

What I'm Reading



By Chuck Dinerstein, MD, MBA — July 19, 2019



The Reader by Jean-Honore Fragonard
Courtesy of the National Gallery of Art [1]

It seems in understanding why and how we age genetics and telomeres may not provide all the answers. There is a theory that lifespan is all about energetics. And the source of that energy is mitochondria.

“The free-radical theory of aging, as it was originally stated 50 or 60 years ago, said ... a certain proportion of the oxygen we are breathing gets released as reactive free radicals that can damage DNA, mutate DNA, damage proteins, or damage membranes themselves. And over time that damage builds up into what’s called an error catastrophe, where the cell is no longer able to support itself. Over the last couple of decades the theory as originally stated has been comprehensively disproved; it’s not true. The idea that we can prolong our lives or protect ourselves against age-related diseases, ..., by taking large antioxidant supplements, is not true either. ... And the data show quite convincingly that if anything you’re more likely to die sooner if you take large antioxidant supplements.

... We now know that free radicals signal a stress state in the cell. There are all kinds of subtle distinctions, but if something is going wrong, they are behaving like a smoke detector, ... The trouble with antioxidants is they’re in effect disabling the smoke detector, and that’s not a good thing to do.”

An article from Nautilus, [“Yes, Life in the Fast Lane Kills You”](#) [2] takes a deeper dive. (20-

minute read)

“The whole aim of practical politics,’ wrote H.L. Mencken, ‘is to keep the populace alarmed (and hence clamorous to be led to safety) by menacing it with an endless series of hobgoblins, all of them imaginary.’ Newspapers, politicians and pressure groups have been moving smoothly for decades from one forecast apocalypse to another (nuclear power, acid rain, the ozone layer, mad cow disease, nanotechnology, genetically modified crops, the millennium bug...) without waiting to be proved right or wrong. Increasingly, in a crowded market for alarm, it becomes necessary to make the scares up. More and more headlines about medical or environmental panics are based on published scientific papers, but ones that are little more than lies laundered into respectability with a little statistical legerdemain.”

With that introduction, Matt Ridley, journalist, author and libertarian writes [Lying with science: a guide to myth debunking](#) [3]. What could be closer to the American Council on Science and Health’s mandate? (10-minute read)

The other day I was walking in a nearby wooded area by an equally close beach. It was early morning, and the woods filled with that distinctive fragrance of forests just after a light rain. I am sure Josh or Alex could provide a name for the chemical I inhaled. But it dawned on me that what I was experiencing was the exhalation of trees, yes walking through the woods was as if I was within their lungs. That probably wholly unoriginal analogy led me back to a classic, [The Hidden Life of Trees: What They Feel How They Communicate](#) by Peter Wohlleben. For those who want a quick overview, this video captures the essence, [The Secret Language of Trees](#) [4] (roughly 5 minutes)

“What is a drug, anyway? A therapeutic substance, you might say. But does it have to be a molecule in its pure form, like aspirin or penicillin? Can it be a mixture of active ingredients—like cough syrup? A toxicologist might quarrel with the notion that certain substances are inherently therapeutic: water is a drug at one dose and a poison at another. Most chemotherapies are poisons even at the correct dose. Galen, the Greco-Roman physician of the second century, argued that all human pathology could be conceptualized as imbalances of humors—black bile, yellow

bile, blood, and phlegm. Could a humor, drawn from a patient's body, qualify as a drug?

For most of the twentieth century, the definition of a drug was simple, because drugs were simple: they were typically small molecules synthesized in factories or extracted from plants, purified, and packaged into pills. Later, the pharmacopoeia expanded to include large and complex proteins—from insulin to monoclonal antibodies. But could a living substance be a drug?”

You simply cannot beat the writings of that master of the genes, Siddhartha Mukherjee. This New Yorker article, [The Promise and Price of Cellular Therapies](#) [5], will give you the human backstory in the development of CAR-T therapy, along with the downstream costs and considerations. (15-minute read)

The American Council on Science and Health is often wrongly accused of being a shell for some corporate evil. New Jersey, the state where I spent most of my career must have coined the phrase “pay to play” for the amount of money from corporate interests flowing into politicians’ hands. Crony capitalism is another term for the same problems of mingling public and corporate interests, and many people believe that the heydays of Grant and Harding are being replicated today. But the grand winner in this is the EU; yes, the same governing body that is taking Facebook, Google, and all the rest to task for their undue influence and evil ways. From the Independent, [Corporate sponsorship of EU presidency to continue despite outcry](#) [6]. Yes, you read that correctly, the EU’s president has a corporate sponsor; currently, it is BMW.

COPYRIGHT © 1978-2016 BY THE AMERICAN COUNCIL ON SCIENCE AND HEALTH

Source URL: <https://www.acsh.org/news/2019/07/19/what-im-reading-14165>

Links

[1] https://en.wikipedia.org/wiki/File:Fragonard,_The_Reader.jpg

[2] <http://aging.nautil.us/feature/173/yes-life-in-the-fast-lane-kills-you>

[3] <https://www.spectator.co.uk/2019/03/lying-with-science-a-guide-to-myth-debunking/>

[4] https://www.youtube.com/watch?time_continue=273&v=V4m9SefyRjg

[5] [https://www.newyorker.com/magazine/2019/07/22/the-promise-and-price-of-cellular-therapies?utm_source=STAT+Newsletters&utm_campaign=962b25b2d1-](https://www.newyorker.com/magazine/2019/07/22/the-promise-and-price-of-cellular-therapies?utm_source=STAT+Newsletters&utm_campaign=962b25b2d1-MR_COPY_01&utm_medium=email&utm_term=0_8cab1d7961-962b25b2d1-149880241)

[MR_COPY_01&utm_medium=email&utm_term=0_8cab1d7961-962b25b2d1-149880241](https://www.newyorker.com/magazine/2019/07/22/the-promise-and-price-of-cellular-therapies?utm_source=STAT+Newsletters&utm_campaign=962b25b2d1-MR_COPY_01&utm_medium=email&utm_term=0_8cab1d7961-962b25b2d1-149880241)

[6] <https://www.independent.co.uk/news/world/europe/eu-presidency-sponsor-coca-cola-romania-finland-bmw-europe-a9008096.html>