Marshall here. Welcome back to The Realignment.

I really enjoyed recording today's episode with the author David Lipsky about his new book, The Parrot and the Igloo, Climate and the Science of Denial. It was the author of another highly recommended book, The Absolutely American, four years at West Point, which honestly was the first ever book I read on the military, so it's great to catch up on my high school reading a decade and a half later. The Parrot and the Igloo is basically focused on a big question, why despite 70 years of scientific consensus on the role of emissions in climate change, hasn't the US taken a broad policy response and why in the early 21st century is this issue that has firmly fallen into the culture war category where party disagreements around trust, science and expertise, impede progress. Broadly speaking though, this is also a conversation about the role of technology and addressing climate change and the political dynamics of the issue over the past 20 or 30 years. So even if you're not a climate change person, there's lots of interesting side notes there as well. One other quick note, my bad on not releasing the Marshall Sager Q&A last Friday, a couple of you guys emailed

about that. It is going to be out tomorrow, so definitely go take a look there and if you're not subscribed yet, go to realignment.supercast.com. Once again, a huge thank you to the Foundation

for American Innovation for supporting the work of this podcast. Hope you all enjoy the conversation.

David Lipsky, welcome to The Realignment.

Thanks, Marshall. That's great to be here. Thanks for having me.

Yeah, no, this is going to be a great podcast episode. We've been chatting for 20 minutes before the recording and eventually we actually had to just get started, but there's all sorts of different subjects we could cover here. But I want to start by focusing on the book. So you've divided the book into a couple of different sections. And the first section is this really interesting history of American history and invention. You're focused on Benjamin Franklin and the Lightning Rod. You're talking about Samuel Morse did not know he was a painter. That's a kind

of like fun side note. We're focusing on Nikola Tesla and Thomas Edison. And because this is a book ultimately about climate change and science and denial, I'm curious how retelling that history and just sort of researching that, does that give you confidence that the United States is capable of coming up with inventions, approaches, et cetera, to not solving climate change? I don't like the use of the word solving it, but to address a lot of the worst effects of it.

Marshall, you're the only person who got that. That's why the book begins that way. Yeah, that's why the book, that's why the book is designed like that, which is we often focus on the odds against our coming up with a good answer to the question of climate change, and people will focus, you know, on intelligently on the stacks of problems. Like we have to unstack this to even get down to the base level problems. And it's wonderful to think that these three individuals, Morse finds what Steve Jobs would have called the killer app for electricity, which is media, which is information, right? Messaging. And then Edison, an American who like a, I guess, fifth or sixth generation American who didn't finish high school, right? He was homeschooled. So he's the homeschooled Midwest. And then Nikolai Tesla, who is an

immigrant.

And then George Westinghouse, who's an industrialist, but he is the best kind of industrialist. He had his company taken away from him because he was offering his workers unemployment insurance

and offering them mortgages that were backed up by the company. He's just the kind of corporate head that we would want. And for that reason, when there was a little bit of an economic downturn, they took the company away from him and just kept his name. But those three people came together and changed the way everybody in the world lived. And they did it very quickly. So yes, beginning the story that way was a way to keep in the readers had the idea that we have the ability to make big changes and to make them guickly. The American spirit of inventiveness is something that the world respects sometimes more than we sometimes forget to remember just how good we can be at solving problems. So this is interesting, I guess, because I'm the only one to pat myself on the back of the head who picked up that note. I'll kind of play devil's advocate more from a left perspective. It seems like in the world for the various forms of climate denial, but if you are an intensive person who's focused on climate change advocacy, they would say that technology fetishism, fetishism in of itself is a form of denial when it comes to operational approaches, because it basically says, hey, we don't need a carbon tax, we don't need a global treaty, we don't need to suffer a pain to adjust for the various problems that are caused. We're going to have some genius in a garage come up with a solution in 2028, and this is all going to be fine. What's your response to be to someone who has that concern when we focus on technology?

You know, I would respect the people who have spent decades campaigning on this issue to use that great British phrase, this person's a campaigner, right? And they have won a tremendous victory. It was painful having seen the scientists and then the campaigners, like the people at the NRDC, have brought off this thing. The IPCC comes back in February of 2007 and says, unequivocally,

human beings are causing climate change. And then the politics of that moment were frittered away. And now here, it's 15 years, 16 years later, and we're at another inflection point.

I have tremendous respect for the people who, against incredible withering odds, kept this issue before the American public. But there was a great column that you and I were talking about in the digital green room before we came into this digital shared space. Paul Krugman wrote in The Times about climate change joining the larger culture war. And sometimes with some of the campaigners, they have other issues that they have been focusing on. And I think that fresh thinking, the ability to say, hey, even though we don't normally like technological solutions, this is a problem that should bring in opinions and approaches from every part of the country. For example, in general, environmental campaigners who have changed the world, America got super, super dirty. Like just to pause here, you know that one of the standard geoengineering solutions to climate change and the first one that we're likely to see if we go the geoengineering approach will be to dump sulfur dioxide into the stratosphere with airplanes.

