

Do us a favor

“Do me a favor, speed it up, speed it up.” This is what U.S. President Donald Trump told the National Association of Counties Legislative Conference, recounting what he said to pharmaceutical executives about the progress toward a vaccine for severe acute respiratory syndrome–coronavirus 2 (SARS-CoV-2), the virus that causes coronavirus disease 2019 (COVID-19). Anthony Fauci, the long-time leader of the National Institute of Allergy and Infectious Diseases, has been telling the president repeatedly that developing the vaccine will take at least a year and a half—the same message conveyed by pharmaceutical executives. Apparently, Trump thought that simply repeating his request would change the outcome.

China has rightfully taken criticism for squelching attempts by scientists to report information during the outbreak. Now, the United States government is doing similar things. Informing Fauci and other government scientists that they must clear all public comments with Vice President Mike Pence is unacceptable. This is not a time for someone who denies evolution, climate change, and the dangers of smoking to shape the public message. Thank goodness Fauci, Francis Collins [director of the U.S. National Institutes of Health (NIH)], and their colleagues across federal agencies are willing to soldier on and are gradually getting the message out.

While scientists are trying to share facts about the epidemic, the administration either blocks those facts or restates them with contradictions. Transmission rates and death rates are not measurements that can be changed with will and an extroverted presentation. The administration has repeatedly said—as it did last week—that virus spread in the United States is contained, when it is clear from genomic evidence that community spread is occurring in Washington state and beyond. That kind of distortion and denial is dangerous and almost certainly contributed to the federal government’s sluggish response. After 3 years of debating whether the words of this administration matter, the words are now clearly a matter of life and death.

And although the steps required to produce a vaccine could possibly be made more efficient, many of them depend on biological and chemical processes that are essential. So the president might just as well have said, “Do me a favor, hurry up that warp drive.”

I don’t expect politicians to know Maxwell’s equations for electromagnetism or the Diels-Alder chemical reaction (although I can dream). But you can’t insult science when you don’t like it and then suddenly insist on something that science can’t give on demand. For the past 4 years, President Trump’s budgets have made deep cuts to science, including cuts to funding for the Centers for Disease Control and Prevention and the NIH. With this administration’s disregard for science of the Environmental Protection Agency and the National Oceanic and Atmospheric Administration, and the stalled naming of a director for the Office of Science and Technology Policy—all to support political goals—the nation has had nearly 4 years of harming and ignoring science.

Now, the president suddenly needs science. But the centuries spent elucidating fundamental principles that govern the natural world—evolution, gravity, quantum mechanics—involved laying the groundwork

for knowing what we can and cannot do. The ways that scientists accumulate and analyze evidence, apply inductive reasoning, and subject findings to scrutiny by peers have been proven over the years to give rise to robust knowledge. These processes are being applied to the COVID-19 crisis through international collaboration at breakneck, unprecedented speed; *Science* published two new papers earlier this month on SARS-

CoV-2, and more are on the way. But the same concepts that are used to describe nature are used to create new tools. So, asking for a vaccine and distorting the science at the same time are shockingly dissonant.

A vaccine has to have a fundamental scientific basis. It has to be manufacturable. It has to be safe. This could take a year and a half—or much longer. Pharmaceutical executives have every incentive to get there quickly—they will be selling the vaccine after all—but thankfully, they also know that you can’t break the laws of nature to get there.

Maybe we should be happy. Three years ago, the president declared his skepticism of vaccines and tried to launch an antivaccine task force. Now he suddenly loves vaccines.

But do us a favor, Mr. President. If you want something, start treating science and its principles with respect.

—H. Holden Thorp



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Science

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