

Opinion | I'm a senior and didn't want to be duped by bad science. Here's how I took matters into my own hands

By Thelma Fayle, Contributor
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Thelma Fayle is a Canadian writer living in Victoria, BC. She plans to write more on the subject of microbiology.



Thelma Fayle often got back into bed for an extra 20 minutes, propped the heavy volume "Janeway" on a pillow next to her, and read. (Photo Credit Daryl Jones)

Feeling spooked by the epidemic of science-related fear mongering is understandable. It is easy to be fooled. But being 70, and without a formal science background, I didn't want to become more attuned to anecdotal stories than scientific data.

So I decided to go on a search for trusted voices by slow-walking through a science textbook — one described as “scary looking” by the university librarian. I wanted to see if I could follow the ideas in “[Janeway's Immunobiology](#),” for a better understanding of our mind-numbingly complex [immune system](#).

I started reading the 800-page book in May 2025 and could only absorb two or three pages a day, first thing in the morning — when my aging brain was fresh enough to handle the dense material. I figured the read would take me six months. But it took nine.

My plan offered a good excuse to get back into bed for an extra 20 minutes and prop the heavy volume on a pillow next to me. At first, I stumbled over unfamiliar words; but adjusted to language of science in time.

If you are one of the relatively few who have studied the molecular science of the human immune system, chances are you have lugged around the almost 2-kilo text first written by Charles A. Janeway Jr., the pioneering Yale immunobiologist. Students who become doctors, rheumatologists and immunologists, seem to hang on to their fat “Janeway” tomes — almost as a badge of honour.

The current (10th) edition is the “gold standard” text and a highly polished odyssey of discovery. While Homer's [odyssey](#) describes adventurous wanderings around the earth 34 centuries ago, “Janeway”'s odyssey describes adventurous wanderings through the beauty, immensity and mystery of the immune system, as it is understood at this moment in time.

I was captivated by a wonderland of six hundred detailed illustrations offering insights on how we humans keep pathogens from invading our bodies. As a new-to-science person, the more I learned, the more I discovered a fresh excitement in myself, as if Mother Nature were whispering in my ear.

Reading “Janeway” caused me to marvel as I observed a spider bite. Within 24 hrs. my thumb swelled, turned purple, and then returned to normal. I stared at my hand in amazement. It is hard not to be enchanted by the self-repairing capacities of our resourceful immune system when we understand what is going on under our skin. Without conscious effort, and often within minutes, a variety of immune cells, with different and elaborate repair roles, come together to enact elegant solutions. A knee scrape gets a response from completely different parts of the immune system compared to an attack from bacteria or a virus or a severe head injury.

I don't mean to sound like a wide-eyed five-year-old, but the whole process of clearing up infection is spellbinding; and yet, we mostly take our immune systems' abilities for granted. It doesn't help that misleading marketing and deceptive slogans about “immune boosting” nonsense continuously play to peoples' ignorance.

My favourite astonishment was in discovering the detailed explanations of 21st Century organ transplants. The dance between newly implanted organs and the receiving immune system is a dazzling choreography. Life-extending organ transplants seem like magic, but are not — they are the result of complicated science — learned by determined scientists over centuries.

You might think it a morbid note, but as I have registered with the national organ donor program, I like knowing dedicated scientists may make good use of my leftover bits one day.

The challenging 800-page journey repeatedly reminded me of how lucky we are to have our smart bodies. I have a feeling that if people understood more about our immune systems, out of profound awe, we wouldn't eat sugar, inhale smoke, or participate in a few other practices that damage our immune system. We are funny creatures that would be horrified at the sight of someone pouring a coke on a favourite plant — but think nothing of filling our highly evolved belly with one.

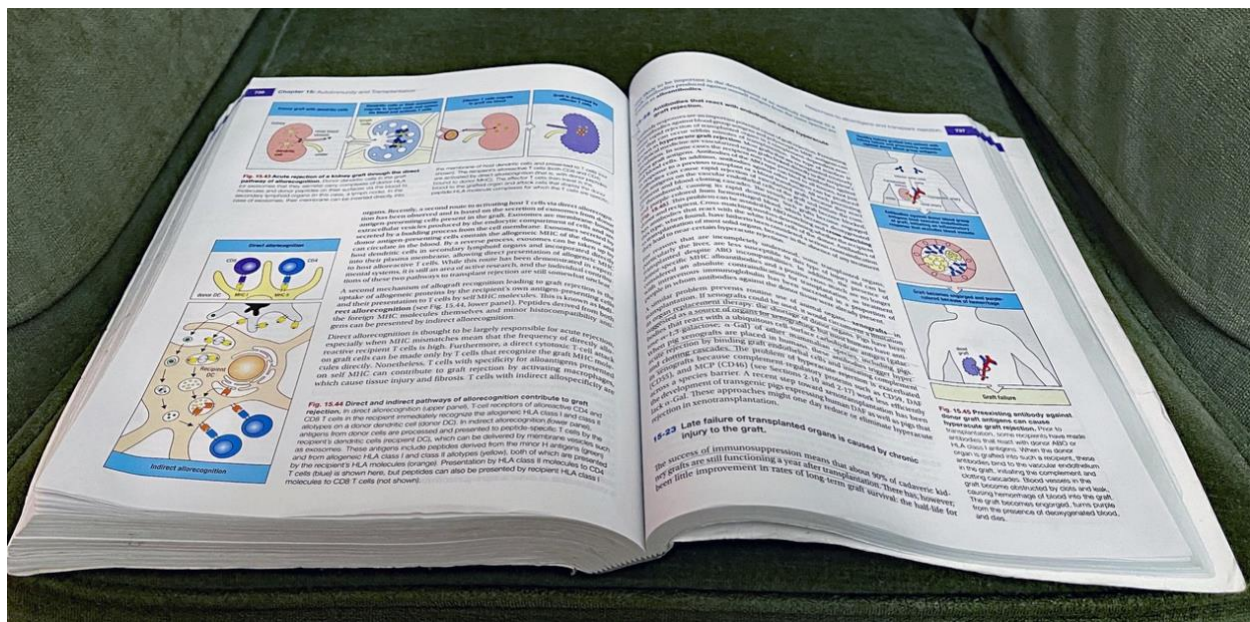
I wish vaccine hesitant people could read “Janeway”'s take on “immunological memory.” The profound gift of the adaptive aspect of our immune system (evolved over 500 million years) protects us from getting reinfected with our previously-owned diseases. This valuable and brilliant protection can be briskly wiped out by the ferociously contagious measles virus. I imagine fewer parents would forgo the measles vaccine if they knew the full story of the damage the disease can cause to a child's immune memory. And yet, misleading anecdotal observations abound. We are often swayed by purveyors of false knowledge.

