

[Transcript] The Realignment / 363 | Peter Frankopan: How a Transforming Earth & a Rising Asia Will Define the 21st Century

Marshall here. Welcome back to the Realignment.

Hey everyone, before we get into today's episode, a couple quick notes. Number one, Sagan and I did a great Realignment Supercast exclusive subscriber episode. Last Friday we took your questions. If you have not subscribed yet, definitely go check it out. And if you're a subscriber, leave questions. I'm sure of all the big news regarding Tucker Carlson and Don Lemon. There's going to be plenty of things for us to discuss next week. You can go to realignment.supercast.com to support the show and get access to all of our great exclusive content. Other big piece of news, you may notice that the podcast cover art looks a little different. That's because our main sponsor, Lincoln Network, is renaming itself the foundation for American innovation. This is good news on the number one point for the podcast because we will no longer be confused with the Lincoln project. But at a broader level, there's going to be a lot of cool information and other contacts for folks who are interested in the work that the foundation for American innovation is going to be doing. Just to get a quick sense of the foundation's work and the scope of the project, it's really a mission-based organization focused on developing technology, talent, and ideas that can help support a better freer and more abundant future focused on a politics of builders, hackers, and founders who are working to advance a more perfect union between technology and the American Republic.

We're going to have some foundation for American innovation folks on incoming weeks, so more to come on that front onto the actual episode. This one has been requested for a while. I'm speaking with Oxford University professor Peter Frankopan on his new book. It's called *The Earth Transformed An Untold History*. Big book that we brought him to fame was

called *The Silk Roads, A New History of the World*, and his most recent book before *The Earth Transformed*

was called *The New Silk Roads, The Present and Future of the World*. The whole idea behind this conversation is that Peter has really identified two main themes in terms of reshaping global politics this century. Number one would just be the rise of a new order. In Asia, they covered his previous books, and then today's conversation focused on changing climate, changing environment,

how different civilizations and different societies are challenged by this issue in different ways. So lots of great stuff here. I really like how we can bring all these things together to hear an episode, let me know what you think. You can email us at realignmentpod.com or reply to the sub-stack or anywhere else we post content. Hope you'll enjoy this conversation, and huge congrats to the Foundation for American Innovation for the rename and all the great work to come. Peter Frankopan, welcome to The Realignment.

Well, nice to see you as well as be able to hear you.

Yeah, of course. I have really enjoyed your work for a long time. I did the audible version of *The Silk Roads* back in 2018, so it's always great to speak with an author I've long admired. But I do have to start. I want to turn this into a pure book interview, but as a person who does a lot of book interviews, I'm fascinated by titles. *The Earth transformed an untold history*. What here is untold? Because I think a lot of listeners who study and are interested in this topic, they say, okay, I read *Guns, Germs and Steel*, I've done my Jared Diamond, and it's a big book. So there's going to be something new here. But what is the untold part

of this story? Well, I guess there are three parts. One is that the scope of the book is very big. It goes back to the origins of the planet we live on. There are lots of books that cover even quite wide periods of history, but you don't often get ones that join up large periods. I'm a professional academic. I'm an academic historian, so I'm a professor at a university. We're encouraged to specialize and drill down into very, very narrow topics. So it's untold in so far as linking together not just my work, but that a lot of my colleagues and peers that appear in the end notes, the scope and the scale chronologically. That's one. Second, I think that most history tends to focus on the developed world. I guess what we'd call Europe, United States and North America. There's glancing nods to other parts of the other continents, but that's also left out of the story most of the time. So being broad geographically is important to me. And I guess the third thing that really is untold that's important is that all these other books about environmental histories in which there are many and it's a very vibrant and exciting field. The thing that's moving fastest in the field of history as taken as a whole are the new kind of tools we have to look at the past. So 20 or 30 years ago, if we'd been talking, well, first we wouldn't have been talking over Zoom or online. We'd have had to be meeting and re-recording every time somebody coughed. The tools that are moving fastest in history are all in the sciences, particularly biological sciences, plant sciences, and in lots of materials that are closely related to measuring the past, and particularly to archives connected to the climate. And that doesn't mean that people who've written about environmental history before are wrong. In fact, there's huge grounds being laid by Alpha Crosby and many others thinking about humans' engagement with the natural world. But today, as we speak, those new tools mean that we change how we think about history and how we think we should be as historians. I mean, I'm the last generation that will grow up doing my PhD, working out how to read complex texts and having a little bit of knowledge about archaeology and material culture. The stuff that we have access to now, it's so huge that it's an untold story so far as that we can benchmark, we can measure, we can date, we can assess, we can quantify rainfall in particular parts of the world with such a high degree of accuracy that we don't need to rely on scholars telling us 500 years ago at the time it rained a lot or there was terrible famine because it hadn't rained at all. We can now measure tree rings, we can look at calcium carbonate deposits in caves, we can look at sediments in lakes, we can look at fossilized pollen, we have all these extra indicators that sometimes make us, they give a great richness to how we think about history but they in some places can lead to overthrowing and overturning the sort of stark end point of how we think about things we know about as well as the things we don't. And something I'd love to do here because you actually were on a list of guests that listeners had sent in just because we do a lot of work on the Asia Pacific region. Your previous books were really focused on a just like the history of the Silk Roads both in the sense of like there was a literal Silk Road but also just like the conception of the broader Eurasian continent and then like your most recent book was the new Silk Road which is about like what's happening now this remaking of the world order. Can you tie these three stories together? Yeah, I think so. I mean, it's a, you know, I could have written the older Silk Roads or you know, if my publisher had said how about a new Silk Road or Silk Roads cookbook

