

Writing and Presenting in English The Rosetta Stone of Science

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ELSEVIER

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Preface

This book is written specifically for scientists who have received formal education in speaking and writing English but for whom English is not a native nor an easily comfortable language. Those who have already published research in English, and those who have successfully presented at international conferences may well find the material in the book overly simplistic. The author apologizes to any such readers.

The quotations and proverbs throughout the book are at the whim of the author in the hope that English will continue to retain some of its beauty and mystery even though we now carefully discipline ourselves to present scientific results only in clear unambiguous language.

Petey Young
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Peace to this meeting, wherefore we are met.

– Shakespeare Henry V Act VI, scene ii

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Introduction

The Rosetta Stone, key to the original deciphering of Egyptian hieroglyphs, has probably been the most famous language inscription on the planet. This massive piece of polished black stone, discovered in 1799, contains parallel messages in old Greek, hieroglyphs, and demotic, a cursive form of hieroglyphics, chiseled into its surface. Twenty-four years after its discovery linguists finally completed the decoding which permitted the people of the world to understand the writings and culture of ancient Egypt.

O, wonder!
... O brave new world.
That has such people in it!

Shakespeare
 The Tempest
 Act V, scene i

Today the giant stone rests in the British Museum, waiting to inspire all scientists to translate their research results into a language that can be widely read. This is important for all of us because the science done in every country deserves reading by as many other scientists as possible.

Your personal Rosetta Stone for translating your science for others now has English as well as your native language inscribed on it. Native speakers blush in embarrassment but the world language today, the *lingua franca*, is English.

OPTIONS OTHER THAN ENGLISH

What? English? English, that complicated, irregular, jumbled, polyglot of a language? Surely there are finer languages:

- Why not German, the language once essential to any scientist who wanted to keep informed? German, a language which cannot be mumbled or slurred as native speakers daily do in English. German, which requires us to bend our mouths and tongues to the precision of its vowels and consonants and rewards us with the consistent spelling English lacks.
- And whatever happened to elegant French? Why not continue to give the world the fluid grace of French, with its consistency, sophistication, and mournful-sounding vowels?
- Why not Arabic, supremely expressive, with the world's most beautiful writing system?
- How about Russian with its passion and depth?
- Would it not be wonderful if science could have the orthographic efficiency of Japanese?
- Or if we all embraced the warmth of Spanish, with its smiling /ee/ sounds that almost hurt the cheeks with happiness.

- Or Hebrew, a language in which one can argue for hours and hours.
- Probably to be fair we should choose Esperanto so that everyone would be equally disadvantaged!

No, sorry, but despite all these and many other appealing options, the world, bar some unforeseeable catastrophic political development, is stuck with that most awkward of all languages, English. Perhaps this is evidence that the universe has a sense of humor.

It is linguistically illogical, but English has now become the Rosetta Stone of science, the language used to translate the science of the world into communication for the whole world.

Most of us learned classical English in school. Many of us learned it extremely well. However, trying to publish in science using the English we were taught in school is like trying to unlock one door with the key to another: the door never opens. English today is startlingly different from the English we learned in school, and, to make it worse, English is changing more rapidly today than ever before (Crystal, 2001).

To learn another language is to develop another soul . . . - Czech proverb

A BIT OF HISTORY AND A WARNING

English has been adding words, adding new expressions, and changing meanings at an astonishing rate. This has been an exponential change post World War II - an expansion

and change not seen since the language explosion of the 1100s–1300s. The English college dictionaries of the 1940s added words such as cybernetics, genocide, globalism, H-bomb, TV, radar, and accepted the use of a number of nouns as verbs; the 1950s added antimatter, bionics, ecosphere, microcircuit, nanosecond, and took in multiple words from other languages; the 1960s added biodegradable, jet lag, macrobiotics, megabyte, microchip, quark, and modified words to overcome cultural bias. In the 1970s the rate of new words in English increased even more rapidly as the language enlarged to include not only new technology but new social concepts.

