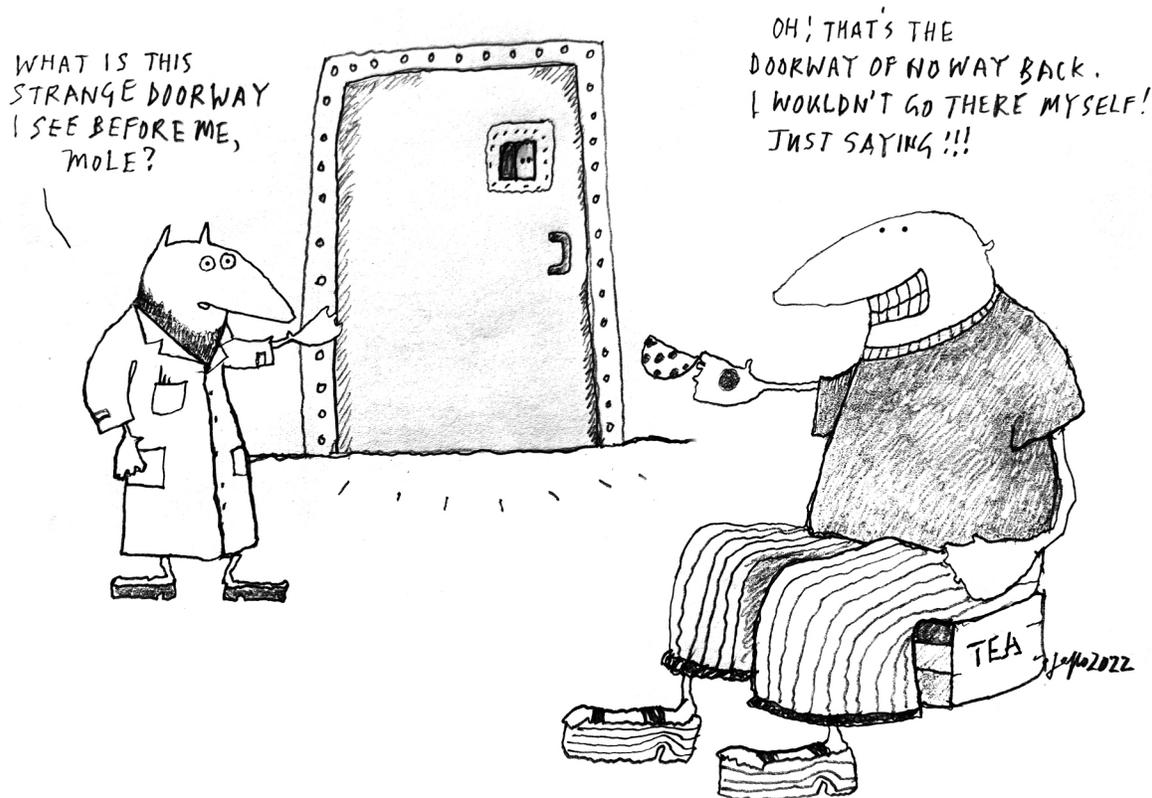


## STICKY WICKET

## The Great Resignation II

Mole

Original artwork by Pete Jeffs - [www.peterjeffsart.com](http://www.peterjeffsart.com)

Hey there! Gorgeous day, here. Warm, sunny, not too hot, and while I have a lot of work to do, I would much rather talk to you. 'Tea', anyone?

If you are just joining us, we have been talking about the Great Resignation, especially as it applies to graduate students completing their degrees who have chosen not to continue on the rocky road to independent, academic research. By 'academic', I am not restricting myself to work done in universities; any research is academic if it is done in the spirit of self-motivated exploration – what we might call 'independent research'. This could be done in universities, of course, but also in stand-alone institutes, hospitals or, if you are especially wealthy, in the basement of your castle (once upon a time, work in such a castle gave us the basics of oxidative phosphorylation and electron transport). Often, but not always, such academic research involves training the 'next generation' of scientists, and therein lies our dilemma. If many (or most) such trainees choose not to continue beyond a degree, a lot of academic science slows or maybe even stops.

I'm told (so I probably believe it) that many of you who are completing your advanced degrees are choosing to move directly to industry. There are a lot of good reasons to do that, not the least of

which is more salary. You have spent years and a lot of money (your own or maybe your parents'), acquired debt (often a lot) and, if you have been lucky enough to be supported as a graduate student, lived at or near the poverty line. The idea of continuing living paycheck to paycheck, while your college peers who have gone into other professions are buying hot new cars and even homes, is galling. I don't blame you at all.

I think back to long, long ago, in a galaxy far, far away (okay, a university that only *seems* like another galaxy), when I faced the same decision. I was barely paying my share of the rent and food bills with my two roommates in an old apartment (which sometimes had heat and never had air conditioning; a wet towel draped over a box fan was the closest we got on hot summer days), when I got an offer to more than triple my salary at a new company that was opening up across the country. I wasn't excited about the work, but hey, the salary sounded absolutely amazing. So, I called an older scientist friend who had recently moved into industry, and here is what he told me. "Mole, you will live in a nice house, in a nice city; you'll buy a car and maybe a boat. But you will still have to get up every day and go to work. I'm not telling you not to do it, I just want you to think about what you want." I turned down the job, and a

couple of offers that came after it. (In retrospect, the original company was sold for a lot of money; another one might have made me rich on stock options. Oh, well. When I think about it, I'm still not sorry. And no, I don't have a boat. But I do have a good car I like.) So, all I'm saying is, think about what you want. More than that, think about whether you can have what you want if you decide to stay in science. We'll get to that.

Last time, I made a list of some good reasons not to go from graduate school to a postdoc. So, I think it is only fair to give you another list of why you *might* want to be a postdoc. Here it is, Mole's 'Reasons to give being a postdoc a shot'.

