What Happens Next – Sunday March 14, 2021
Future of War, COVID Variants, Farm to Table (NOT), Citizenship, and Dummies

My name is Larry Bernstein.

What Happens Next offers listeners an in-depth analysis of the most pressing issues of the day. Our experts are given just SIX minutes to present. This is followed by a Q&A period for deeper engagement.

I think you will find this discussion to be both informative and provocative.

This program is moderated to be politically neutral. Our speakers will give their opinions and then we encourage you to make up your own mind.

This week's topics include The Next World War, COVID Vaccines, Farm to Table, Citizenship and our Dumbest Generation.

Our first presenter today is Retired Admiral James Stavridis who is the former Supreme Allied Commander of NATO and former Dean of the Fletcher School of Law and Diplomacy at Tufts. The Admiral released this week his co-authored book 2034: A Novel of the Next World War. This fictional work describes a confrontation between the US and China that begins in the South China Sea. I want to hear from the Admiral the lessons learned from this fictional war game.

Our second speaker is Dr. Paul Offit who is the Director of the Vaccine Education Center at the Children's Hospital of Philadelphia and a Professor of Pediatrics at the University of Pennsylvania. Paul will be discussing the latest developments in the ongoing COVID vaccination program.

Our third speaker is Robert Paarlberg who is an Emeritus Professor of Political Science at Wellesley College and an associate at Harvard's Sustainability Science Program. Robert recently published his book Resetting the Table: Straight Talk about the Food We Grow and Eat. We will hear that industrial farms will be producing most of our food going forward and that this product will not meet the organic criteria. That said, this might be for the best.

Our final speaker today is Mark Bauerlein who is an Emeritus Professor of English at Emory and is the author of the book: The Dumbest Generation: How the Digital Age Stupefies Young Americans and Jeopardizes our Future, or Don't Trust Anyone Under 30. I want to learn from Mark if the trend towards idiocy is ongoing and if COVID has accelerated it.

Alright that is the agenda for today's session. Let's begin today's session with Retired Admiral James Stavridis.

Admiral James Stavridis USN:
People ask me frequently these days, "Why would you write a novel about a world war between the US and China?" The answer in one sense lies in the past. Take a look at the Cold War between the United States and the Soviet Union, somehow, we managed to avoid blowing up the world. Part of how we did it was that we could imagine how terrible a world war between the US and the Soviet Union, fought with nuclear weapons, might be. Think of Dr. Strangelove, the Bedford Incident, Fail Safe, The Third World War by Sir John Hackett. These were all works of imagination, novels, fiction, that depicted what that war would be like. My belief is that by writing this novel, 2034: A Novel of the Next World War, I can help all of us imagine how awful this might be, how we could stumble into it, what the ladder of escalation might look like. Ultimately, the hope would be that we could then if you will reverse engineer it and avoid this outcome.

Think about some of the big disasters that have struck the United States of America over the last 70, 80 years, going back to the Second World War. If only we could have imagined Pearl Harbor coming, if only we could have imagined 9/11 coming. Who could have imagined a 20-year war in Afghanistan? Or most recently, of course, a year ago, could you have imagined what we are dealing with today in the pandemic? Probably not.

The question is how realistic is it that we could simply stumble into a war with China that really is in neither nation's interest? Unfortunately, it is a real possibility. If you look at the basket of disagreements between the United States and China, they're big, and they're getting bigger. Think about the dispute over who owns the South China Sea, a vast body of water the size of the Caribbean and the Gulf of Mexico, which China claims in its entirety. The opening scene of 2034: A Novel of the Next World War is set in the South China Sea.

What about cyber activity? What about intellectual property theft? The way Hong Kong is being treated, the Uyghur, human rights questions within China, the disputes over 5G, Taiwan, a thriving and independent entity, which China would very much demand become part of its loving embrace. We disagree, we, the United States, with all of those positions and we see China increasing its military capability relentlessly. It may surprise many of the listeners to know China has more warships today than the United States of America. Ours are better, we have more capability, we have a greater global presence, but ton for a ton of warships, and especially if they're all packed into the South China Sea, big challenges for the US Navy. China's preparing for some kind of conflict, and we are as well.

Then the novel also looks at some of the other great powers. How will Russia play in this particular game of thrones, if you will? We're seeing Russia in China draw closer and closer together. Their ships operate routinely, not just in the North Pacific, but in the Baltic Sea, in the heart of Europe. The last time they conducted military exercises on their mutually-shared Siberian border it was the largest military exercise since the end of the Cold War. Of course, it's

not just Russia. What about Iran? What will you Iran's role be? The second set piece that opens 2034: A Novel of the Next World War is an Iranian activity that forces down an American jet. How can that come about?

Then finally, as we look at great powers in the novel, what about the role of India? I know Larry often asks about things that are optimistic going on in the world today. I, for one, am cautiously optimistic about the rise of India, because it's a democracy, because it enjoys an enviable geographic position in the heart of the Indian Ocean, because it has a long history and culture, because it's already connected in many ways with the West.

Those are some snapshots of what happens in the novel, and I'll conclude my very brief opening statement with the idea of, okay, Admiral, you've convinced me, I hope, by the time you're done reading 2034, that we should avoid a world war with China at all costs. How do we do that? What are the tools we can use that allow us to avoid that war? One of them is what we're talking about right now, it's reading, study, learning, education. Believe me, China understands us better than we understand China. We have work to do. We need a strong military deterrent capability, but less about those traditional platforms, more about cyber, unmanned vehicles, space, hypersonics. We need that credibility and capability.

We also need allies, partners, and friends. We need to build coalitions so we can create balance against the rising strength of China, again, without pushing them into a corner, without walking into a war through an ill-understand policy, but shaping the globe with our network of allies, partners, and friends. NATO, Japan, Australia, New Zealand, on and on.

Lastly, the private sector has a significant role to play here because our economies are intertwined. Look, we know from World War I the experience of economies and nations that are deeply intertwined economically in Europe and are intertwined by blood marriage of the royal families, yet they managed to get into a world war. It would be incorrect to say that, well, our economies are really together and therefore it's unlikely we'll end up in a global war. But the converse can be true. It is possible that there are private-public cooperation zones that the US and China could work in, for example, climate, or preparation for the next pandemic.

Well, I'll close and turn it over to Larry by simply observing there are dangerous times ahead. If you look at human history going back 2,500 years and you have read anything of the works of Graham Allison, my good friend and mentor at the Kennedy School, you'll understand that there's a looming Thucydides Trap, as it's called. So often in human history, when an established power is challenged by a rising power a global war ensues. It goes all the way back to Athens and Sparta. I'm Greek American, so I'm allowed to know my Greek history. But it goes back just a hundred years ago, established power, Great Britain, rising power, the Kaiser's Germany, World War I, and you can drop a plumb line to World War II. That's what we need to

avoid, and I think by imagining our way into the future, we have our best chance of avoiding that kind of horrific outcome. That's the purpose of the novel, 2034: A Novel of the Next World War.

Admiral James Stavridis USN:
Larry, back to you.

Larry Bernstein:
Thanks, Admiral. We had Graham Allison discus the Thucydides Trap on the program a few months ago and I wanted to open up with that. China is obviously a growing power and it has certain political and military objectives. Given the changing power dynamic, how do we encourage China to behave in a way that it doesn't threaten our allies and encourages them to find non-military solutions to their political hopes and desires?

Admiral James Stavridis USN:
Yeah, we begin by understanding their strategy and using empathy, which is one of the least used, unfortunately, tools in diplomacy, put yourself in the shoes of the other. What you see is China, which wants to continue to feed its very successful economy with raw materials and then export finished goods, this is called sometimes One Belt One Road. It has two paths, one goes across the land to the north, the other through the Indian Ocean to the south. China will seek to expand that route. They will seek influence all along, this is why they are purchasing or leasing ports, for example, all along that route. Number one, Larry, we need to understand what China is doing and try and put ourselves in their shoes.

Number two, create a strategy. This is where I would fault the Trump administration. They attempted to engage with China, they had a pretty clear-eyed view about some of the challenges, that's good, but they never developed a coherent strategy. I would argue what the Biden team must do is create a strategy that integrates military, diplomacy, political activity, strategic communications, economics, and in particular, that strategy needs a very strong component of engagement. It's a good thing that the senior Biden cabinet officials will be meeting this coming week in Alaska with senior officials from China.

Third, here's the basics of the strategy in my view. Confront where we must, cooperate wherever we can. We have to confront on the South China Sea, we can't simply turn that over to China as territorial waters. My view, we have to confront China on gross human rights violation, for example, in the treatment of the Uyghur population, we have to confront China when they push on India in the Himalayas at the top of the world. We have to confront where we must, but we should cooperate where we can. The two examples I gave earlier are perhaps the best opportunities, climate and pandemic preparation, because there will be another pandemic. This is a subject that could take up hours of conversation, but there is a quick snapshot of how I view it.

Larry Bernstein:
You mentioned China's objectives is to feed its economy with raw materials. If you go back to World War II, the Japanese wanted to feed their economy with raw materials as well and the Americans put themselves in a position to prevent Japan from feeding its economy with raw materials, which led inexorably towards war. Is that a lesson to be learned, that when we have a disagreement, we shouldn't put pressure on raw material supplies?

Admiral James Stavridis USN:
I think the lesson to be learned, and by the way, what you're discussing from the Japanese Empire was what they call the East Asian Co-Prosperity Sphere and it was a strategy that had some similarities to what China is doing today. The lesson, I think, is don't back your opponent into a corner. The great military strategist in human history was Sun Tzu, he wrote the classic short, very readable book The Art of War. Sun Tzu is famous for saying the greatest victory you will ever attain is the battle you do not fight, it is trying to outmaneuver your opponent, create alliances, form patterns that draw your enemy where you want him to go. But Sun Tzu also said, Larry, when on death ground, fight. What we want to avoid is putting our opponents in a corner where they feel they are on death ground, because then they surely will fight. That's what we need to avoid.

