

Bringing the Audience In: Finding Compelling Details in Science Stories

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(Thank you for those kind introductions.)

The organizers asked me to talk about storytelling technique, and how you can be better storytellers. I am superbly flattered to be asked to do that because of what it says about what they think of my storytelling.

I'm also a little nonplussed, because sincerely, when I think of publications that are doing things well in this challenging media landscape, university magazines are on that list. You seem to be well-funded, you commission wonderful art and graphics, you increasingly attract top writers.

What those writers are writing for you... here's where I hope I can help a little bit. What I want to talk about is not, my storytelling, but what I've learned from doing it that might help you.

When I think of what the barriers are to storytelling, I'm envious that there is one you have already surmounted — which is, because they are already in your institution, you probably have less trouble persuading scientists to talk to you than I do.

The thing I'd like to talk about is, What happens once you actually make that connection and persuade them to have a conversation? And what I want to recommend is not, actually, that you ask them *different* questions. It's that you spend your time — or have your writers spend their time — paying attention to aspects of the encounter that mostly won't be revealed in a question and answer exchange.

The downside of this — I will tell you right away — is that for this to work, you almost always have to be physically present. (I'm going to say "You" even though I understand that in a certain number of cases, it won't be you yourself, but rather writers you assign.) As you heard, I started my writing career as a newspaper reporter. Reporters have a lot of snide and joking remarks we make about our profession, largely to comfort and distract us from the long hours and low pay. And when you become a reporter, one of the first of those remarks that someone will recite to you is:

"The first rule of journalism is: Never go out of the office."

Now the point of that of course is that it's meant to be counterfactual, and to stress that, the better a reporter you are, the *more* you will leave the office. Because, practically speaking, most news doesn't happen within the walls of news buildings. To find out what's going on OUT THERE, you generally have to be OUT THERE to see it.

So, I'm no longer a newspaper reporter, but I still find that piece of advice very useful — maybe more so than ever, because the speed of the news cycle and the pressure to be virtual can easily persuade you that the smartest work stratagem is to stay at your desk. Here's my plea for why you should resist that: Almost everything you need to be a better storyteller is *out there*, in the physical experience of reporting a story. And if you can get *out there*, you have a much better chance of telling a compelling story than if you have not left your desk.

That's because what turns a story from common to compelling isn't longer interviews or smarter questions; you can handle that from your desk. What makes a story something that people can't stop reading is the deployment of specific *sensory* detail — and most of the time, you can describe the sensory experience only if you have had it yourself.

Here's an anecdote from when I worked at the *Journal-Constitution* down the street.

In the spring of 2000, the town of Walkerton in rural Ontario suffered one of the largest outbreaks of *E. coli* food poisoning in history. There were heavy rains that spring, which washed manure off the farm fields and into the local aquifer, overwhelming the water system's ability to keep the water pure. Hundreds of people got sick.

Here's what I wrote in my first dispatch from there [slide]:

At this time of year, with new growth laying a haze of green over the wet fields, the farm country around this small town smells faintly but distinctly of manure. It's a rich, warm aroma, appropriate to the place that bills itself on road signs as "Canada's foremost cattle county."

But follow the dip in Hwy. 4 over the Saugeen River and down into Walkerton, and the smell changes noticeably. It is acrid and ammoniac. It hits you in the back of the nose, and it is weirdly familiar.

It smells like a swimming pool.

It's bleach. All the people living in Walkerton, and most of the objects out in public --- doorknobs, store counters, cafe tables --- have been washed or swabbed with a potent mixture of chlorine bleach and water, the most effective way to kill the bacterium that has contaminated their water system and invaded their lives. [slide]

A funny thing happened after I wrote that story, which was the first of 3 that I wrote from Walkerton. This was not the longest story I wrote from there, and it wasn't the one the AJC promoted the most. But for months afterward, people would come up to me and tell me they remembered the story and ask me about it.

To be clear, they didn't want to know about the fluid dynamics of the Walkerton aquifer and they didn't want know about how you handle a mass casualty involving an entire town. They wanted to know what happened next; they wanted to know the end of the story.

And when I asked them why that story stuck with them, they said: You made me care about those people. You made me feel like I was there.

That's why you go for sensory detail. Because it makes people feel like they were there, and it makes them care.

