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Tim Skern

Writing Scientific English

A Workbook

4. Auflage



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Tim Skern

Writing Scientific English

A Workbook

4th edition

facultas

Tim Skern, a native English speaker, studied biochemistry in Liverpool and London. Now retired from the Max Perutz Labs, he has been teaching scientific English at the University of Vienna and the Medical University of Vienna since 1992. He was Editor-in-Chief of Archives of Virology from 2018 to 2025.
Tim Skern is the author of "Coffee House Notes on Virology" (Facultas Verlag) and "Exploring Protein Structure: Principles and Practice" (Springer).

In Memoriam Ernst Küchler, der mir
das wissenschaftliche Schreiben beibrachte:

Da hapert's! Da hat's was!

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Over the years, participants in my scientific English courses often requested sentences that illustrate the use of unfamiliar words. The fourth edition addresses this issue with six paragraphs that employ some 50 words that students have often found problematical. The texts are based on parts of a scientific manuscript to give them the appropriate context. I have also take the opportunity to include further words that may be useful in writing scientific manuscripts.

I thank Brooke Morriswood for his support in improving the new texts and all the participants in my courses for their comments on improvements to the book. I am also grateful to Barbara Stix and Katharina Echerer for their support in preparing the fourth edition.

Tim Skern, February 2026

In the ten years since the publication of the first edition of this book, I have substantially refined and harmonised the comments that I make when correcting the assignments of my students. The third edition takes these changes into account. Two new manuscripts in chapter 5 use these harmonised comments; the list of the comments themselves can be found in box 7.2. This edition also contains four new abstracts that illustrate specific problems that constantly recur in the students' assignments. Chapter 8 contains eight new exercises that are based on texts that I use in my class to provide practice in summary writing and data analysis. In addition, six new videos were made for this edition in order to demonstrate my approach to supporting students in giving scientific talks in English. I hope that you will find the approach useful for preparing your presentations. The first video sets the scene and introduces the speakers. Videos two to five contain three minute speeches given by former students of my courses; at the end of each speech, the student receives a brief feedback. In the sixth video, one of the students interviews me on how best to obtain a place in a laboratory for an Erasmus stay abroad. The videos can be accessed via the QR code in section 7.4.

A further change in the third edition is the absence of the two texts that were reprinted from the journal Nature. This change resulted from an enormous increase in the copyright fees that Nature now charges compared to 2011. The texts should however be available to most readers through an institutional subscription to Nature.

I thank the six students who so readily gave their permission to use their work. William Dundon and Gijs Versteeg kindly offered excerpts from the reviewers' comments on their manuscripts. Peter Wittmann and Carina Glitzner from Facultas AG provided invaluable support in the production of this new edition. Special thanks to Barbara Füzi, Ralf Jansen, Helene Mössl and Tomaž Rozmarič for their enthusiastic participation in the videos and to Walter Größbauer and Istvan Pajor for their professional expertise in producing them.

Tim Skern, Vienna, April 2019

His speech is like an entangled chain; not impaired,
but completely disordered.
W. SHAKESPEARE (A Mid-Summer Night's Dream)

Amongst the feedback from the first edition were two suggestions for material for the second edition. The first was to expand on the idea that the writing of a scientific manuscript begins during the planning and execution of the experiments. The new chapter 6 grew out of this suggestion and contains more of my thoughts on this theme. The second idea was to provide support for pronouncing scientific English and giving scientific presentations in English. My hints and guidelines on these topics can be found in the DVD at the back of the book.

Alwin Köhler, Tanja Kostic, Brooke Morriswood, Ortrun Mittelsten Scheid, Ulrike Seifert and Graham Warren gave invaluable support in the development of the new chapter. I am grateful to Christian Kaier, Walter Größbauer and Josef Wagner for their professional production of the DVD, to Jennifer L. Boots for the audio file with the American pronunciation and Lucia T. Riedmann for the drawings that form the background to the credits. Very special thanks go to Martina Dötsch who was such an enthusiastic partner in the dialogue on speaking scientific English. I am grateful to the Medical University of Vienna for permission to film my lecture on "Communicating Science in English".

Tim Skern, Vienna, August 2011

The videos from the second edition are now
available via the following QR code:

Lecture, Interview, Pronunciation(UK), Pronunciation(US)

In 1992, I started to teach "Writing and Speaking Scientific English" at the University of Vienna. My qualifications included English as a native tongue as well as experience of writing my own scientific manuscripts and correcting those of others. I had also given some scientific talks and listened to considerably more. That was all. I was ignorant about how to begin teaching scientific English. I had no idea about the specific problems faced by the students, whether I should take their scientific and cultural backgrounds into account or how I should go about improving their standard. Somehow, the students and I survived and profited from the first course. During that first course and later in subsequent ones, I came to recognise that the students, independent of their various scientific and cultural backgrounds, shared many common problems in writing scientific English. To address these problems, I developed a series of guidelines and exercises to turn, as rapidly as possible, the students' school English into the formal English required for scientific texts. These guidelines and exercises, modified over the years to incorporate ideas on avoiding plagiarism, form the first part of this workbook.