Larry Bernstein:
In your novel, one of the commanders, Commander Hunt, is responsible for three battleships that are sunk and there's a commission that is to decide whether or not she should continue to keep her command. In your other book Sailing True North, you describe when Admiral Kimmel, who was in charge of Pearl Harbor, there is a commission, and you say that with this sort of loss of life and what happened at Pearl Harbor, there was no chance that Admiral Kimmel could ever be given a command again. But here in your novel, Commander Hunt is given almost immediately a very important position in the Navy, on the frontlines again. Is that possible, once there's been a catastrophe for an admiral, or any commander to be given a command again in such a live compat arena?

Admiral James Stavridis USN:
It depends on the disaster. Pearl Harbor, you're absolutely correct. Admiral Husband Kimmel is the commander of the Pacific fleet when the Japanese conduct a surprise attack and destroy the entire fleet. The work of the commission came actually after he was relieved for cause. President Roosevelt decided he no longer had confidence in Admiral Kimmel. Admiral Kimmel was a very senior four-star Admiral. The heart of his responsibilities at Pearl Harbor was to run the entire US-Pacific fleet and be ready for all eventualities that came along. Commodore Sarah Hunt, who is in charge of three destroyers, conducting the freedom of navigation patrol, is at a

very different position in the Navy hierarchy. She's not even a one-star admiral, let alone a four-star Admiral like Kimmel. She's a captain, she becomes a commodore when she takes responsibility for these three ships.

One of my great mentors, former chairman of the Joint Chiefs of Staff, Colin Powell, was asked once about second chances in the military. He said that you can forgive a general at times for a general's mistakes and you can forgive a captain for a captain's mistakes, what you cannot do is forgive the general for the captain's mistakes. What he meant by that is that, and in the case of Admiral Kimmel, when the mistakes are so big and the scale is so enormous, no, you cannot come back from that. When you're a much more junior officer and a mistake is made, and in the novel you'd have to have a debate about whether a Sarah Hunt actually makes a mistake or not, it's an ambiguous situation, she, I believe, would have been given a second chance. She is in the novel, and she survives to fight another day.

Larry Bernstein:
We had Professor James Holmes from the Naval War College on the call a few months ago and he spoke about containing the Chinese navy, in particular, what the naval operation would look like in the South China Sea. As you said, what's unusual about it is it's on the Chinese border so they'll have access to the mainland to protect that space from the air and launching missiles, et cetera. On the other hand, it is the Chinese mainland and so they're much more at risk. How do you think about the naval exercises that will go on in that physical space, as well as the American desire to protect Taiwan from an invasion?

Admiral James Stavridis USN:
Yeah, this is a very hard, pure military problem, and you've put your finger on it. The Chinese in this scenario if, God forbid, we ended up in a war with China, they have the home court advantage. Their logistic chains are effectively non-existent. All of their ports, all their logistics, their parts, their food supplies, their oil, gas, everything is right there on the mainland. In addition to everything you just mentioned, Larry, they also have the ability to operate out to, I'm sure James talked about this, I know Professor Holmes quite well, what's called the first island chain and the second island chain.

Larry Bernstein:
Yeah, he did.

Admiral James Stavridis USN:

These are the island chains, the reefs of islands that go from Taiwan in the south up to Japan in the north, and the Philippines are on the outer side of those rings. China is very capable of operating with a lot of ships, flooding the zone, if you will, and covering it with hypersonic cruise missiles, particularly potentially being directed from space. It's a very hard military problem.

The best thing the United States can do is, again, back to allies, partners and friends, have access to these island chains so that we can have logistics support and be in close, put pressure on the Chinese forces before they can launch at us. That becomes a very delicate dance, because this is one of the themes in 2034, in the novel, is escalation. Just because you think, as a war fighter, that you are acting in a very measured, careful, nuanced way, your opponent may not see it that way. Again, back to Sun Tzu, when on death ground, fight. When you cross a line and attack the homeland of an opponent, in my view, you really do cross a line, a pretty significant one. That's part of how the story unfolds in 2034.

Bottom line, no easy answers here. We need a capable cybersecurity, space, forces that can go forward, operate with allies, partners and friends, and be prepared to act from strength if necessary. Again, this is what we want to avoid.

Larry Bernstein:
When I was in college, the primary textbook that we used in our political science class was John Louis Gaddis's book, called Strategies of Containment.

Admiral James Stavridis USN:
Sure.

Larry Bernstein:
In that book, Gaddis describes two different models to deal with the situations. He calls one the symmetric response and then other, an asymmetric response. In your novel, it seems that the Chinese engage in an asymmetric response, they choose where we're going to attack every time, while the Americans choose a more symmetric model, where they meet one attack in a similar sort of way, right back at you. What Gaddis argued was that an asymmetric was a better approach. I'm wondering if we follow this war game through, are you suggesting that symmetry is probably a bad idea? I guess what I would say is what do the Chinese desperately not want us to do? I would put to you that I think an independent Taiwan is what they don't want. If the Chinese start acting aggressively in the South China Sea, should the United States then move in a different direction and say, "You know what we're going to do if you get aggressive?

We're going to support an independent Taiwan and we may even provide them with nuclear weapons so they can protect themselves." Is that a more appropriate response than direct military engagement?

Admiral James Stavridis USN:
It is an asymmetric response. I know John Gaddis well. I know the book well. In fact, I was with him just before the pandemic up at Yale. I think that you're correct. China is using asymmetric approaches. Their way of war, if you will, comes from Sun Tzu. Sun Tzu was very much a fan of the asymmetric approach. Western powers tend to be Clausewitzian, meaning we go right up the middle very frequently.

I think in this case, asymmetry is a good thing to consider, but I'm going to give you both a good and a very dangerous asymmetry. I'll start with the very dangerous. The very dangerous asymmetry is the one you suggest. An enormous red line for China is the status of Taiwan, and the more we become tempted to "encourage them to independence", the higher the likelihood of actual combat between the two nations will go up. This is why for decades we've had a policy that's called strategic ambiguity, meaning we haven't declared that we will fight for the island of Taiwan. We imply that we would look with grave misgivings at any military move on Taiwan and we have been very measured in the military defensive systems that we give Taiwan, or we sell to Taiwan I should say.

I would say that is an asymmetric threat to China. That is very, very direct and you would want to really only come to that in extremis, knowing that you are probably going to tip into active combat between the United States and China, and no one knows how that will come out. That is also something we explore in the novel, 2034.

Let me give you, I think, a good example of how the United States could be using asymmetry as we think about conflict in the South China Sea. It's how we use the US Marine Corps. For the last 20-plus years, how have our wonderful, almost 200,000-person Marine Corps been used? They've been used like a land army in Iraq and Afghanistan. You could kind of take the Marine out of their name, they haven't really done anything from ships. As we look at a potential conflict with China, some of the most forward-thinking war gaming is being done by the United States Marine Corps, thinking about how they could get behind those island chains that Professor Holmes told you about and operating from ships, hopefully very stealthy ships, very capable ships, conduct, if you will, special operations-type activities at scale. That's an asymmetric response that I think is less likely to drive us directly into the throes of a major war. Again, pushing for Taiwanese independence, we ought to think of that as behind the glass, reserve that for the ultimate emergency. You are correct in your assumption, that would certainly get China's attention, Larry.

Larry Bernstein:
Completely different question here, I want to talk about The Battle of Midway for a second. In June 1942, Admiral Nimitz decided to throw all of our aircraft carriers at Midway. Admiral King, back in Washington, thought this was a terrible idea because there would be nothing between basically Hawaii and California to protect an attack against the mainland. Roosevelt favored Nimitz and allowed the aircraft carriers to all go to Midway.

I bring this story up because you focused that the engagement with China would probably be in the South China Sea, but if I were the Chinese, I might want to attack the mainland United States. To what extent as we think about our use of naval resources, how much do we have to preserve to protect a direct attack against the United States mainland versus containing the battle]directly in the South China Sea and at the Chinese border?

Admiral James Stavridis USN:
As we sit here today in 2021, I'd say the odds of China launching significant strikes on the United States continent with rockets, bombs, missiles, are quite low because they're attributable, because Chinese capability is somewhat limited to do so. I think as you project forward to 2034, the year in which the novel is said, the odds go up significantly. Without giving anything away in the novel, there's a significant cyber-attack that changes the calculus along the lines of what you are talking about.

I would argue we need to protect ourselves certainly from an attack on the mainland US. I would say by 2034, roughly 15 years from now, the best way China could use asymmetric attack against us would be using cyber, particularly if they continue to stride ahead of us in artificial intelligence, quantum computing, machine learning. All these things potentially could tip that asymmetric balance against us in cyber. That's, I think, the real longer-term concern.

Larry Bernstein:
We had John Mearsheimer on the call a few months ago and we discussed the rising Chinese power. I asked him what the role of Europe would be in this coming South China Sea confrontation. He said that the European countries had no ability to project power in the region and Europe would be irrelevant. As a former leader of NATO,I wonder how you think about that, the role of Europe in this sort of struggle, and in your novel, Europe plays almost no factor. How do you think about Europe in the context of a confrontation in the South China Sea?

Admiral James Stavridis USN:
I am more or less with John Mearsheimer on this one. I think it's unlikely, particularly in the 15-year future, that the Europeans will want to tangle with China. But that, again, is the whole point of writing the novel. What we don't want is what happens in the novel, where Europe is largely irrelevant. What we want is a strong, robust NATO. We want to see European defense spending continue to increase; we want Europe to be able to forward deploy combat power. By

the way, the British have built one, and are building a second, large deck aircraft carrier. The French are building a new nuclear-powered aircraft carrier. Europe spends today about $300 billion a year collectively on defense, that's more than China spends. I wouldn't dismiss them entirely, but again, in writing a cautionary novel, how we don't want things to come out, they don't play a very significant role in 2034. but we still have time to try and address that, and I think the best way to do it is to work closely with them. I think you'll see the Biden administration do that.