“Janeway” taught me about the monumental cosmos wrapped up in our protective blanket of skin. I savoured the modest and often repeated acknowledgment: “there is still so much scientists don't understand.” The honest humility woven into the book is comforting and a rich contrast to conspiracy theorists. Scientists may make mistakes, particularly when dealing with a new disease, but unlike their critics scientists learn from them.

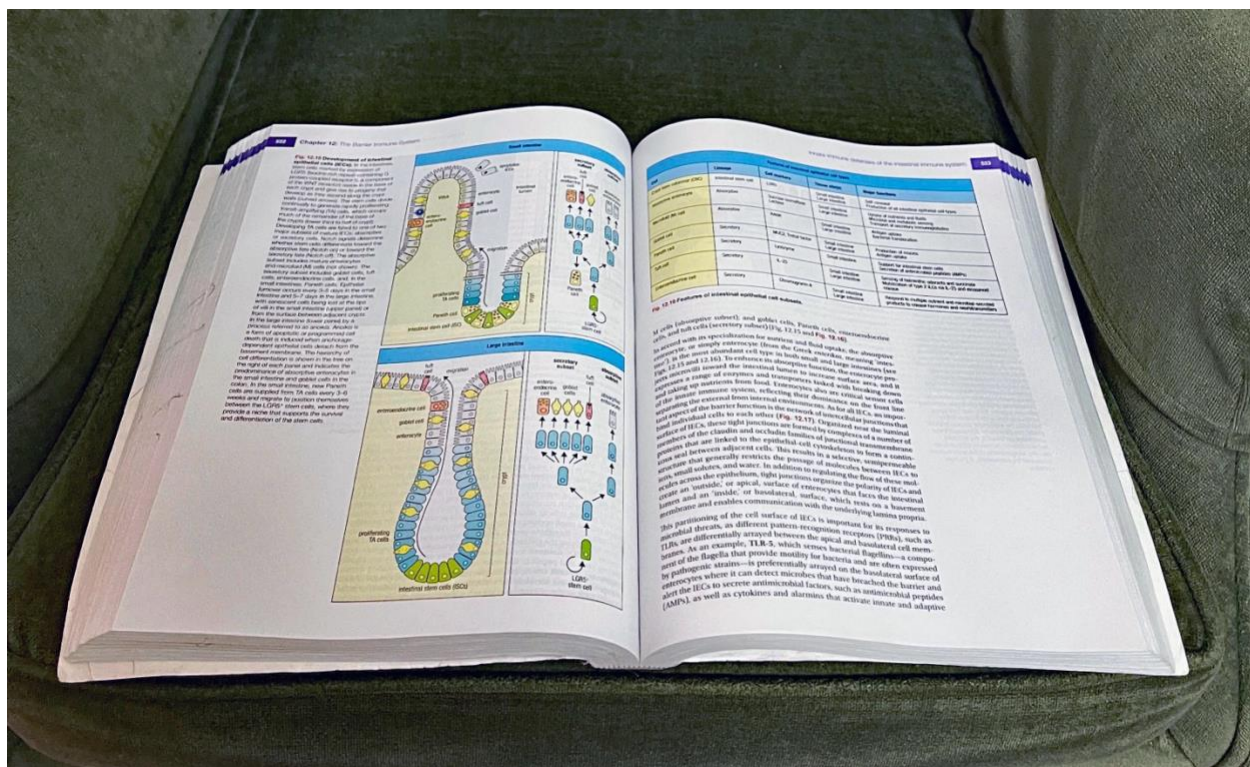
The inclination to read a challenging book turned out to be an empowering gift. After nine long months of aiming to follow “Janeway”'s scientific narrative, I felt a tremendous joy. On reaching page 800, early in the morning on March 16, I was elated for several days. Cracking open a new world — and examining it closely — felt deeply satisfying.

Learning about good science has allowed me to become more trusting of good science. I gained an enduring respect for the value of focusing on facts offered by verifiable experts. Detailed query and long forms of engagement are some of the few ways we can combat the misinformation that we are all vulnerable to. Reading “Janeway” left me a little more able to discern misinformation and a little more knowledgeable. I no longer feel spooked by science-related fear mongering.

Link to the article in the *Toronto Star*: https://www.thestar.com/opinion/contributors/im-a-senior-and-didnt-want-to-be-duped-by-bad-science-heres-how-i-took-matters-into-my-own-hands/article_1820ea12-aa69-45a1-9001-0e8328b04920.html



Pages from Janeway's *Immunobiology 10th Edition* by Kenneth Murphy, Casey Weaver, and Leslie Berg (Photo Credit Daryl Jones)



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