

When you lose your passion for science

David R Smith* 

“There is only one thing that I dread: not to be worthy of my sufferings.” –

Fyodor Dostoyevsky.

A lot of different traits go into making a great scientist. Perhaps, the most important one is passion. I still remember when the scientific bug first bit me during my fourth-year undergraduate thesis project. “My goodness,” I thought, “this is it! This is what I’m meant to be doing.” This newly found passion propelled me into graduate school and beyond, where I found kindred spirits whose enthusiasm for research was equal to mine.

When I finally started making a decent salary as an assistant professor, I thanked my lucky stars for getting paid to do something I loved. I swore to my friends and family that I’d never retire, that I’d still be writing papers on my deathbed. Of course, there were times when my endurance and patience were tested, when I had to do monotonous and unfulfilling chores, when my ambitions exceeded my intellect, and when I did not live up to expectations. But throughout it all, my passion for science never wavered. That is, until now.

I started noticing chinks in my armor during the first phase of the covid pandemic. As I’m sure many can relate, the fear, isolation, divisiveness, and incessant screen time resulting from lockdowns took a lot of the fun out of teaching and research. But, sure enough, once things started opening up again, I felt my appetite for science returning. I knew if I just stayed the course, I’d be back to my old enthusiastic self in no time. I guess my doctor never got the memo. This past August, at the age of 41, I was diagnosed with colon cancer, almost 5 years to the day that I lost my dad to carcinoma.

At this point, my story will be familiar to anyone with first- or second-hand experiences of cancer: hospital waiting rooms, medical imaging departments, surgical wards, chemotherapy units. . . In the hours and days following my diagnosis, I not only felt robbed of my health but stripped of my passion for science as well. I was so scared and anxious that I struggled to respond to emails let alone manage a research program. I was in shock, trying to process this life-changing event.

I went on medical leave once my treatment began. Shortly before, a colleague said to me, “You know, Dave, it might not be so bad. You’ll be able to relax and may even find time to write some papers.” If being curled up in a fetal position counts as relaxing, I did my fair share of it. In the last 7 months, these words you are reading have been my only attempt at writing, and they do not really count as science writing.

You might think that a professor of biology would have submerged himself in the colorectal cancer literature, analyzing treatment plans and options. I could not do it. It made me nauseous studying tables showing five-year survival rates and extrapolating from them the odds that I would see my son graduate from junior high. I was used to thinking of organisms as machines that could be manipulated, but when the tables were turned, I struggled to think of myself that way. The closest I got was thinking, “If I were an airplane about to take flight, no person in their right mind would get on board.”

Throughout my life, science has helped me understand the world and provided me with wisdom, perspective, awe, and truth. Admittedly, in my darkest hours with cancer, I did not find solace in science – but I’m very thankful to have access to scientific treatments; instead, I found it in art, literature and relationships. I did not think about the articles

I’d published, the awards I’d won (not many) or the grants I’d secured. I meditated on all the experiences I’d had and people I’d met throughout my life, so many of whom are linked to science. Most of all, I thought about my father who taught me how to move through the world with dignity and compassion. I thought about how, when cancer spread to his spinal cord and he could no longer eat without choking, he maintained his sense of humor and *joie de vivre* and even found the strength to keep proofreading the scientific manuscripts of his dyslexic son. It’s fitting that his final lesson to me was how to die from cancer with your head held high.

About halfway through my chemo, I received an email saying that my application for promotion to full professor had been successful. In the past, this would have filled me with pride and resulted in a strong dopamine hit. But on that day, I derived more meaning and purpose from the knowledge that I had enough strength to walk a block and a half to pick up my son from kindergarten. I used to constantly compare myself to my peers. You know the drill: numbers of high-impact papers, citations, invited talks, etc. I was focusing on the wrong metrics. When a former chair of my department discovered that I was sick, he left home-cooked meals on my doorstep every week for 3 months. I’ve probably published more papers than him, but his empathy index surpasses mine, and that is the more noble achievement.

Before I became a scientist, I was a highly motivated endurance athlete. I was able to translate many of the skills I learned from sports into my career as a researcher. Some of these skills, like perseverance and mental fortitude, are admirable but one, in particular, is worrisome: self-centredness. Few athletes make it to the Olympics without putting themselves first, and a similar statement can be

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made for achieving greatness in science. I was never a great scientist or athlete, but I have at times been a touch too selfish.

I'm back to full-time work now. Among the major milestones on my horizon include CT scans and colonoscopies. One positive is that once you have had the pleasure of waiting for the results of a cancer diagnostic test you never again fear an email about the decision of a manuscript or grant. I'm still waiting for that passion that I once had to return, and I'm worried that all those drugs that passed through my veins have hindered

my ability to focus and think clearly ("chemo brain"). Whatever happens, I do not think I'll ever be the same kind of scientist that I was before. That might be a good thing. It's almost like the surgeon, while removing segments of my intestines, cut out a large portion of my ambitiousness. Although that piece of my professional identity is now lacking, I'm still content and believe I will continue to make meaningful contributions at work. Whether this is a sustainable strategy in the competitive arena of academics remains to be determined.

A close friend asked me the other day: "Are you not angry at having cancer at 41?" "No," I said. "I never questioned the universe when all the good things happened, so what right do I have to question it now that I've hit a rough patch? Moreover, I've had and continue to have a wonderful life, and whether I make it to 42 or 82, I consider myself lucky." I've been fortunate in so many ways, one of which is having had the privilege to find and pursue a true passion for the past 20 years.