Larry Bernstein:
Admiral, thank you. We're going to move on to our second speaker now, and that is Dr. Paul Offit. He is director of the Vaccine Education Center and attending physician of the Infectious Disease Department at the Children's Hospital of Philadelphia. He's also a Professor of Pediatrics at the University of Pennsylvania Medical School.

Dr. Paul Offit:
So recently, it's become clear that the spread of SARS-CoV-2 virus, the virus that causes COVID-19 is lessening. There's clearly been a decline in the daily number of cases. There's been a decline in hospitalizations and a decline in deaths. So, the question is why? I think there are primarily two reasons. The first and arguably most important is the weather. This virus, SARS-CoV-2 is at its heart, a winter respiratory virus. If you look carefully, actually at the daily deaths that have been recorded since the onset of this outbreak, when the virus first came into this country and started to kill people at the beginning of March, it took off. And you had at its peak about 2,500 deaths a day. But that as we moved into April, May, June, the number of deaths dramatically declined, even though we didn't have a vaccine and we still had a population that was largely susceptible.

There were many days between May and November, where there were just hundreds of deaths. Well, not just, but there were hundreds of deaths a day. Then what happened is once you hit November, there was a dramatic increase in cases up to peaks of more than 4,000 deaths a day. This is, like many winter respiratory viruses, it is definitely influenced by weather at least in temperate climates. It's interestingly, not so much true in tropical climates where for example, influenza is a winter disease in the United States, it is a year-round disease in Brazil. Same thing with an intestinal virus called rotavirus, it's a winter disease in the United States. But year round in Brazil, I think people get confused watching what's happening in Brazil, that heat and humidity don't matter.

They do matter. And they certainly matter in temperate climates. I think that's the main reason that you're seeing this virus come down, but it's not going to go away unless we get adequate population immunity over the summer, which is to say about 80% of the population being immune. It'll be back next winter, at least to some extent. The question that we have to answer for ourselves is to what extent and that'll depend on the degree to which we can gain

population immunity. The other thing I think that that works against this virus in addition to weather is the immunity that's been induced by natural infection. We currently say the 30 million people have been infected with this virus, but in fact, that's just people who have been tested and found to be infected. If you really want to know how many people have been infected, you need to do antibody surveillance studies to see who has antibodies to this virus and who doesn't. When you do those studies, you find that that 30 million number is probably off by a factor of around three.

The CDC estimates that between 85 and a 100 million people, who've actually already been exposed to and infected with this virus and are likely to be immune. The other thing that you have going working against the viruses, at least as of yesterday, about 100 million doses of COVID had been administered. About 60 million people had received at least one dose about 33 million people have received two doses. So, a little more than 10% of the population are now fully immune. If you combine the immunity that's induced by natural infection with the immunity that's been induced by immunization, about 35% of the US population is probably currently protected against this virus, which may be enough to actually start to contribute to the decrease.

So, what stands in the way of at least slowing the impact of this virus? I think there are two things. One is the variants. And let me just talk about that to define terms because it's often misunderstood I think by the way this is carried in the media. The virus that swept across China was not the virus that left China. The virus that left China was the first variant. It was called the D614G variant. That's the virus that swept across Europe. That's the virus that swept across the United States and South America. When we made vaccines, whether it was the Pfizer vaccine or the modern MRNA vaccines, or the Johnson and Johnson vaccine or the UK AstraZeneca vaccine or the Novavax vaccine, all of those vaccines were designed to prevent the D614G variant. But this is a bat coronavirus that has just made its debut in November of 2019 in the human population. And what it will do is it will adapt to growth in people. As it adapts to growth in people, by definition, it will become more contagious.

And that's happened with the UK variants, the South African variants, the Brazilian variants, the California variant, most recently now the New York variant. And so, the critical question is do these vaccines that were generated to prevent the D614G variant, do they also protect against disease caused by these other variants? And we do have some information on that. I think with confidence, we can say that the vaccine clearly protects against the UK variant, the so-called D117 variant because we have data from at least Pfizer's MRNA vaccine that that's true and the Johnson & Johnson vaccine. We have data from that trial, both in South Africa with the South African variant is predominant more than 90% of the circulating strains are the South African or the so-called Brazilian variant, which is the P1 variant.

We have information now, clear information that you can protect against severe disease caused by the current vaccines, the J&J vaccine protects against severe disease caused by both the South African and the Brazilian variant. That's also true for the Novavax vaccine, which hasn't been licensed yet in the United States or anywhere, that's the purified protein vaccine also was effective at preventing severe disease against either the South African or the Brazilian strains. The other thing that stands in the way of getting to population immunity of around 80%. And you can see that this is not a made-up number. Israel now has exceeded 70% population immunity, and they are clearly seeing a decline in the spread of this virus, which is the first clear evidence of herd immunity. I think 80% is, is doable. I think it's reasonable. The question is whether we get there.

And I think the thing that stands in the way of that to me, more than the variants is anti-vaccine activity. What is euphemistically referred to in the press as vaccine hesitancy, I think would more reasonably be referred to as vaccine denialism. There are a significant number of people who don't want to get this vaccine, and we don't really see that yet. We don't see it yet because we don't have enough vaccine for the people who want it. But I think once we hit the summer, you're going to have a much better idea of what percentage of this population doesn't want to be vaccinated. And I fear it's going to be significantly more than 20%. I get that feeling from a few things. One is that I think any of us who work in a hospital, I'm an attending physician at Children's Hospital in Philadelphia - CHOP.

There is no doubt, I can promise you this. There are people in our hospitals who don't want to get vaccinated. These are people who work in the medical system. It's also true at the hospital at the University of Pennsylvania. It's true, really of any hospital has had to deal with it. And these people are medical professionals. There've been studies now that have been done, looking at other factors, 14% of those who are black, or African-American say that they would choose not to get the vaccine. And then a surprising 46%, according to the recent CNN poll of people who identify themselves as Republicans also say that they'd choose not to get the vaccine. I think we're going to be up against that. And then what do we do? If fantasies could come true, what I would like to see happen is I would like to see us do what Israel does, which is to have basically a vaccine passport, that once you've gotten vaccinated, you get a passport.

And that if you're going to be able to go to a restaurant or a department store, you have to show your vaccine passport. It works well in Israel. I don't think it would work well here only because we're a country that's founded on the basis of individual rights and freedoms, which means that we are compelled to claim freedoms that really aren't ours to claim like the freedom to catch and transmit a potentially fatal infection. But it will be interesting to see how this plays out. I think that's how you're going to see this virus playing out over the summer months into the fall.

Larry Bernstein:
Thanks, Paul. My first question relates to your comments about the variants that you're not surprised that the variants are more contagious than the original disease. But what about their severity? Would you expect them to be more severe or less severe over time, the variants themselves? What is common with most viruses?

Dr. Paul Offit:
So, viruses need the host to live. They need the hosts cells to live. They can only reproduce themselves using the cellular machinery that is within each of our cells. It is to the advantage of the virus to spread more easily, to be more contagious. That's to the advantage of the virus. It's not to the advantage of the virus to be more virulent. If you die from the infection, then the virus can't go on to infect the next person. I think that the data on the UK variant are pretty good that it's somewhat more virulent, it's clearly more contagious. The data from all the other variants did not clearly show that they're more virulent. It really doesn't matter so much in terms of how we handle it. We still would make vaccines the way we're making it. These still spread by small droplets that emanate from the respiratory tract. So, you still want to mask and physically distance. It doesn't really change what we're doing, but I think the UK variant, the data are that it's clearly is more virulent, although that is never to the advantage of the virus.

Larry Bernstein:
Just following that up. What's really unusual about this virus is you are infectious before you show symptoms. So that was a clearly a very favorable method of contagion for the virus. And the second thing is that you're only contagious supposedly for approximately 10 days after you show your first symptom, but most people that die tend to die way after the 10th day. And so that's a period of time where you're actually likely not to be contagious. How do you think about this linkage between contagious and virulence in that context?

Dr. Paul Offit:
So, you'd probably be surprised to know that most viruses, most of the shedding of that virus that you're contagious, this is actually a day or two before you develop symptoms. That's true for most viruses. Because the virus reproduces itself, then you make an immune response and your immune response is why you get symptoms. You get symptoms because of your immune response. What makes this virus so heinous is the same thing that really made poliovirus so heinous, is a large part of the spread is asymptomatic. So, you don't know when you're coming in contact with someone, whether they're sick or not. That was also true for polio. There's a lot of actually sort of parallels between this virus and polio. Only one of every 200 people who was infected with polio virus, actually would be paralyzed by that virus.

Most people had, it was a mild summer intestinal infection. And that's why it caused the fear it caused, because you never quite knew who had it. And I'm a child of the fifties. I remember

how my parents used to handle us. They'd never let us go to a public swimming pool over the summer. There was an enormous fear that surrounded that. And that's this too. Everybody who you see who looks perfectly well, maybe is shedding that virus. And that's why SARS-1 and MERS were not a problem. The SARS-1 came up in 2002 and really was gone two years later. MERS came up about 10 years later in 2012 and has been well controlled because virtually all of those infections, people were moderately or severely il and showed symptoms. It's much easier to put a moat around those people who were infected and stop the spread.

Larry Bernstein:
Just following that up, polio injured children, this disease appears not to do that. How do you feel about vaccinating kids who may transmit COVID, but not get sick? And from a public policy standpoint, you're looking for ways to mandate requirements for vaccines. How would you feel about a government mandate that every kid that goes to public school must have a COVID vaccine, even though it doesn't directly hurt them? And do you think that the variants will start to negatively affect kids, who've gone so far unaffected?

