

Lost in translation?

By Kristen Garner

Scientists speak a strange and intricate language that is often very difficult for nonscientists to comprehend. To complicate matters, each field of science has its own unique dialect. Scientists can even have a hard time understanding each other.

And yet it is very important for the general public to understand scientific discoveries and how they relate to health. However, conveying information about science to general audiences clearly, simply, and accurately is not an easy task.

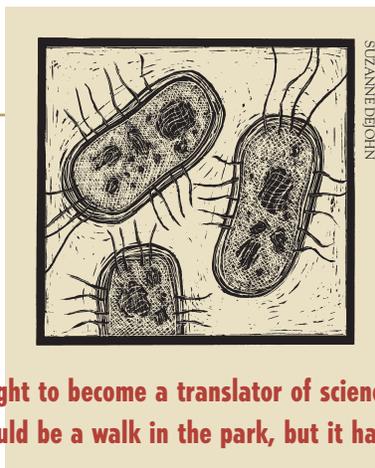
As a graduate student in pharmacology, I do understand science. I also love to write. So I have sought to become a translator of science. At first, I thought science writing for the general public would be a walk in the park. Well, it hasn't been all that easy.

Pathways: About two years ago, I approached the editors of DARTMOUTH MEDICINE and told them of my desire to write for the magazine. They were kind enough to offer me an assignment. My first article was to be about research on cell-signaling pathways, work conducted by a principal investigator in my department. I had done a research rotation in his lab and knew him and the science well. So that first interview was pretty easy for me. And the interviewee was articulate, so I ended up with a lot of quotable material.

However, as I started to write the article, I found it very difficult to tell the whole story in only 500 words. After spending countless hours rewriting and editing and rewriting again, I thought I had done a decent job explaining the work. Since it was my first science article for nonscientists, and my first article for DARTMOUTH MEDICINE, I emailed my draft to a couple of friends to get their reactions.

The feedback was not so good. One friend was an accountant and the other was an attorney, so they were intelligent, well-informed individuals. Yet they couldn't understand the science I was describing. I had written like a scientist, not like a science writer. I had failed to convey the impact of the discoveries or explain them well. I started over. I reworked the article many times until, finally, my friends could grasp what I was trying to say. Even then, the DARTMOUTH MEDICINE editors offered further feedback and guidance that helped me fine-tune the article still more.

Foreign terms: My next assignment involved interviewing a scientist I'd never met, someone who conducted research in a field outside my own. This article proved even more difficult than the first one. Not only did I not understand the science fully, but I made the mistake of telling the interviewee that I was a scientist myself. "Ohhhhh," he said. "Well, then, I guess I don't have to water it down so much." He



I have sought to become a translator of science. At first I thought it would be a walk in the park, but it hasn't been easy.

started talking faster, spewing out terms that were commonplace in his field but completely foreign to me. I had never been so thankful for my tape recorder! I had to listen to that interview at least four times and look up nearly every other word.

That exercise brought home several difficulties in science writing. Communicating with scientists who have spent years and years learning the ins and outs of one small corner of their field is not always easy. They have their own jargon. And major discoveries in their area may mean little to others who don't understand the context. Although I am a scientist myself, I don't necessarily speak the same language as the scientists I interview, especially those in other fields. So I make sure I spend a lot of time preparing, learning as much as I can, before I even go talk to them.

Science writers can't go into every detail in the final story but also need to avoid watering down information too much, lest the subtlety of scientific advances get lost. And we also need to ensure that, in our eagerness to make stories engaging, we don't overstate the implications of a finding. There's a danger of misleading readers if a writer overemphasizes the eventual relevance to patients of a small scientific finding. All of a sudden, improved understanding of a cellular process can get cast in the newspaper as a cure for cancer.

Delicate task: After doing these early stories, I went on to be an editorial intern at DARTMOUTH MEDICINE and have since written many more articles. [A [WEB EXTRA](#) list of links to all of Kristen Garner's articles for DARTMOUTH MEDICINE is at dartmed.dartmouth.edu/spring2007/html/student_notebook_we.php and details about the magazine's editorial internship are at dartmed.dartmouth.edu/internship.php.] Science writing may have become a little easier for me as I have gained more experience, but it's still no walk in the park. I liken the delicate task of translating scientific discoveries into general-interest articles to translating DNA into proteins. Cell functions are controlled by the levels and action of proteins. In order to make proteins, the cell has to transcribe the DNA code into RNA and translate RNA into a protein. This is a complex process, and it has to be exact. A mistake in transcribing the DNA and translating the RNA into the amino acids that make up proteins can lead to grave consequences for the cell.

Translating scientific knowledge is a complex process, too. The scientist transfers his or her knowledge to the science writer, who then translates it into a story for the general public. A mistake at any point along the way can result in either losing the significance of the finding amid too much detail, or overstating the impact of the finding and misleading the public.

With every article that I write, I am getting better at walking the line between oversimplifying and overstating. And, I hope, at conveying to readers the excitement of science as well. ■

The Student Notebook essay offers insight into the activities or opinions of students and trainees. Kristen Garner, a Ph.D. student in DMS's Pharmacology and Toxicology Program, was an editorial intern at DARTMOUTH MEDICINE in 2005 and has continued to write for the magazine. She is also a member of the magazine's Editorial Board.