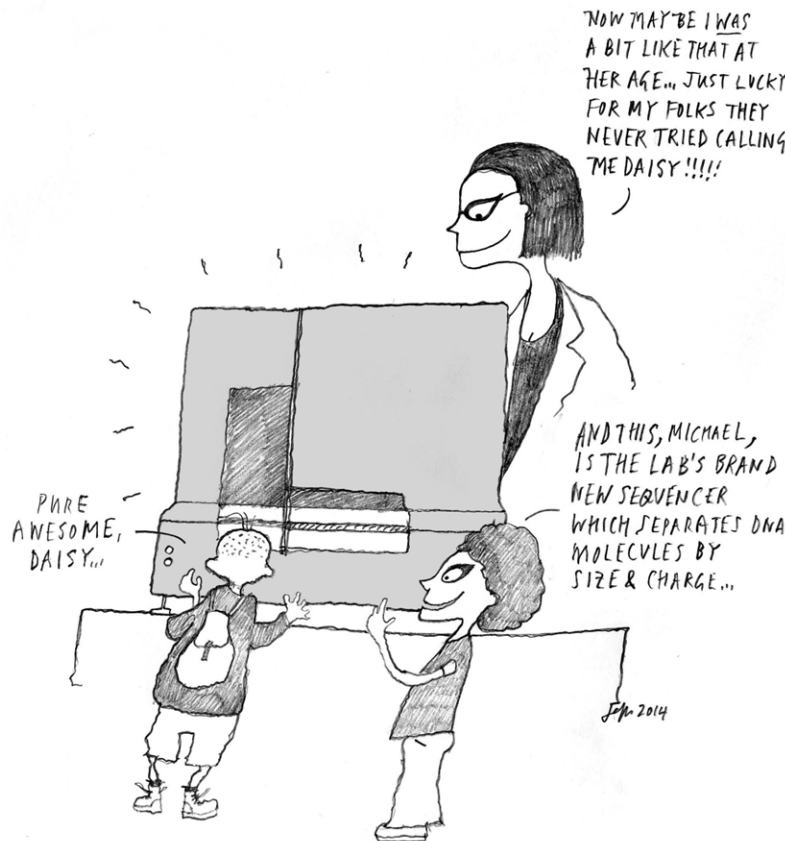


STICKY WICKET

It's a big world out there

X-Gal



We are in science to do science. We live, breathe, eat – and occasionally pass out comatose on the bench tangled up in electrophoresis leads with our head pressed into a stale, half-eaten vending machine sandwich – science. We signed up for science because doing experiments and publishing papers and writing grant after rejected grant is the be-all and end-all of our existence. When we embarked upon our PhDs, we made our beds, and now we are prepared to lie in them for the foreseeable future. (And no, I don't mean it's nap-time. That was a *metaphor*. Yes, I know you've been awake in the lab for thirty-six hours straight, but...Hey, wake up!)

Science is all that matters.

Right?

I used to think so. But now I'm not so sure.

It all started a bit more than year ago, when a new lab head down the corridor called Membrane Meg brought a bunch of primary school kids into her lab for the afternoon. Our institute is

not big on so-called 'community outreach', so at first their presence caused quite a stir.

"Is it just me," Dr Keen mumbled at the sight of these two-foot-high invaders, "or are the undergrads looking younger every year?"

"She's wasting her time," fussed Professor Parafilm, one of those old-timers who still appear in the building every week, although no one has much idea what they get up to anymore – aside from snoring in the front row at the seminar and lecturing everyone about the good old days when men were men, and scientists – who also happened to be men – handled caustic chemicals without gloves and soldiered on with their experiments despite third-degree burns. "She's not going to get her next grant if she stops focusing on the research. Why, when I was a lad, I used to sleep on the lab floor between time points and..."

Meg seemed a little overwhelmed by her visitors, so I put my gel on stand-by and went over to help. The kids were making an incredible racket, shrieking and laughing and knocking things over. But they were so much *fun*. It was amazing to see how they were fascinated by absolutely everything, even aspects of the lab

Correspondence for Mole and his friends can be sent to mole@biologists.com, and may be published in forthcoming issues.

that we find rather ordinary. Operating the vortex mixer. Shooting pipette tips into the bin. Washing blots on the orbital shaker. Dropping one's gel on the floor and watching three days of work shatter into a hundred pieces.