By the 1990s communication through the Internet began what now appear to be irreversible changes in simplifying English through acceptance of more abbreviations, acronyms, and the non-alphabetic symbols now common in what David Crystal (2001) calls computer-mediated communication. English has always assimilated concepts and consequently words from other languages: 'tycoon', 'sheik', 'salsa', 'mocha', 'macho', 'pizza', 'steppe', 'rodeo', 'karate', 'sofa', 'mariachi', 'vodka', 'jihad', 'mullah', 'perestroika', 'Sandinista', 'burka', 'karaoke'. No end of this is foreseen by linguists.

ENGLISH TODAY

English today is a rapidly developing language, deeply influenced by Internet communication. As early as in the 1997 edition, the preface to the conservative *Random House Webster's College Dictionary* refers to the English language not as English, nor British English, or American English, but as 'world language'. By 2005 English had become the:

- language of international air traffic,
- favored language of diplomacy,
- lingua franca of the Internet and the World Wide Web, and
- language in which the world's best scientists need to publish.

At one time international English was limited to 'Hi', 'OK', 'Coca-Cola', 'Fanta', and 'taxi'...

Change has been accelerated by the growth of the World Wide Web and the increasing pressure for rapid, clear communication via email. Use of tense has been becoming less complicated and less subtle in meaning. [See Chapter 4.] Today simple present tense and simple past tense are most common and the subtle, conditional, easily misinterpreted tenses involving words such as, 'should', 'could', 'would', 'might', 'may', 'can' are only seen infrequently.

Characteristics of English

One of the qualities that contributes to the ability of English to become a world language is that English is generous (many would say overly generous) in its acceptance and invention of new words and is quite nonchalant about changing syntax whenever traditional grammar gets in the way of cultural change. Writing about recent changes in the English language, one of the world's foremost authorities on language calls the current development a 'linguistic revolution' (Crystal, 2001). However, whether the current change is a revolution; whether it isn't; whether we like it; or whether we loathe it: English has changed and is continuing to change. It

is no longer the English we learned in school or the English of yesterday's science journals.

Much of our training in English has encouraged us to learn to write in elegant, beautiful, often complicated ways. In school we gave our best efforts to produce words that would add glory to our meaning and delight to our teachers' hearts. Unfortunately this is not the way to the hearts of editors of today's science journals.

Please don't despair. Even if flowing exotic language is, unfortunately, not a good way to report research results, it is still a splendid way to write short stories, novels, and poetry. Perhaps English literature will forever have stirring pages filled with fiery words designed to inflame a reader's soul or poetry of soaring words intended to make one drunk with beauty. But these are not the words in which to report scientific results. Instead research is best served as if it were a meal, carefully prepared, arranged in an exact manner on a plate, and served cold.

Science Writing Today

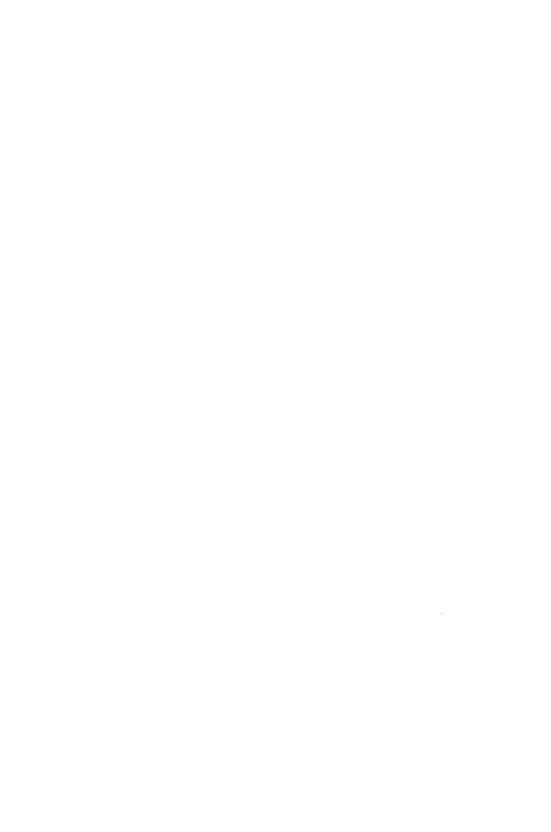
Successful scientific writing today is done in a simple and direct fashion. First, the sequence must be precisely organized – not an easy thing to accomplish because so many things at first seem to need to be said simultaneously. Second, every sentence must be worded so that it is clear, with no alternate meanings available to innocent readers who were not in the lab with you, and therefore must rely only on the accuracy of your words.