What that mimics is just how polluted America was in the 50s, 60s, and 70s, so that there was a global dimming that was something about, I don't know, five or 10% per decade. Like some shocking degree of the sun's light was failing to come down to Earth because of how much pollution we had introduced along with being industrialized. So one of the many comic ironies about this

story is that once the Clean Air Act actually kicked in, global warming sped up. So the comedy of what will be our first solution if we go in that direction will be to drop what essentially is the same effect as soot, right, back into the environment shows just how effective those campaigners were. Along the same lines, they have a strong mistrust of nuclear power. But most climate scientists say nuclear power is the absolute solution. It's one of the things that we need to make this work. And so sometimes the climate scientists who, against their own withering odds, carried the flag of this news through mobs of people trying to take that flag away and tread on it, right? They carried that to the circle, the end of the story along with the environmental campaigners. But they think that the environmental campaigners are wrong just to negate nuclear power, which to them is that's the solution. We get our electricity, we can also power our cars with it, and there's no carbon dioxide. So something I'm kind of curious about, we'll engage in a bit of alternate history, which I know people oftentimes don't enjoy thinking fear, but I think it's helpful here. What give me, actually, let's start here. Give me your best case scenario in terms of climate denial not happening. So there's the famous 1956, what kind of news report this is in the public. It's possible that the emission of gases such as CO2 could worm or change the climate. That comes out. What would be your ideal state for how the next 40, 50, 60 years went about to kind of understand the absence of denial? One of the reasons I wrote the book was when I began to read about the reports, first the famous reports that Marshall is talking about from the 1950s, New York Times and Time Magazine, not scientific publications and not underground publications. Time Magazine in May of 1956 and The Times in October, talking to two different but highly respected scientists. Time Magazine had probably the most influential, the first great American pre-eminent climate scientist, a man named Roger Revelle. Roger Revelle warned Times readers in about 50 years the way we are producing carbon dioxide could have a violent effect on our climate. Gilbert Plass, who is less well known but was one of the first American climate scientists to notice that what was then called the greenhouse effect was a real thing that was beginning to change our weather. He made a similar prediction and the New York Times, this is where the title of the book comes from, said Dr. Plass is predicting a future where the polar regions are transformed into tropical jungles with tigers roaming through the underbrush and gaudy parrots squawking from the trees.

And then The Times said the introduction of nuclear power, because even then they were saying nuclear power is a solution, will probably make little difference. Coal and oil are still burned throughout the world and there's every reason to believe they'll continue to be burned as long as it makes economic sense to do so. So we had that tremendous head start and then by the 70s, so I was very surprised to read about that in the 50s. In the 70s climate science matured, there's a very strong writer for, he wrote this in the New York Times magazine, the New York Times magazine gave over the whole issue to him, I think in 2019, where he said that by the 1970s the science was mature and we could have stopped this in the 80s, because by 1977 our National Academy of Sciences said this is going to happen and we have to begin to change our power sources now, because if we wait for the climate changes to become apparent for all intents and purposes, the die will already have been cast since it takes a generation to change energy sources. There were a number of reports like that in the summer of 1979, 44 Julys ago, President Carter

tasked the National Academy of Sciences with a follow-up report. Can you tell me if this is really going to happen? It took him only five days. They were the jury that brings back a quick verdict and they said yes. If the carbon dioxide release continues, this panel finds no reason to believe it won't result in climate changes and no reason to believe those changes will be negligible. So in the alternate history, and it was reading that and seeing how unequivocal that was and being shocked that we had a 40-year head start and did nothing, in the alternate history that Nathaniel Rich wrote about in Losing Earth and that it's fun for you and I to consider now, we would have begun scaling back on our carbon dioxide use. We would have begun to develop attractive alternate means of city transportation the way there are electronic buses in New York City now. We would have begun to explore electric vehicles like the Tesla, which has become a fetish luxury object over the last 15 or so years. That would have all happened in the 80s and 90s. There wouldn't have been a denial movement. And I remember, I think Michael Oppenheimer, who's

a brilliant professor of government and I think geophysics at Princeton, he said that we could have constrained climate change to a few extra warm days at the end of March. So here's what I'm curious

about in the dynamic. Wait, that didn't answer your curiosity that long. Yeah, I know. And because within your answer, there's another question. And we'll get into the different degrees of denial and what constitutes denial versus, because we're denial obviously has a very negative connotation to it. For example, let's focus on the parrot's example. Obviously, in the 70 or so years since that New York Times report, the Arctic regions have not become tropical, you've not had those things. So the way I see a person who like, let's just say a person is coming out this tabula rasa, they're not working at anything, they're spending it by the energy industry, they're just kind of hanging out, they're saying like, look, with Marshall, let me just help you with that because it's fun. The New Yorker in 1968 said the average person isn't thinking about the polar ice cap melting, they're just wondering what the polluted air is doing to them. So that person, yeah, and that category too, it's it's you're kind of thinking, okay, well, that's fair. Well, also, you know, in the 70s, you have this, like, and I won't even say the scientific community, but like, there was a very serious part of the academic community that bought into kind of the population boom thesis, etc, etc, etc. So this type of person will sit in the year 2022 and say, hey,

the Arctic is not tropical. We didn't suffer a massive population boom that prevented our ability to, you know, consume food properly. If anything, we have declining birth rates throughout the developed world, etc, etc. It's possible that the conclusions that you're coming to in the 50s, 60s, and 70s were overwrought. How do you consider, how do you think about that

area? Because what I'm basically getting at is it was a dumb political move to just go full on denialist. You actually didn't have to do that. You didn't have to say, no, it's just not happening. There is no climate change. That's crazy. Because now what people tend to just say is like, oh, yeah, like, I'm not going to dispute the idea that CO2 warms the climate or affects climate change. It's just not as bad as people are saying it is, just in the same way that the population is almost 8 billion people. However, we don't have mass starvation and death across the West like scientists said there would be in the 1970s. So it's kind of difficult for you to

pull back to a question from there. We're kind of just like thinking back and forth. I love that example. Sure. So that's the other reason for the title. And it's the book has two epilogues, and it's the ending of the first epilogue. The parrot and the igloo are both over promises. And let me stress that Plas wasn't saying in our lifetimes, right? But the story also doesn't say that he's saying it would happen during a time horizon that anybody born or anybody born to anyone alive in 1956 would have been likely to see. He's just saying the ultimate. Like, Ravel said, 50 years, I could have a violent effect on our climate. He was correct. It had a violent effect on our climate. Plas's remarks were just eventually that will happen. Similarly, the igloo part of the title is in 2010 after what I think are properly called the deniers when they had the biggest victory they've ever had. The New York Times, the people who had had that lovely phrase about Goddy Parrots squawking from the trees. Andrew Revkin, who was the main person who