or photo album, you know, I'd have thought about that but I also don't want to get stuck with the Silk Roads for the rest of my quick thing. That photo album would actually be pretty nice. That's actually, that's an interesting project. Actually, my new sort of pet peeve at the moment is that I've been kept off the number one slot in the UK by books about airfriers which is a new way of making fun and in fact, worse in my second week, I beat the one that had been in front of me but a different book about airfriers moved to the top of the charts to take it to stand ahead of me. So maybe my next book about airfriers along the Silk Roads and tie all of that together. I mean, look, there are I guess two or three answers to that Marshall. So one is that when I wrote the Silk Roads, in fact, I got asked quite early on about the title of that too and a colleague of mine at Cambridge said, you know, very dismissively and slightly angrily, you know, you shouldn't have called it a new history of the world because and I said, oh, I know there are so many places that I can't fit into that model and I'm trying to be more inclusive and how I think about history and all of our historians should be doing that. And I said, you know, what do you think I should have called it instead? And he said, you should have called the Silk Roads a new world history rather than a new history of the world. So I kind of, that's kind of not that big a difference. But I was very aware writing that there were lots of places that don't feature into the what the what I was trying to do there. For example, Southeast Asia, the Pacific, the Polynesia, Sub-Saharan Africa has a little bit of a role. And then the Americas before Columbus, you know, which are not part of the global trading systems before before the 1500s.

And so it was important to me to think about how as a global historian to be pushing those ideas about what global history is, how to write histories that I guess, as I did with the Silk Roads, explain how Iran or people in Iran and their cultures, Chinese cultures, Central Asian peoples fit into the great stories of history. It was really important to try to do the same thing for other parts of the world too. And that's a real challenge for us in history, because there's by and large, it's got better in the US, it's not great still in Europe, very little funding for countries that we group together in this clumsy term of global self or the revamping world. There's relatively little scholarship that's supported. It's much, much higher hurdles for infrastructure of academic establishments, and they get written out very quickly. So that I think was an important part of trying to think about it. But the other one was that that I guess the Silk Roads, the New Silk Roads, I guess are all about the rise of Asia and primarily the rise of China, but also all these other places that are really important in the global future. And I guess the second really important question in the 21st century that I can see is the story, not just of climate change and global warming that some of your listeners will have very strong opinions about, but about the lack of sustainability about resources in the natural world as a whole. And to try to kind of get a sense of how have we got to the point where scientists are talking about a sixth mass extinction that's already ongoing? How do we get to a point where we're burning so much stuff that we all know is bad for us, and that has consequences? How have people in the past worked through sustainability, lack of sustainability and resources? So I guess it was kind of having climbed one big mountain of the Silk Roads. It's kind of looking around and thinking, where's another really big one? How do I scale some of the sides of the mountain that I didn't manage to do with the Silk Roads so that I like all good historians should open the door for future scholars to walk through and write much better books,

much more interesting stuff than I can do, but to say that there is a wide world out there that we should be integrating parts of the world that don't fit in and to think about what the changing natural world for them and for all of us means in the 21st century as well as over millennia in the past. You know, here's an interesting thought then. So to your point, you're looking at a history of how civilizations and countries have navigated environmental change. We keep circling back to this idea of global and the thing that defines both the old post-World War II order and then this new Asian order that you've written about is the fact that it's inherently global. So this isn't, okay, we're the Mayans navigating an environmental change or Krakatoa has exploded and we're having to live in a village and obviously that's going to affect the United Kingdom in terms of the winter, but that's not something that you're actively managing to the same degree. We are for the first time, I think, at a civilizational human level trying to navigate environmental change. There's Paris Climate Accords as discussion about how the U.S. and China could navigate both a, let's just say, increasingly acrimonious relationship in regards to places like Taiwan and the fact that there's a climate accord at stake here. So talk about the step change between

one specific country, one specific civilization confronting environmental change and an entire globe trying to do it. That's a great question. So the truth is, I mean, that's absolutely right that this is a global issue for all of us, but I guess if I take a step back, the fact that we conceptualize the world as a round object and the inclusivity that I'm talking about and trying to make sure everybody's included, for people like the Maya or for networks along the Silk Roads or for Southeast Asian connections in the past, it was a similar kind of story, which was that everybody rose together, often in competition and didn't mean there's no conflict, or they failed together. And for the Maya, for example, which was one name given to a whole group of people who have essentially separate city-states or separate cities and urban settlements that were deeply connected and traded with each other, when one pillar fell, the whole lot came tumbling down. And the fall of the Maya was not because of climate change, aggravations and changes of environmental conditions often happened. And the question was, why was what happened in the late eighth and ninth centuries so much harder than things that happened beforehand?