The second part of this book uses work from former students to illustrate how to improve the first draft of a scientific text. This skill, essential to scientific writing, is one that almost every student who has taken the course needed to reflect on and to practise. I know from my own experience how difficult it is to improve a text written in a language other than one's native tongue. I hope that the exercises will be an asset to the reader in becoming proficient in improving scientific texts in English.

I would like to take this opportunity to thank all of the students, colleagues, friends and family members without whose support both course and workbook would not have seen the light of day. A very special thank-you goes to the 21 students who responded so quickly and positively to my request to be able to use their work. Their texts add an unconventional feature to the book. Without them, this would be just another book on writing scientific English. Special mention also goes to my colleagues Rainer Prohaska, who first suggested that I teach a course on scientific English, and Hannes Klump, who suggested writing a workbook.

I would like to express my gratitude to Tanja Kostić, Brooke Morriswood and Petra Schlick whose efforts greatly enhanced the quality and scope of the book. Tanja typed in the work of the former students and was

instrumental in finding a way to show how the texts had been improved. She also made a significant contribution to the content and appearance of the model manuscript in chapter 4. Brooke did his best to make me kick the professorial habit of preaching and ensured that I remained steadfast in omitting needless words. Petra very carefully proofread the exercises and their improvements and put forward other numerous suggestions to strengthen the book. All three corrected innumerable errors and blunders. Those that remain are entirely my responsibility.

I also would like to specifically thank the following for their important contributions to the book: Martin Breuss, Susanne Dormayer, Maria Kalyna, Martina Kurz, Sergei Lapato, Julia Leodolter, Zdravko Lorković, Christiane Mair, Elisabeth Malle, Evelyn Missbach, Anna Mitterer, Angelika Mühlebner, David Neubauer, Sanda Pasc, Marianne Popp, Lucia T. Riedmann, Betty Skern, Marina Skern, Margarita Smidt, Lena Sokol, Jutta Steinberger, Friederike Turnowsky, Graham Warren, Philippa Warren, Junping Zhu and Melanie Zwirn.

Christian Kaier of Facultas AG efficiently shepherded the book through the production stages. Michael Karner performed wonders with the layout and remained commendably patient with my sometimes impossible requests. Robert Chionis not only carefully proofread the manuscript but also contributed to the clarity of the book and eliminated numerous Germanisms. I am grateful to all of you.

The idea for the content of the model manuscript was conceived during various visits to Cape Town. In return for this inspiration, all of my proceeds from this book will go to support Monwabisi Magoqi, a teacher on HIV and counsellor to AIDS patients in Khayelitsha near Cape Town. Supporting Monwa is a more effective way of fighting AIDS than any research I might ever do.

Tim Skern, Cape Town, August 2008

Chapters 1 and 2 of the workbook comprise guidelines and a basic scientific lexicon that will support you in writing the English employed in scientific texts. Familiarise yourself with them and then practise their application by carrying out the exercises in chapter 3. Compare your responses to the exercises to those of former students. Look at the suggestions (sets of comments and commands with blue numbers) for improving these texts and then try to strengthen your work in the same way. At the end of the first three chapters, you should be more confident in writing formal English and able to ask critical questions about your own written work.

Taking the material from the first three chapters as its basis, chapter 4 generates a model manuscript based on imaginary experiments to illustrate how to write and strengthen a scientific manuscript. Chapter 5 proposes themes for writing your own texts and model manuscripts so that you can apply the ideas from chapter 4. Again, compare your manuscripts with those of the former students and note how they have been further modified. Correct your work in the same way. Chapter 6 offers an alternative approach to start writing your manuscripts and shows how experimentation and communication are linked.

At this point, your English should be approaching the style found in scientific texts and manuscripts and you should be gaining in confidence. It is important, however, that you continue to polish your English and that you appreciate that writing skills can always be sharpened. Chapters 7 and 8 are both designed with this goal in mind. Chapter 7 presents several suggestions how readers can continue to consolidate their scientific writing. Chapter 8 lists the pages of the book on which words marked in italics are printed. These comprise the basic scientific lexicon in chapter 1, important linking words from box 1.4 as well as a further hundred or so useful words for scientific writing. Browsing through chapter 8 and carrying out some of the exercises in this chapter should greatly increase the number of words at your disposal. There is also space at the end of chapter 8 for you to add words that you meet during your reading.

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