had the climate beat, he said now the foes of action on climate change have the ball. Like, it was a complete reversal in three years from the IPCC and also a complete reversal from the momentum from 92 on. Around that time, there was a heavier than average snowfall in 2010. It was during a winter that was referred to as snowmageddon. And Senator James Mountain and Hoff's family took this very heavy snowfall on the mall, very beautiful place to build a snow castle or a snow house. They built an igloo and they put two signs on it. One said Al Gore's new home and the other said, honk if you love global warming. And that is the rights sort of overstatement. And towards the end of the book, one of the things that the book points out is that the tobacco, both the tobacco corporate heads and then the people who were their publicists, basically, they're lawyers who understood how to do strategy. They said all Western nations have an adversarial structure. They have an adversarial nature, but no nation. And I hope I'll watch you small when I see when I say this has a more adversarial nature than the American than the American structure. The minute that you have an A, you have a very angry Z. And so we can use that to our advantage. And I think that hasn't helped us to solve this problem. So the parrot and the igloo, the second meaning of it, the first thing of it, it just says how we went from one idea to the other is that our tendency to overstate has not really been beneficial to this particular story. Now, that's the first part of the answer. The second part is I'll do the population boom first. They were correct in their numbers, but it very much goes to what we were saying earlier about Edison and Tesla and Westinghouse. I don't know how to pronounce this man's name, so I'm going to say it the way it sounds, but a man named Norman Borliag, who was an agronomist, I think he was in Illinois. In the later 60s and 70s, he came up with a kind of dwarf weed that you could grow in almost any climb. And because it was less tall, it would harvest earlier. It didn't have as long a growing season. And you could feed people whom you would have had no

of feeding otherwise. This is a great green revolution, not in the meaning that now I was described to green, but in the forming thing. If he hadn't perfected that, that was his whole career and he's someone who for whatever reason was just shy of a Nobel Prize. Without him, you would have had the people dying of what has been a population explosion. I think the population of the nation of the world was 2 billion in the late 60s. It's coming up on 9 billion now, but because of Norman Borliag's incredible work, you can feed all those people. Otherwise, that was correct. The second part about people can look up and see that the Arctic

doesn't have parents yet. What he was talking about would have been about, I don't know, two millennia, a millennia or two ahead. And so maybe you and I can come up with some kind of incredible life pack together and we can be alive 2,000 years from now and see if that was correct. Yeah, so the key thing is the parent point is introducing the idea that emissions can shift climate. And eventually, exactly, but not with them. But some campaigners, well meaningly, would say we're going to see the entire melting of the ice shelf and they might confuse the seasonal ice in the North Pole with the more solid continent covering ice in the Southern Pole in Antarctica. And they would make problems that they would feel help the issue along. But as you're properly saying, voters would say, hey, this hasn't happened yet. So I can, as I would like to anyway, I can reject this whole issue. So overstatement is like nicotine or it's like fossil fuel. It's good in the short term, but it has some long term real drawbacks. As you've studied, actually, I should just ask the most basic question, right? Like you come from an interesting background as a writer, you've written about West Point, we'll get to that at the end of the episode, you've written about David Foster Wallace, you know, you've been portrayed in a movie, like what brought you to write this sort of book from your like outsider perspective? I was writing a different book and it was a book that I still would like to write and it had to do with a number of the ways that we live and part of which was consuming electricity. And I just started with that one first because I've always been interested in how electricity works. And I began doing research and I came across the fact that we understood about climate change and had a very serious warning from the preeminent climate scientist of his period from Ravel. And I'm not a good actor, but I'll try to do my reaction shot, which was what? And then I skipped, I just kept researching because as a writer, you're like, where did this story go? And then by the 70s, when I saw the National Academy of Sciences saying, we can't wait to see, there's a great quote that's in the front of the book, it's from a chemist who did win the Nobel Prize, whether a physicist, a man named Dr. Sherwood Rowland, and he won it for saving all of us from getting skin cancer in the late 80s. He understood that just this product that made our lives a guarter of a percent easier, it was a product that we do use for air conditioning, we found substitutes, but that we were using for shaving cream and for underarm deodorant and for hairspray, that that was eating away the ozone layer, which is like the universal SPF 50, it keeps us off from getting skin cancer. And the Times had a, the Times turned out one thing I learned from this, which was great, since this is a period of mistrusting the media, the Times was great on this story from October of 1956 to now. Biggest story really, there've been some obviously some genocidal stories and some. long lead time and short lead time emergencies, but the overall biggest story you could argue is climate, and the Times was hour straight, great on this. And they had a wonderful joke about how it felt to learn that what you're using to put on shaving cream was eating away our natural protection,

and also the protection for all other mammals, our protection from skin cancer. They said it was like learning that eating candy can cause earthquakes. Anyway, Dr. Rowland said this great thing, he said that he asked the question, which is, what's the point of having developed a science well enough to make predictions if all we're willing to do is stand around and wait for them to come true? That essentially, without using that great rhetorical framing, that's what the National Academy of Sciences said in the summer of 1977. And it was on the front page of the Times and in