### 1. *If you want to be a biomedical explorer, there is no other way*

Let me get this out of the way, I consider myself an explorer. I discover stuff. It is what I do. Once upon a time, people who wanted to find the source of a great river, or map uncharted regions of the globe, applied to societies (or in some cases, royalty) to obtain the funds to do it. It isn't so different now; we apply to granting agencies and foundations and hope they like our ideas for new explorations. The big difference now is that we expect them to support us. But funds are limited, and small minds can convince others not to support us – do you really think that this was different for the explorers of yesterday? Here's the thing: if this is what gets you out of bed in the morning (or early afternoon), this being a biomedical research explorer, then there really is no other way than training at the postdoctoral level in a good lab, publishing your best work and developing a reputation as a researcher.

"But Mole," you say (I'm listening), "if I work in industry on developing things that are actually useful, isn't that exploration? And instead of just satisfying my curiosity, I might *help* people." No argument from me that working in industry can be very rewarding. But let's be clear. You will work on projects that are given to you based on the goals of the company, which could well change. And regardless of your progress, your project can be dropped, even very suddenly. Or the company can close your entire program, or close its doors completely, and you will have to find another one. All of this is okay, of course; this is the deal. But do not fool yourself that you can wake up in the morning, read a note that you scribbled in the middle of the night and then go into the lab and do the experiment. That isn't in the deal in industry. And there is another thing: you cannot 'just' go back into academia. Yes, it happened in the past that very successful scientists in industry obtained faculty positions at universities, and it might even happen today (I don't know). Personally, I know of only one person who did this successfully (and a long time ago) and perhaps two more who could (maybe) do it today if they so chose. There isn't a way back for most of us.

### 2. *You might get to run your own show*

I know that not every postdoc gets to work on a project they choose (but that is how it is in my lab). But that isn't what I am talking about, really. It's this: if you do a postdoc and you are successful (no guarantees here), then there is a chance that you may get to run your own lab. And if you do, then you can be the one who chooses the research area and the projects. You get to be the one who says, hey, wouldn't it be interesting if things work like *this*?

I know that many independent scientists will argue that this is fantasy; what you work on is largely determined by what funding agencies will support. And as we know, grant reviewers hate it when an applicant has a truly exciting new idea that could be wrong (actually, I don't believe this, but I'm channeling an angry scientist

here). So, we only get to work on boring, incremental stuff that is 'safe'. Mole is an idiot, and if I had a pie, I would push it into his face (maybe too much channeling, but I do like pie).

Yes, it is true that not every independent academic researcher is successful enough to get to ask the most interesting questions they can imagine. Many have even forgotten *how* to imagine a really interesting question. Getting a job as an academic scientist with your own lab is no guarantee of success. Even if you (gulp) get tenure. Unless you can convince others to fund your research, you don't get to explore; you get to run a show, yes, but not the show you really want.

But really, why not take the chance? If you put in the work (being the most knowledgeable person in your chosen field), think hard about your ideas and have the courage to rigorously test them, and then go out and convince others that what you found is indeed as exciting and groundbreaking as you thought it would be, then you have a very good chance of running a show. And then you get to do it all again. You are taking chances that you could fail, but why is that different from any other independent operation? Even the most successful businesses can make a wrong choice and fail (and if you are working for such a business, you won't be anymore, despite your own best efforts).

If you are thinking "but Mole, I don't want to run my own show," then of course you should not make this a goal. I'm talking to those of you who do and have always wanted to. You may get to fulfill the dream, if that is your dream.

But what happens if you decide to be a postdoc and manage to be successful through your hard work but change your mind about your goals? The reality is that the more skill you demonstrate (through success in navigating peer review of papers and grants), the more likely it is that, in time, you can run a show (albeit a different show) in industry. Project leaders have more latitude to be creative than those who work under them.

### 3. *R-E-S-P-E-C-T*

I don't know if this counts, but I wanted to mention it anyway. When I was a graduate student, I don't think I got much respect ("why are you doing *that*?"), but when I earned my degree and could tell people that I was a *professional scientist*, I felt that change. Of course, everyone, regardless of profession or degree, deserves respect, but this was tangible. It still is. I don't make as much money as most I know in business or other professions, but I know I have their respect. If I worked for a company? Probably I would too, but I think people think of academic scientists differently. I don't know, we would have to ask them. Maybe it just matters to me. If it matters to you (and there are a lot of reasons to fully respect other positions) then maybe this weighs into your decision.

### 4. *Do or do not, there is no try*

These wise words from a small, green philosopher hold true. In my experience, there are two types of postdocs: those who do and those that try. By this I mean that every Mole in the lab whose attitude has been that they are "just going to do it" have gone on to succeed very well in academic research. It is not simply bravado; currently there is a very quiet, reserved postdoctoral Mole in the lab who receives accolades (and awards) at every meeting she attends, and she is undaunted in her desire to become an independent academic scientist. And in my experience, she will succeed. It is courage, writ large, and she will succeed. Why? Because she is amazing.

And that is the key, this *being amazing* thing. If you, like me, got into science because once upon a time you said, “hey, this stuff is amazing – I want to do that,” you have to hold on to that. Everyone is doing everything they can to erase that desire: teachers, reviewers, social media voices, your peers. But I also know that whenever someone publishes an amazing paper, or shows amazing results in a talk, or proposes an amazing project, they stimulate this childlike

wonder in me, and I think in others who love this science thing. We love to be amazed, and if you can do that, you will get to do that *more*.

These are my reasons to suggest that if you want to go on to be a postdoc, you should. But I know that there are problems that need to be fixed. We’ll get to that. Stay tuned.

It started to rain, and I still have some work to do. See you next time. Now, where did I put that ‘tea’?