

Preface

You know how to write grammatically correct English. Congratulations. You have read Strunk and White's little book, *The Elements of Style*.^a Perfect. To pursue true writing excellence, you now need to take into consideration the people key to your success: the readers.

What readers fear the most while reading a scientific paper is to get stuck or left behind. They are stuck when the experienced writer zigzags around the familiar obstacles in the knowledge field, whilst readers crash into them; and they are left behind when the knowledgeable writer runs where they can only walk. The knowledge gap that separates you from your readers cannot be ignored, yet adequate background knowledge does not guarantee that motivated readers will find reading your paper easy and rewarding. Much more is required of them. A scientific paper requires more memory, attention, and time than a typical novel of the same length. Good writing should therefore take into account the reader's ignorance, fatigue, short-term memory, and impatience in order to minimise their impact.

Unique writing techniques rarely presented in books on technical writing will bring the writer closer to the six qualities that are the hallmark of great scientific writing: fluid, organised, clear, concise, convincing, and interesting (FOCI). Consider sentence structure. Does

^a Strunk W Jr and White EB, *The Elements of Style*, Penguin Press, New York, 2005.

placing a conjunction such as “because,” “but,” or “although” at the head of a sentence provide more reading pull than placing it midway? Consider sentence progression. Does keeping the topic of the first sentence constant throughout a paragraph help the reader progress smoothly through a written argument? Consider the reader's expectations. Can a single word in a sentence trigger large expectations? “Because it was raining that day,” creates the expectation that the writer will explain what happened because of the rain. The sentence finishes with “the paint did not dry on time.” The reader reaches the end of the sentence knowing why the paint did not dry—the first expectation raised is fulfilled, but another expectation arises: the paint did not dry on time for what? Expectations drive reading forward in science as they do in literature. By creating and controlling pull, progression, and expectations, the writer can guide the reader.

Readers have different expectations for each part of a scientific article, from its title to its conclusion. Since ignoring these expectations frustrates readers, the writer should avoid the short introduction that sheds little light on the “what” and “why” of the paper, the abstract that is indistinguishable from the conclusion, the misleading title, the baggy structure, and the immature and unprocessed visuals. This book will help writers learn how to put together a coherent set of parts that satisfies readers.

This book comes with a metaphorical box of chocolates: 48 stories designed to liven up reading and reinforce the learning process. It also comes with a core of 100 examples inspired or quoted from scientific articles. No attempt has been made to “sweeten” them. Do not let them intimidate you. What is of importance in each of these examples is not their impact on the world of science: it is the placement of the words in the sentence and the expectations they create.

This book was written at the request of many scientists who have participated in the scientific writing skills seminars I conduct

in various parts of the globe. In their assessment of the course, the participants highlighted benefits; some expected, some unexpected. As expected, those who had already published papers felt that their writing had improved by keeping the reader in mind. Junior scientists without any publishing experience were relieved that they no longer had to blindly imitate the work of others, not knowing whether what they were imitating was good or bad. Unexpectedly, even senior scientists with great publishing experience found that the seminar had improved their analytical reading skills and had equipped them with a method to conduct better peer reviews.

Before turning the page, words of appreciation are due. More than 1000 scientists from many research centres helped me to understand and love the scientific reader. This book is dedicated to them. Three authors, through their books, influenced the contents of this book: Michael Alley^b on scientific writing, George Gopen^c on reader energy and expectations, and Don Norman^d on user interfaces. They have my deepest respect. They are the giants on whose shoulders I climbed to discover a new world they had explored well before I did. If, thanks to them, I discovered new techniques that will be of help to the reader of this book, may they share the credit.

^b Alley M, *The Craft of Scientific Writing*, Springer, New York, 1997.

^c Gopen GD, *Expectations: Teaching Writing from the Reader's Perspective*, Pearson Longman, 2004.

^d Norman D, *The Design of Everyday Things*, Basic Books, New York, 2002.