the editorial page of the Times, front page of the Washington Post editorial page, it was not secret hidden information. They said we have to change now or the dive for all practical purposes will have already been cast. And we didn't do anything. And then the National Academy of Sciences at the request of the White House said it's going to happen. And we didn't do anything then. So I began to think about writing the book. And then when I began talking to friends of mine, I imagine my friends are very much like your friends, they hadn't read about this because people don't like reading about science, generally, unless they're scientists, they may have bad memories of college and high school. And also the pros and those things is great and difficult, but it also cannot be entertaining. And so I thought something, you know, one of the things at West Point that you learn, this is what you and I were talking about in the digital green room too, is that we all do belong to a community. I thought that I might be able to find a way to tell the story in a way that people like us could read it the way we would read Laurie Moore for fun or the way we would read the corrections for fun or the way we would read Curtis Ettenfeld for fun. And if we all understood how long the story had been with us and how many rhetorical culture war answers, fake responses to it had already been trotted out and tried, then we could say, hey, you tried that one on us. You ran that one in 92. Are you really running that 97 era stuff on us? Are you going to bring up that 2006 stuff again? It would save us all time. And then we could move into solving this and then move into other avenues entirely. So I did it because it was a great story. It was infuriating. And then also, I thought that if people could find a version of this that they could read, it would offer us an educated populist, people who read it or told their friends about it, and we might actually move on to testing solutions. And I'm curious to hear what do you define as the gap between science and what we know and let's say things that are up for debate at a policy level. So for example, I see a world I'm coming from Texas when I ask you this question. I see a world where someone says, hey, look, like natural gas is way, the amount of CO2 emissions that come from natural gas is way lower than coal.

So you're proposing in the 1990s that we have a climate treaty, a little skeptical of international entanglements, I'm speaking as a Republican here. So instead, how do we just start fracking more? Like, let's frack more, let's have natural gas be a much higher proportion of our actual energy usage and then lower the use of coal. Therefore, I'm good, I don't have to do carbon taxes because I'm a Republican. I don't like taxes. I don't have to do a carbon treaty because I don't like treaties. How would you think about that when you're talking about addressing and solving things? I think that's what was brilliant about Paul Krugman saying that it's become part of the culture war. I think that we have to see our way outside of that. So if fracking is a good short-term solution, it is not appealing to the green campaigners who brought us, covered some amazingly dicey and inhospitable terrain to get us here. But now that we're here, considering the benefits of fracking, the same way you consider the tremendous benefits of nuclear power, it's like, yes. It's not effective to keep using divisive. I mean, it's great for keeping your one's own party in power. But in terms of solving things, using divisive red meat type political rhetoric is not useful in this situation. And I'll point out that obviously the paradigmatic example to Americans coming together with a resolver problem is World War II. And it wasn't helpful to say, we're not internationalists or who are we to have a draft. It's just we need to solve this problem together. We can deal with

the other stuff later. So I guess something I'm curious about. But Marshall, don't you agree about that? To go at that in a, let's say, let's say Central Right Republicans say fracking would be good. And let's say they have a reason. There are some people who either contribute to them or in their districts would like to do more fracking. Rather than just redirecting that out of hand, if that will lower emissions, you know, perceptively for a shorter long-term period, it is better that we consider that than reject that out of hand because it's coming from someone who's Central Right or even Right. Do you agree with that? No, I totally agree with that. And that's why I'll kind of just move this question up. I was talking with my fiance before recording, and she was just kind of saying that she's always so pessimistic around climate change conversations. But from my perspective, and this is the weird part, I want to hear what you think about this, I actually think we're in the most likely, the world that we live in was always the world that we're most likely to live in, in the sense that climate change is different than sulfur dioxide in the 1980s, where like you had, you know, acid rain, you had that problem. And it turned out that the government was capable of doing like one modification to the Clean Air Act in the

1990s after studying the issue. And then all that factories had to do is install basically, and this you're actually much better articulating science concepts than I am, but basically like you had to install a widget. And installing a widget made it so that sulfur dioxide was also no problem. That's why we don't talk about acid rain anymore. We don't talk about the ozone layer because we also were able to shift around some other widgets and make it so that aerosols weren't as deleterious

to the atmosphere. Climate change, though, isn't like that set of issues. Like there's no added feature you could put in a car to make the CO2 emissions that come out of the oil just collapse. There's actually a set of stacked up things. There's a conversation about nuclear power. There's a conversation about, to your point, fracking for the short term is that there's scientific research and et cetera, et cetera, et cetera. And then also a conversation of international treaties and taxes. So from that perspective, because it's a wicked, complicated big problem, obviously fracking has to be on the table because I just don't see a world where you're going to have a situation where in 2001, newly elected George W. Bush is like, okay, let's do the big climate bill like we did the Clean Air Act under my father and just fix it. So that's kind of my reaction to that. Obviously, fracking is a short term part of that.

Absolutely. And it is really interesting to see one of the things that's been heartbreaking for some of the senior scientists who are less involved in the politics and have just assumed that we would approach this in a sensible way. People who don't follow the politics, let's say as closely as you do, who are like, why are they using this for short term partisan gain as opposed to solving the problem? They were heartbroken when they saw that the, and a lot of scientists, amusingly, to me, just because I'm a progressive, amusingly, these very educated, well-educated men and women.

they are independents or often they're Republicans because they're from the Middle West or because

they may believe in individual achievement, perhaps more than collectivist city-bred Democrats like myself do. When they became horrified by the Republicans ignoring their data, they went to the Democratic Party and they assumed that Democrats would act on their numbers. And so when