When we engage readers' senses, we engage their emotions too. We bypass the thinking, reasoning part of their brains, the part that asks, "Should I keep reading this story, or should I go make another cup of coffee?" Sensory detail is how we entangle ourselves with the world in every moment of our existence — sound, smell, touch, taste — and so when we work that into stories, we engage readers in an experience that makes them feel as if they are living it too.

Here are a couple of examples of what this looks like.

Here's one written by Adam Rogers in *Wired* in 2011, the story of a strange fungus that grows where whiskey is made: [slide]

The air outside a distillery warehouse smells like witch hazel and spices, with notes of candied fruit and vanilla—warm and tangy-mellow. It's the aroma of fresh cookies cooling in the kitchen while a fancy cocktail party gets out of hand in the living room.
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Here's one written by Alice Sternbach in the *Baltimore Sun* in 1984, a profile of a child growing up blind: [slide]

Calvin can't see the signs of spring sprouting all around him in the neighboring backyards – the porch furniture and barbecue equipment being brought out of storage, the grass growing emerald green from the April rain, the forsythia exploding yellow over the fences – still there are signs of another sort which guide him along his route:

Past the German shepherd who always barks at him, telling Calvin that he's three houses away from his home; then past the purple hyacinths, five gardens away, throwing out their fragrance (later it will be the scent of lilacs which guide him); past the large diagonal crack which lifts the front wheel of his bike up and then down, telling him he's reached his boundary and should turn back – past all these familiar signs Calvin rides his bike on a warm spring day. [slide]

And here's one by Michael Paterniti, writing in *Esquire* in 1998, recreating the last meal eaten by a French prime minister before his death, involving a tiny, outlaw bird that is drowned in brandy and eaten whole. [slide]

The bird is surprisingly soft, gives completely, and then explodes with juices—liver, kidneys, lungs. Chestnut, corn, salt—all mix in an extraordinary current.

Here's what I taste: Quidbits of meat and organs, the succulent, tiny strands of flesh between the ribs and tail. I put inside myself the last flowered bit of air and Armagnac in

its lungs, the body of rainwater and berries. In there, too, is the ocean and Africa and the dip and plunge in a high wind.

And the heart that bursts between my teeth. [slide]

Smell, sound, movement, texture, taste — you can feel the allure of these descriptions, the way they suck you in. It's so much more immediate than: He rode a bike. He smelled a cookie baking. He ate a bird. It's maybe the oldest, simplest writing instruction: Show, don't tell.

But it's not easy. Details like that can be challenging to gather and hard to render. But they're vital to making storytelling come alive. And they're *especially* crucial to those of us who write about science and medicine, technology and engineering.

Here's why: In the 1930s, the semanticist and later Congressman SI Hayakawa proposed that we process experience with the help of what he called the ladder of abstraction. He drew it as a literal ladder, with very concrete details at the bottom and very abstract ones at the top.

So at the top is God, and at the bottom are rosary beads worn to a shine.

At the top is War, and at the bottom is blood on a doorstep.

As writers about research, we spend a good bit of time at the top of the ladder, because that's where big concepts and questions reside: evolution! string theory! the future of the oceans!

We spend a whole lot of time in the middle, which is data and explanations live.

We don't, most of us, naturally go to the bottom of the ladder. But that's what putting sensory detail in our stories does: It drops us like a plumb line to the bottom of the ladder, down to the place where details live that engage people's attention. Once we have it, we can walk them back up the ladder again, to a consideration of whatever the story is really about.

Because, important point: The stories I just showed you — none of them are about those details. They're about big concepts: about identifying a new fungus, and understanding a narcissist, and learning how the blind experience the world. The details are what make you want to stay with the story as it walks you back up the ladder.

You can see why I think it's a good idea to leave the office. It's difficult — not impossible, but very hard — to write those details if you haven't experienced them. So this is my plea to you, to leave the office, or to budget the time and sometimes money to allow your writers to leave the office as well.

So: let's talk about budget. Sometimes you are going to have the funds, to send your writers somewhere important, if your university is doing something important: to the rainforest. To the Arctic. To Troy.

Even with those golden opportunities, a writer may not come back with the right detail. They may not know how, and we'll talk about that in a minute.

But you can get things like this even if you just walk across campus. There are details lurking in plain sight that will make your stories come alive for your readers. And, important: Finding those details not only make stories vivid once the reporting is over; they have the potential to open up new avenues of inquiry, new levels of intimacy with the story subject, while the reporting is still going on.

