

Persuasive Communication for Science and Technology Leaders

Writing and Speaking with Confidence

STEPHEN WILBERS



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INNOVATION, AND LEADERSHIP

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A Note from the Series Editor

Welcome to the Wiley-IEEE Press Series on Technology Management, Innovation, and Leadership!

The IEEE Press imprint of John Wiley & Sons is well known for its books on technical and engineering topics. This new series extends the reach of the imprint, from engineering and scientific developments to innovation and business models, policy and regulation, and ultimately to societal impact. For those who are seeking to make a positive difference for themselves, their organization, and the world, technology management, innovation, and leadership are essential skills to home.

The world today is increasingly technological in many ways. Yet, while scientific and technical breakthroughs remain important, it's connecting the dots from invention to innovation to the betterment of humanity and our ecosphere that has become increasingly critical. Whether it's climate change or water management or space exploration or global healthcare, a technological breakthrough is just the first step. Further requirements can include prototyping and validation, system or ecosystem integration, intellectual property protection, supply/value chain set-up, manufacturing capacity, regulatory and certification compliance, market studies, distribution channels, cost estimation and revenue projection, environmental sustainability assessment, and more. The time, effort, and funding required for realizing real-world impact dwarf what was expended on the invention. There are no generic answers to the big-picture questions either, the considerations vary by industry sector, technology area, geography, and other factors.

Volumes in the series will address related topics both in general – e.g. frameworks that can be applied across many industry sectors – and in the context of one or more application domains. Examples of the latter include transportation and energy, smart cities and infrastructure, and biomedicine and healthcare. The series scope also covers the role of government and policy, particularly in an international technological context.

With 30 years of corporate experience behind me and about five years now in the role of leading a Management of Technology program at a university, I see a broad-based need for this series that extends across industry, academia, government, and nongovernmental organization. We expect to produce titles that are relevant for researchers, practitioners, educators, and others.

I am honored to be leading this important and timely publication venture.

Tariq Samad

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PERSUASIVE COMMUNICATION FOR SCIENCE AND TECHNOLOGY LEADERS

**WRITING AND SPEAKING WITH
CONFIDENCE**

Stephen Wilbers

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To all great writers, readers, scientists, technicians, and
leaders, young and old,

with thanks for making this world a better place.

To Debbie, for her generosity, thoughtfulness, love, and
support.

And to my grandchildren, Matilda & Lachlan,

with this poem from my chapbook, *This Northern
Nonsense*:

Why Write?

Why this impulse

to capture truth and beauty

in words?

Above the still water, across

the channel that cuts

between these islands,

the rock rises calmly, giving

way to green moss and mottled

shade as it climbs the hillside

that runs beneath the pine forest.

Maybe we write to create a record,

to help us not forget.

If I weren't sitting here now, at this

moment, notebook before me,

pen in hand, no one would know

how that merganser swam
down this channel, bobbing
her head, a wary eye on the
world, and moments later,
how she returned.

ABOUT THE AUTHOR



Stephen Wilbers is an award-winning author and former columnist for the *Minneapolis Star Tribune*. He has offered

writing seminars, workshops, and classes to more than 10,000 scientific, technical, business, legal, academic, and creative writers.

He teaches writing and oral presentation skills in the University of Minnesota's Technological Leadership Institute. He has also taught writing in the Carlson School of Management's M.B.A. Program, the Program in American Studies, and the Program in Creative and Professional Writing. In 1995, he won an Outstanding Faculty Award in Hamline University's Graduate Public Administration Program.

Dr. Wilbers earned his B.A. at Vanderbilt University and his M.A. and Ph.D. at the University of Iowa. He spent his junior year abroad in Aix-en-Provence, and he was a Visiting Fulbright Fellow at the University of Essex in Colchester, England. He served as board chair of the Loft Literary Center in Minneapolis, where he now lives. He and his wife Debbie have two children and two grandchildren.

Please send queries to stephenwilbers@gmail.com.

For answers to common writing-related questions such as “Does the period go before or after the closing quotation marks,” preface your online search with “wilbers,” as in “wilbers punctuation.”

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HOW THIS BOOK DIFFERS FROM OTHER COMMUNICATION GUIDES

This is a beautifully and engagingly written book. Dr. Wilbers' love of language and the craft of writing fully comes out, and I am optimistic that his passion will rub off on many of the readers of the volume. Too many guides to writing are dry and “manual”-like; this is the opposite - bridging the technical/literary divide, suffused with humor, connecting language use with desired impact on the audience.

- **TARIQ SAMAD**, IEEE Fellow and Honeywell/W.R. Sweatt Chair at the University of Minnesota's Technological Leadership Institute

PREVIOUSLY PUBLISHED MATERIAL

Some columns published between 1991 and 2017 by the *Minneapolis Star Tribune* and other newspapers and magazines have been incorporated into this book, as well as part of an article published by *The College Board Review* in its winter 1989-90 issue.

ALSO BY STEPHEN WILBERS

The Iowa Writers' Workshop: Origins, Emergence, and Growth (history)

Writing for Business (collected columns)

Writing by Wilbers (collected columns)

Keys to Great Writing: Mastering the Elements of Composition and Revision (writing instruction)

Mastering the Craft of Writing: How To Write with Clarity, Emphasis, & Style (writing instruction)

This Northern Nonsense: Ernest Oberholtzer and Mallard Island (a chapbook of poems)

A Boundary Waters History: Canoeing Across Time (history)

Canoeing the Boundary Waters Wilderness: A Sawbill Log (memoir)

WELCOME

“All writing is ultimately a question of solving a problem.”