Democratic politicians came in, they believed that there would be actions taken of the kinds they'd been advocating. And when they saw that that wasn't immediately the case, they just said there won't be a political solution. There are too many entrenched interests. The solution has to come from outside. Now, weirdly, Svante Arhenius, who is the first scientist who works out climate modeling, he is the first swede to receive the Nobel Prize. And he also is the director of the Nobel Alab. So an amusing thing is that reassuring and amusing both is that carbon dioxide warming has always been an establishment idea. He was very optimistic about, he thought you could use climate change for geoengineering. He's from Sweden. It's very cold there. So he and some of his friends thought we can use it to make Sweden warmer. One of his friends thought, why wait? Let's take some abandoned coal mines and let's light fires and then permanent fires. And the smoke will give us better summers and less harsh winters. Towards the end of his career, a few years before he died, he wrote a book that reflected his lack of faith and political solutions. And he said, it's clear in the future that we will have to limit both the profit-taking industries and national egotism, by which he means national leaders, from making decisions about the best use of our resources. So a lot of... Wait, guick pause. What does that sentence mean? So that sounds good. The reason why I'm slightly triggered by that is, take into it once again, you apologize first. That has national leaders. That's more of a decently anti-democratic. No, what he said is national egotism. National egotism and the profit-making industries from determining the proper use of national resources. Earlier in the same book, this is a book called Chemistry in Modern Life from I think 1925. He had said that statesmen are only in the rarest cases interested in the natural world and in science. So he thought, okay, they're not going to make the right decisions. And in general, by national egotism, he means if you're making China and America, if they're the biggest emitters and also two of the largest powers, if they're left to decide... Now, he's not talking about the problem with climate change. He hadn't seen that part yet. If they're deciding about how to best use our resources, their national egotism, their desire to have things be better in China if they're Chinese leaders, or better in America if they're American leaders, that won't lead to the best outcomes for the world. And if you leave it to the corporations, their aim is to make profit for them, for their shareholders, right? Or to make profit both for themselves, calling them a self as ridiculous even though they're considered a person in our law. But their aim is to make profit. And so he was saying, both those, you shouldn't leave national egotism and the aims of profit-making industries. You shouldn't leave the decision about how to use fracking, how to use natural gas, how to use coal. You shouldn't leave those all important decisions in those hands. The only other solution is utopian, but his cavale strikes me as unimpeachable. What's your thought about that? So that's really, really interesting because in my day job, I'm doing a lot of reading about the pre-World War II era. And what makes that argument not utopian is understanding that he's making these arguments in the 1920s. This is the period after World War II, World War I, where you have the League of Nations, you have massive arms control treaties. So you had the Washington Naval Conference, which limited the number of battleships or aircraft carriers that countries could build. You're trying to seek like naval parity as a means of constraining naval arms races. So at the time, I think the obvious, I'll push back against me being concerned that I was anti-democratic and just say, yeah, that fits within the tradition of saying, hey, if we leave Great Britain and Weimar Germany to their own devices, they're obviously going to

engage in an engaged in naval shipbuilding race. So the solution to that are A, international arbitrators like the League of Nations or equivalent treaties like the Washington Naval Conference. I think the thing that becomes difficult is that post-World War II, we found that A, on certain issues, I think treaties are effective where the win-wins are pretty straightforward. On other ones, for example, like the Kyoto Protocol in the 1990s, something like my dad, people in that space kind of worked on, there's a limit because, well, if I'm in China, the West got rich via dirty emissions. And actually, I still think we've got 20 or 30 years left of emissions with us. So why would we agree to be held to the same limits that the West is being led to, et cetera, et cetera, so it gets more complicated. So yeah, once again, it's not that it's utopian, it's just that the model he's describing in areas separate from just climate change wasn't born out due to... I don't even want to say about national egotism because egotism is a pejorative. I would just say statesmen have to balance their national interests. And that's the digital part. But I would argue that egotism, A, seemed like a very debonair way to put just national interests, but also... We're describing the 19th. Yeah, fair. And also, it is a translation. So hard to know exactly how he might have phrased it. But the thing that... And I'm talking specifically about Dr. James Hansen, who I think is a great hero. It seemed like the solution to the ozone problem was insurmountable, because I think it was in 73 that Molina and Rowland published their first papers saying, we are eating up ozone. They were shocked to find... They were just checking this thing as almost a hobby. It was just... Sherwood Rowland was curious. Like, when you spray the stuff under your arms, what happens to the released gas to the aerosols? And he just tested it. And it had this tremendously surprising thing. I think they said that they looked at each other in the lab. He was working with a laser chemist named Molina. And then they rechecked all their figures, and it was unavoidable.

The ozone industry, it was basically... Dow was a Dow and DuPont, more DuPont now that I think of it.

They said, we can't do this. It's too big a part of our business. It will be ruinous. You'll just be handing over the business to China and India. For the 16 years after their first paper, people said there was no solution to this. It's loggerheads. In the mid-80s, totally unforeseen, and it wasn't seen by the models, it turned out that the way that the released sodium... The release atoms... Forgive me for missing the science here after you complimented my grasp of science. But the released molecules from the chlorofluorocorbins, that the way they would munch ozone, would be not just uniform, but would leave a giant hole over Antarctica. And first, the hole was the size of the continental US, then it became as large as Antarctica. Once everyone saw that, all of the problems melted away, and we had the Montreal Protocol within about an 18-month period. Because everyone understood that it was in the shared world interest, that what seemed like it was, hey, China will begin, they'll manufacture Freon. So we'll stop doing Freon here. It will kill a billion-dollar interest, and now the Chinese will take it over. Dupont then revealed that it was only about 1% of their annual profits anyway. So even though they had made a large political fuss about it, they said it would have no meaningful effect on our revenues. So, especially Jim Hansen had always waited, assumed there'd be a moment like that for climate. And you might argue that, for better or worse, his hopes slash fears have been satisfied, and that this summer, this year, and especially this summer, has been disturbing