Dr. Paul Offit:
Well, here's what I would say. You're certainly right that 92% of the deaths from this virus are in people over 55 years of age. If you look at a population in the United States that's less than 21 years of age, that makes up 26% of the population, but 0.08% of the deaths. Nonetheless, I think that children are going to need to be immunized for a number of reasons. One, if you look at the percentage of the population, that's less than 18, that's 22% of the population. If we're going to get to my 80% mark, which a lot of people have underlined, you are going to have at least older children. And children can die from this virus. The number of children, at least as of a few days ago, who had died of COVID-19 last year was around 174. That's about the number that die from influenza every year in that cohort.

We usually have between 150 and 200 children die every year from influenza. And we have an influenza vaccine for children. Plus, children can develop an unusual disease called MIS-C, which is this multi-system inflammatory disease of children, which can be quite devastating and fatal. At Children's Hospital Philadelphia, we have a COVID ward. Most of the children that COVID ward have this unusual multi-system inflammatory disease, which can also be associated with shock. I think any disease that can cause children to suffer or be hospitalized and die, that can be prevented safely, should be prevented. Currently the Pfizer, Moderna, Johnson & Johnson have already, I think, finished enrolling down to 12 of age. We should have those data. And frankly, I think the vaccine will be available this summer for children down to 12 years of age.

They're now recruiting children down to six years of age to do basically so-called immune-bridging studies. You're not going to do big efficacy studies because they would have to be really big, because the percentage of children who get sick is smaller. But I think that by the end of the year, we would have a vaccine that would be available to down at six years of age.

Regarding mandating the vaccine, I think it would be hard to mandate a product which was approved through emergency use authorization. Which basically, I'm on the FDA's Vaccine Advisory Committee. That's basically the same thing as getting permission to give an experimental new drug. That's what that is. That said, Janet Woodcock, who now is the acting director of the FDA she's our commissioner of the FDA. Has said that she expects that these companies, specifically the MRNA companies such as Pfizer, Moderna and Johnson & Johnson would likely be submitting for a biologics license application, which is to say a licensure by the summer, which would make it easier, I think, to do that.

But I think in a better world, you wouldn't have to mandate vaccines. It would be very clear that vaccines offer protection safely. But we live in a country where we somehow consider it our right not to do that or not to wear a mask. Somehow, we've been able to make this virus political, which is remarkable because I don't think that ever happened for a virus before. But I feel this way about mandates in general. It's too bad that we have to mandate it, but we do.

I think sometimes people have to be compelled to do the right thing. We compel people to put children in car seats. We compel people to wear seatbelts. In New Jersey it's click it or ticket. We compel people to stop at stop signs. There are things that you do that affects others. And when people get on television and talk about how it's their right not to get a vaccine, they're not just talking about themselves. They're talking about everyone with whom they come in contact. It is not your inalienable right as a US citizen to catch and transmit a potentially fatal infection. And that's been to the Supreme Court twice. For the first 1905 with Jacobson vs Massachusetts case, the second time in 1922, with Zucht vs King case. The public health communities can compel vaccination in the face of outbreaks.

Larry Bernstein:
Do you think other countries will start to mandate children to go back to school? So, we'll learn from those other countries? You mentioned how aggressive Israel is, if they're already at 70%, children have to be a substantial part of that population. Are the Israelis vaccinating children, or do you expect other countries to go that route and that we can learn from their experiences?

Dr. Paul Offit:
To my knowledge, Israel has only been vaccinating adults, but we'll see. We tend to be the country that mandates more. As a general rule, European countries don't do that. I'm talking about the United Kingdom, Austria, Germany, et cetera. The Scandinavian countries also don't mandate vaccines, but have extremely high immunization rates, in the mid 90% range. These are countries like Denmark and Norway that actually trust their medical community. They believe that they're trying to do the right thing by them. And they get vaccinated without that, without mandate. I think we probably are going to be the first ones to mandate. And I suspect if mandates do happen, I think they will happen. It will be mostly come from the private sector

initially for adults, that if you're going to come back to work in this office, where a lot of people are close together and in a relatively small space, you're going to need to get a vaccine. I think that's where you'll first start to see mandates.

Larry Bernstein:
And the EEOC in their statements have said that firms have the right to demand testing for COVID. I suspect the EEOC will give firms have the right to terminate someone who doesn't get a vaccine. But I imagine a world where firms will have a nurse at workplace and the company will demand vaccinations and if the employees don't, they'll fire people. Do you think that's an appropriate approach for firms to do?

Dr. Paul Offit:
Yes. I think it's an appropriate approach for hospitals to do. We do that. We ask our healthcare workers to get an influenza vaccine every year. And by healthcare worker, I mean anybody who can walk into the room, whether it's a nurse or doctor or nurse practitioner or somebody who works in dietary or environmental services, we ask every year for those 10,000 people who fall under that category at Children's Hospital of Philadelphia, to get a vaccine. If they choose not to get an influenza vaccine, they have two weeks of unpaid leave to think about it. If they still choose not to get a vaccine, they're fired. Because they are working around a vulnerable population of hospitalized children. That is the choice they've made. And there's a responsibility that comes with that choice. Frankly, I think that's the microcosm of a bigger society.

I think that to live in this society to benefit from this society, you have to realize that there are many people who can't be vaccinated. There are probably about 500,000 people who generally can't get vaccinated because they're either they're too young or because they're on immune suppressive therapy for their rheumatologic diseases, or because they're on chemotherapy for their cancers. So, they can't get vaccinated.

And they depend on the herd immunity to protect them. And you have a responsibility as being part of that community to protect them as well. In California associated with the measles outbreak a couple of years ago, there was a law that was introduced to eliminate the philosophical exemption to vaccines. Which meant that that California then became a state, one of the few states to not have vaccine exemptions, because they never had a religious exemption to vaccination. The boy that turned that tide was a little five-year-old boy whose name was Luke. He was in the induction phase of his chemotherapy. And he went to those meetings and he sort of stood up on a high chair so he could reach the microphone. And he basically said, "What about me? I depend on you to protect me; I can't be vaccinated." And he turned the tide. He was the voice of society. So, I think it is your responsibility to be vaccinated.

Larry Bernstein:
You mentioned that there were a number of medical workers who currently work at Penn's Hospital who have not gotten vaccinated. And I can't remember if you suggested that they tend to be more African-American or not. Why do you think that members of your hospital staff have refused and why hasn't the hospital gone the same approach about firing those employees yet?

Dr. Paul Offit:
Well, I think the hospital currently is uncomfortable with mandating a vaccine for vaccines that are currently approved under emergency use authorization. I think it may be a legal issue more than anything else. I'm not a lawyer, so I'm not best able to address that. But I think that if licensed, and there's a critical percentage of people who choose not to vaccinate who are still going to work around children in our hospital, I think we may get there. We certainly have started those discussions.

Larry Bernstein:
And why do you think that this ... You've referred to this emergency declaration as a causality. But the studies have shown that these vaccines are safe. Why do you think they're hiding behind those legal concerns? .

Dr. Paul Offit:
Yeah, no, I think that's a really good point. So why wasn't this a licensed product? Why didn't they just submit it for licensure? It had nothing to do with the size of the studies. The Moderna study was a 30,000 person study, Johnson & Johnson for 44,000, Pfizer's was 44,000. That's a typical vaccine size study for any pediatric or adult vaccine. And it also didn't have anything to do with safety follow-up. The safety follow-up was two months after the last dose.

Any of the severe safety issues that have come up with vaccines are usually apparent within six weeks of the dose. So it wasn't that. It really had more than anything to do with, with how long that these vaccines were going to be effective for. And you knew that the Pfizer vaccine and Moderna vaccines, which were approved basically in December 10th and 17th, you knew they were effective for a few months, but you didn't know longer than that. Now we're getting more and more information about that. And we're also looking at the nature of the immunity that's been induced by those two vaccines, and now more with Johnson & Johnson vaccines. We can feel pretty comfortable, I think at this point, that immunity will probably last for a few years. I think that's likely. I think that's why they're going to come back and submit for a biologics license application and licensure.

Larry Bernstein:
In your opening remarks, you mentioned that there are a number of people who are asymptomatic, who have been exposed to virus and did not express themselves with disease. You mentioned it might be three times as much. In one of our first few weeks on What Happens

Next, we discussed with a Stanford medical doctor, methods to ascertain what that asymptomatic ratio was. There was a study done in Santa Clara, where the study results were challenged because of the methodology, where they asked for volunteers for antibody testing. And there was a sense that maybe those people that volunteered for the test, they may have felt that they had gotten the disease and therefore it wasn't an appropriate way to evaluate the population because it wasn't a random sample. Why do you think, with so much on the line as to what that asymptomatic rate in this country for determining our herd immunity level? Why haven't we been able to design a proper random survey to determine the asymptomatic rate in the United States?

Dr. Paul Offit:

I didn't mean to imply that there's roughly 30 million people who now have been tested and found to be infected, that everybody else who was infected was asymptomatic. I think there are some people who just never got tested because they couldn't get tested, couldn't figure out how to get tested, who had mild disease or even moderate disease, which has never got tested because never went to the doctors. So, I think when we do these sorts of antibody surveillance studies, they started to be done in November in a variety of ways, some better than others. And the better studies obviously were the ones where people could volunteer, where you just sort of took a swath of people that they walked into a New York grocery store and say that we're going to test your blood. And then in November, that number of people who were tested and found to be in fact that are reported to be, in fact, it was around off by a factor of four.

Now it's come down to around a factor of three. But I was on an FDA vaccine advisory committee on March, the fifth, where we pick the flu strains for next year. And the CDC presented data where they basically said, this was a little while ago, that at least 85 million people were infected. So, I think we have a lot more people who have been exposed to this virus and are now immune to this virus than we ever thought was true initially.

