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# Dr. Peter Hotez takes the war against science very personally

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Michal Ruprecht



Dr. Peter Hotez at his Baylor College Of Medicine office in Houston. His new book, *Science Under Siege*, co-written with climate scientist Michael E. Mann, looks at the impact of the anti-science movement.

Sharon Steinmann/Houston Chronicle via Getty Images

Peter Hotez is a prominent vaccine scientist. Robert F. Kennedy Jr. is a prominent vaccine skeptic. In 2023, podcast host Joe Rogan invited the two to debate — promising \$100,000 to the charity of Hotez's choice as a payoff.

The debate didn't happen. (More on that later.) But the incident inspired Hotez, the dean of the National School of Tropical Medicine at Baylor College of

Medicine, to write his sixth book, *Science Under Siege*. He co-authored it with Michael E. Mann, a climate scientist and professor at the University of Pennsylvania.

They examine the forces driving the anti-science movement — from supporters of the fossil fuel industry who deny climate change to social media influencers who spread conspiracy theories — which they characterize as a "complex spiderweb of malevolence."

But though they are worried, they are not pessimists.

"While there is urgency — unlike any we've ever known — there is still agency," they write. "We can still avert disaster if we can understand the nature of the mounting anti-science threat and formulate a strategy to counter it."

To learn more about the book, NPR interviewed Hotez, whose focus on global health aligns with our blog's coverage. This conversation has been edited for length and clarity.

**Before we talk about the anti-science movement, can I ask about the proposed debate with RFK Jr., since he's in the news these days?**

Mr. Kennedy, he's deeply dug in, and I know he's not interested in the science, or he can't understand the science, or both. That's why I didn't want to debate him.

I remember telling him about some of the environmental factors linked with autism and an example was valproic acid. If you're pregnant, not aware of it and using an anti-seizure medication called valproic acid, it interacts with autism genes and increases the likelihood that your child will be born with autism.

I remember saying to him, "You should be all over this. You're an environmental attorney." But he had no interest in it because he was too busy, too fixated on vaccines, which have nothing to do with autism. And that's when I realized that he really had no interest in the science. It was going in one ear and out the other.

*Editor's note: RFK Jr. has since stated that he wants to pursue the "environmental toxin" that he believes is to blame for what he characterizes as "an epidemic" of autism in the U.S.*

**And now ... on to the book. Journalists are always skeptical of everything we hear. Are you giving the anti-science movement more attention than it deserves?**

I think the message is that anti-science is not some theoretical, arcane or academic discussion. It's real, and it's evolved into its own lethal force.

It makes it very difficult to combat pandemic threats when we're told they're imaginary, so it becomes a recipe for paralysis.

We do feel that pandemics and the climate crisis are existential threats to humanity. And now that's joined by the anti-science disinformation empire that becomes kind of the third leg of this.

**You point the finger at the U.S. as a hotbed of anti-science — and a reason that this has become a global crisis.**

The U.S. is good at exporting its culture, right? We export our movies and music, and now we're exporting this anti-science juggernaut. It is now spreading into European countries, but even now on the African continent, the Middle East and Asia and Latin America. It has become a globalizing force.

**Part of this anti-science thrust is to deny climate change. Can you speak to the link between climate and health?**

We're seeing the rise of catastrophic tropical infectious diseases. So what the heck is going on? Well, clearly, climate change is a big factor.

The warming temperatures and altered rainfall patterns make sense to people because of mosquito-borne illnesses, with mosquitoes favoring the warmer climate.

But also, the altered climate patterns are really important for bats. And you might say, "Well, who cares about bats?" The reason you care about bats is that coronaviruses are natural viruses of bats.

With the altered temperature and rainfall patterns, bats are moving to new ecological habitats and coming closer to people. The other thing that's happening, too, is it's people are coming closer to the bats.

These are the big drivers and that's an example of how the health issues go hand in glove with climate change.