Here's an example. If someone were writing a profile of me, they might notice that I wear a lot of rings — which by itself isn't a very interesting detail. They might conclude that I like things that are sparkly or that I want to draw attention to my hands. But only if they asked me would they discover that I wear jewelry because each piece tells a story.

Here's one example. This looks like a wedding ring, and it is. But the reason it has a gem in it is, this was my mother's engagement diamond. Which she gave me to play with, one day when I was five years old. She did it to distract me, while she told the rest of my family she had been diagnosed with leukemia, and was headed to the hospital.

She never came back.

If you were writing about me, that would be something you would want to know.

There are always such details. Researchers wear funny socks, some of them. They have tattoos about their work. They hoard old batteries and slide rules.

I once checked out the trinkets on a bookcase while an evolutionary biologist I was interviewing, a man who specialized in extracting ancient DNA from skeletons, took a call. I noticed some lumps of amber on the shelves. I asked him about them. He showed me the insects inside the lumps — and that was how I discovered that his father was the man who inspired *Jurassic Park*, and that his family history in science was much more complicated than I knew.

So practical details: How do you do this, or get your writers to?

The first rule is simple: Pay attention. As Alan Ginsberg said, Notice what you notice,. This is not easy, because we are so focused on getting the science right, that we don't notice the setting in which all that is happening. But it is simple. Just pay attention. When you step into the lab, when you drive up to the house.

The second rule is, once you've noticed it, preserve it. Record it, photograph it, write it down. Neuroscience tells us, after all, that half of what we experience is lost to memory within a single hour. The writing coach Roy Peter Clark tells a story of an editor at the Charlotte Observer

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who was dissatisfied with the stories he was getting from his reporters — so he asked to see their notebooks and realized that all they contained was quotes. Clark called it, "Writing with words, instead of information." He came up with this rule: **Not in the notebook, not in the story.**

[slide] Myself, when I'm taking notes in a notebook, I designate a section of every page for description.

I also now, routinely,

[3 slides]

take pictures of everything — not for publication, not worrying about composition, but because I can take a picture or shoot raw video faster than I can write things down. The smartphone is the greatest reporting tool ever, and not just for images — you can also use it as a substitute for a notebook, by recording yourself describing what you're seeing when your hands are busy.

[3 slides]

It can remind you what an impromptu sketch looked like, or a piece of equipment, or what your subject ate for lunch when you talked. [slide]

The last thing I think is worth saying is, The aim is to gather as much detail not to cram your stories full, but you can choose — because what you want is the best details, and the best are always the most specific. When you shake hands with an engineer, it's revelatory to notice whether her watch is digital or analog, or whether the cover on her tablet is patched with duct tape. It's probably less interesting whether a scientist's after-shave is Old Spice or Obsession, unless he's a flavor chemist.

A final thing I want to wrap back to: I said at the start that it is almost always best to leave the office, and to go see for yourself. The implication is that you're witnessing things as they unfold. But sometimes you can't. Sometimes what you'll be writing up is something that happened in a lab not on your campus, or during summer field work, or long ago and it's just become significant.

This is frustrating, but it's manageable. Don't be afraid to ask people. All of my books have a component of history that was 50 or more years ago, and if you read the transcripts of my interviews, you would hear me saying, "And then what happened?", "And then what happened?", "And then what happened?", over and over again. You can get people to help you reconstruct.

What time did you get up that day?

What shirt did you put on?

When you walked into the lab, were the lights on already?

And you can collate people's accounts. Some people have better visual memory than others. Some people have great retention for dialog. A few years ago, *Nature* ran a lovely reconstruction of the moment a team learned they had won the Nobel Prize. The writer wasn't with any of the team members on that morning; he asked them, moment by moment, what they did.

You also can undertake the reconstruction on your own. The nature writer John McPhee canoed a river he was writing about, and hung a thermometer off the bow and checked it the water temperature at every landmark. The crime reporter Walt Harrington takes a copy of a police report to a crime scene, and paces off the distances, and looks up the weather report for the day to be sure the sun was shining.

It's historical reconstruction, even if the event happened very recently. It's detective work. It's time-consuming, and it can be difficult. But when it works, it yields amazing results.

It will make your stories come alive in ways that nothing else can — for your writers, for your readers, for you as editors. I hope you try it. I wish you luck.

And I hope, in the end, you end up with this. [Doonesbury]

I hope you really put people in the action.

Thank you very much.