This book is designed to help non-English speaking scientists go beyond the knowledge in the weighty volumes of grammar from which they learned and:

- translate their scientific results into clear contemporary English,
- write articles suitable for publication,
- present their ideas at conferences, and, above all,
- maintain their joy of life.

These our actors,
As I foretold you, were all spirits and
Are melted into air, into thin air;
And like the baseless fabric of this vision,
The cloud-capped towers, the gorgeous palaces . . .

Shakespeare
 The Tempest
 Act IV, scene i



PART I

Writing Research Articles for Publication

Every scientist in the world who is doing valuable research owes it to the world to publish clear, concise results. Only when these are published internationally will other scientists doing similar research be able to know what is being done elsewhere.

Part I contains information about the art of writing articles for publication to help you get published in an international journal.

- Chapter 2 gives you a model for self-analysis to help you construct a data bank that will give you the detailed help that fits your own individual writing needs.
- Chapter 3 guides you in ways to edit your writing successfully.
- Chapter 4 explains recent changes largely due to the influence of the Internet, and suggests new changes that are coming.
- Chapter 5 deals with writing abstracts, proposals, and cover letters.

Writing Research Articles

The fact that we speak and write to each other in English does not mean we should conduct our mental explorations in English, for other languages may have patterns of thought vital for the future development of science. So let scientists communicate among countries in English but without losing the riches within their native languages.

The Art of Creating a Model to Help You Write

Models for writing science today cannot be found in grammar textbooks, most of which were published too long ago. Nor are they taught by English teachers who were educated some years ago by teachers educated before them and using texts written even earlier. None of these formerly good sources are helpful for writing scientific articles in today's rapidly changing, dynamic English. Actually, few, if any, of us received English instruction specifically designed for writing science.

Those of us who know how to write for science journals taught ourselves, slowly, and usually after several failures. In school we were taught how to use correct grammar and to write traditional, formal, English narratives. Our teachers taught us how to use allusions, metaphors, creative adjectives, and graceful expressions. We labored to produce lengthy, flowing language to delight our English teacher's heart. Unfortunately this is not the type of language that delights the hearts of science editors.

The Art of Creating a Model to Help You Write

Think, when we talk of horses, that you see them?

— Shakespeare

Henry V

Prologue

Editors of science journals today want all ideas in language that is directly to-the-point, straightforward, and in as few words as possible. They want everything expressed with such clarity the science will be clear to all their readers. When your work is published, people all over the world will be reading your article. You not only want the meaning to be clear to them, but you want to represent your country well.

Today's science journals receive many articles reporting good scientific research but written in poor English. If the English is poor enough, the article is rejected; if the English is good enough, editors will decide whether or not the research is worth publishing. If the research seems worth publishing despite the poor English, the journal will sometimes have the article edited to make it acceptable, but this is becoming less common. The most common response of editors is to reject the paper.

Good prose is like a window pane.

— George Orwell, 1903–50

Science editors grieve over their lack of time and people to edit the English in their journals, because it is vital to them that their language standards are high. However, even with their continuous effort to publish only good English, the pressure to publish new research developments as rapidly as

possible permits some poor language to appear in even the best science journals. This is tragic for two reasons: First, everyone wants the articles in widely-read journals to be understood clearly by readers all over the world, and second, no one wants new research to remain unpublished because editors simply did not understand the English in which it was written. Currently it is possible for good scientists in some countries or institutions to acquire an unwanted reputation for writing poor English. Don't let this happen to your country or institution. You are going to teach yourself to write so well that future editors will respond in joy when they see an article written by someone from your country.

Now, you ask, where can you find a model to help you write? Fortunately this is easy to answer.

FINDING DATA FOR YOUR MODEL

The very international journals in which you desire to be published contain the data for your model. Although the editors of such journals are seldom willing to edit any of the English sent to them, you can use their expertise if you are clever. The recent research articles in their journals have passed their standards and await your analysis. All you need to do is to find articles written by native English speakers and published in recent international journals. In these articles you will find gold mines of excellent information about contemporary scientific English: In them you can find excellent, up-to-date teachers who can be found nowhere else.

Each issue in every well-known, international, English-speaking journal contains several research articles written by authors at