Larry Bernstein:
If you do get exposure to the disease, how long do you think you're protected from it without a vaccine? And can you break it up into people who are asymptomatic, those who have mild symptoms and people who had severe symptoms?

Dr. Paul Offit:
Yeah. So, there's been studies done by Shane Crotty and others with the La Jolla Institute for Immunology, trying to answer the question, how long does your antibody response last? And they found that your antibody response after four or five months could decline. But the good news was your so-called memory cells, memory B cells, which are the kind of cells that make

antibodies or memory T cells, T helper cells, which are the kind of cells that help B cells make antibodies or memory cytotoxic T cells, which are the kind of T cells that kill virus infected cells, were actually quite long lived.

That's a good sign, because the incubation period of this virus, meaning from when you're exposed to when you develop symptoms is actually fairly long. It's about six days. It's not like flu or rotavirus where the incubation periods only a couple of days, and for flu can be as short as 18 hours. So that's plenty of time for activation and differentiation of memory cells to become, for example, antibody secreting cells. It's a good sign. I think as long as you have long lived T-cell responses, and that appears to be true, I think you likely are going to be protected for years independent of the severity of your initial infection.

Larry Bernstein:
Yeah. That is good news. But once you've been exposed to the virus and the variant now comes through, how do you think about whether or not you'll show any symptoms from that variant or will that also prevent more severe reactions? And why do some people have these severe reactions from the disease.

Dr. Paul Offit:
Well, we're an outbred population. We respond to viruses differently. The thing about the variants is that if you look for example, at the South African or Brazilian variant, you're not going to be as protected as well if you're vaccinated or naturally infected as we would have had it been either the UK variant or just the more common strain that circulates. Meaning you still could get mild infection or low moderate infection, but you're going to be kept out of the hospital and out of the ICU and out of the morgue. And until that line gets crossed, we're not going to need a second-generation vaccine. But we're an outbred population. Some of us, when we get our vaccine have, I did, with my second dose of MRNA vaccine, I had fever and fatigue and chills for a couple of days, which I treated successfully by constantly whining. That works. I'm just throwing that out there.

Larry Bernstein:
Just to follow that up, the fact that you had flu-like symptoms after the vaccine, and your second dose of the vaccine, do you view that as a very good sign? Namely that your body has built up the antibodies in reaction to it? And wouldn't be a lot more problematic if you had no response to the second dose of the vaccine because maybe it's not working as effectively with you?

Dr. Paul Offit:
Well, remember fewer than 50% of people who got either of the two MRNA vaccines had side effects, nonetheless 95% were protected. So, I don't think you have to have side effects in order to be protected.

Larry Bernstein:
And let's say that you had COVID, would you still recommend getting vaccinated?

Dr. Paul Offit:
That's a great question. The CDC did not draw a line there. I think mostly for programmatic reasons, I thought it would be very tough to add that layer of seeing who has antibodies to the virus or not before one gets the vaccine. You could reasonably argue that those people should have been put at the back of the line. Secondly, there've been three preprint articles that just came out, looking at people who were naturally infected, who got one dose of vaccine, and they act immunologically as if it's a booster response. So, you could also make the argument that one dose would have been enough for people who have been previously infected, but we didn't do that. You could reasonably have done that.

Larry Bernstein:
And let's say you had a severe reaction to the disease the first time. What would you expect the reaction to a vaccine dose? Are you going to be a much sicker than otherwise? Do you think as your disease is more severe, do you expect the reaction from the vaccine to be more severe?

Dr. Paul Offit:
No. If you had severe disease, recovered and now you're getting a vaccine. No, I don't think so. Actually, Donald Trump was an example of that. He had pretty severe disease and they were considering intubating him at one point, he and Melania quietly got a vaccine. Didn't make much ado about it. I wish they had made more of a production about that. But he really didn't have much in the way of reactions to his vaccine.

Larry Bernstein:. We're going to move on to our third speaker, Robert Paarlberg, who has written a book called Resetting the Table: Straight Talk About the Food We Grow and Eat. R

Robert Paarlberg:

Well, thanks, Larry. My book is about our broken food system. And one of the messages in the book is to think again about some of the more popular remedies for improving or for fixing our food supply, or what's the evidence that our system is broken? Well, 42% of American adults are now clinically obese, and it's not always been this way. That's three times as high as it was in the 1960s. A number of popular suggestions have been made for improving our food system. I'll talk about four of them. One is switching to organically grown food. Second is switching to locally grown food. A third is ending government subsidies for commodities like corn. And fourth is putting more supermarkets in food deserts that don't have enough supermarkets. My book shows that these proposals would not improve dietary health in America. And in fact, in some instances, they could make dietary health worse.

Let's start with organic foods. These are foods that are grown without the use of any synthetic manmade chemicals. Organic farmers are not allowed to use synthetic manmade nitrogen fertilizers. And they have lower crop yields and higher production costs, and that makes organic products more expensive for consumers. On average, organic produce costs 54% more than conventionally grown produce in the supermarket. So, what does this mean? It means if we switched to an entirely organic farming system, America's consumers would have to pay 54% more for fruits and vegetables. Currently, of course, we don't eat enough fruits and vegetables. We're supposed to have five servings a day, but on average, we're consuming fewer than two servings a day. So, if the price of fruits and vegetables went up by 54%, our consumption would fall even more and our dietary health would worsen.

Of course, advocates for organic products try to claim that these products are more nutritious, but the science just doesn't back that up. It's true that organic milk has 30% more beta carotene than conventional milk, but conventional milk has so little beta carotene that 30% more than almost nothing is still almost nothing. So, a switch to organically grown foods would not solve our dietary health problem. But very few commercial farms are switching to organic production because they don't want to farm without nitrogen fertilizer. Only 2% of farm products in the United States today are organically grown. Second strategy for fixing our broken food system might be to switch to locally grown foods, but this as well will actually worsen dietary health in America because in much of the country, healthy fruits and vegetables cannot be grown at an affordable cost during the winter months.

You can live a comfortable farm to table life year-round if you live in San Diego, but not if you live in Massachusetts like me. You can grow vegetables all year-round in Massachusetts in a greenhouse, but that costs much more than bringing them in from California or from Central America. So, if we tried to do it all locally. The retail price of healthy foods would go up, and once more, consumers would eat less. The vision of producing our food on small local farms is undeniably appealing. And in New England where I live, we have large numbers of small local farms selling their products in season through farm markets or through CSAs, community supported agriculture. It's a valuable social and cultural addition to local communities. But my book says we have to be realistic about how much of our food we can grow this way.

If you looked at all of the food produced by all of the farms in New England... that's large, as well as small farms in New England... in the States of Rhode Island, Connecticut, Massachusetts, New Hampshire, Vermont, and Maine combined, that adds up to only 1% of total farm production in the United States. The state of Rhode Island produces only 1% of its own food. So lucky for those of us who live in New England, we don't have to rely on locally grown foods. And locally grown foods, a little bit like organic foods, are not taking over the marketplace. They represent less than 2% of all the foods grown in the United States today. Instead of becoming more local, our food supply is becoming more global. We had about 11% of our foods imported in 1990. Now we're up closer to 20%.

Ending farm subsidies. Another proposal that wouldn't improve dietary health either. This is a because farm subsidies don't make unhealthy food cheap. They actually make foods like sugar and corn artificially expensive. This is poorly understood by most critics of farm subsidies. The federal government makes corn artificially expensive because Congress has enacted a renewable fuel standard that requires one-third of our corn crop be used for ethanol as auto fuel. This pushes up the price of the corn that's remaining to be used for food. It makes everything from corn syrup, corn chips, and meat from animals fed with corn, more expensive, not less expensive. It's a subsidy to the income of corn growers. It's not a subsidy that makes corn cheap for consumers.

The federal government also makes sugar artificially expensive by putting a quota at the border that keeps cheap foreign sugar out of our market. This makes the sugar that we buy here in the United States 64% more costly than it would be otherwise. That makes obesity-inducing foods more costly rather than artificially cheap. If we remove those subsidies, we'd be going in the wrong direction in terms of diet. That doesn't mean these farm subsidies are a good idea. I don't think they are. But they're not making us obese.

The fourth proposed remedy to our dietary health problem would be to put more supermarkets into neighborhoods where people today may have only just convenience stores or fast-food restaurants. These are so-called food deserts, and this is a well-intended proposal, but we have an increasing number of studies now that show our problem isn't too little access to healthy food. The problem is too much access to unhealthy food. And supermarkets themselves are filled with unhealthy food. One study found that only about one-third of the beverages and packaged products sold at supermarkets today are healthy. The rest are either ultra-processed or they had too much sugar, salt, and fat.

Not just supermarkets, actually. Pharmacies are also a part of this swamp of unhealthy food that we're surrounded with. When I go to my local CVS to fill a prescription, I have to walk through aisles filled with candy and chips in order to get to the prescription counter. So, in a single visit, I can both protect my health and spoil my health at the same time. Now, the food companies that design all these foods to be irresistible, they designed them to be over-consumed. They say it's our responsibility if we consume too much, but stop and think about that. Remember that obesity in America has tripled since the 1960s. Are eaters today really three times as irresponsible as they were back then? My book explains that they are not.

The solution to this problem has to go beyond personal responsibility. It has to include government policies that nudge consumers and food companies in a healthier direction. For example, excise taxes on sugary beverages or nutrition guidance on the front of food packages or guidelines regarding advertising junk food to children. 18 different countries in Europe have at least one of these policies in place. At the federal level in the United States, we have zero,

and European countries have only half the obesity prevalence of the United States. I think these are lessons we can learn from European approach and take to heart. These are the first steps that we need to take to fix our broken food system. And my new book, titled Resetting the Table, outlines these steps in some detail. Thanks, and I'll turn it back to you, Larry.

Larry Bernstein:
I'm going to start with your conclusion, which is taxing sugar drinks. That was something that Bloomberg did in New York City, but he got very harsh feedback from the population, particularly the African-American population was very upset about that. How do we think about giving the people what they want versus giving people what they should have?

