



A little science...A touch of fiction...A lot of adventure...

News from the Den

A Quantum Uncertainty audiobook is up and available on Amazon and Audible. Hillary Huber, narrator extraordinaire, has done another brilliant job! Gotten some great reviews! The Paris Contagion has been nominated for the 2024 Goldie Awards in eBook and audio formats and for the 2024 Colorado Book Awards. Fingers crossed.

Latest and Greatest - Medical News

Can we ever leave COVID in the rearview mirror and get on with life? At least for now the answer is no. COVID and its ever evolving mutations will be with us for the foreseeable future. A new monovalent booster targeted at a variant of XBB.1.5 is now available. Questions remain: are we over-vaccinated, is the general population worn out with COVID news and therefore ambivalent, with mRNA vaccines is an overstimulated immune system healthy, or should we just take precautions (masks, distancing, avoidance)? These questions highlight the crossover between hard medical science, psychology, sociology and ethics. And unfortunately, I'd throw in politics, especially after the comments this week by the Surgeon General of Florida. [Read more.](#)

If you are considering a new booster and are over 65 years old, one may want to consider the Moderna Therapeutics vaccine. According to researchers at Brown University, it is the most effective to prevent disease in this age group. [Read more.](#)

Another virus, thought to be eradicated from the world, is still present in Afghanistan and Pakistan—wild poliovirus, serotype 1. Though types 2 and 3 are defeated worldwide, this one strain still remains. WHO has stated type 1 can be eradicated if the immunization programs in these two countries can overcome social and political challenges. [Read more.](#)

And, we're done! The last chromosome within the human genome has been sequenced. Which one is it - the most troubling of all our chromosomes and one that exists in only half the population—the Y. Once thought to be equal in size to the X, its now known to be just 1/6th the size and consists of many overlapping and repetitive sequences. What does this mean for the little Y—some scientists believe it will continue to degrade and eventually disappear as it has in some animal groups. [Read more.](#)

How does climate change impact viruses? Ancient viruses locked away in frozen permafrost are now emerging as tundra thaws. In 2016, thousands of Siberian reindeer died of ancient anthrax, released in the spring thaw. When viruses and bacteria live in the ecosystem for long periods of time—all organisms co-evolve and life harmoniously. But when a new pathogen suddenly appears (e.g. SARS-CoV-2), its impact on our ecosystem is enlarged. 1% of these emerging pathogens have been named 'black swans' and could reek havoc in the human population. [Read more.](#)

What's in the supplement you take every morning? Not what it says it is. Only 11% of over 60 tested

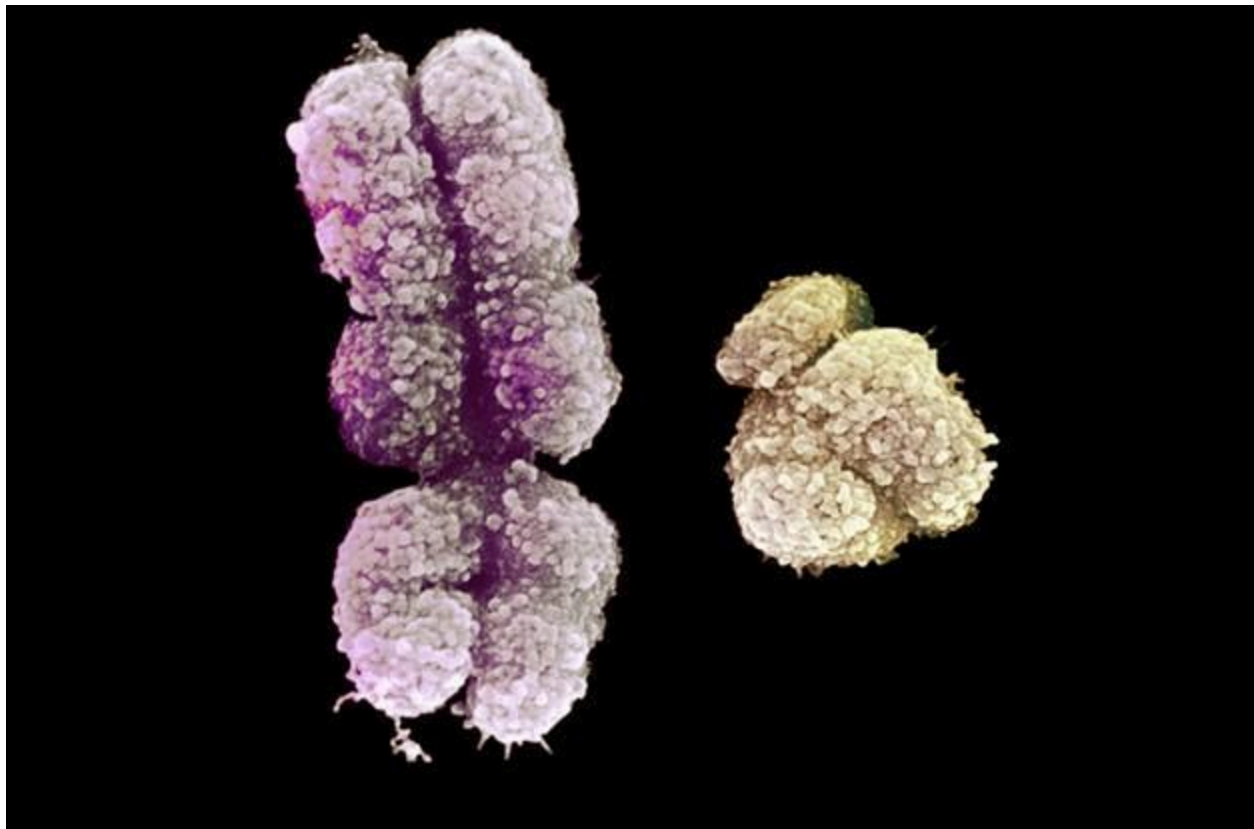
supplements contained any of the named or key ingredients. [Read more.](#)

