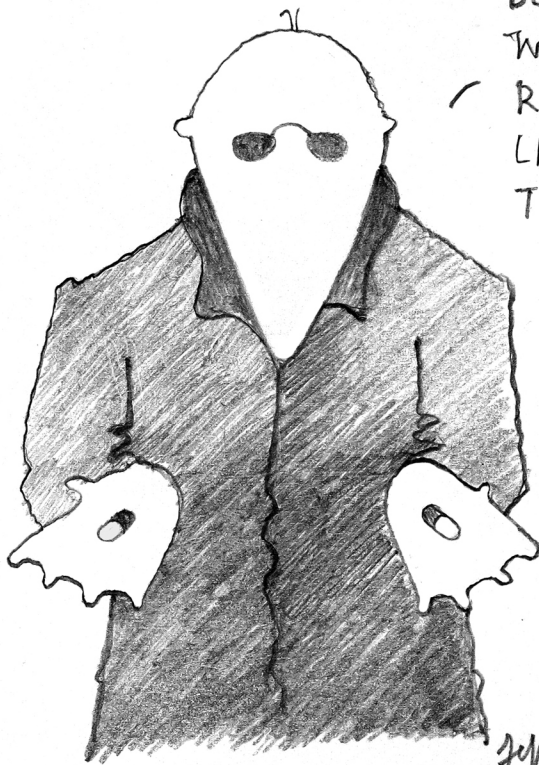


STICKY WICKET

Corona XVIII – words alone

Mole



THIS IS YOUR LAST CHANCE.
 AFTER THIS THERE IS NO GOING BACK.
 YOU TAKE THE BLUE PILL AND
 THE STORY ENDS. YOU WAKE IN YOUR
 BED AND BELIEVE WHATEVER YOU
 WANT TO BELIEVE. YOU TAKE THE
 ✓ RED PILL AND YOU STAY IN WONDER-
 LAND, AND I SHOW YOU HOW DEEP
 THE MOLE-HOLE GOES...

Original artwork by Pete Jeffs - www.peterjeffsart.com

Come stai? Wei geht's? Tudo Bem? Jak leki? Ne haber? Hoe gaat het? How are you? (I can go on, but I don't have enough characters. And no, I don't speak Turkish or Dutch, but the internet is rich and can make you seem smart. Of course, it also can make you really, really stupid). And no matter the language, the response is, "fine," or the equivalent. We can change the intonation: How *are* you? How are *you*? And yes, I am fine, thank you, but no, we are not fine. There is a global surge in cases of the Terrible Pandemic, and I am in one of the epicenters. The state in which I live (among these United States) is one of the ten worst areas in the world. But it is a beautiful day here, warm and breezy, and I'm going to spend the day giving a seminar and meeting scientists in virtual reality. So yeh, I'm fine. Thanks for asking.

I've been thinking about words. Alert readers have probably picked up on my fascination with words, their origins, and their

unique uses. The language I speak (English, but many of you will disagree – okay, *American*) constantly evolves, and words arise and change their meanings at a remarkable pace. Indeed, in the century before last, a project to collect every word and the ways it has been used resulted in the monumental Oxford English Dictionary (OED), the first volume of which ('A') was apparently a best seller. There's a wonderful book on the creation of the OED (*The Professor and the Madman*), that was also a pretty good movie.

Words matter. Words can engage, inform, invigorate, inspire, and elevate our thoughts (and lives). They can also deflate, confuse, hurt, and (from what I know of Hannibal Lector, who fortunately does not exist) kill. As scientists, and I assume you are a scientist, reading this (and if you are not, why in the world are you reading this?), words illuminate our discoveries and ideas. How we use

words can impact how our work is perceived, and impact our impact (and impact factors). Among the worst ways to begin a paper or talk is, “The role of protein X in process Y has not been determined” (insert your own X and Y). You have invested your time and other people’s money (usually quite a lot of each) in the findings you are presenting, and you only have a few opening words to make me understand why I should care.