Robert Paarlberg:

Bloomberg suggested a restriction on the size of beverages. He wanted nothing sold in more than a 16-ounce portion. He didn't really propose an excise tax on sugary drinks in Manhattan or in the City of New York. The governor of New York proposed that, but then dropped the proposal very quickly. What I propose is the approach that's been taken now by a number of municipalities, and that's an excise tax on sugar-sweetened beverages. It was done in Berkeley in 2014, and then it was done in Philadelphia, then in San Francisco, in Oakland, in Boulder, Colorado, and Seattle. And where this tax has been set in place, it has driven down the consumption of sugar sweetened beverages. It's driven up the consumption of bottled water. How did these taxes become acceptable to the populations of these cities? In some cases, the tax was enacted by a popular ballot. Individual consumers aren't as opposed to these kinds of taxes as, of course, some lobby groups that can influence city councils or can influence state legislatures or can influence the Congress.

If you can do it through a ballot initiative, and if you can dedicate the revenue from the tax to something that's either health-related or something that will benefit minority communities, that's a good way to get approval for these kinds of measures. Of course, these kinds of measures have only been enacted so far in cities that are heavily Democratic, and they've only been enacted with external support, including support from the Bloomberg Foundation to run the campaign to win the ballot contest.

Larry Bernstein:
You mentioned nutritional guidance as well. We're starting to see nutritional guidance at fast food restaurants and other restaurants. Has that been effective in changing choices of what people order at restaurants when they see the calorie count, or do people look at it and just disregard it?

Robert Paarlberg:
Well, you're right. We now do have a law requiring calorie counts on menus in restaurant chains. It has to be on the menu, or it has to be on a display board. It has to be visible to those that are buying the foods. And these have some effect. They probably had their greatest effect by nudging the providers of these foods to reduce the calorie content. It may not influence the behavior of the customers in these restaurants as much as it influences the behavior of the restaurants that are making the menus. But in either case, it's a plus. It's a benefit. There is a risk, of course, that only those who are already health-conscious and watching their calorie intake are going to be careful observers of the calorie count on the menus. But the restaurant industry fought hard against these calorie counts and delayed them for a number of years, suggesting to me that they knew at least it was going to have an impact on the behavior of their customers.

Larry Bernstein:
But that would be their prediction. So just to kind of follow the logic through, imagine you're The Cheesecake Factory and you're offering a salad and it's got 1,600 calories or some crazy number. Right? And Cheesecake Factory says, "Oh my God. When I publish the 1,600 calories, no one's going to want to eat this salad. So, I better change the content of the salad to 1,200 calories." And then when they find out that in fact people prefer the 1,600 calories to the 1,200, isn't the first inning of the game, they change it to a 1,200-calorie salad, but in the second inning, when they find out the customers preferred the 1,600 calories, they just go right back to offering the 1,600-calorie salad?

Robert Paarlberg:
Well, we'll have to find out. This new law has only been in place for a couple of years and we don't have good studies yet, good careful studies of the response by the food service industry. My guess is you could reduce the calorie count of most restaurants or salads just by cutting down a little bit on the dressing. The salad will look the same and it would virtually taste the same, and it would be much better for you. I have hopes that these kinds of informational messages are going to be a good corrective to careless behavior on the part of both of the food service industry and consumers. But back to something else that you started with, and that's nutrition guidance. Not just a calorie count, but telling consumers something about the fat content, the protein content, the degree of processing, the salt. These are important bits of information that are currently available to US purchasers of packaged food products by looking at the nutrition facts panel, which is usually on the side of the package. It's fine print and small numbers. You have to work hard to make good use of it.

In other countries, including in Europe, they're now requiring nutrition guidance on the front of the package, not on the side of the package. And it has to have easily understood at-a-glance value. In the UK, they have a traffic light system where you get things colored either red or yellow or green. If you're a shopper, you don't have to read for three minutes to find out if

you've got too much sodium. You'll just see sodium red and that's going to tell you that you'd probably be better staying away from that product. I'd like to see a system like this in the United States, either on the front of the packages, or an alternative approach is a front of shelf guidance system.

We have one. It's called Guiding Stars. It was actually designed by a food retailer, the Ahold grocery chain. And it gives you either one, two, or three stars, depending upon whether their algorithm finds the food product to be good, better or best for you. And you might be curious how honest is this system. Can we really trust a grocery chain to grade the foods that they're trying to sell to us? Well, when, when one US chain put into the system, they discovered that two-thirds of the packaged food products in the store didn't get any stars at all. So, it was an honest system. It did reveal how many of the products being sold in supermarkets have too much processing, too much salt, too much sugar, and too much fat.

Larry Bernstein:
I thought the most interesting or shocking aspect of your book was your discussion about organic food, namely that the science that you said showed that organic foods weren't any healthier than those that were not organic. Is this widely known? And if so, why do people pay the 54% more for this organic food? And should we have more of a public message to encourage people to stay away from organic foods and save the money, particularly among our poor citizens?

Robert Paarlberg:
Well, it's widely known among nutrition scientists, but-

Larry Bernstein:
I mean, but among nutrition scientists, they also know that Oreos and sugar is also bad for you, but you're requesting that society nudge people away from things that the community already knows. Should we be nudging people away from organic foods?

Robert Paarlberg:
Oh, no. Organically grown foods are just as healthy as conventionally grown foods. There's no health reason to tell people they shouldn't buy.

Larry Bernstein:
Well, it costs 54% more. Should we have advertising saying, "Save your money. Don't buy these organic foods."

Robert Paarlberg:
I don't think so. I think it's up to consumers who notice that these foods cost 54% more to make the decision. Are they getting their money's worth? And there's more than one or two reasons

why consumers might think they are getting their money's worth. They might think these foods are more nutritious. There's no science to support that, but they might also think, "Well, maybe they're safer because organic growers don't use synthetic pesticides and maybe conventional foods have pesticide residues that I want to stay away from."

Larry Bernstein:
But you don't believe that, do you?

Robert Paarlberg:
Well, the Food and Drug Administration has studied that very carefully. Toxicologist has studied that very carefully. And the pesticide residues on conventionally grown foods are so far below the tolerance thresholds that are set by these food safety agencies that no, I don't believe that pesticide residues are a consumer risk in countries like the United States. They are a risk in developing countries, where foods are not repeatedly washed before they're put up for sale, and where pesticides are not as heavily regulated, and the application of pesticides is not as heavily regulated as in the United States, and where pesticide use is heavier than in the United States. The United States has reduced its use of insecticides by more than 80% since 1972. Most food consumers don't realize that. Most food consumers continue to be frightened away from pesticide residues by campaigns, by advocacy groups. There's an advocacy group called the Environmental Working Group that every year lists what it calls its dirty dozen food products with the highest level of pesticide residues.

Well, the levels of residues that they find are so far below the tolerance levels, it's hard to describe these products as dirty. They're essentially all clean, and these are just the least perfectly clean. In any collection of food products, one is going to have more pesticide residues than the others, even if most of them have essentially none. So, it's a little bit like warning swimmers away from the shallow end of a wading pool. But of course, consumers want to do what's best for themselves and their families, and they see a group of promoting this list of dirty products and they might choose not to consume them. I think it would be too bad since the products include things like spinach and strawberries, which are very good for human health. And as I say, we don't, we don't consume enough fruit and vegetables right now. We shouldn't be staying away from perfectly healthy foods

Larry Bernstein:
The other interesting thing about your book was sort of encouraging the use of industrial farms over local farming. One point that you just reiterated was these industrial farms are increasingly more productive, are more productive with fertilizers, are more productive with pesticides, are more productive in creating healthy fruits and vegetables. Why is there this natural inclination and opposition to industrial farms? And why do you feel like you're pushing against the trend by articulating the benefits of industrial farms?

Robert Paarlberg:
Well, the label industrial farms is itself something that's been created by opponents of using modern science in agricultural production. The opponents of modern science like traditional farms. They like small, diverse, local, chemical-free, traditional farms. I don't think this is an effective model to employ, in part because of how much more food the marketplace is demanding these days. Right now, American agriculture is producing three times as much as it was producing in 1940. If we had tried to triple production using the techniques that were available in 1940, we would be doing vastly a greater environmental damage than we're doing today. I mean, we'd already reached the limit of what the methods of the past could do safely. Remember, when we expand traditional production methods onto the drought-prone Southern Plains in the 1920s, the minute we hit a drought in the 1930s, it created the dust bowl and environmental calamity. 400,000 environmental refugees. We're able to avoid that today because we've used nitrogen fertilizer, hybrid seeds, new equipment that can plant seeds without plowing.

We have GPS-guided systems that tell equipment very precisely in the field when to use more and when to use less of inputs like lime and fertilizer. We have GPS systems now that can tell a roving piece of equipment in the field exactly where it is down to less than one inch. And these systems are linked up to digital soil maps and to computer-operated variable application equipment that ensures we use only as much fertilizer, only as much nitrogen as that one part of the field needs and no more. So, we haven't increased fertilizer use in the United States since 1981 even though we've increased production by 46%. Pesticide use today is 18% lower than it was in 1981 even though we've increased production by 46%. I think that industrial farms still do environmental damage. They still do too much environmental damage, but it's because of the quantity of food that the market is asking for. It's because of how much they produce. It's not because of how they produce it.

Larry Bernstein:
Okay. Thank you, Robert. I'm now going to go to our final speaker, Mark Bauerlein, who's going to speak about his book, The Dumbest Generation. Mark, please go ahead.

Mark Bauerlein:
You started by talking about ending on a note of optimism, and I'm sorry, Larry. I actually don't have very much hope when I look at what has been going on with American youth in the last 20 years. We conducted a broad social human experiment back in the 2000s in which what we did was we turned over an entire generation of teenagers and younger to screens. We let them avoid books, newspapers, and magazines. We let them read a lot less literature than they had before. They were watching fewer TV shows that would pump some adult content into their lives. They pretty much came to ignore history and civics even more than they had before.