**You and a colleague developed low-cost COVID-19 vaccines for the Global South, which were produced in India during the pandemic. You used the same technologies that were common in the hepatitis B vaccine, which has been around for decades. You received a lot of praise for the vaccine because it was shown to be 90% effective in preventing disease caused by the original COVID strain. Did you get any grief?**



#### GOATS AND SODA

**Whatever happened to the new no-patent COVID vaccine touted as a global game changer?**

Not so much for our vaccine, because it was an older technology. What was interesting, though, was how the anti-science forces saw me as a threat.

They would say that I was a shill for the big pharma companies. But that was a completely false narrative because we actually developed a low-cost vaccine without patents so we could bypass the big pharma companies. It was exactly the opposite. But that's how propaganda works. It doesn't matter if it's true or not; it's what you can make people believe.

I remember the day that we got nominated for the Nobel Peace Prize for our low-cost COVID-19 vaccine, Tucker Carlson couldn't let me enjoy that evening, so he publicly called me a charlatan.

**And he wasn't the only critic. After Musk wrote on Twitter that you're "afraid of a public debate" with RFK Jr., online attacks followed. A man recorded himself outside your home as he peppered you with questions about the RFK Jr. debate. What's your reaction?**

I really didn't know what to make of it. It was really concerning that people were so far down the rabbit hole that they would act out and go visit a scientist at their home.

**And you've written that there were other attacks that focused on your religious identity.**

I was the trifecta: a Jewish vaccine scientist. I would get swastikas mailed to my home in the shape of syringes or masks.

**How do you manage this added stress — and how do you think it'll affect the next generation of scientists?**

I have been doing this for long enough that I've found a way to navigate through it. I'm always up to watch a few innings of the Astros or a couple of quarters of the Texans.

Beyond me, I also think about young people — the young scientists or physician scientists — who are asking, "Why would I want to sign up for this?"

I became a vaccine scientist because I thought that was one of the noblest expressions of science for humanitarian purposes.

To have all that flipped on its side, turned around 180 degrees and made to seem dark and sinister, that's very demoralizing and heartbreaking. I just think that's going to have a long-term damaging effect on the future of science.

**Your fight against anti-science is also deeply personal. Your daughter Rachel has autism, and you wrote *Vaccines Did Not Cause Rachel's Autism*, a book challenging the unfounded theory that vaccines cause autism. How have the personal attacks taken a toll on you?**

During the day, I'm actually OK because I don't have a lot of time to think about it. Though you might wake up in the middle of the night, you might have bad dreams and it messes with your head, so it does take a toll.

Combating the anti-science may ultimately turn out to be almost as important as the science we actually do. On a daily basis, I do find it meaningful, even though it's dark and scary.

**Why did you and Mann feel it was important to call out these powerful individuals who promote anti-science?**

We tend to, especially as academics, speak in such euphemistic terms that it gets to the point where nobody knows what the heck you're actually trying to say. At some point, you've got to put your cards on the table.

It was important to provide the names of groups or individuals so people understand what this ecosystem is about.

**A significant portion of your book focuses on combating anti-science. If you were appointed the czar of science, what's one step you would take?**

One is understanding how we change the culture of science to make scientists heard. One of the problems is that we're invisible.

My colleagues at Research!America do these surveys every couple of years, and they asked the American people, "Can you name a living scientist?" And it turns out, 72% of Americans cannot name a living scientist.

**If you could say one thing to President Donald Trump, what would it be?**

I would love to meet with President Trump because I'd say, "Mr. President, Operation Warp Speed was one of your crowning achievements. I mean, the vaccines that you commissioned and arranged the contracts for saved 3.2 million American lives."

"This is one of the great accomplishments of any president. Here, you've got now a Department of Health and Human Services that wants to undo everything you're doing. This is, perhaps, our greatest treasure and should be thought of as such."

**You and your co-author present a stark view of the public's trust in science. But you warn against what you call doomerism — the notion that we're doomed and there's nothing to be done. Throughout the book, you cautiously suggest that good can win, though it'll be a difficult battle. Where do you find optimism that science and reason will prevail?**

On the positive side, the anti-science movement has energized me and my colleagues to take it on. On the other hand, what's taking its toll on me is watching our country become less than it could be.