- **WILLIAM ZINSSER**, *On Writing Well*

“The way I've been doing it my entire career is [to] use evidence-based data. And if you don't know the answer to something, admit it.”

- **ANTHONY FAUCI**, immunologist and Director of the National Institute of Allergy and Infectious Diseases

“You can depend upon the Americans to do the right thing. But only after they have exhausted every other possibility.”

- Attributed to **WINSTON CHURCHILL**

This book was written for readers like you who believe in science and technology. It was also written for people who love language – or if not love language at least find it mildly interesting and worthy of exploration. It's for people who recognize its extraordinary power not only to convey information as well as its persuasive potential to change minds and shape our future. Published by John Wiley & Sons in collaboration with the Institute of Electrical and Electronics Engineers (IEEE, pronounced “Eye-triple-E”), this book could adopt IEEE's motto as its own: “Advancing technology for humanity.” Change the word “technology” to “scientific and technical communication” and you have its theme.

The principal (not *principle*) goal of this book is to help you become a more competent communicator, manager, and leader – perhaps even a great leader – who writes and speaks with confidence. I hope to make your journey fun,

but I also intend to challenge you along the way. I will challenge you to make an honest assessment of your motives, ambitions, and values. I will ask you to question your assumptions about persuasive strategy, leadership, power, and race. I will help you identify common language errors such as dangling modifiers and comma splices and nonparallel structure, errors that might undermine your credibility or, worse yet, make people stop listening to you. And I won't just *talk* about language. I will take you deep into its complexity - as well as its beauty - in a way that will enrich your own life and empower you to improve the lives of others.

You may have been taught that personality is out of bounds for scientific and technical writers. It's true that technological communicators need to communicate their information clearly and objectively. Often, they're not permitted to express themselves in the first person. The expressive range for most technical writers, most of the time, is necessarily narrow. Clarity, precision, and accurate detail are essential. Those qualities are often conveyed with simple, direct sentence structures. But a lab report isn't the same as a commencement address. The vertical marketing team I worked with at the Googleplex in Mountain View, California, wanted more than clarity. They also wanted stylistic technique. The technical writers in the Emerging Leaders Group I taught for Ryan Companies in Minneapolis knew that technical writers, like most writers, from attorneys to poets, need to know how to shape their sentences with subordinate clauses, asides, introductory phrases, and trailing elements. Strings of simple sentences - subject, predicate, period; subject, predicate, period - work well for instructional manuals, but they become monotonous elsewhere.

When technical communicators need to get the word out to a wider audience - whether blogging or writing newsletter

articles, writing promotional material to customers or persuasive documents to government agencies, policy makers, politicians, and the public – they need a broader expressive range. Technological leaders need to do more than inform. They also need to persuade and inspire.

If you don't believe that scientific and technical writers (as well as historians and novelists writing about technical subjects) can be engaging and entertaining, read Charles Darwin's *Origins of Species*, Elizabeth Gilbert's *Signature of All Things*, Hope Jahren's *Lab Girl*, or Yaa Gyasi's *Transcendent Kingdom*. They do more than write with precision. They also write with eloquence coupled with the kind of passion for their subjects that is characteristic of dedicated scientists. If you question whether eloquence has a place in scientific and technical communication, read Lewis Thomas's *Lives of a Cell*, John McPhee's *Basins and Ranges*, or Bill Bryson's *A Brief History of Nearly Everything*, authors who can seemingly take any technical subject and make it interesting and fun, even funny. If you're still not convinced expressive writing matters, check out Oliver Sacks on neurology, Stephen Jay Gould on paleontology, and Stephen Hawking on the cosmos. As a manager and leader, you need to do more than communicate facts and theory clearly. You also need to explain how science and technology affects people's lives.

So there you have it. This is a book about language, communication, leadership, commitment, and character. It's organized into two parts – writing and speaking – but let's begin with a warmup exercise for speaking that will set the stage for communicating and leading. Ready? Here we go.

Assume the ready position. Don't know what the “ready position” is? Let me explain. I'll have you demonstrate.

Stand up. That's it. Nice and straight. Check your posture. Good. Head back, as if a string were lifting the back of your head upward. Weight balanced evenly on both feet (don't hitch your weight to one side and don't sway back and forth to dissipate nervous energy). Hands positioned comfortably above your waist, maybe clasped, maybe not, but not in your pockets (unless you're trying to be folksy and casual). Keep those hands up where we can see them, ready to do their job, which is to emphasize your brilliant thoughts and fascinating insights. And for goodness sake, don't lean on the lectern as though you're too tired to stand up on your own. Now you're in the ready position. You're ready to go.

Now take a deep breath. That's it. Take the deepest breath you've taken so far today. Fill your lungs all the way, deep deep deep, and now exhale. Slowly. Completely. When your lungs are empty and your mind is clear, say these words with me, and then complete this prompt:

“A good communicator is someone who ...”

Don't overthink it. Just say the first words that come to mind. Do it off the top of your head (we'll get to the bottom of your heart later).

Good. Now take another deep breath, exhale slowly and complete this phrase: “A good leader is someone who ...”

Write down both the prompts and your responses and put them someplace where you can find them, maybe next to your computer, on your refrigerator, or in your cookie jar. We'll return to them in the Epilogue. I want to see how your thinking about communication and leadership has evolved from reading this book.

One last thought before I offer a more traditional introduction.

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