And usually that's to do with a whole set of other factors that have been building up of elite competition, too much being put in the hands of too few people, high levels of inequality that mean that, well, even things like societal collapse, which has been a popular way of thinking about failures of civilizations, the societal collapse is really bad if you own palaces or if you are the priests in the temples that get given offerings. But if you're part of the 50, 60, 70% of the labor force whose work and daily energies and are being harnessed by other people, the fact that there's less exciting things to eat and less colorful things to wear doesn't necessarily mean there's a worse outcome for you. So I think we think first of all about what happens when there's severe weather events and long-term climate change. And I guess the lowest common denominator across all periods in all regions is that changing environments, changing climates, is a story of rising inequality. And that is the key takeaway, I guess, that when there's scarcity, that affects the people at the bottom of society or poorest in society the most because they have the least resources to be able to navigate it. And then the sort of cascading swirl of price inflation, particularly around food, lower

availability, how that folds itself into disease partly because of reduced immunity when you eat fewer calories, you have higher immunity to lower immunity to disease. And then these things, they quite often spiral into people who promise that they have a vision that involves escalating violence. So you see, for example, in the Middle Ages, or what we call the Middle Ages, from about 800 AD till around about 1300, 1400, you have a whole essentially global set of states that rise in empires that rise together. And I mean global in this sense outside the Americas, but you see states in West Africa, in East Africa, in what's now what we call Ethiopian Kingdom, the Byzantine world in Eastern Mediterranean, the Abbasids, the the eight kingdoms of Pagan, of Khmer, the great city of Angkor, and then the Song in China, all these states and Strigivite, it's a long, long list, all these states that function in a global world where trade rivalries, which don't just mean confrontation, they mean improvement of civil services, improvement of infrastructures, improvements of law, so that the center of all of these states functions well. And in that kind of globalized world, when there are shifts, when there's a sort of sudden shakedown of the globalized systems, then all these states come tumbling and moving in the same place, often not quickly empires tend not to explode in like a like a star in a massive bang, but there's slow sag, slow decline as resources become tighter, elite capture becomes higher, and then the glory days feel like they're part of the past. And that doesn't speak to where we are today, because I'm slightly reluctant to predict what the future looks like, but clearly global inequalities is something which happens when not all of us are going to suffer from warming in the same ways. The most exposed and most dangerous places are the ones which are have the lowest incomes, the highest degree of food and water insecurity. And I'd probably guess that that will lead to high levels of things like violence, people, population displacement, disease, mortality, particularly for women and children. So there are predictable patterns that this throws up, but each time it's all slightly different. It requires a whole set of other causes of bad infrastructure, excessive spending by the state, particularly in defense, bad, bad policies and bad understanding of what's going on and a failure to adapt, because you always think you're going to go back to the world of the past rather than see what's coming towards you. You know, something I'm curious about. I'm always fascinated by the intersection of, especially in the Western world, because it's the one I'm most familiar with on a couple of different levels, the intersection of these environmental policy and history and science debates and actual day-to-day politics. So for example, when Germany is debating whether or not to shut down its nuclear power program, on the one hand, there is an empirical debate we could have about energy security and Putin's invasion of Ukraine and whether or not you're going to replace the nuclear power with dirtier forms of energy, et cetera, et cetera, et cetera. You could have that debate, but you also have to say to yourself, okay, the Germans are having this debate in the context of a Cold War era, 1970s, nuclear has a very deep association in a country where World War III, if it were to go nuclear, it would be fought. So you can't separate the policy and the science from that deeper history. When you look back at these previous societies who were wracked by an environmental change, to what degree were their challenges unsurmountable because of some, let's say, Maya culture war? I guess that's kind of what I'm thinking. Was there like a Maya culture war that we have to separate from, wow, they really should have not used that fertilizer and then that caused props to collapse? Because maybe I'm sure

there probably would have been a culture war over the style of fertilizer you're using in their context, but how would we think about that? Okay, so I mean, it's such a great question and it's the perfect example, actually, the Germans shutting their nuclear power plants, which they shut in the middle of April of this year. And what's really interesting around that is that how I look at that as a historian is that the root cause of that lay in a geological event that produced a massive earthquake off the coast of Japan that led to the Fukushima nuclear power plant becoming unstable and very dangerous. And that accelerated debates that were already existing in Germany around nuclear and its future and its past and the anxieties. And one of the prices that Angela Merkel paid to stay in power was to reach a deal with the Greens that involved shutting down nuclear energy, which is now taking place. In addition to that, the decision was made to boost energy imports from Russia, primarily through an extra pipeline called Nord Stream 2. So German increased dependence on Russia and its economic dependence on Russian fossil fuels undoubtedly played a role in Russian calculations of what would happen if they invaded Ukraine, turning off the pipes, the dependence that a lot of Europe has had on particularly on gas from Russia. And so these things you can trace to events that seemingly have no obvious connections. And it wasn't because of the Japanese earthquake, but these things, I think they all fold into ways to try to look for impetus to make decisions. And in this particular case, the debates around the Japanese earthquake were central in Germany. So I guess stepping down to your question about the Maya, in fact, what's interesting there was that one of the challenges in Central America is that most of the stone is limestone. So when it rains, water, it's porous. So it runs through the ground. So trapping water is crucial. As it happened, the things that made Maya life hard was first deforestation to, you know, for generating heat. Any form of metal production, glass production, firing of bricks requires a heat source. And wood is the natural heat source. It's not the only one, but it's the natural one before the Industrial Revolution. And although coal had been used in smaller quantities, and deforestation, people in the deep past, 3,000 years ago, 4,000 years ago, realized that when you chop down lots of trees, you change rainfall patterns. And so one of the challenges with the Maya was that the lower rainfall partly through human activities, but also control of water was crucial to Maya ceremonies, because water was so important that it doesn't rain all the time in what's now Mexico and Central America, but it rains sometimes. So you had to be careful around that.