But that isn’t what I wanted to talk about (yeh, as usual, I got side-tracked). I recently read an excellent essay by the philosopher Prof. Marjorie Hass, entitled ‘One True Question.’ She suggests that each of us has a fundamental question that drives our work and passions, a question that is often not obvious to us until we explore it within ourselves. And understanding your own question can bring focus and clarity to your work and ultimately, your life. As Trinity said, “It’s the question that brought you here. You know the question, just as I did... The answer is out there, Neo, and it’s looking for you, and it will find you if you want it to.” Okay, that was The Matrix, and not Dr Hass’ essay, but it sort of sums it up (except if your answer is, “What is the Matrix?” – you’re not following me). You can find your question, and sometimes, it will find you.

I’ve been thinking about my own question. Dr Hass made one suggestion in her essay: “What are the guiding laws of nature?” but I don’t think that is really my question (it could be yours, though). I *think* mine is something along the lines of “How does the interactive community of cells, responding to each other and to their environment, create the amazing thing that is us?” Of course, I can only attempt to answer tiny parts of this question, but each time I do, I feel I’m a little closer to something important. Actually, now that I think more about it, maybe she was right after all: I might indeed be asking about the fundamental laws of nature (go figure). But I’m still thinking about the question – I’ll let you know when I nail it down.

But Dr. Hass’ own question is different. She asks, “What is the power and limit of language?” She says that “I cry whenever language fails to meet the challenge of the beauty, horror, or intensity of what we see.” I think this resonates. Do I ever attain language that conveys, in my papers, the sheer beauty of what we think we have elucidated? (“In the experiment shown in Figure 5A, we observed a significant increase in oxygen consumption...”). Or the intensity of our experience in obtaining a result that rigorously tests our core conclusion? (“These results strongly suggest that...”). Or the incredible adrenalin *rush* of discovering something

fundamentally new? (“We have made the novel observation that...”). No, words alone fail me.

Maybe the formal language of scientific papers makes such communication impossible, with our standard use of the passive tense to remove *ourselves* from the data (“It has been argued that...”). Sometimes we more actively say, “*We* found that...” but if we say, “we were astonished to find that...” the journal editors will require that we remove the “astonished” part. Indeed, it is the policy of many journals that words such as “surprised, interested, and fascinated,” let alone “astonished, overjoyed, elated, and thrilled” are not permitted. Maybe this is why I often find that people are much more interested in our work after we talk about it, even if they have read the paper. When I give a talk, I can say pretty much what I like and yeh, I can get pretty evangelical, in a science-y way (“Let me hear you say ‘*eureka!*’” – okay, I don’t actually say that, but you know what I mean).

What does any of this have to do with our situation, this Terrible Pandemic and the ongoing battles to control it? Perhaps nothing. But consider this: Compared to the vast majority of the population, you qualify as an expert – able to critically examine emerging data and communicate it to others. You might even be an epidemiologist, virologist, immunologist, or experienced in clinical trials, in which case, even more so. We need to convey our hopes, fears, recommendations, and evaluations, and in such a way that the “beauty, horror, or intensity of what we see,” is felt by others. And, for the most part, we use words alone. (And graphs, of course, which apparently have an exchange rate of 1:1000 words). If not us, who?

But even if this isn’t something you are comfortable with, this idea of communicating with non-scientists (come on, you *must* know some), there’s something else you can do. Think about your true question (I mean, we have some time on our hands, no?). If you can discover it, ask yourself if this is really driving your thinking and your work. If not, how can you realign what you do to address your question? If your question is: “How can I get a grant?” you are missing the point. If we each surrender to our one true question, and let it guide our research, and use it to inspire others, this might do more than improve our funding chances. It might actually be a way to happiness in this frustrating, difficult thing we do, this biomedical research thing. And that might be one good thing to come from this terrible thing we are experiencing.

Sure, maybe not, but hey, what have we got to lose? Hang in there, we *are* going to get through this. Right now, I’m questioning where I put the ‘tea.’ See you soon, and be careful out there.