

Reflections on Leo Szilard, The Fragility of Truth and the Role of the Scientist in the Public Sphere

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Leo Szilard was both a great physicist and a remarkable human being. He used his brilliant mind not only to solve fundamental problems in physics but to fight back against a rising tide of fascism in the 1930s. Nearly a century later, that battle is unfortunately not over.

Szilard founded the Council for a Livable World in 1962, just two years before he passed away. That battle too is unfortunately not over, as we deal simultaneously with the threats of an unprecedented pandemic, the renewed spectre of nuclear conflict, and the existential climate crisis.

I'm proud to have started out in the same sub-field as Szilard, statistical physics. Depending on your perspective I either saw the light, or lost my way. Mid-PhD I set out on a self-avoiding random walk, and ended up applying my math and physics training to the problem of climate modeling. Ultimately my forays would lead me to publish the now iconic "hockey stick" curve, and I would find myself at the very center of the fractious debate over human-caused climate change.

Despite the bruising battles as I've sought to defend the science of climate change—including my own work—from attacks by vested interests aiming to discredit it, I consider myself privileged to have found myself in a position to influence the public discourse over the greatest challenge we face as a civilization.

Having received the APS Szilard Award this year, I'm truly humbled by the list of past recipients, including heroes of mine such as Sherry Rowland, Andrei Sakharov, fellow climate scientist James Hansen, and last, but surely not least, the great Carl Sagan.

More than two decades ago Sagan, perhaps the leading science communicator in a generation, warned in his masterful tome "The Demon-Haunted World", of a time in his children or grandchildren's future, when "awesome technological powers are in the hands of a very few, and no one representing the public interest can even grasp the issues; when the people have lost the ability to set their own agendas or knowledgeably question those in authority". When "our critical faculties in decline... we slide, almost without noticing, back into superstition and darkness".

He feared a "dumbing down... most evident in the slow decay of substantive content in the enormously influential media, the 30 second sound bites (now down to 10 seconds or less), lowest common denominator programming, credulous presentations on pseudoscience and superstition, but especially a kind of celebration of ignorance".

Sagan's daughter Sasha—a gifted thinker and author in her own right—gave birth to his granddaughter just a few years ago. And so his first grandchild was indeed born into the

very era of "alternative facts" and "fake news" he presaged.

We live at time when social media has increasingly been weaponized by bad actors to promote conspiracy theories and lies, and to undermine faith in governmental and civic institutions, our traditional media, expert opinion and, yes, scientists—indeed, anyone, whose views or findings might prove inconvenient to their political, financial, or ideological agenda. That includes public health experts offering their advice on how to deal with an unprecedented pandemic, and—of course—climate scientists offering our informed advice when it comes to the greatest challenge and threat of all—the climate crisis.

Our mission as scientists has never been more important as it is right now. We must step up and do battle in what is a genuinely Tolkienesque assault on science, reason, and fact-based discourse.

Our ongoing reliance on fossil fuels is in fact at the root of the twin battles we are fighting right now. A battle, on the one hand, to defend western democracy itself— from a brutal, barbarous assault by an authoritarian petrostate. And on the other hand, a battle to avert catastrophic climate change, while there is still time. These battles have been made all the more challenging by rampant disinformation that has flooded our online information ecosystem with falsehoods and outright lies.

Efforts to attack and deny the scientific evidence for human-caused climate change have long constituted a major impediment to action. But, as I argue in my book "[The New Climate War](#)", we appear now to be moving past outright denial of the basic science as the evidence becomes plain to the person on the street in the form of unprecedented heat waves, droughts, wildfires, floods and superstorms.

We still however face a multi-pronged strategy by polluters and their enablers in the media and pundit class to distract, deflect, attack, divide, and delay. Among their preferred tactics today is the promotion of risky, unproven strategies, such as geoengineering or massive carbon capture and sequestration, and the promise of future action as an excuse for business-as-usual fossil fuel burning today.

There is still time to for us to avert the worst impacts of climate change if we act now and we act boldly, but there is no time left for dead ends, wrong turns and false solutions. We have the technology—in the form of renewable energy, storage technology, and efficiency and conservation measures. The only obstacles at this point aren't the laws of physics, but the flaws in our politics.

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