I do think you have to remain optimistic and persistent. We have no choice. I mean, our survival as a species and the survival of the planet depend on science, and democracy depends on science. When Stalin wanted to crush democratic thought and free thinking, what did he do? He went after the scientists.



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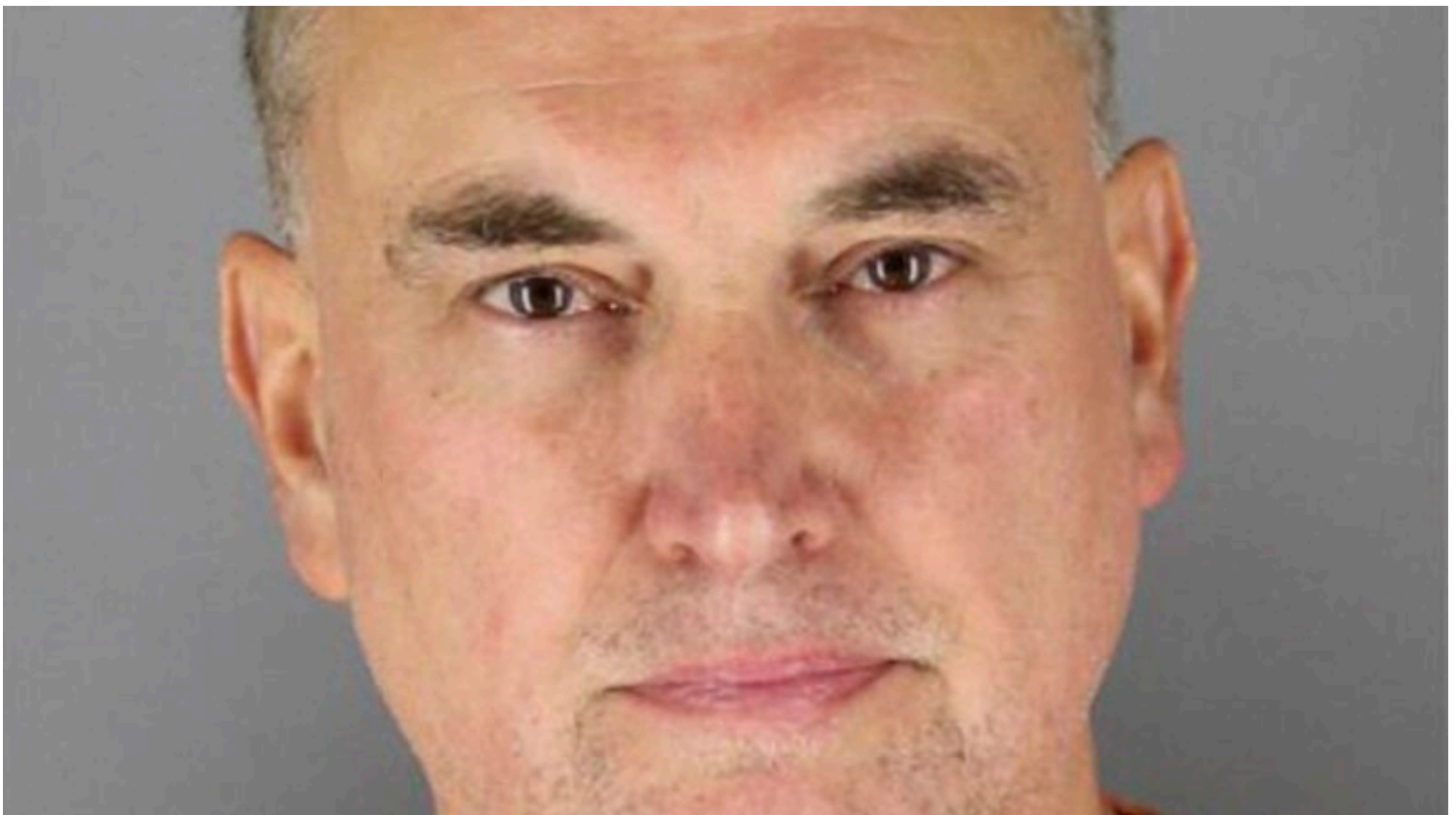
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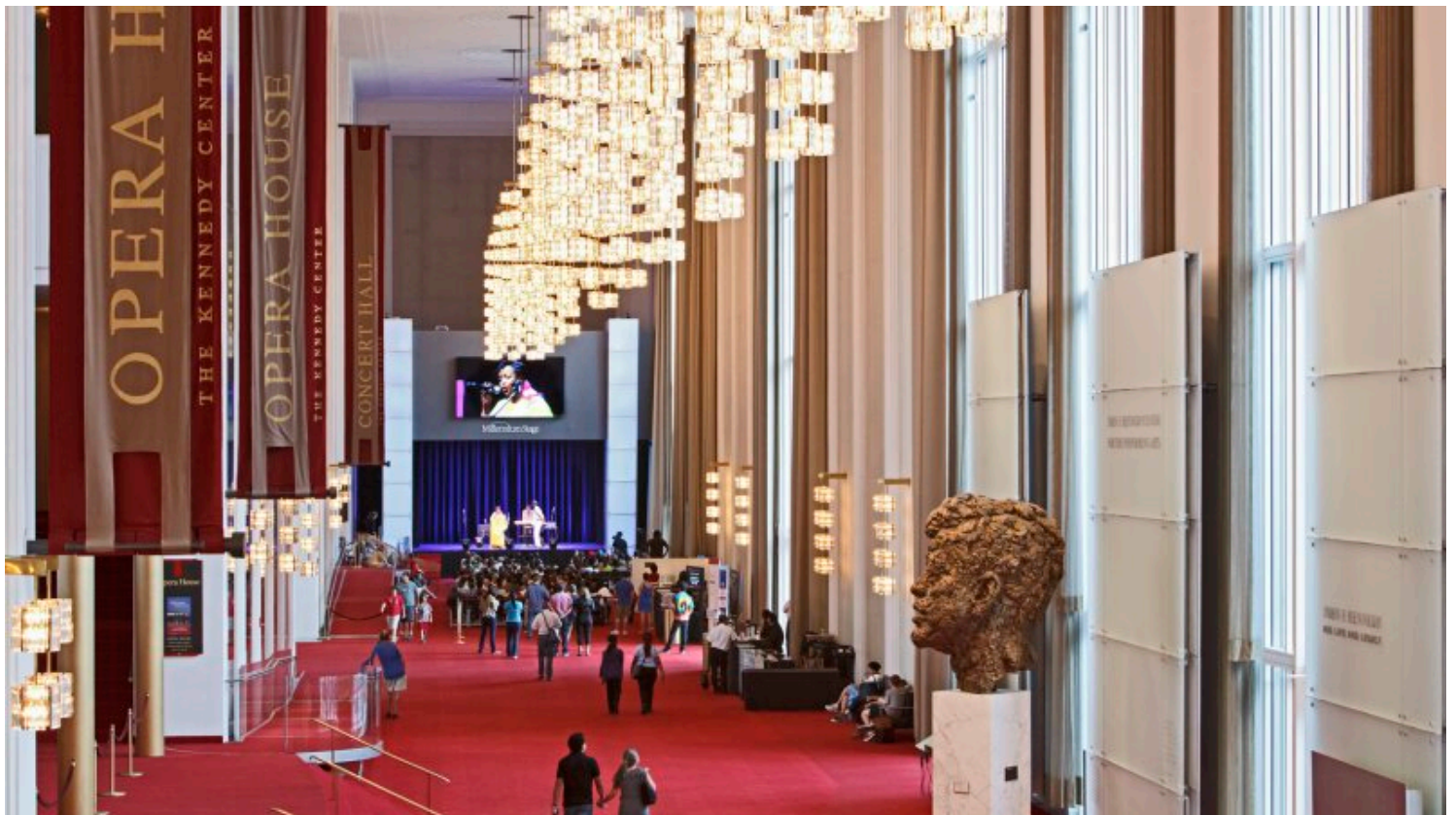