And so changes were unstable. But also a lot of the wood was also used to make a plaster of lime that was used to cover buildings and temples and so on. And when it rained, when it did rain, it washed one of the byproducts of the water that comes out was to put cyanide into the water systems of the Maya. So people's water started to get poisoned. And apart from other things that doesn't taste great, it also affects your cognitive abilities when you're being poisoned slowly. So the whole fold through into the Maya meant that there was a precarious state of existence. But I guess if you took a step back from that, you'd say one would say always the challenge is how many mouths you have to feed, right? So if you've got a small level of population, your relative risk to shocks are quite smaller than if you've got lots of people living in one tightly confined area. And that I think is one of the things about history in different periods and different regions is that large populations are highly vulnerable. Because although cities are places where we exchange, we learn, we have great food,

we talk to each other, we argue, we compete, we borrow and so on. They also, as we learned to the last few years, they're places that if someone coughs in the apartment next door to you, it means there's a chance that you get infected. Whereas, if you're living remotely and more dispersed, then your ability to move around, stay away from people is harder. So it's almost you could become a victim of your own success. The more people you attract, the more people come to live in your cities, the higher the level of economic production, so the higher the better the temples you can build, but the greater the vulnerability to when there are challenges to food supplies, water supplies, disease and so on. So it's not so much the culture wars, it's around, it doesn't take much to bring what looked like big empires falling down. And because of what's been happening in Ukraine and Russia, I've been doing quite a bit right now in the last 30 years here in Europe. And thinking back about what happened after the Berlin Wall fell and what did the Cold War actually end? Did Russia, at that point, was it actually, it's been the same ever since? It's just that we misjudged what Russia was doing. And one of the things about that, fall of the Berlin Wall, wasn't just that it took everyone by surprise, but it happened so fast. Right? Soviet Union in 1991, it collapsed in a matter of days.

Berlin Wall, a matter of days. The Russian Revolution in 1917, the same way. Even American independence, although it's such a seminal event in US history, actually amount of time that that took was tiny. And the American independence was probably the single most important geopolitical moment of the last 250 years. So these sudden events, sudden impacts can change the course of history. It doesn't need to be because people argue with each other for decades and decades and half the country think the other half are idiots, which is kind of where we are in the UK. I'm not going to say anything about US politics. But those challenges of leadership are really hard when life is becoming more difficult. And it tends to be that people come to offer simplistic solutions that people buy into, want action, because they think that they can turn the dial back.

You know, it's interesting. You bring up the fall of the Cold War, brought to mind this for the YouTube people. I've got your book, *The New Silk Roads, The New Asia and the Remaking of the World Order* came out in 2018. And you had an interesting anecdote in it where you were basically describing that immediate end of the Cold War era versus near when you graduated from university. I know it's not quite how the British describe graduation, but I'm Americanizing it in this case. And you were just saying that the world of 1990, which is I was born in 1992, was so different from the world of 2018. And my take reading that in 2023 to prep for this episode, I was like, wow, like the world of 2018 feels nothing like the world of 2023. In the sense that even the title, *The New Asia and the Remaking of the World Order*, that actually means an entirely different set of things when the broad operational US bipartisan foreign policy approaches that were an antagonistic relationship with China, I think back in 2018, you could say, okay, maybe this post-2016 turn is like a Trump thing. We'll go back to normal 2015. So can you just compare 2018? And obviously I didn't even mention COVID. Could you compare

2018 to 2023 in terms of things changing quickly? Well, so the first problem Marshall is that when we think about Asia, particularly in the US, that just means China, right? It doesn't mean anywhere else. And that probably is not helpful to try to work through what else is going on in a continent where roughly two thirds of the population of the world live, more or less two thirds live east of Istanbul, right up to the coast of China. And so I guess I'll leave China last,

but Indonesia has a population around about 200 million. One single island in Indonesia, Java, has a bigger population than Russia. And we don't pay any attention to Indonesia and how that fits into the metric. We don't think about the Philippines with its large population of Pakistan, 230 million people. And so I guess that when I'm talking about Asia and the new world in 2018, what I was trying to say was that opportunities and challenges all lie where demographics, energy and food take place. And those are all centered very clearly in part of the world where we've got to think quite hard what our relationship is and where China's rises a threat to us and where