And they engaged into one another. It was a peer-to-peer contact world that millennials occupied when they were 15 years old. By 2010, they were texting like crazy. Twitter had taken off. Facebook, of course. Myspace was still there. It was going down a bit. They were watching YouTube and making videos. Remember, the first motto for YouTube was broadcast yourself. They were walking around with 250 pictures of themselves in their pockets at all times. They were communicating through the night by texting and instant messaging and everything else. 85% of them had a cell phone by 2015. And what we see today is that these 15-year-olds, 10-year-olds who would Google out in their formative years, something that had never happened before, they're now 30 years old, late twenties, early thirties. And what do we see has happened since then?

Well, maybe some of you don't remember back in 2005, 2006, the boosterism for the millennials was over the top. They were going to be the most connected, aware, globally-oriented, highly educated, informed, worldly generation in human history. They were going to blow us away, these digital natives, the digital pioneers, were going to show the elders what the 21st century was really going to look like. What has happened since then? Well, if you look at academic achievement, let's say SAT scores, ACT scores, NAPE scores, the broad test scores were all down. Reading and writing scores have dropped significantly in the last 15 years. And this at a time when young people are actually writing more words than ever before in human history. Well, they're not doing it very well. They're doing it worse than they did 20, 30, 40 years ago. If you look more of them are going to college, but more of them are ending up in remedial classes when they get to college.

Many of them are not learning very much at all, according to another test called The Collegiate Learning Assessment. And then when we look at emotional measures of millennials now that they're 30 years old, we see suicide rates are up. Anxiety rates are up. Narcissism rates are up. Medication is very high among young Americans. The misery that you see, the unhappiness they see is widespread. Now, part of that is the economic troubles took a hit in 2008. There still hasn't been much recovery in many places. They have enormous student debt. They bounce around from job to job, often doing contract work for businesses. Benefits are hard. Rents, living expenses are very difficult in the hot places they want to live like Williamsburg on Long Island, Austin, Boulder, Madison and the Bay Area.

They don't settle down. They don't get married nearly as early as previous generations, and they don't have the stability of family life, and they're not doing well. And my contention is that one reason the misery is up is that a lot of these are the normal tribulations of adulthood that have hit. But because they were locked on screens in those formative years, they didn't acquire the intellectual equipment to handle a lot of them. They didn't read enough novels. They didn't learn enough about history. They would talk a lot less about social justice and racial justice if they had any sense of the American and the world past.

And so what happens with them is they are being hit by pressures, emotional, psychological, caused by financial, economic, career pressures. And they're not handling them very well. And it's too late. It's too late for them. They're not going to sit down and start reading now. They're not going to go learn more history now. They're hitting middle age and it's time to start understanding their lives in a meaningful context, and they don't have it. They don't go to church. Most of them don't have any organized religion in any meaningful, concrete way.

And so I used to believe that Generation Z, the generation behind them, is going to reject the millennial outlook, as every generation rejects the previous one. But I'm seeing indications now that this isn't really the case, that Generation Z are showing high rates of loneliness and difficulty, the same as the millennials do.

Larry Bernstein:
We had Don Hirsch on What Happens Next a couple of weeks ago, and he was speaking about the importance of learning cultural literacy, to all read the same books, to be exposed to one American culture, and that the progressive movement is opposed to that. Do you think that this undermining of cultural literacy is part of your story, or do you think it has more to do with screen time?

Mark Bauerlein:
It is most definitely part of the story. I should say, I'm on the board of the Core Knowledge Foundation, which is Don Hirsch's education organization. Let's just talk about multiculturalism. Multiculturalism promised to be, in the 1980s, a rich diversification of our sense of the past. That we would read more novels by women and by people of color. That we would understand the perspectives of historical events from the victims, not just the conquerors. And that this again, would be a historiographical project that would give people again, a fuller, richer sense of the past. Well, multiculturalism in practice is actually an eradication of a sense of any past. It is completely present oriented, and it is focused on future change. It is not about an in-depth study of the past. I've been part of many debates over this, I've been in many formations of standards in the literary canon, working with states and projects like Common Core and with the College Board.

And it is very clear now that students who graduate from high school don't know anything more about African-American literature than they did 30 years ago. In fact, I would say they know less. And what does this mean in terms of the youth? It means you're coming into the world, you're coming into a universe, and the past offers nothing. In fact, the past is a time of guilt. The past is a time of injustice. Your parents and grandparents belonged to a world that wasn't fair. This is a terrible thing to give young people, it sort of says, you're on your own. There is no legacy that can inspire you. There is no heroism in the past on which you can build your own character. It's all future oriented. It's utopian. It is progressivist. And the internet has steered

into this by giving them a totally present oriented world of social contact with one another, it only aggravated the elimination of the voices of the dead in these young people's lives.

Larry Bernstein:
You mentioned that kids don't read and particularly they don't really literature once they got out of school. As an English professor, why do you think that reading literature will help solve some of these problems like emotional dysfunction, suicide, anxiety, reductions in medication, et cetera, and increase happiness?

Mark Bauerlein:
Well, if you talk to a reader, those few who are left and the many who were there in earlier times, in the 1960s, and '70s, when the baby boomers hit college campuses, English was one of the most popular majors on campus. I mean, it got about one out of 12 college students graduates, the four-year colleges, majored in English. Now one reason was they came into college from high school, having had a high school English teacher who had them read Hemingway, and the guys loved Hemingway. The girls read Jane Austin and they found Elizabeth Bennett in Jane Austin, a role model. Gone with The Wind, many young women found that Scarlett O'Hara was a role model, an inspiring character for them. So, the novels actually played an important mode of moral instruction for young people. Young people learned how to be young adults, how to be women and men by reading novels, they learned about the nature of people, they started to understand human motives as a complicated phenomenon.

What looks like a villain, isn't always a villain. Some dumb thing that someone does actually could have a very complicated history to it. And novels were particularly good at exploring human motives in that way. And this was the mode of identification and again, moral instruction that was very important for young people, as they started thinking outside the home, beyond their own families. And when they stopped reading, what did they replace it with? These stupid movies that Hollywood gives them now, these idiotic Marvel superhero movies, is that supposed to replace Phillip Marlowe? I mean, is that supposed to replace Gatsby and understanding what an adult sense of things is about? No, no. This is a terrible decline. And our culture is in the midst of the rising stupidity and vulgarity. It's everywhere.

You go ahead and do a Lexile score of the script of a current Hollywood film versus the script of a Hollywood film in 1973, you will see a sharp decline. Look at the magazine, I mean, everything you see. I mean, you can't even turn on the TV and watch the commercials, you say, "Why are they showing people being so stupid?" But this is the world, this is the media immersion that young people have today. And remember, when you're 17 years old, they're communicating with other 17-year-olds all the time now. Peer pressure has never been so high. Peer imitation has never been so high as it is now. And we've got to have more adult intervention to show

them how to grow up. This is the problem for boys who grew up without fathers in particular, this is a real problem, they take their lessons in manhood from one another, and that's not good.

Larry Bernstein:
We had some discussions in the last few weeks, we heard from Arnold Weinstein at Brown, he discussed the censoring of Huckleberry Finn, and no longer in the syllabus. Elizabeth Outka from the University of Richmond, when I mentioned Gone with The Wind, she said that book could not be taught in American classrooms today. And then last week, David Grazian said that he would not teach Bonfire of the Vanities because of the use of certain racial dialects. What are your thoughts on the censoring of certain materials from the classroom? Don Hirsch didn't really seem to care if Huckleberry Finn was eliminated, as long as we all found another text to read that was similar, and we could have a common cultureal literacy. What is your view on censoring which books to be taught in American classrooms?

Mark Bauerlein:
Well, I'm always suspicious of the process and when you see Huck Finn under the ax, you got to wonder, okay, what is the motivation here? What are we trying to protect people from? This to me is sensitivity taken way too far. And it also is to forget that a lot of arts, a lot of literature, music, is just as prone to bad ideas and bad images and bad feelings, as human beings are. I mean, one of the masterpieces of the silent era is D. W. Griffith, the Birth of a Nation. What Griffith did there is technically and aesthetically spectacular. He is one of the great pioneers, and yet the film has an abominable moral message. The nation, which is celebrated there, is the Ku Klux Klan, which is founded right after the war in 1865, it was abolished a few years later, it didn't come back until 1915.

But the distinction between the aesthetic value and moral meaning is something that has to be respected, and we don't want to deprive young people of aesthetic brilliance because there could be bad moral messages here. A year later, Griffith did a film called Intolerance, which is the exact opposite message of racism and Negrophobia, as it was called back then. So, the point, again, it's tricky, it's not like I'm going to stand or fall on, Huck Finn, you must teach Huck Finn. No, but what I will stand or fall on is the subjugation of aesthetic and technical mastery, to moral and political dogmas. I think Richard Wagner is one of the great geniuses of music and he's going to be around forever, but he was a horrible person and there are some bad messages in that music, so be it.

In my experience, people call for the censoring or the judgment of the fitness of things, are very often the very last people you want to have that power.

Larry Bernstein:
What do you think about the idea that every generation thinks the next generation is going down the wrong path? Why do you think that you are just not an angry old man complaining about the next generation? Why do you think this older generation's attack is more legitimate than the past?

Mark Bauerlein:
Well, Larry, I am a grumpy old man.

Larry Bernstein:
I don't doubt it.

