been controlling itself for billions of years and will continue to do so long after we humans disappear.

A 1991 profile in Science headlined Margulis as “Science’s Unruly Earth Mother”, “amusing, exasperating, enlightening”. In practising her own brand of science, Margulis routinely dismissed results gleaned from reductionist methodologies in favor of holistic approaches to understanding. Like most scientific ‘rebels’, she simply refused to doubt her own intuition. A prime example is her steadfast belief that the flagellar apparatus of the eukaryotic cell is derived from a symbiotic spirochaete bacterium. A component of her original endosymbiotic hypothesis, she spent her whole career trying to prove it. That molecular and genomics-based approaches failed to provide such evidence did not deter her; she preferred to make inferences about how cells might have evolved in the past based on patterns and processes she could observe directly in living organisms.

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of the kids I taught dance to (Scott Gilbert of developmental biology fame), and he got me a job with the theoretical biologist Stuart Kauffman that required no actual knowledge of Biology — so that I could see what I was getting into. Things continued in more or less the same serpentine fashion for the next twenty years, but I’ll stop here and be thankful that ‘zoology’ has become a less common term. Otherwise, I may have become a banker.

Are you happy with your choice? Very much so. No other field has given me so much in so many ways. Aside from its beauty and elegance, the natural world never fails to make me laugh. As I like to tell my students, if something looks ridiculous, it’s probably due to sexual selection.

But even natural selection comes up with some whoppers. Scallop eyes, for example. Why give a clam 100 big, blue eyes? Or why are the sea urchins in my tank wandering about with carrots stuck to their heads (which of course aren’t even heads)? Or tardigrades? Who ordered them? Also, Biology, for me at least, provides a spiritual connection to the world that religion never did. I wouldn’t call myself a druid, but the natural world does impress and awe me, and the fact that I was formed via the same process that gave rise to pelagic snails, corals, and oak trees gives me comfort. I’ve always been drawn to family sagas and nature is the ultimate extended dynasty, complete with weird Uncle Wiggly. Getting paid to study this is really too good to be true.

What do you like most about your job? Two things. First, I love to go to sea. My first trip in 1997 was with Edie Widder, Tammy Frank, and Justin Marshall. I was so excited that I nearly passed out, and things haven’t changed much since then. Seeing the animals in the water, via submersible or scuba, or seeing them on the ship after being collected, never fails to amaze me. Shipboard life is also interesting in itself, being a self-contained community of often odd people made even odder by extended isolation. And where else do professors get to play with hydraulic winches and 30 meter fishing nets?

My other main love is mentoring graduate students and postdocs. I’ve always enjoyed teaching, but with undergraduates I hardly ever get to see whether I’ve succeeded, because they’ve moved on. Graduate students, from what I can tell so far, never truly leave, so you can see them grow. It’s been wonderful to watch my students develop from relatively shy, hesitant people to forces of nature that lead entire expeditions. I’m not sure how much of a role my mentoring played in this, but it’s still wonderful to watch and does make me proud.

Do you have anything useful to say to students and postdocs? In the US, I’m known as an advisor, so I suppose I should give advice. Most of it is only relevant to people pursuing a research career, but here goes:

For graduate students: choose your advisor carefully. You will be stuck with him/her for the rest of your life. Even after you get your PhD and no longer require reference letters for a job, people will still see your advisor floating behind you like a shadow and assume that you two are somewhat alike. Wonderful research is not always performed by wonderful people, so make sure you choose a person that you like, work well with, and — most important — trust. As my first student, Alison Sweeney, said, selecting an advisor is like choosing a spouse after one date. Learn all you can on this date and follow your gut. Aside from that, work on something you like, in a place you like, with people you like. Happy people (within limits) are more productive and creative, so being miserable in Famous-Guy’s lab at Cutthroat University to further your career is a false bargain. Similarly, while it can be inspiring to talk with the older heroes of your field, it’s not as useful a career move as you might think. Instead, develop strong ties with other students — they’re the ones who will still be with you in forty years. The heroes will be dead.

For postdocs: you will get a job, you will get a job, you will get a job. You may not get the job you thought you’d get when you entered graduate school, but you will likely get a job that you like. I did not go to an ultra-elite graduate program, but nearly every one of my fellow students now has a job that makes them happy. Also, worrying about getting a job will not make it easier to get one and will blind you to the fact that — as a postdoc — you have more freedom, ability, and opportunity to do research than you will ever have again. I know it’s easier said than done, but try to enjoy it.

What about advice for professors? For early-career professors: Pick your students carefully; they are part of your life for a long time. Be especially choosy about your first student, since they set the tone for so much that follows. I’ve seen careers rise and fall on the relationship with the first student. Choose students you care about, otherwise the effort simply isn’t worth it. Be generous with them and in your collaborations with others. Aggressive competition may buy you short-term gain, but will eventually leave you bitter and alone, stamping your foot in an empty office.

For mid-career professors: At some point, you will discover that your mental resources are finite after all — try not to be too disappointed. Avoid administrative duties like poison. I suppose everyone should do their part, but the initial glow of being asked to join the university honor code reform reversal committee wears off quickly. When the mid-life crisis comes (which it will if you are male), and you are choosing between the marriage-ending affair and a shiny little car — get the car. That’s as far as I’ve gotten.

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