it's not, where India's movements over the last 15 years, which of those are also threatening, which of those are complicated as well as opportunities too. So I think that the world of today in some ways reinforces the idea that Asia is the source of the great challenges and of opportunities. And to tie it to the environment to start with, 496 of the world's 500 most polluted cities lie in Asia. So if you want to deal with climate change, with fossil fuels, with the world that's going to be safer and cleaner for our kids and our grandchildren and the next generations, keep on recycling in New York. And a lot more of that can be done than is being done, of course. But it's about addressing the most polluted cities on earth and the infrastructure for those that are powered typically by substandard or by lower levels of investment into energy structures because what populations have been poorer for the last 200 or 300 years. So those questions have been the big sticking point at Paris Accords and onwards, which is we industrialized, we burnt everything to build these great cities like Chicago, Detroit, LA and so on. And we now have the money that we can invest in clean and green. How should cities and countries that don't have the same resources have the opportunity to catch up economically rather than have their economic development slowed down? But I mean, I think we also forget that just in the last 12 months, we've seen one of the world's the greatest transfers, wealth transfers in world history, through the amount of fossil fuel and money that has been paid through to Saudi Arabia, the Gulf States because of the heightened prices of oil and gas. So last year, oil majors made about \$850 billion profit in a single 12 month period. One company in Saudi Arabia, this world biggest oil company, Aramco, made just under \$200 billion. And that provides a war chest, which is an unfortunate word, it provides a treasure chest to go and do what you want with, invest in US securities, buy soccer teams, take over world golf, all sorts of things that you can do if you have a large store of cash and you think that you're investing for the future.

We in Europe, on the other hand, have a very different equation, which I wrote about in 2018 already, which is that we are deeply concerned that the world of tomorrow looks more difficult for young people than the world today, lower levels of home ownership, high levels of student loans, increased competition to get decent jobs, and falling demographics. We've got in every single country in Europe is not replacing its own populations. So at high levels of government debt, we're quite worried about what the future looks like. But when you, Marshal, I talked to young people, you said you were born in 1992, that makes me feel really old.

But when I talk to people in Southeast Asia, in India, in the Gulf, in China, everybody who's under the age of 30 or 40, for them, it's an absolute given that their children and their grandchildren will have a better, more prosperous and safer life than they have.

And so I think that split between the anxiety of being fearful of the future and embracing it is a real distinction between, I guess, the developed world on the one hand, fearful and

concerned. And you mentioned that antagonistic relationship with China. That's a real worry all the way around. I don't know how quite to breach that. I don't know what a richer China looks like that is acceptable in the United States. But that's clearly a point that might lead to escalation that reminds me of my childhood, which was one of nuclear threats being real and being substantive. And we see a whole set of new cold wars and culture wars as part of that, breaking out everywhere. And that sign of fragmentation feels new, right? It feels that it's the last two or three years. Maybe Trump was part of that story. But we all feel that everything we're looking at looks like it's breaking. And I tried to write about that about a few years ago. And I think, unfortunately, it looks like I managed to be not on something. Yeah, no, I'm glad you brought up the demographics question in terms of Europe and frankly, just industrialized societies as a whole. Because I think it gets at, hey, you said earlier in the episode that you're not trying to do predictions here. Because I think predictions is where just this broad environmental space gets into trouble. So I grew up in a family where my parents were in the, they worked on climate issues. So of course, I have a dog-eared copy of the population bomb. And if you're reading the population bomb, you're in the 70s, you're looking at this space, you are focused on the broad story of the environment is going to be a story of too many people, high populations. You couldn't imagine that the serious debate in the developed world was, oh, no, we went too far the other direction. How do you deal with the natural trend towards lower birth rates as populations also grow older as you just have less children because you're advancing up the economic development scale? So how do you advise someone thinks, think of this environmental topic without just going too far in the other direction? Because now a lot of the, and I think this is widely acknowledged, a lot of the population discourse also gets kind of weirdly racist very, very, very, very quickly. Because now the population is no longer an issue, quote unquote, like in the developing world. It very quickly gets to, well, operationally, people in sub-Saharan Africa having too many children, which once again gets uncomfortable very quickly. How do you advise someone, look at the environment and what's happening and not just take that too far in any direction? It's a fantastic question. I mean, Paul Ehrlich for those, and the Population Bomb was a book written in the mid-60s that more or less said, when the world's population, I think at that time, was around about four billion, we just passed double that, said we're on the point of total mass starvation in the tens of millions. And here we are still standing and that didn't really happen. There's been lots of there's lots of poverty around the world, but actually these last 30, 40 years have been very good for global poor in terms of higher levels of income. And it's deeply stressed in many regions, but any person born globally today while we're on this call is going to have the highest life expectancy in human history, which doesn't mean that all the problems have gone away, but we've made lots of advances. We worked out how to be better at growing things and using science and technology. So predicting the end of the world and predicting catastrophe is something that has very deep roots, not just the 1960s, all religions have at their end point, the second coming or global destruction or the angering of the gods that so profound that you're doomed. So I don't particularly want to add my voice to those, but I think that on the other hand, it is worth picking up on much sort of easier things to understand, which are if you spend too much, the bank comes and asks for money back and you've got to be able to live within your means. And that's an easier one to understand. And I think everybody listening to this will get,