Mark Bauerlein:
In fact, this is the responsibility of the elders in any society, to chastise the young. They're adolescents, they're going to be adolescents and they need to be told, "Knock it off, straighten up, fly right." And that's a responsibility the elders have now. It is also the responsibility of the young to fight back and say, "Oh, there's stuff going on that you don't understand. You're a little behind the times on things happening." Some tension between the generations is a healthy thing for a society. We are now in a condition where all the elders and the education and cultural sphere, because they're so afraid of sounding old fashioned or conservative or reactionary, or get off my lawn types, they want to be hip to all the new things. They don't want to criticize the young for their cultural choices, their leisure habits.

That's one problem on the side of the elders. That's why I have one chapter in The Dumbest Generation was called, the betrayal of the mentors. A book I have coming out begins with the sentence, what have we done to them? So, the problem with the young right now is you guys are irrelevant, we don't even bother debating. I mean, in the '60s with the youth movement, a guy like Tom Hayden, the head of SDS in the early '60s, they couldn't stop talking about the elders. They were fixated on all the things the elders were wrong about. The millennials, they're not fixated on what the elders were wrong, they just say, "You're irrelevant. You're old. You don't apply anymore." This is a very unhealthy condition.

Now for those who say, "Ah, this is just the old thing. They complained about Elvis and comic books too." I would say, wait a minute, weren't you guys who said that the digital age is a revolution, weren't you guys claiming that the advent of the iPhone is the equivalent of Gutenberg? Isn't this the electronic word, something on the order of the very invention of writing? And now when people like me, a cultural, conservative and education conservative as Don Hirsch is as well, Don's a liberal Democrat, but an education conservative, he calls himself that. So, when people like us say, 'Whoa, wait a minute. What are you doing here? Slow down.

This is bad. You can't dispense with the path like this." You claim your radical revolutionaries and then when we say, "Whoa," you say, "Lighten up, come on," sorry guys, you can't have it both ways.

Larry Bernstein:
You talk about the role of Facebook, social media, texting between kids, as being very problematic. Is there anything we can do about it or has that train left the station?

Mark Bauerlein:
Larry, it's all over. It's the decline of Western civilization, we're done. The life of the mind, the induction of the rising generation into the death that has been fought and said, we had 2000 years of that, it was a pretty good run. The cultivation of humanities, that wasn't bad. But there is regress as well as progress and we're hitting a dark age and the main characteristic of this dark age is it's so bright, it's so loud, it's so nonstop. I wish we could have a little silence and quietude and dark for a little while, so that people might be able to contemplate. We might be able to think, I've got to go to the airport in a few minutes, and I'm going to go to that airport and there is not going to be a single quiet spot in that entire airport. There will be nowhere where there isn't crappy pop music playing, where CNN isn't blathering on a screen, the whole thing.

Larry Bernstein:
You mention religion as being on the decline and maybe a causality of why we're finding our lives less meaningful. Do you see any way that that decline in religiosity and organized religion will turn around? And I mean, also in Europe, it's much worse than in the United States, and we remain the most religious country. How do you think about the role of religion in this story?

Mark Bauerlein:
Well, Larry, organized religion is going down. The phenomenon of the nones, N-O-N-E-S, keeps rising. But Larry religiosity is up, woke, black lives matter, Antifa, racial justice, social justice, these are religious substitutes. They have dogmas and they are applied with all the ferocity of a 17th century Puritan. This is what happens to people when you take away from them any transcendent horizon, when you don't give them an organized state, when you don't provide for them a model of history. Christianity has a model of history, it has beginning, a middle and an end. Marxism has a model of history too, it's teleillogical just as much. And we see the return of socialism taking place. Although it's not unthought out socialism, this is a place for millennials to find a meaning in life, to find a purpose to which they might commit themselves, something that would give a moral structure to their daily activities.

So the fervor is out there, I think it is going in a very, very bad direction. I mean, they are very much in favor of cancel culture. Millennials show much higher rates of being in favor of that than older age groups. It is very much of a youth inspired phenomenon and it's dangerous.

Larry Bernstein:
All right, this is the part of the show where we discuss optimism. Mark, I recognize that you've just given a pretty negative view, and you opened by saying you're not optimistic, but if you were to be optimistic, what would you be optimistic about?

Mark Bauerlein:
Well, Larry, we have to act optimistic. I mean, we have to behave in an optimistic way, we can't give in to pessimism and simply withdraw. I mean, I have students, young people write to me, "Do you still think we're the dumbest generation?" I argue with them, I answer every one, if you're going to write a book with the title that insults 93 million Americans, you got to stand up and face the music. I've answered thousands of emails over the years and responded to every query. I've given lectures and stood up and been booed by the kids and we continue to talk. Now those give me optimism, because after we get beyond, in emails, after I get beyond the four-letter words and the accusations, and I actually respond to them and they were surprised, and they respond back and we actually have a good exchange.

And sometimes I say to them, "Your right on that point. I overplayed that. You're right, I was wrong there." That's a very good outcome, to have a young person be an exception to everything I've said, that's ideal. Those are moments that give me optimism and I have to act that way all the time. I taught until last year, I just retired last year, I kept teaching the students as if I really cared. I cared about their minds, I wanted them to walk away more educated, more grounded than they were before they entered the class. To me, what are you going to do? I'm going to do exactly what I've always been doing, tying to spread the word of great books, high art, high culture, and tell the kids, "You guys, this stuff here, the opening five minutes of a symphony is so much better than that crappy hip-hop music you're listening to." I tell them this straight up.

Larry Bernstein:

Robert Paarlberg, what are you optimistic about?

Robert Paarlberg,
Okay. I'm optimistic about replacing some of the meat products in our diet, with plant-based imitation meats. Americans are eating five times as much real meat today, as they were in 1940. This is bad for our personal health. It's bad for the environment. It's bad for the climate. And it's often bad for the welfare of the animals, given how some of them are raised in excessive confinement. But in the last several years, plant-based imitation burgers have come into the market and consumption is now increasing rapidly. The Impossible Foods Company

increased its production of Impossible Burgers, six-fold last year, and they cut the price to accelerate the uptake. These Impossible Burgers have a life cycle impact on the climate that's 90% smaller than a regular beef patty.

So this is good for the environment, it's also good for human health. It's good for our medical health because the animals aren't being given antibiotics, there aren't any animals. It's an animal free meat product, and it's good for the welfare of the animals. So, the fashion industry has learned to make imitation fur, the shoe industry has learned to make imitation leather. I'm glad that food companies are now learning to make convincing imitation meats. And where this is going is explained in my new book titled, Resetting the Table, straight talk about the food we grow and eat. Thank you very much.

Larry Bernstein:
Thank you. Dr. Paul Offit, what are you optimistic about?

Dr. Paul Offit:
Well, I think that the only way out of this pandemic is with the vaccine. I mean, that's clear, the science is clear. We're not going to have, despite what Scott Atlas said, as an advisor to Donald Trump, national infection has never, ever eliminated any virus, ever, and it's not going to eliminate this one. Vaccines are going to be the hero of this story. And I think a lot of people are going to stand up for vaccines. And I do think that as we move forward on this, if there's a critical segment of the population that's choosing not to get it, that war, I think, ultimately will be won by good science. I think in the end, good science always wins.

I mean, it's the Galileo story. Galileo believed correctly that the earth revolved around the sun, not the other way around and that the earth, therefore, wasn't the center of the world as stated in the Bible. So, he was held up in front of a tribunal, a religious tribunal where he was censored basically, and as he walked away in chains, he looked back at the people who had judged him and he said, referring to the earth, and presumably in Italian, "It still moves. You can put me in chains, but it doesn't matter, the science, this is clear." And the science here is clear, so I do think science in the end wins out.

Larry Bernstein:
When can we just take off our masks, assume you've been vaccinated, when do you see end of masking and social distancing?

Dr. Paul Offit:
Yeah, I'm not sure where the line gets crossed. But I mean, I'm fully vaccinated, I still mask when I'm in public, because one, vaccines are not 100% effective, they're 95% effective. I may be that one in 20 that gets infected or get sick even. I think we'll get to the point where the number of cases and hospitalizations and deaths is so low that we feel that it's a risk worth

taking. Influenza two years ago, killed 20,000 people. The year before that it killed 60,000 people. If we walked around with masks every winter, we would have a lesser incidence of that disease. This is true in countries that do mask over the winter, like Japan, for example. We don't do that, we're willing to accept that risk. We'll get to the point where we accept the risk here too, I'm not sure what that number is, but I think it'll happen actually in the next three or four months.

Larry Bernstein:

Kids going back to school, I think there's a huge cost associated with kids not going to school, but there's a benefit of kids not going to school because they don't get sick or transmit the disease. How do you evaluate that a decision to demand that children go back into an in-person class?

Dr. Paul Offit:
I think kids need to go back to school now. I mean, I'm a little upset frankly, at the teachers' unions that keep pushing back on this, as if they're looking for some sort of zero risk moment. I mean, if they consider themselves essential workers and they are, essential workers should work and you don't need to be vaccinated, you can still mask and at some level, social distance. There's so much loss here, one, for young children, distance learning does not work nearly as well as on-site learning, two, at least in Philadelphia, it's the only decent meal kids get during the day. The incidence of child abuse in Philadelphia has dropped to zero. It's not because it's dropped to zero, it's because child abuse is usually picked up in the school. So, it's time to go back to school now, parochial schools in Philadelphia all back and safely back, I think we can go back to school.

Larry Bernstein:
That ends this week's program. I just want to plug next week's show, we're going to have Dean Adler speak about the real estate market. Dean David Weil from Brandeis will speak about his new book, The Fissured Workplace. We'll have University of Chicago professor Casey Mulligan, describe how the recent $1.9 trillion stimulus program will undermine work and increase unemployment. Eric Kaufman, from the University of London, will talk about censoring of conservative ideas on campus. And Paul Embery will talk about his book, Despised, why British elites hate the British working class.

I'd like to thank our speakers for their comments and ideas, and always to our audience for their participation and their listening. Thank you. That ends today's program. You may disconnect now. Thank you very much.