship and readership. We believe that *The ACS Style Guide* will be a useful tool for the international scientific community using this common language.

## Acknowledgments

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Finally, we would like to express our indebtedness to Janet S. Dodd, who edited the first and second editions of *The ACS Style Guide*. Janet was more than the editor; she wrote much of the first two editions. Her contributions persist in the third edition.

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