and may affect politics in the same way that the opening of that hole over Antarctica in the second half of the 80s affected the prospects for a solution, and then the immediate discovery of a solution to the ozone issue. And that being the record temperatures. I'm coming to you from Austin, so I'm obviously experiencing that. You don't need me to tell you exactly. It's very personal, obviously. Something I'm curious about. I'm coming to this conversation as a public policy person. You're coming to this as a writer. Something I'm interested in, because that means we could bring different kind of perspectives as outsiders to the client change science field. Obviously, Göttenberg and other organizations, people who talk about extinction, et cetera, are not climate scientists per se. So I'm not saying this is a situation that happened via climate scientists, but I will say that from communications and like a writing perspective, I'd like to know what you think is the most effective way to convey that problem. Because I, from the start, the second I saw Göttenberg, I was like, man, this person was made in a lab to repel conservative voters. And once again, she's coming from like a different country. It's not her job. Once again, she's not like, she's political, but it's not her job to sort of sit with a whiteboard and kind of figure these things out. But the rhetoric around extinction, I think the presentation, the how dare you is the talking to the UN in the first place. So that's just kind of a perspective I have, like as a politically minded person, you're coming to this as once again, like a writer as an articulator. How do you think about conveying these ideas? And I like your idea of like comparing maybe this is our ozone layer moment. How do you think about conveying that in a way that doesn't hit that culture war problem? Because that's what the critique of Greta's rhetoric would be then. I'm curious how you would go about it. Like again, the interesting thing about Roland's research in ozone is he knew that once the chlorofluorocarbons floated up into the atmosphere and stratosphere that their chlorine would be released and it would munch up ozone, he would never have guessed that it would leave that giant hole. This however does match in a way this can be more reassuring because it's even on the right schedule. One of the other things that made me really want to write this book is that the defense scientists, there's a group called Jason and they are like the JLA, they're like a Justice League of America of PhDs. They are the remnants of the Manhattan Project, came back together, kind of the request of the defense community and became scientists helping out the national interests, the defense interests of America. They had that same early first half 1979 had said, yeah, this is going to happen. And so that was part of what made the White House ask the National Academy of Sciences rather, hey, is this really going to happen? Can you give us just one last second opinion? Some of those scientists were briefing lawmakers in the middle part of 1979 and they said, hey, this is going to be bad. And so lawmakers said, when will these effects happen? 40 years is the answer that the scientists gave. And the politicians said, get back to us in 39. And 39 years after 1979 was 2018, it was the warmest summer in American history and the fourth warmest year in the temperature record. So this is different than the ozone layer in that this is exactly what was expected, right? It's even on the same schedule. It's like if you had looked, if you had put a pin, 1979, 40 years from now, and that's when the period that I think 2018, 19 and 17, those were three years that were all record breaking years. It was the first time you'd had three, like a triple crown basically. So we have the data, my guestion to you, knowing the sensitivities of both sides of the spectrum, how would you try to get that? Let's say you made

a very good case for why Greta, I didn't know that you didn't pronounce the H, why Greta Tonberg was

not an effective spokes girl, an effective spokes adolescent. How would you market the idea? How would

you market the problem? People who don't watch the YouTube version will miss me smiling when you

did the pronunciation, because now I've lost all confidence.

Greta H, Greta T from now on as I should be addressed. No, so this is where I was telling you before the podcast that despite my affiliations, my politics are complicated. So this is the portion of the conversation which turns into Biden administration propaganda. I think the Biden administration has basically threaded the needle on how you approach this. So while I endorse the vision and the ambition of something like the Green New Deal, I think the very democratically partisan framing of that, the New Deal just brings to mind. The Green New Deal is obviously an overton window, expanded, designed for democratic primaries before 2020. So it's less criticism, but what I think the Biden administration did is they kept the ambition of that. So like, hey, let's make massive investments in renewable technologies, infrastructure, resiliency. Obviously, Texas has huge grid problems, so that falls into that category. Let's invest in very specific states, even red states that could have the development of industries that have to deal with renewable technology, et cetera, et cetera. I think that in and of itself is like the proper framing just because the awkward dynamic that someone politically has to reconcile themselves to is that we just have enough data from experience to know that, A, the people who are on the fence about climate change issues or the people who are most, I think the people most on the fence aren't like climate deniers, they're just sort of like, we have priorities. So for example, when you're talking earlier about how you saw Democrats choose other priorities over climate change, well, I'll echo our current ambassador to Japan, Rahm Emanuel, and say, well, you know what, David, you know, my other priority was it was 2009, the economy collapsed, and we had to make a choice. This is his literal white point. Do we do health care or do we do a cap and trade climate bill? We had a once in a generation opportunity to pass bills in the Senate. We chose health care. The millions and millions of Americans who now have access to health care have their conditions covered. I think they would say that we made the right choice. So that's like, that's kind of like the awkward perspective that I come to that from like, there wasn't the energy to pass all these bills at once. That's why I was just saying earlier, I always see this current moment, a moment where the Biden administration could spend

so much on climate, climate issues as being one where you were going to always do health care first. You were always going to do other set of issues first, and this was going to be a little lower in the priority line. That's very frustrating, but that's just the awkward dynamic. So I think, I just think the Biden administration, they're doing what they need to do, and they're framing it lastly in a like winning the 21st century context, like we're investing in batteries, because that's important, we're investing in EVs, because that's important, etc., etc., etc. The Bidens are the only, I think 12 presidents have dealt with this. Eisenhower was aware of it. It was in small stories during Eisenhower's presidency. Kennedy was aware of it. Johnson spoke about it. Johnson was the first person to discuss climate warming in the State of the Union.

Of all those presidents, President Nixon, as you know, published, he is responsible for the largest number of new environmental regulations and legislations. He is responsible for the EPA. Comically enough, he would be a progressive Democrat now, this tremendous villain. Biden is the only person who actually published serious, who have published, my God, that shows my own bias towards my field. He's the only person who succeeded in passing climate legislation. That's shocking and a huge achievement. Like the Inflation Reduction Act is a serious step in controlling our greenhouse gases. What was heartbreaking to senior climate scientists is that during the campaign, all three of the major candidates, McCain and then Hillary during the primaries and Senator Obama, they all said this is a problem whose time has come. On the campaign trail, Senator Obama said that there are two basic problems. There is climate change and health care. Climate change is first online and then we'll do health care.