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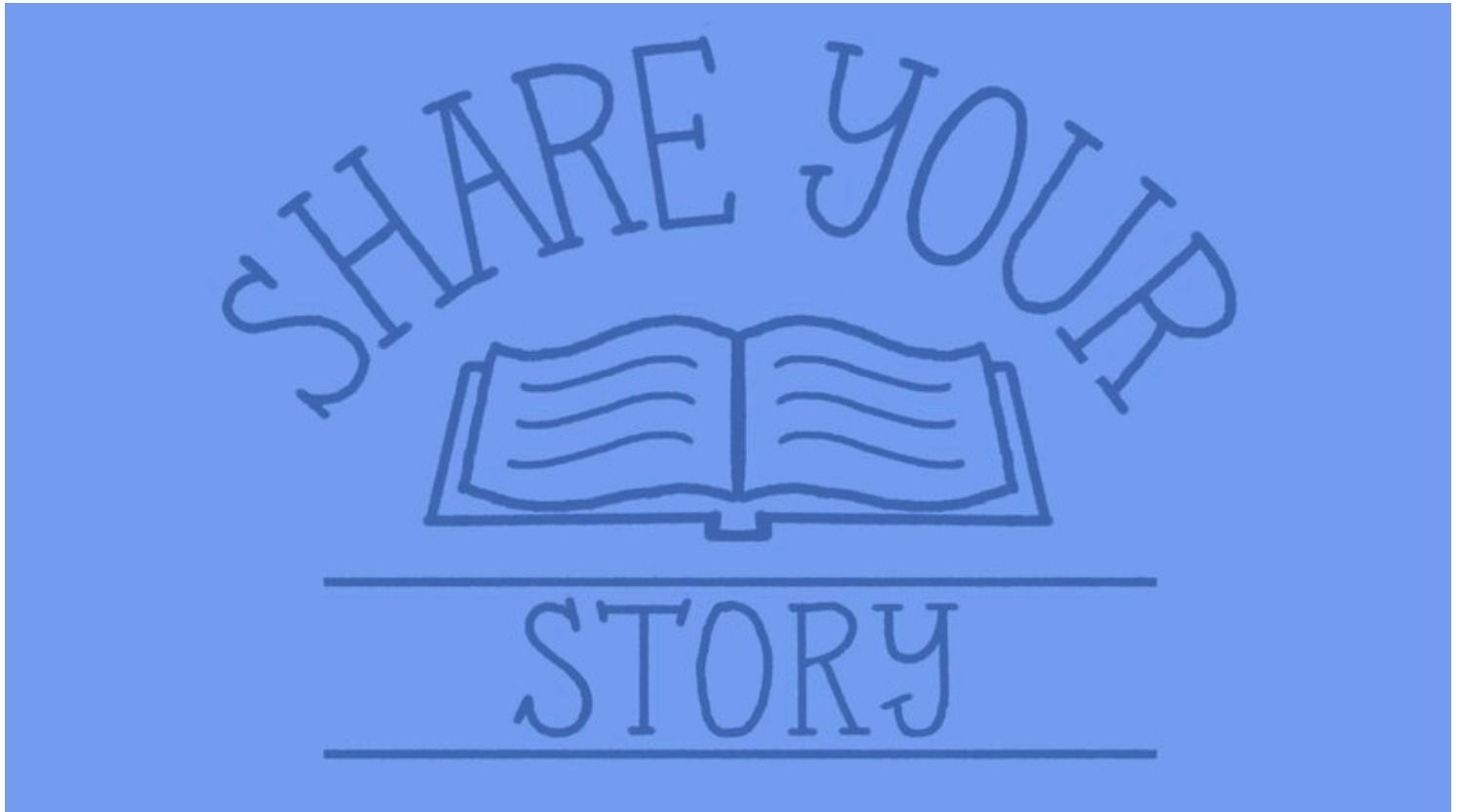
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