

Inquiring Minds: Life Lessons I Learned from Modern Physics

#47 Feb 2018 "Whoever is careless with the truth in small matters cannot be trusted with important matters." A. Einstein

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The Best Little Physics Book I Ever Read

Two weeks ago I stumbled upon a little book displayed in our local library. Its small 80-page size and its title, [Seven Brief Lessons on Physics](#), caught my attention because I love simplicity and summaries, and do not have the background nor the patience to understand more. Turns out it was one of the best books on the subject I've read—and the only book I immediately re-read.



Carlo Rovelli's international best seller not only offers a clear and interesting overview of the weird world of modern physics, but, by extension, a look at the scientific method and the relentless search for truth, epistemology or "that which distinguishes justified belief from opinion."

Not surprisingly, I view the search for truth as more urgent today than 2000 years ago when Pontius Pilate reportedly asked Jesus, "What is truth?" It is more urgent because uninformed opinion, lies and/or misinformation can travel the globe instantaneously and destroy nations or the planet since we have the technology to do that also. With great power comes great responsibility.

Physical Extremes Test Our Comprehension

Ravello reviewed how the pursuit of science extended our senses beyond the obvious. The earth itself seems to be flat, stationary, and the center of the solar system, though through science we know it is not. In modern physics, time and space themselves are different than common sense would dictate. In quantum mechanics



things get crazier. Subatomic particles can be observed by their collisions and interactions with each other and cannot be predicted to appear in any one given place at any given time. Scientific doubt ([Heisenberg's Uncertainty Principle](#) released in 1927) is the "new" norm, and mathematical probability ([statistical physics](#)) is the new way of dealing with the ambiguities of extremes in nature. An inflated but unknotted balloon when released will land in a certain area, but we cannot predict exactly where.



Evaluating Political Extremes by Using Probability as a Test of Truth

Consider using probability to evaluate the truth of the following:

Given the study that accusers of sexual harassment and/or rape lie 2% of the time according to several studies from reliable sources ([Stanford](#)), that the accusers are credible and multiple, and the court process favors the wealthy and humiliates the victim—is it not probable that the court of public opinion is more effective in changing the culture than a stalled or biased government?

Which is more probable: 1, that the entire FBI, CIA, DOJ of thousands of career professionals are plotting against the present Administration, or 2, a person with 1000+ inaccurate statements ([NY Times](#)) within the past year is lying once again?

And yet [recent polls](#) two reported that 73-44% of Republicans believed that [the Nunez memo](#) discredits the FBI and its investigation. Hopefully that is lower now with more credible information out. Probability is not rocket science, just common sense when the truth gets lost in the system.

Can the new Liberal Populism Jumpstart a stalled and corrupted Government?

In the wake of tragedies, public outrage seems to be pinning down politicians and ousting suspected offenders by the power of social media, the unfettered press, and credible news media which covers the various movements. And this is because Congress is seen as compromised if not corrupted by the lobbying of special self-serving interest groups, gerrymandered voting districts, and more.

Real people, real tragedies and or credible accusations giving birth to powerful organized movements (#blacklivesmatter, #dreamers, #metoo, and now #neveragain) have become more credible and persuasive than political parties, would-be delusional dictators, and/or Russian misinformation, in the US and worldwide. The cultural change is revolutionary.

Popular democracy in action versus the Republic (our representative democracy) we now have is not skewed by gerrymandered districts and electoral misrepresentation, bought-off politicians via lobbying abuse, voting restrictions, etc. Much of this is due to [critical mass](#) of long term problems probably aided by the gross mismanagement of the country by the present Administration.

Many would love to see all recipients of direct or indirect NRA [PAC](#) funding exposed as such in upcoming elections. The same with those funded by big pharma, big oil, corrupt businesses, and/or conservative PACS which support these conglomerates—to be outed and disempowered by the disenfranchised or abused. Woe to the good ol' boys —truly adolescent and self serving— and the installment of principled leaders who value more service to others than self. Women, it's your turn!

According to [CNN](#), "The US makes up less than 5% of the world's population, but holds 31% of global mass shooters."

The Difficulty of Changing One's Belief System

Truth as a belief is part of one's core being and very hard to change. We all have a tendency to "hear what we want to hear and disregard the rest." I would imagine this would equally apply to any of us who have a strong belief system, be it more conservative or liberal, more moderate or libertarian, more socialist or capitalist, more religious or atheist. Hopefully reason can prevail when emotions run high, and the various arts, sciences, and faiths can help us find a new equilibrium and balance with more truth, justice, and prosperity for all. It will never be perfect but it can always be better as civilization has many wins.

Protecting Ourselves in the Process

In the face of so much social disorder and change, it is tempting—and necessary at times—to close one's eyes and cover one's ears to chaos and the cacophony, maybe to play, pray or meditate. It's fast becoming in poor social taste to discuss the sad state of affairs even with like-minded friends and family because it is so negative. So how does one balance the need to know and engage with the need to protect oneself and family emotionally?

Thinking back to the horrors of WWII, I see people *not complaining but acting* to protect themselves from the evil outcome of the future and live in the present with hope, resolve and courage. I think of the 1997 comedy-drama film [Life is Beautiful](#) directed by and starring Roberto Benigni as "a [Jewish Italian](#) book shop owner, who employs his fertile imagination to shield his son from the horrors of internment in a Nazi concentration camp." I found it a very a powerful movie in times much worse than our own that inspired and encouraged me that "this too shall pass," and life will be the better by carefully facing our problems and resolving them with competence, creativity, and equanimity.