Now, there aren't as many votes for climate as health care. It wasn't like he was trying to please a constituency. That's what he thought the order of priority was. Then when he didn't move on climate, he had a chance to do one or the other, basically, as you said. He chose health

There was a great thing that I think Chris Kaliza wrote in The New Yorker about the failed cap and trade bill. I think it would have been like Spring of 2010. Interesting. If you search Three Amigos, The New Yorker, around 2010, you'll read this article. It ends with a member of the administration saying, it's a senior scientist. He says, the sad thing is that 50 years from now, everyone's going to know we had a recession and they'll know that there was some problem with health care. But the major issue then is going to be climate. They know that President Obama really did understand the issue. The anxiety that we have for this president is he may go down as the James Buchanan of climate change. By which they mean Buchanan was the last president before the Civil War who thought you could find a legislative solution as opposed to actually attacking the problem. And that has always stayed with me and it helped me understand, Obama was a great president, but it helped me understand the anxiety that scientists felt about the political process. Because what they then felt is, okay, we've waited, we worked, not that we're a giant constituency, but we placed all our hopes in this party, and they have both houses of Congress and they have the presidency and they passed health care instead, and maybe not even the best health care bill. So I know that seen by many scientists and frankly by me as a missed opportunity. It took 13 years for us to get something like it to come back around. And in that 13 years, we dug ourselves deeper into this climate pick. So for this last question, we're going to do that. How sad. This is our last question. It's been a great conversation for us. This is our last question. However, as listeners know, I have a horrible habit of waiting to record episodes until a day before they're supposed to be published. So I must be nice to producer Phil and give him some run time to edit this in time. But here's, so we're going to make a huge, huge pivot. I have no ethical way of doing this. I first came across your work because I listened to your book, Absolutely American, which came out in 2003. And a sign that it came out in 2003 is it's only available abridged unaudible, which means that no one is going to go.

Thank you for noticing that.

Yeah, I noticed because I wanted to do a re-listen, but I was like, I hate, they don't do the abridging thing anymore, but that was still just before the iPhone,

it was just not as much of a priority area. So I doubt, I would tell listeners to get the book on Amazon and not on, we have a lot of like defense minded folks. So I get the book on Amazon, don't spend the money on the abridged version. But I'd love for you just to kind of, because this was the first book of yours that I read, I read this back in high school. And the book came out at a really interesting time just because, A, I could post 9-11, it's West Point, we had a conversation before the episode about national service. And a big theme of the political movement we've discussed a lot is like, on this podcast, we says, hey, like the military is seen as an increasingly partisan institution. A lot of like conservatives who would have been the stereotypical people you think would be most in favor of the military today, have declining trust in the institution as a whole. And obviously, Absolutely American is a book about an institution during that post-9-11 period. Can I just get like a 15-year update on like what you think about that book and the space and all those things? I still think that national service is one of the most honorable and thrilling and satisfying things that somebody can do. I think that serving the country, sorry to become not sentimental, but to become unironic, because if you study the

history of climate change, the reason that the book people keep, to my satisfaction, reviewers keep noting how funny it is. It's sort of like nonfiction Catch-22 or a nonfiction Doctor Strange Love. Unironically, putting on a uniform and saying I serve the country for five or six years or for a career is a great thing. And it is also weirdly satisfying. I think to some degree, it's what we evolved to do. We evolved to solve immediate problems in small units. One of the interesting things depends on how long you want this answer, Marshall. No, no, go for it.

But there are information theorists who said that the number of names that we can comfortably memorize, faces we can recognize by name and know things about the people, is about 100, 130. And of course, the normal military company is about 125, 130. They didn't know that that was the number that information theorists would think humans are comfortable with. It just made sense to them. There are a number of things, A, about the way the army approaches things. It's the only successfully communist area or non-pecuniary area of the country. You don't really, I mean, you need money to live and you need money to raise your children and to pay for groceries. But the language of the military is very beautiful. You live on post. And if you leave the post and you live off post, there's a great phrase, you're living on the economy, right? You're in the normal capitalist version, right? So my notion still is that the military is an extraordinary place. And it is to devote yourself to maintaining the security and the values of the country that gave you birth and educated you is not just a beautiful thing, but a very, very deeply satisfying thing for a human being to do. One thing that was hard for me was watching how the military was hurt by the deployment schedule, basically. It was one of the promises that was made to the classes that as an observer, I was sitting in lecture halls with, was that they understood, the army understood, and the civilian controllers of the military understood that the tempos that they had been under, let's say, during Vietnam were not sustainable. And that since human beings are the resource in the military, that they wouldn't subject them to punishing op tempos, operation tempos again. But the deployments both in Afghanistan and in Iraq burned out a whole generation of enlisted personnel and officers. And that made me sad to watch. But

the basic project of serving your country, I think is thrilling. And I think weirdly, you and I were talking about national service. I think that some version of national service would help with problems like climate change. And whatever people's feelings are about the long guarantine of COVID and the mask rules of COVID, I thought that they were very effective. But what I also saw was people acting for the good of their neighbors and the good of their states and the good of their country. And that was thrilling to me. And it showed that the pessimism that cynics like ourselves can sometimes have about Americans coming together and forgetting their short-term interests or their zip code interests in favor of the continent-wide interests or in favor of the seven continent interests, the shared continental interests. People stayed indoors for two years. And when they went outside, which they did rarely, they wore masks. That was stakeholder behavior that made me feel both inspired and proud. You know, I just want to, I do want to object to this, frankly, when I talk frankly with people who tend to produce this response, I don't identify as a pessimist or a cynic. I identify as someone who has a more indecent read on political situations. So for example, I think one of the greatest critiques, and I've been doing a lot of George Drupibush reading because it's been, there's been enough time that like, it's, oh, I didn't know, I forgot that. Or I didn't really think about this. That's what I've been reading a lot of like early, so not like end of presidency where it's a disaster, but really 1999 to 2003. How does he respond to 9-11? And just the most straightforward critique separate from mission creeping Afghanistan or the Iraq war is just like, wow, completely missed. So got certain things right during the wake of September 11. So got the, we're not going to, obviously, there were incidents, racial incidents, discrimination incidents against Muslim Americans, but he was very great about being like aggressively

