

Sense of doubt

Charles Day

When did you decide to become a journalist? That's a question I occasionally field from graduate students and postdocs who are contemplating a switch of career from scientific research to science writing. My answer is not especially profound. I came to realize that I enjoyed writing up my research more than doing it. What's more, I became increasingly troubled by Marcel Proust's observation that we always end up doing the thing we are second best at. Was I a second-rate researcher? I wondered. Was there something else that I might be better at?

Some of those inquisitive graduate students and postdocs go on to ask when in my career I decided to leave research: after a two-year postdoc in Japan and a six-year contractor position at NASA. Although I'm temperamentally and philosophically disinclined to revisit old decisions—or lack of decisions—I do so here in the hope that my reflections might help you.

But first a digression. Among my fellow graduate students and friends at Cambridge University's Institute of Astronomy was Stephen Warren. Steve took the advice he was given at high school and studied engineering as an undergraduate with a view to pursuing a career in civil engineering. "It pays well," his career adviser told him. He duly became a civil engineer. One of the projects he worked on was Hong Kong's Mass Transit Railway.

But being a practicing civil engineer was not for Steve, so he decided instead to do a PhD in the same subject. Perhaps it was his research topic, which entailed firing ball bearings at concrete, that failed to sustain his interest. He switched PhD programs to astronomy, discovered the first quasar with a red-shift greater than 4, and became—and remains—an astronomer.

Francis Crick had a similar road-to-Damascus conversion. Having earned a bachelor's in physics at University College London, Crick embarked in 1937 on a physics PhD, also at UCL. His topic: measuring the viscosity of water at high temperatures. A Luftwaffe bomb destroyed his lab during the Blitz. Later during World War II he helped design magnetic and acoustic mines. After the war was over, he joined other physicists in switching to biology. Reminiscing, he regarded his original thesis topic as the "dullest problem imaginable"; becoming a biologist "felt like being born again."



My early course was different from Steve's and Crick's. Physics was my favorite subject in high school. I pursued it as an undergraduate at Imperial College London. Of the flavors of physics I was exposed to in my final year, I found astronomy the most interesting, so I did a PhD in the area that I found most interesting, x-ray astronomy. Chance played a role in my next moves. X-ray astronomy can only be conducted from space. The missions launched next were Japanese and then US.

At the time I made them, my choices were natural and in accordance with professional career advice: Do what interests you. When I began to have doubts about my career, it was not because my research had become the equivalent of Steve's ball bearings and Crick's hot water. Rather, I came to enjoy the writing aspect of my job at NASA more than the research.

If you're reading this editorial, chances are it's because you're a member of one of the 10 professional societies that belong to the American Institute of Physics, which publishes PHYSICS TODAY. Unlike me, you likely remain in an academic or research position.

But if, like me 21 years ago, you're having doubts about your career, then I can offer some advice. Doing something be-

cause it's interesting isn't enough, at least it wasn't for me. You need to enjoy it, too. If you don't, then start thinking of alternatives. Granted, many of us aren't in a position to change tack completely and become a goat farmer, graphic novelist, or water colorist. We need the salary. Granted, too, changing careers is harder as we age.

Still, it's worth contemplating options. A modest approach is to examine your current job, as I did 21 years ago, and ask yourself what aspect of it you enjoy the most. You might be able to make that slice bigger and your pie more satisfying. **PT**

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