

A CLOSE CALL FOR SCIENCE AND HUMANITY

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In the aftermath of World War II, humanity faced the threat of a nuclear holocaust, but there was little that individuals could do about it, and no one denied its reality. Other than marching for peace, we counted on our elected leaders to avoid disaster.

What a difference a new century has made! The solutions to our current mortal threats – global warming and COVID-19 – will require all of us to act cooperatively, hopefully with scientifically informed leaders.

And yet, our current president calls climate change a hoax, and minimizes the COVID-19 pandemic. Since his supporters believe his distortions and vote accordingly, those who recognize the need for scientific solutions spent Election Day and its immediate aftermath in a state of high anxiety until it became irrefutably obvious that voters had rejected this administration and its dangerous anti-science attitudes.

No matter how we feel about the financial or social policies of the current administration, its relentless assault on science is a proper concern of this column and of our readers. We cannot remain silent when other ordinarily apolitical scientific publications have also spoken out.

In its 175-year history, *Scientific American* never endorsed a presidential candidate, but its October 2020 issue warned that President Trump “rejects evidence and science.¹ The most devastating example is his dishonest and inept response to the COVID-19 pandemic... He has also attacked environmental protections, medical care, and the researchers and public science agencies that help this country prepare for its greatest challenges... We urge you to vote for Joe Biden, who is offering fact-based plans to protect our health, our economy and the environment.”

The *New England Journal of Medicine* broke its 208-year tradition with a scorching editorial “Dying in a Leadership Vacuum,”² that concluded: “... truth is neither liberal nor conservative... Our current political leaders have demonstrated that they are

dangerously incompetent. We should not abet them and enable the deaths of thousands more Americans by allowing them to keep their jobs.”

How did we come to this pass? Simply put, we elected a president whose entire career before and since his election has been based on tweeting misinformation, outright lying, exploiting mostly racial grievances, and insisting on an alternative reality in which he is not the perpetrator but the victim, and his opponents are guilty of his faults.

In such an upside-down universe, truth and facts are unwelcome because they can be objectively verified, and they restore order.

In such a universe, chaos is preferable because it obscures the truth and makes lies more believable.

In such a universe, objective science must be pushed aside because it conflicts with the alternative reality. How else to explain President Trump’s refusal to acknowledge the threat of COVID-19 even when – as revealed in Bob Woodward’s audio tapes – he knew how dangerous it was? His approach to the pandemic has been characterized by actions that seem bizarre: suggesting treatments like ingesting disinfectant or introducing light into the body, or calling Dr. Anthony Fauci, director of the National Institute of Allergy and Infectious Diseases, and other scientists “idiots,” while threatening to fire Dr. Fauci. These actions delegitimize science and its proponents, and foster chaos.

By refusing to take COVID-19 seriously even in his inner circle, countless members of his family, his administration, aides, members of Congress, and Secret Service agents have tested positive for the coronavirus.³

By politicizing the simple preventive measures of social distancing and wearing a mask, he has become a Johnny Appleseed of the novel coronavirus, wandering around the country holding rallies that are super spreader events.

To his adherents, refusal to wear a mask provides a visible sign that they are not susceptible to manipulation. In fact, it reveals the opposite – their

susceptibility to misinformation and outlandish conspiracy theories. It is no wonder that his support is greatest among voters without a college education, since they are most likely to lack training in critical thinking, and to be the most gullible.

The American public is distressingly ignorant of scientific facts. According to the latest biennial survey of public knowledge of science and technology by the National Science Foundation,⁴ only 72% know that the earth goes around the sun, not vice versa (compared with 91% of Canadians); 38% know that the universe began with a huge explosion (68% of Canadians); 50% think that antibiotics kill viruses and bacteria; and 49% (74% of Canadians) know that humans as we know them today developed from earlier species of animals.

It is not surprising then, that gullible voters accept his groundless accusations of voter fraud in the presidential election, while unquestioningly accepting Republican victories in other contests *on the same ballot*.

The erosion of trust in science⁵ has immediate health consequences. Only half of U.S. adults said they would definitely or probably get a vaccine for Covid-19 if it were available, according to September polling from the Pew Research Center.⁶ Further, it will be difficult to distribute and administer the vaccine broadly and efficiently, as our long-neglected public health systems are “dilapidated.”⁷ Lancaster doesn't even have one.

Meanwhile, the president has also made climate change a partisan issue,⁸ even while fires and floods abound before our eyes. As global warming accelerates,

we are rapidly approaching a point of no return with melting polar icecaps, rising oceans, and slowing of critical ocean currents.⁹ Although a survey in mid-October found that 58% of Americans said they were concerned about climate change, there was a striking partisan split: 90% of voters who favored President-elect Joe Biden expressed concern, versus just 23% of voters who backed President Trump.

Regardless of public opinion, global warming is a more serious existential threat than COVID-19. In the words of author Jeff VanderMeer,¹⁰ “Some version of the apocalypse is inevitable.”

In his first public address as president-elect, Joe Biden pledged: “To marshal the forces of science... in the great battles of our time. The battle to control the virus...The battle to secure your family’s health care... The battle to save our planet by getting climate under control.”

But his task will be complicated by a scientifically illiterate public, and absurd conspiracy theories that will be difficult to expunge.¹¹ Much of the environmental damage inflicted by the Trump administration is irreversible,¹² and four more years of denial could have been fatal.

Science may have scraped through the last four years, but it was a close call, and it left a lot of skin on the walls. It is some consolation that although our obsolete Electoral College system made the election seem like a cliffhanger, the margin in the national tally was more than 6 million votes. Our children’s future hangs on that margin.

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