understand sustainability at home. They understand they don't chuck food out of the fridge just for the sake of it. No one buys things and very few people open their car window throughout their trash, but quite considerate about their neighborhoods. They're quite respectful of how we all live as a commune and together. But on the other hand, we're not very well educated because we don't think about environmental histories at school. We don't think about I mean, maybe in preschool, but by the time you get to college and high school and college, you're learning about the American Revolution, you're learning about important topics, the Second World War, about the Holocaust, about slavery and the way in which humans inflict punishment on each other, but they don't learn about how humans have treated the natural world. So it means that we don't think about the levels of the cost of our habitation of this planet. So for example, your lovely shirt, Marshall, I can see, would have, if it's a cotton shirt, would have required, or if it's a linen shirt, required something like 7,000 liters of water to make. And that's an adult consumption for seven years. And that's, that's, you know, that's a piece of information for you to then think about when you buy your next shirt. And you can up to you to do what to make your own choices. But I think when you start to think about how what the costs are, how things actually function together, then we think in different ways. And you know, Ken Pomerance is a brilliant historian at the University of Chicago, came up with the idea of ghost acres where things are grown, things are made in other parts of the world that you don't have any engagement with, you don't think too much about them, but you're the beneficiary of them. And so some of my colleagues talk about today's world as being one of ecological imperialism, that rich countries, we don't have empires in the old meaning sense of the word, but we do consume bringing things from other parts of the world without thinking too much about them. So anybody again, today puts on some lipstick or eats some ice cream, palm oil is ingredients in both of those two. And palm oil, most of it comes from forests that have been chopped down or palm oil plantations in Southeast Asia that have been chopped down at an astonishing rate, particularly in Indonesia. And, and I think once you once, once you're better informed, you maybe make better choices. And partly that's because the education syllabus, the way we think about what we need to educate young people hasn't changed for the last, well, I'd say 100 years. So maybe it's a wake up call to think about, think differently about how young people should should learn about things. I mean, again, I've got some of this in my book, some of these facts that made me sit up and feel embarrassed that I didn't know. So the wastage of food around the world, food that has grown and then not consumed and then thrown away, it's responsible for about eight to 10% of global greenhouse emissions. So that's about five times the entirety of air travel, which we make a lot of fuss about, right? The air travel is dangerous, bad, you can you can offer to plant some trees and mitigate your carbon emissions. But that that's food that's grown and wasted. It's such low hanging fruits for, I mean, literally for why would we bother using up so much energy. And with such negative effects, because it produces methane when it rots, etc. But the scale of that in a world where there is profound global poverty, even in New York City, even in Oxford, where I live, 20% of young people of children live with food insecurity in my own city in a G seven country. The amount of food wasted is estimated to be around 930 million metric tons per year, which is 23 million 40 tonne

trucks, which if they were lined bumper to bumper would circle the earth seven times. So I reckon some of which we could all address a little bit better by being better at budgeting what food we need by being better at working out how we should consume stuff, how what we should do with things, but we're throwing them away and discarding them. And the interesting thing about food waste

is that there's no difference between high income families, median income families and low income families, we all waste roughly the same sort of percentage. The people are the best at this, by the way, by far, our restaurants. Restaurants are fantastically good at their food management because that's profit and loss. And we don't think about that with home economics, because we think home economics is something that used to be taught to women 50 years ago. And it's a kind of old fashioned thing that why bother teaching Marshall or Peter how to cook, much better to teach them about, you know, physics or business or management or law. And so probably a reboot of understanding how farms work, understanding what animals need and understanding what what byproducts happen when things rot, understanding how we should be better at biodigesting. I think there's a lot of things we could do that could make our the world we live in cleaner, easier without without riling anybody about global warming or climate change or activism. I think I think it's just common sense. You know, that's it. I'm glad you took that in the direction of the food waste example, both on a climate level, but just on a hunger level, because it gets at a debate that always hits at environmental policy, which is to what degree is the problem one of inherent limits versus us not filling our potential. So think back to the Paul Ehrlich population bomb debate. The point of mass starvation was there literally would just not be enough food, we were not able to produce enough food. We ended up in a situation as you're describing where actually the issue wasn't that we didn't produce enough food, it's actually produced excess food, and then didn't allocate it to the proper location. So if someone is and tell me if this is incorrect, but I think a way to frame this is, if someone's starving today, it's not because at a global population level, we're not capable of producing the requisite number of calories per person, it's that we have not figured out how to, or maybe are incentivized to on purpose, not allocate calories in the specific locations. So that's a way I could sort of say like, well, that's an optimistic story. Because that suggests our environmental problems are one of human design. And if it's a human design, it could be fixed versus no, no, seriously, this is the limit on the fertilizer per year, our population is exceeded by a billion people, everyone's going to die. How would you understand this environmental topic through that frame? Well, one of the great things about writing a book like this is the amount of research that you read by brilliant scholars around the world. And Amartya Senju on the Nobel Prize for Economics in 1998, worked extensively on famines above all in Bengal in India, which has happened repeatedly in history. And it's a very important stand out line that he says that I'm going to paraphrase, I'm going to get the quote, precise quote, probably not quite right. But more or less says there was no such thing as a famine that's not human made. It's always to do with factors that involve price speculators, hoarding, inefficient distribution, policy decisions. Famines are always the result of bad planning. And then when they catch, it's because of bad execution or bad implementation of mitigation policies. So it's exactly right what you say, Marshall. And I defer to Professor Sen that, you know, if it's about things that we get wrong,

rather than how nature gets, you know, trumps us all. So I think that that as a good starting point to think around, therefore, what kind of steps should we take to make sure that these things don't happen? And, you know, in this last 12 months, because of Ukraine, grain prices have been very erratic, very volatile, because Russia and Ukraine produce a lot of wheat and between them.

