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Do's and Don'ts of Science Writing

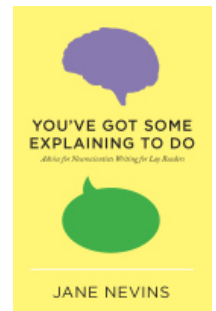
Posted on [November 18, 2014](#)

Scientific research can be a lonely business. Labs and studies are collaborative, but the work is task driven, and results often take a year or two. For researchers, communication mostly means talking to like-minded lab partners or collaborators in pursuit of similar goals or outcomes.

But communicating brain research in compelling and creative ways to the tax-paying public and, even more importantly, to decision-makers, is viewed as crucial—especially in the ever-competitive grant and funding climate. That was a significant part of the message in a well-attended professional development workshop at this year's Society for Neuroscience conference in Washington, D.C. The workshop featured four experienced science communicators: [Elaine Snell](#), [Tiffany Lohwater](#), [Jane Nevins](#), and [Stuart Firestein](#), Ph.D.

Two of the panelists, Nevins and Snell, spent large chunks of their careers communicating neuroscience to the public for the Dana Foundation. Nevins, the author of the recently published [You've Got Some Explaining To Do](#), is editor-in-chief emeritus of Dana Press. Snell is a senior consultant to the European Dana Alliance for the Brain and also works closely with the Federation of European Neuroscience.

While three of the panelists explained the importance of communication skills, Nevins gave a nuts and bolts lesson on how to write. She said she first fell in love with neuroscience after interviewing Eric Kandel, Ph.D., and hearing him “communicate neuroscience ideas as poetry.” Nevins, sounding like a sage of science writing, began by telling the audience that there is “no cut and dry formula; but there are many things of value.”



The first, she advised, is to get into a one-to-one frame of mind, where the writer imagines only one person reading. “Think as if you’re talking to one person—the people who are most likely to benefit from what you plan to write about,” she said. “You’re not explaining brain science is important but needs to fit in and enhance the larger topic. You’re not writing about the subject matter because taking that approach is likely to overwhelm the reader, she said.”

Keep in mind, said Nevins, that brain science communication to most readers are sacrificing their leisure time and may be limited by time constraints. Don't expect your reader repeating what they've read to someone else; prepare an outline using sentences that will help you discuss the topic with a lay reader to get feedback after a first draft. “Very different approach than writing for a website or blog versus *The New Yorker* magazine, so know your audience.”

In her view, language and compelling narrative go together like DNA and RNA. Avoid starting too many sentences with “there is’ or ‘there was’; the energy is in the subject and the verb, and words with meaning and energy should

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be upfront,” she advised. The writer should avoid a passive voice, pronouns, and lecture terms such as “complex,” “in fact,” and “indeed.” Nevins followed with a plea: “Please don’t tell me that the subject matter is complex; only use ‘complex’ to explain a problem in the science itself.” Other context-dependent words to steer clear of: “function,” “factor,” “localize,” “modulate,” and “mediate.”

Jargon can be useful, but should be used sparingly, Nevins recommended. She said she is a big fan of analogies, metaphors, and painting word pictures, and used the example of a writer describing the hippocampus as “shaped like a seahorse, because imagining a sea horse helps the hippocampus stick in the reader’s mind.” More advice: avoid negative construction, or terms such as “it’s not this or it’s not that.” Say exactly what it is; the writer wants to know what you think, so keep interpreting and answer the “why?” question.

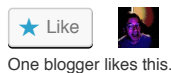
Nevins said that writers should avoid a “first-things-first” approach. “And think about your figures and illustrations after you’re done; editors don’t like to see you use them as a way to explain the subject matter. Figures and illustrations are mainly useful as a way to enhance or support the text. The text alone should be able to tell your story,” she said. Long articles should implement subheads or chapter titles “to keep yourself on your tether,” advised Nevins.

She concluded by providing advice that elicited a few chuckles: “Have your non-scientist friends read your draft, but don’t give it to your mother. My own mother didn’t finish my book, but that didn’t stop her from telling me it was wonderful.”

As I struggled to squeeze into this blog all the wisdom Nevins relayed in her 20-minute lecture, I went back to my draft to reinforce a concept she feels is so important that she enthusiastically repeated it twice: “Be willing to revise! It’s the key to everything!”

–Bill Glovin

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