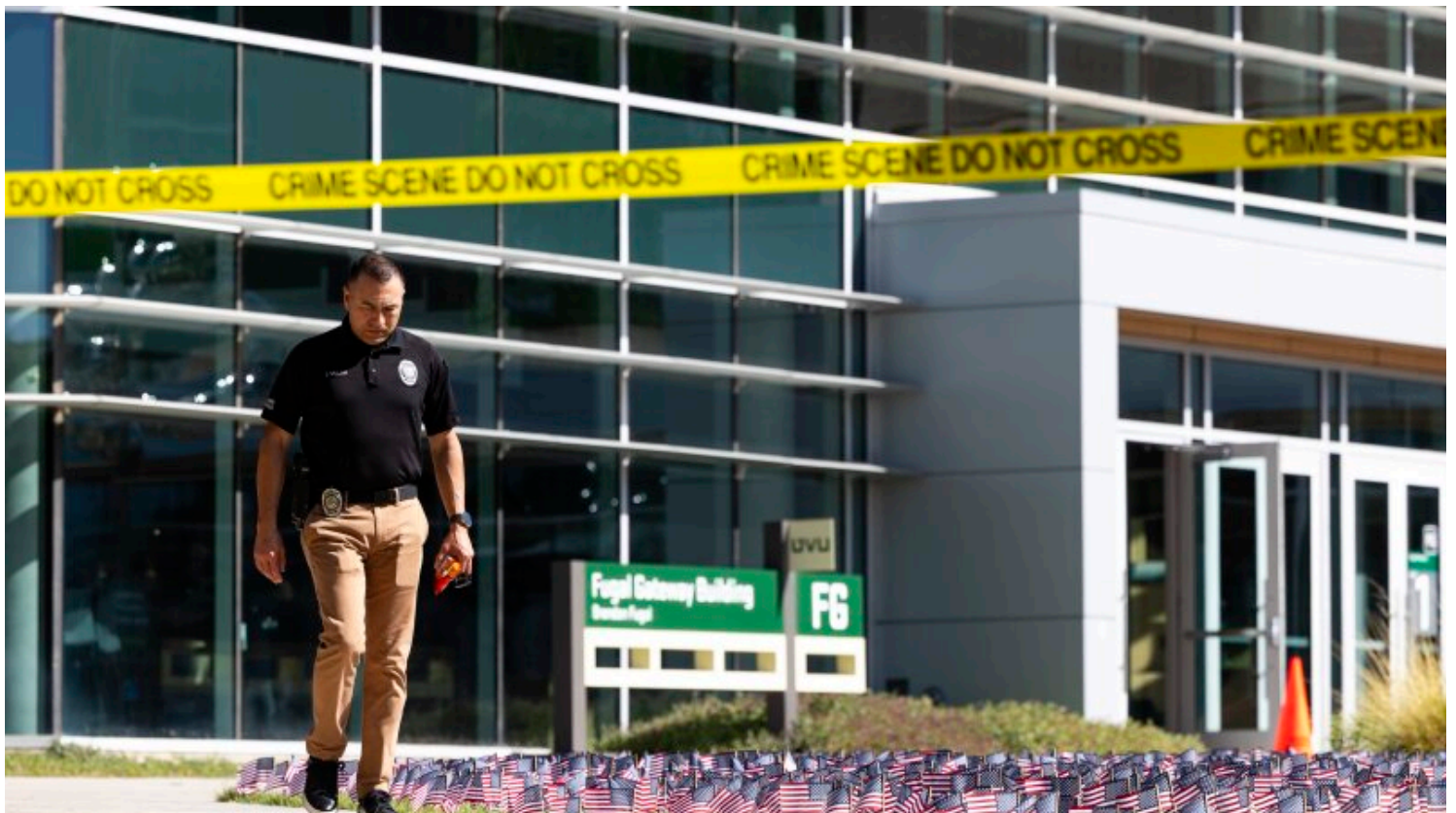


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