against that. By Thursday, he had National Bear Breakfast. Yeah, he was, he was, he was great. The, you know, he was great at throwing out the national pitch at the Yankees game, like really had an opportunity to be a transcendent president. He was not great at seeing the political possibilities

of that moment. So if there was a time when there was a national service opportunity, it was then. You didn't have, he had 90 plus, he had the highest, he had 90 plus of who were ratings. He literally could have done anything. And instead, and I'm going to push back on, I'm going to talk to myself and push back. He said, oh, like go shopping. And people say they're like, oh, go shopping and they dunk on him. But it's like, no, what he was saying is like, we need the stock market not to collapse. It's actually kind of funny. Like if you look at what bin Laden was claiming was going to happen before the September 11 attacks, one of the claims is that like this attack would show, so shake the confidence of the democratic capitalist system that America collapsed. So the idea that like, no, no, like actually go out and go about your life. That's, that's actually an important foundational starting point. But it's just a foundation. It wasn't actually the final thing. But that's all that he left us with. And that's where, so that's, that's, that's the first, that's the frustration. It's more of a, I see opportunities and I don't see, I think the next national service opportunity we're going to see is basically, oh, and actually, you know, and then when we just make no make this, I was about to say bipartisan, but like Bush and Trump are in the same party, but they're basically in different parties now. So it's fair to call this bipartisan. I think this is also Trump's

early COVID failure. Early COVID, before it was partisan, when you had Sean Hannity and Tucker Carlson saying you have to mask up, before Dr. Fauci became the lightning rod that he was, there was an opportunity to also, I think, put forward something service oriented. And you have the story of two presidents who these aren't gifts, right? Because these were horrible tragedies that killed millions of people in the case of COVID and thousands and thousands of people in the case of September 11th, they were given a political opportunity and they lacked the political imagination or even the talent to seize upon that. So that's more, it's not pessimism, it's just sort of hardened frustration. One thing I, I was fascinated by what you said, because I'm among those people who was impatient with the missed opportunity when President Bush,

instead of saying, let's all find some way to serve the country, said Shah. And you have expressed it in a way that it never occurred to me. And that's part of what the title of the book has to do with too. There's a friend of mine who I guess comes from a contentious family. And so he has a kind of set of rules that I like to imagine is posted on their fridge, but I think they just recite them over the table, which is when you're having an argument with someone, you should try to restate their point as if you're trying to convince an outside observer of it. And so when President Bush said that, I didn't understand that he was saying, look, our economy is in a terrible spot right now. And that was part of, that's part of how asymmetrical warfare is practiced. If these attacks on these three cities, because the planes were stolen in Boston, if those bring our economy to a halt, our enemy, right, our national enemy will have achieved their ends. So one of the things you can do while we're formulating other responses is please keep our economy going, because if we grind to a halt, that's going to be terribly difficult for us. And it will give our murderous enemy satisfaction. Instead, his position was lampooned and the lampoon is what reached me. And I think if there was some version of this will never happen, but if the parties could learn to say, as opposed to making summarizing this in the worst possible way, if we could learn to summarize it in the way that it's being heard by the other side, we might achieve solutions to our problems. And that is why the book is called the Parrot and the Igloo, right? The Parrot is the overstatement on the progressive side, and the Igloo is the overstatement on the conservative side.

Very well said. And that was actually, I've done over 400 of these, that was the best ever closing sentence book return. We went all over the place and you circle back and just a reminder, just a reminder, the Parrot and the Igloo, which is linked in the show notes available at our bookshop or wherever you purchase your books. David, this has been really fun. I guess people are, so are you back to the book about how things work next? You know, I'm not sure actually,

because it was just, like one reason I don't know how to pronounce Greta Tunberg's last name is that it was so isolating to have to do all the research and then figure out the ways to tell the story and to keep smoothing it so that the story would work, right? Because there's so much data in it. So do you ever see, were you ever a 30 Rock fan? Or of course, yeah. So to me, clearly what Kimmy Schmidt is actually about, which is that the heroin was buried underground for seven years and has come out of the hole and doesn't know what the world is like. Clearly what that actually is about is that Tina Fey was working for seven years on 30 Rock and had no idea what was going on outside. And so what Kimmy Schmidt reflects is her own surprise at clothing trends, speech trends,

dance trends. And so I am just blinking and looking around and seeing what it's like to have climbed out of the underground thing of making this tremendous history work. So I'm just going out in the sun, like I've been hiking around New York City again, which I didn't have time to do for a very long period. You know, I keep saying we're going to end, but I have to give this actual closing comment. I'm a huge 30 Rock fan for whatever reason. I never picked up Kimmy Schmidt,

but that is a great 30 Rock fan Kimmy Schmidt transition pitch. That is a fun way of considering the show. It has to be the way she and Karlox say it, right? So if you watch it, it's unavoidable in the first two episodes. Kimmy is Tina, a combination of Tina and Robert Karlox saying what happened

while we were doing this amazing show? That's great. Well, David, thank you so much for joining me on

the realignment. Oh, no, it was a pleasure. Marshall, I'd like that conversation couldn't have been better and more fun too. Thank you. Hope you enjoyed this episode. If you learned something like this sort of mission or want to access our subscriber exclusive Q&A, bonus episodes and more, go to realignment.supercast.com and subscribe to our five dollar a month, \$50 a year or 500 for a lifetime membership rates. See you all next time.