But a lot of hedge funds got in on the act of figuring that this volatility was going to happen. And I saw something last week, around the amount of profits that have been made by hedge funds on speculating on the food industry. And it made me think of a quote that I have in the book written literally 1,000 years ago about a caliph or a ruler happened to be based in Egypt at that time, who said, when there was a famine, he said, if I find people who are hoarding grain in the hope of pushing the price up and profiting while people die, I will personally behead them. Right. And I think that idea speaks to the fact that these are not new problems around inequalities that get aggravated around, if you have an asset, if there's prices that are going up, why would you sell it? You know, you'd sit on it so it goes up even higher. And those kinds of things are really tricky. And in fact, if you remember your, you know, from Bible school, the story of Joseph, who's famous for his Technicolor Dreamcoat and that wonderful Andrew Lord Webber

musical Tim Rice, musical, will remember that Joseph became the golden boy of the Egyptian Pharaoh in biblical times, because there were seven seasons of plenty. And Joseph kept saying, you need to make sure that you have preparations when we get seven seasons of shortage. So he made Pharaoh put crops to one side in the granaries, even though there was never being done and it looked like the world will keep on going and giving and giving and giving. And then when famine came, other states collapsed, but the Egyptian Pharaoh had enough to go around.

So it's exactly right. Human planning, mitigation, working out what the stress and what the what the complications might be. It means we can solve these problems. The question, I guess, which you're not asking is how likely is it we'll learn from our mistakes and learn from history? And, you know, I guess that the pandemic was quite a good lesson in all of that, you know, a single bat in Wuhan, however, it's got into the human, however, coronavirus got into the human system, disease systems, but that single incident event led to global compression everywhere, economically, mental health wise, all the, all the odds and all the odds and strange things it did to our global economies, you know, probably added trillions to US national debt and to others too. So being being prepared to be self sufficient, making sure you've got enough for rainy days, making sure that you've thought ahead about what the, what your vulnerabilities are to shocks is important. And we didn't do a great job in preparing for, we were quite good at fixing the problem once we identified it, but we should have been ready for a pandemic and we had to react at speed and reacting at speed is,

means you make mistakes and it costs you a lot more than being ready for an advance. Yeah. And in these, in these, I've got a three last questions that I've written down, no particular order. So audience apologies for the lack of narrative cohesion. You just, you mentioned, you mentioned Europe earlier and the United States, especially I work in the foreign policy space in the day job level, there's an intense debate about Asia versus Europe

when it comes to the United States's defense posture. I would just ask you as, as, as a Brit, also someone from a country, which is also trying to figure out its relationship with Europe, what do you think Europe means to the United States relative to Asia? Because I always, I get a little frustrated when proponents of the quote unquote Asia first policy try to relate this story purely in terms of GDP. Asia is the future. GDP is there. That's how the United States should allocate its resources. That's not to say that the Asia first policy is inherently wrong when it comes to defense posture. It's just that I think if we reduce our relations with regions purely to GDP, I think that leads to plenty of blind spots as you could be led to blind spots when it comes to the market. You just made your point about speculation. But what would you say Europe means to the United States? I think that the word allies is always a difficult one because there are all sorts of ways in which you're institutionally connected through things like NATO. But then we are allies in so far as, of course, there are common histories, but we have common institutions that function in roughly similar ways. And we tend to solve problems, maybe not always as well as we should do, but we tend to solve problems in similar kinds of ways. And so the political systems means that we tend to be on the same page when we're looking at challenges and opportunities. And that's not the case in Asia, where there are some democracies. By and large, the story of the last 15, 20 years has been the rise of autocracies globally. It comes as a shock to young people to think that we're becoming less free in many ways. But the metrics that you can measure around press freedoms, around freedoms of religion, ethnicity, gender, all those kinds of things, sexualities, the world has become less free measurably in the last 20 years and increases to do so. So I think when it comes to Asia, it's really difficult to put all these countries in the same basket. It's very difficult even to put autocracies in Asia in the same basket because each is very different. And one of the problems is by saying, well, Asia is like this, and we are like that. It's hard. And I would say the same, one could say the same thing for Europe. There's a lot of difference between Finland and Portugal, as many of your listeners will know. But those institutions are very similar across European countries. So we streamlined how we do things, even us in Britain, even though we're out of the European Union now. So I think that those similarities in Europe are much closer than states in Asia. And I think that we don't need to be either or. That's part of how the foreign policy debates and the military debates are framed over here, too. It's kind of all or nothing. Or India must be our ally because India has a tertiary relationship with China. Therefore, they're bound to be on our side. And then when you say, well, yes, okay, but India takes 70% of its defense spending through Russia and 300% high levels of imports this year from Russia, mainly because of oil. How would that make India's strategic decisions around Ukraine? We then get stuck going with India should be on our side because India is a rival of China, and that probably trumps our worries with Russia. So I think one has to play these things really sensitively. I think we've underinvested heavily in our information and knowledge about Asia. We don't teach about other people's cultures. And by the way, I have always been shouting out to Central and South America and to Africa, North Saharan and Sub-Saharan, where these are not pieces on a gambling board or games board where the Chinese get in and that's bad for the global economies. What is our role with all of these states? What is the American role in West Africa and why? And I think that those debates in ones that I sit in, similar space to you, Marshall,

