



The astrophysicist and science communicator Carl Sagan on the set of his famous 1980 television series *Cosmos: A Personal Voyage*.

The elements of scientific style

Looking back on my undergraduate classes in chemistry and physics, my fondest memories are of each course's laboratory components. Those weekly events were always fun and novel: working at the bench with my classmates; learning about different reactions, experiments, and analyses; and seeing—or sometimes smelling—the material presented in lectures. Writing the lab reports, however, was a different matter. Without fail, I found them tedious, repetitive, and uninspired. They nearly snuffed out my love of science.

Author Brandon R. Brown has a similar take on the day-to-day drudgery of lab reports and, more broadly, all aspects of communicating science, from writing emails and cover letters to giving technical and nontechnical presentations. In his new and valuable book, *Sharing Our Sci-*

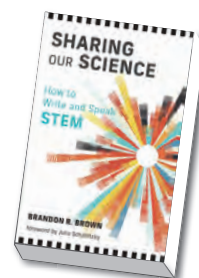
ence: How to Write and Speak STEM, Brown urges scientists to “question some defaults of the traditional structure” and provides the skills, tools, and inspiration to breathe life into communication. Most importantly, he urges researchers to expand the public's understanding and appreciation of science.

Brown is a gifted and creative writer. He is direct and critical of standard practices in writing and speaking about science but saves the harshest critiques for mistakes he made during his 30-year career in science and related fields. The book's 13 chapters are divided into three sections that focus respectively on how to master the nuts and bolts of sound writing, overcome specific challenges in explaining science, and engage and move your audience.

Readers won't need to get too far into

**Sharing Our
Science**
**How to Write and
Speak STEM**

Brandon R. Brown
MIT Press, 2023. \$26.95
(paper)



the book to pick up on Brown's unconventional perspective: Chapter 2 starts off with a bang by arguing that scientists would do well to embrace the same storytelling techniques that fiction writers use. Brown highlights the value of dramatic tension to grab and keep an audience. A second highlight is chapter 5, in which Brown heroically targets common writing mistakes and provides engaging solutions. Although he notes that his mother thought it would be too dry, by the end of it I was revising unfinished emails and other documents open on my desktop.

Another favorite is chapter 7, “Numbers

on the Brain.” There Brown explains how to avoid complexity and improve clarity when presenting and discussing numbers. Other chapters are dedicated to structure, audience, anecdotes, metaphor, speaking science, scientific subcultures, and social scales. But the best chapter is the last one, which comprises a moving account of his wife’s cancer diagnosis and her subsequent treatment and recovery. At one point, they dissected an ambiguous phone message left by one of her doctors that left them so anxious that they resorted to transcribing it on paper and examining the doctor’s word placement. It makes the most robust case for scientists to communicate their work effectively.

Sharing Our Science succeeds because Brown reflects on his experiences framing and communicating science to different audiences while working in academia as a professor, an administrator, and a fundraiser and working outside the ivory tower as a reporter, a spokesperson, and a deputy director of a nongovernmental organization. In one example, he describes how he failed to persuade a wealthy alumnus to finance an integrated-science center

at his university. Here, he highlights how different audiences have different values, interests, and definitions of success. When Brown pitched the inherent benefits of interdisciplinary research, the potential donor replied that he was not interested in having college majors “playing together.” Because Brown did not consider “what might intrigue” the guest, or, more bluntly, how integrated science would benefit the donor, he could not close the deal.

Scientists may be more willing to listen to advice from one of their own. Brown teaches physics at the University of San Francisco and has published peer-reviewed research. When reminding his readers that communicating science is not easy for scientists and that the material is often difficult for audiences to absorb, Brown draws on the advice he gives second-year physics majors: “If you want to stick with physics as we move from Newton to Heisenberg, you have to get comfortable with discomfort.” In other words, scientists need to be willing to work hard on their communication skills to be able to effectively reach the broader public.

If I have one quibble with the book,

it’s that Brown frequently refers to scientists—and himself—as “nerds.” No malice is intended; it is an attempt to promote solidarity. But the idea that all scientists are socially inept is a negative stereotype that nonscientists frequently hold. It remains a barrier to effective science communication. The irony is that Brown’s book is an excellent guide for scientists hoping to shed common misconceptions.

Although *Sharing Our Science* occasionally recalls William Strunk Jr and E. B. White’s *Elements of Style* (1959), it is much more than just another reference book whose fate is to languish beneath the piles of papers on your desk. It is an engaging read that will help scientists achieve a richer and more rewarding career. Brown has produced a multifaceted, timely, and relevant book deserving of discussion among colleagues and students. You may not always agree with him, but I imagine Brown would be pleased if he sparked a dialog on the essentials of effective science communication.

Christopher Reddy

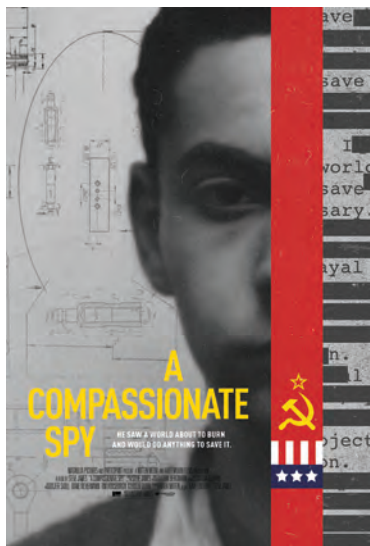
*Woods Hole Oceanographic Institution
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NEW BOOKS & MEDIA

A Compassionate Spy

Steve James
Magnolia Pictures/
Participant, 2023

On the heels of the release of the 2023 biopic *Oppenheimer* comes yet another story from the Manhattan Project. *A Compassionate Spy* delves into the life of Theodore Alvin Holtzberg, the youngest scientist recruited to work on the project. As a teenage Harvard University graduate, Ted Hall, as he came to be known, was very concerned about a post-war US monopoly on the atomic bomb. In his efforts to create a balance of power, Hall spied for the Soviet Union and provided vital secrets that led to the Soviets creating a bomb of their own. The documentary provides a glimpse into Hall’s life of spying, his impact on history, and the love shared between him and his wife during their 50-year marriage.



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The MANIAC

Benjamin Labatut
Penguin Press, 2023. \$28.00

Two years after the US release of the Chilean novelist Benjamin Labatut’s breakthrough book, *When We Cease to Understand the World*, the author has returned with an unofficial sequel. Like its predecessor, *The MANIAC* is a work of fiction based on reality: It is so experimental that labeling it historical fiction seems to sell it short. It comprises a triptych of stories about Paul Ehrenfest, John von Neumann, and the Go master Lee Sedol’s match with the artificial intelligence AlphaGo. Labatut plays with typography, literary form, and sentence structure throughout the book, the heart of which is a fictionalized oral history about von Neumann. Told from the perspective of colleagues such as Eugene Wigner and family members such as his daughter Marina, it examines the Hungarian’s polymathic brilliance, his famously eccentric personality, and the mental anguish he experienced during his terminal bout with cancer. As always, Labatut’s prose dazzles.

—RD **PT**