But it wasn't all fun and games. Meg was really good with them, explaining what her project was all about without using big words, instead deploying clever analogies to make it all seem tangible. The kids soaked up her descriptions, and asked lots of smart questions – so smart that I was surprised. A few of them even said that they'd thought science was boring, but now they might quite like to be scientists themselves when they grow up. Later, when they'd all been collected and shepherded away, the building seemed especially quiet.

Soon afterwards, Meg started branching out, and she occasionally asked for my help. Together, we visited a few schools and gave science demonstrations, which were hard work but which gave me a buzz. She also began to be sought after to deliver science talks to adult audiences, and she was on the radio once a month, chatting about biomedicine to a call-in audience. Once, I switched on the television and there was our Meg, looking earnestly into the camera and speaking – clearly and calmly as always – about the latest drug development breakthrough. I couldn't have been more proud.

Yes, I thought Meg was amazing, doing all of that stuff in her free time. But not everyone was so thrilled. The older guard, like Professor Parafilm and his coterie, made no secret of their opinion that any scientist worth her salt had no business spending so much of her time away from the bench. How could she possibly compete in a fast-moving field when she wasn't devoting all her evenings and weekends to reading the latest papers, analyzing her team's data and writing yet more papers and grants? It wasn't something that they had ever done, in their day, so it couldn't possibly be appropriate.

“What was the point, anyway, of telling the General Public,” and here, Parafilm wrinkled his nose, “anything about science? They can't possibly truly understand what we do, and why should they have to? They should just trust us to do what we think is best.”

Other colleagues, especially younger ones, actually seemed a bit jealous of all the attention Meg was getting.

“She acts like she's better than everyone else,” opined Dr Knowall. “I don't understand why they asked *her* to be on TV talking about that new drug – I am obviously so much more qualified.”

(Nobody had the guts to point out to Dr Knowall that whenever he spoke about his research, he used so many acronyms and obscure bits of jargon that it was impenetrable to all but the most senior postdocs in his own lab.)

“I think she's doing a good thing,” Dr Keen confided in me, “but I'm worried that she's too junior to be so conspicuously away from the lab. She might not get promoted at this rate. That would be a shame, but it's sort of the way it works.”

I was glad, then, that I had not told him that I sometimes helped her out. I realized then that I had been subconsciously treating my brush-ins with community outreach as a dirty little secret.

One evening, after one of our school demos, Meg and I went out for a drink and I got up the courage to ask her straight out if she wasn't a bit nervous about how all her extra activities might go down with funding bodies and promotion committees.

She laughed, and then told me a few things that I found eye-opening. First, it turns out that many grant givers now expect their applicants to communicate their research to the public as part of the project. There is a space in many grant applications where you have to write a small plan explaining how you will do this. If you have experience with outreach already, it makes you a stronger candidate. Frankly, I was shocked. I'd really had no idea, and in fact, for my last (unsuccessful) fellowship application, I'd purposely left my work with Meg and the school kids off my CV. Turns out that might have been a strategic error.

There are other benefits too.

“Doing public engagement makes you a better communicator overall,” Meg explained. “If you can describe what you're doing comprehensibly to a non-scientist, you'll get better at writing grants and papers. You'll be better at seeing the big picture, and understanding why your project matters.”

And as for the promotion and recruitment committees, it turns out that many universities and institutes are now looking for people who have public engagement savvy and experiences in addition to their ‘mad Gilson skillz’. It's partly about the money. If funding bodies want to fund that sort of talent, departments who hire those sorts of people are more likely to bring in grants. And it's partly about being a well-rounded individual, too. People who are organized enough to run a full research programme as well as nip down to the local radio studio to give an interview are probably pretty sharp and benefit from an outward-looking attitude.

Ultimately though, Meg explained, she does what she does not for those more practical reasons, but because she thinks what she does matters. There is still a lot of mistrust about science out there. Take climate change, for example. Scientists are pretty convinced it's happening, and that if we don't do something about it, the world will be in a lot of trouble. But many people simply don't heed these warnings – they don't trust the message because they don't trust the messenger. If more people understood what science was all about, then they might be more likely to take an interest in scientific solutions to the great problems of our age: not only climate change, but food security, antibiotic resistance, emerging diseases and many, many more threats we probably can't even imagine. These will all require scientific solutions, but these will be useless if the public does not want to support our research, both financially and philosophically – and to take our advice seriously.

It's a big world out there. And the days of Professor Parafilm are over – there are no longer any good reasons to ignore it.