they're quite monochrome. They're quite simplistic. And they're not drilled down into who should we be talking to? Who should our alliances be with? How do we show what our values are and what the benefits are? And we've set also a bad example at high table for the last few years, not just you guys in the US with the divisions, but us in Europe too have looked like we aren't able to work together, Brexit part of that, and then all that's gone on since here in the UK. It doesn't look like a system that looks robust enough, even though we're all still standing. So those rises of autocracies, the ways in which they do things, China is now making a big play to say China's a true democracy. China in its constitution claims to be a democracy under the dictatorship of the Communist Party. And one of the things China started to do globally is to say, China is a democratic model. You should follow our pathway because look at inequalities, look at the United States, look at Europe, what have they done for you in the past and the present and look what we're doing. And China parking their tanks on our unfortunate metaphor, China is trying to get engaged in some of those debates to say, we'll take you at your game. And we need to be thinking about how do we answer that rather than just saying that's crazy. How do we show what it is that we do well, and why that's a good thing? And that gets lost when you talk about big strategy. So final question that I'll split into two parts, but they're related. So one, we get a lot of audience questions. I just got an audience question from a father who has four deeply pessimistic high school and college aged children. So one question would be, to what degree is your historical focus on like this story of the changing environment and also the story of, you know, the rise and fall and somewhat rise of the Silk Road's inform your optimism or pessimism, because from my perspective, history makes me optimistic. And then the second

related part, in terms of those younger listeners, you've clearly stated in all of your academic or popular work in this case that, you know, the two big stories this century are the rise of this new Asian order. And then obviously the climate environmental challenges and changes we've been discussing here. To what degree should those young kids be optimistic, pessimistic, or just ready to not know what the world looks like 20 years from now when it comes to like shaping in these questions? Those are kind of difficult to split apart, but take them wherever you want to go. Tell me the first one again, Marshall. The first one again was just, does writing these histories leave you with optimism or pessimism? Yeah, I'd like to say that I'm dispassionate and that, you know, optimism and pessimism are all how you, you know, the choices that you make of how you set yourself up to be fearful. I guess it's the same, you switch on a NFL game, NBA game, you watch your favorite sport or whatever it might be, and you're convinced before it starts that your team's going to win or it's going to lose, right? It's in some ways, it's a very rational thing. On the other hand, it's totally crazy to think you can see what the future has in hold. So I think trying to be pragmatic is what's important. And I guess what I've tried to do in this new book is to, and in fact, in the news, in particular, is to flag and say, these are the obvious problems. The challenge is now how do we solve them and how well do we solve them? And my guess will be we will solve lots, some of them. In fact, maybe we'll solve lots of them with new technologies, with greater global governance. We are all in this together. No one burns fossil fuels and pollutes their rivers and thinks that it doesn't matter for the future, you know, even in even in states that are dirty and have low environmental protections. Everybody, I can promise you is worrying about this too. So I suppose I am pragmatic

and like you, history teaches me one thing, which is that we're still standing as human beings, you know, we all have predictions that the apocalypse was coming. We've managed to avoid all of those. I suppose the humility of the biologists that I've now become as by studying what I've done for this book is that we're also we're an animal on this planet. And if we if the environmental envelope around us changes through our own endeavors or otherwise, we have to adapt like what animals do. And if we can't, we join the dinosaurs and all those other things you go and see in a museum that don't exist anymore. So, you know, I would never bet against humanity and its creativity. But you've also got to bear in mind that we are capable of profound persecution. We did the Holocaust, trans alien slavery, terrible persecutions of peoples around the world as a common history. So I think, you know, we've got to take the good the rough with the smooth. So let's hope that we the good side of us comes out. I think for young people, you know, the activism that young people are showing at the moment across all areas, not just in environmental concerns, I think it's really healthy about the demands that young people are making for more equitable, greater responsibilities, you know, the unfairness of the world that that they're facing from my generation and the generation above that became more prosperous, because we bought a piece of real estate when we were young, we managed to get on the on the on the

work ladder, we burned lots of fossil fuel, went on nice holidays, and now suddenly things are precarious. You know, it's for young people to not not be scared, but to do something about it. And the easiest, the most important one is to be voting for politicians and voting for policies that will mitigate. And some of that is about understanding the long term is so much more important than the short term. You know, our weakness around environmental at the moment is that we have four year electoral cycles. You know, like I said about Merkel, she shut the nuclear power plants, partly to collaborate with the Greens and stay in power. And it's saying that we would much rather invest now, even if it means that the short term is going to be more expensive, because we get through to the other side. And that's not really being said in any with any clarity in most liberal democracies. But I would expect that it will start to be in the coming years. You know, Russia and Ukraine took a lot of bad has taken a lot of bandwidth for obvious

reasons for us here in Europe. Brexit suffocated everything for the last seven or eight years. So we just need a bit of headspace to say, this is what the UK, what Europe, the US, the world's going to look like in 20 or 30 years. And this is how we should be trying to solve that. And I'm hopeful that we will that those that that is going on, and it will become more prominent in the in the future.

Excellent. That is a great place to leave things. Obviously mentioned a bunch of books today, but the most important book, especially considering your competition from the air frying industrial complex is the earth transformed an untold history. Thank you so much for joining me on the realignment, Peter. This has been great. Such such a pleasure. And what you do with the realignment is fantastic. And I love I wish I was 30 years younger, and I'd be able to learn from you, Marsha, rather than you come and ask me questions and give you the answer. So I'm a regular listener. So anytime you have space to have me back, let me come and ask you questions about your work. Great. Thank you for joining me on the show again. Thanks a lot. Hope you enjoyed this episode. If you learned something like the sort of mission

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