

Cambridge University Press

978-1-107-69193-3 - Successful Scientific Writing: A Step-by-Step Guide for the Biological and Medical Sciences: Fourth Edition

Janice R. Matthews and Robert W. Matthews

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Successful Scientific Writing

A Step-by-Step Guide for the Biological and Medical Sciences

Fourth edition

Thoroughly revised and updated, the new edition of this acclaimed and best-selling guide offers a rich blend of practical advice and real-life examples. The authors draw on 50 years of experience, providing detailed step-by-step guidance designed to help students and researchers write and present scientific manuscripts more successfully through knowledge, practice, and an efficient approach.

Retaining the user-friendly style of the previous editions, this fourth edition has been broadened to include detailed information relevant to today's digital world. It covers all aspects of the writing process, from first drafts, literature retrieval, and authorship to final drafts and electronic publication. A new section provides extensive coverage of ethical issues, from plagiarism and dual publication to honesty in reporting statistics. Both the text and 30 hands-on exercises include abundant examples applicable to a variety of writing contexts, making this a powerful tool for researchers and students across a range of disciplines.

Janice R. Matthews is a writer and educator with a broad background in the biological sciences. Her professional focus is on facilitating clearer communication of scientific material. She has edited books, technical manuals, and hundreds of scientific research papers in the veterinary and biological sciences, both in university settings and for private industry.

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FOURTH EDITION

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University Printing House, Cambridge CB2 8BS, United Kingdom

Cambridge University Press is part of the University of Cambridge.

It furthers the University's mission by disseminating knowledge in the pursuit of education, learning and research at the highest international levels of excellence.

www.cambridge.org

Information on this title: www.cambridge.org/9781107691933

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First published 1996

Second edition 2000

Third edition 2008

Fourth edition 2014

Reprinted 2015

Printed in the United Kingdom by TJ International Ltd, Padstow, Cornwall

A catalog record for this publication is available from the British Library

ISBN 978-1-107-69193-3 Paperback

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Preface to the fourth edition

Why do scientists write? Ask a dozen, and you'll hear a lot of grumpy answers. "Because I have to!" "Haven't you heard about publish or perish?" "If I don't, I'll never get my degree/get promoted/get a grant/reach full professor!" Seldom do you hear, "Because, actually, I sort of enjoy it!" Such an admission seems to run up against a cultural taboo among academics. Researchers accept, even delight in, an associate's exhilaration about his or her discoveries, and pat each other on the back when a paper is accepted for publication or a grant proposal is funded. Seldom do they share similar enthusiasm over the actual writing process that was central to those successes. Yet in their free time, and sensing no contradiction, these same individuals may use similar skills to do crossword or sudoku puzzles for relaxation or use their electronic gadgets to puzzle over word games with friends.

There is joy to be found in any creative act, and generally the more skillful one becomes at it, the greater that joy. Why should scientific writing be any different? Could it be that science's demand that one must write has dampened or killed that joy, in the same way that being forced to do Japanese math puzzles might remove the incentive to do so for pleasure?

Scientific writing makes demands on its practitioner, like any other task done really well. Every facet demands precision and complete accuracy. Rewriting and editing generally require more time than the initial drafting of the content. Yet, does a skilled woodworker complain that sanding takes time? Or a dedicated weaver resent the accuracy required to properly dress a loom?

Scientific writing, too, is a craft, with rules, conventions, and even passing fads. The more completely one understands the basics, the easier mastery becomes. However, this is not enough. We are in a time when the basics of scientific writing and publication are changing extremely quickly, not just in mechanics and rules, but in very outlook. Practices that were once taboo, such as blatant self-promotion and dual publication, have become increasingly acceptable and commonplace. Online journals are springing up like mushrooms, and like fungi, they require careful appraisal to discern the valuable from the potentially toxic. English-language publications are no longer solely paper copy consigned to languish on dusty library shelves, but electronic missives that reach large and diverse audiences around the world.

In response, this fourth edition of *Successful Scientific Writing* has changed more than any of its previous iterations. We've doubled the number of chapters, allowing more explicit advice on ethical issues and on the planning

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and presentation of research. For relative newcomers to the world of scientific writing, we've added much more guidance on writing and organizing each part of a manuscript's initial draft. Strategies for more effective written and oral presentations have been presented in greater detail. We've collated and expanded the exercises that allow practice in applying concepts to actual examples.

For those who have been writing in the biological and medical fields a bit longer, the new world of electronic publication has received more emphasis in this edition. Other new material ranges from techniques for conducting a more effective and comprehensive literature review to ways to hone and present one's scientific message so that it receives the attention it deserves. We have expanded tips for writers coming from, or addressing their work to, the growing international community of scientists for whom English is an acquired language.

What hasn't changed is our pragmatic, practical outlook that views scientific writing as an interesting craft to be learned. We also remain focused on better ways to work in a systematic and organized fashion. Writing well does take time, but the task doesn't need to be never-ending.

As in earlier editions, we've attempted to approach all these subjects with the light touch and bit of humor (including over two dozen cartoons in this edition) that befit an interesting and potentially pleasurable task. We're aware that to many of you, "enjoyable writing" is an oxymoron. Ours is a minority view, we know, but we'd like to invite you to have an open mind. Perhaps we'll be able to convince you, and perhaps not. Either way, this book will provide the tools, skill set, and insider tips you need to become more skilled in the writing your profession calls upon you to do. If, along with personal success you also come to find some joy and humor in the writing task, we'll feel that we too were successful.

J.R.M.
R.W.M.
January 2014