So what's the good news this month? 4,000 steps a day lowers your risk of death. If your over 60, 6,000 steps reduced risks by 42%. WALK-On! [Read more.](#)

Ever watched a cat just roll over and nap. Well, they know something we've only just figured out—its good for your brain. Taking short daytime naps increases brain volume and may reduce the threat of dementia. [Read more.](#)

How does the world we live in affect what we 'see' as color? If we lived in a hot-pink Barbie world, our brain would change the pink to shades of neutral grey. If Barbie came to our reality, she would be overwhelmed with a color explosion. What our eyes see and our brains perceive can change. If you moved to Mars, you would initially see reds and oranges but overtime, your brain would slip the color spectrum and you would begin to see more blues. [Read more.](#)

Photos of the Month - X and Y



Scanning electron micrograph of paired X and Y chromosomes (right). [Read more.](#)

In Memoriam and Historical Foundations - Women and the Manhattan Project

Over 320 women scientists and mathematicians worked at Los Alamos on the 'A-bomb' project with J. Robert Oppenheimer. Can you name any of these scientists or their contributions?

Maria Goeppert Mayer, 1963 Nobel Laureate (only female out of 30 males award the Nobel from Manhattan Project), nuclear shell structures in atoms

Chien-Shiung Wu, physicist, confirmed beta-decay theorized by Enrico Fermi

Naomi Livesay, mathematician, instituted the use of IBM machines using punch cards and ran implosion simulations to determine device design

Frances Dunne, explosion technician, set the triggers in the bombs
Leona Woods, physicist, constructed first nuclear reactor in Chicago
Floy Agnes Lee, hematologist and biologist, radiation poisoning effects on cells
Lilli Honig, chemist, nuclear structure of plutonium and developed mechanism for Trinity plutonium weapon

Book of the Month - *The Autumn Ghost: How the Battle Against a Polio Epidemic Revolutionized Modern Medical Care*

The COVID-19 pandemic highlighted the critical role our highly specialized ICUs and their specialized nurses, technicians and doctors are in the successful management of the critically ill. In 1952, of the first 31 patients admitted to the Blegdam Hospital in Copenhagen with paralytic or respiratory polio symptoms, 87% died, 70% of which succumbed within three days. It took 50 people to provide the power for round-the-clock manual ventilation for 6 patients. Read about the heroics of these volunteers who combated polio virus on critical ill patients, written by an anesthesiologist who survived the COVID pandemic and provided critical care to her patients in Toronto. Available on [Amazon](#).

Word of the Month - *Anthropocene*

Minutiae

I added a new section this month - word of the month. Have a look and investigate this new science term. It will be the focus of next month's newsletter.

All else is moving towards fall in the Den. Quantum Time is coming along.

Please be safe, as influenza and COVID rise this season. Wear a mask, protect yourself and your loved ones.

Be Kind.



keep being curious

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