

The
Economic
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New York

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The Economic Club of New York

116th Year
738th Meeting

Bill Gates
Co-Chair, Bill and Melinda Gates Foundation
Founder, Breakthrough Energy

Peter G. Peterson
Leadership Excellence Award Dinner

December 7, 2023

In-Person/Hybrid Event

Moderator: Marie-Josée Kravis
Chair, Museum of Modern Art
ECNY Chair Emerita

Introduction

Chair John C. Williams

Good evening and welcome to the 738th meeting of The Economic Club of New York in our 116th year. I'm John Williams. I'm the Chair of the Club, and I'm President and CEO of the Federal Reserve Bank of New York. With a distinguished history since 1907, The Economic Club of New York is known as the premier, nonpartisan forum for timely discussions on a wide range of issues facing New York, the United States, and the world.

As Chair of the Club, it's my privilege and honor to preside this evening for tonight's bestowing of the Peter G. Peterson Leadership Excellence Award, which will be followed by a fireside chat. Now, we'll shortly announce the winners of the 2023 ECNY Innovation and Social Impact Challenge.

So, first, I would like to recognize The Economic Club of New York Class of 2023 Fellows in our seventh year. This impressive group of 74 diverse and emerging next-generation business thought leaders, each of these talented individuals embraced the unique opportunities presented by this program. So at this time, I'd like to ask each of the attending members of the 2023 Class of Fellows to stand and be recognized. Thank you.

Now, it's a pleasure for me to welcome to the podium our President and CEO, Barbara Van Allen, who will announce the finalists.

PRESIDENT BARBARA VAN ALLEN: Thank you, John. In 2022, we initiated our Innovation and Social Impact Challenge to bolster the Club's expanding Research Division. This initiative is closely aligned with our mission, which as you all know, is to serve as a catalyst for innovative ideas and thoughts, leveraging our platform to introduce impactful content into the wider business and economic communities.

We're delighted to have this year's challenge sponsored by ECNY Member Shirley Hon of Phoenix Bio. There were four themes that they could choose from this year – Generative AI, Climate Change, Geopolitical Relations, and Corporate Governance. The participating teams did an amazing job bringing forward very innovative and creative ideas that were actionable. ECNY Trustees, Dan Neff, Reshma Saujani, and former '22 Challenge participants and current ECNY members, Norbert Horvath and Josean Fernandez joined me in judging the entries. The winning teams will receive a cash prize, \$5,000 for First Place, \$3,000 for Second Place, with an additional \$1,000 to be donated to each of these winning teams' charities of choice.

In Second Place, we found that the Leveraging AI Software to Analyze Municipal Finance and Increase Accountability Team were the winners. So congratulations to Lisa

Phan. Please come up to accept the award and get your photo taken with Chair Williams. Congratulations!

So it's with great anticipation and excitement that we announce the recipients of the First Place Award for ECNY's Challenge this year. NIMBYism to YIMBYism, Rethinking the Economics of Large-Scale Transmission Projects. Congratulations Daniel Corbett, Nicholas Martin, Ryan Nowicki, Topi Adeshina, and Salome Saliashvili, I actually practiced that too. Please come up to accept your award and get your photo taken. And to all the Fellows who participated, we thank you for your time and energy. Back to John.

CHAIR JOHN C. WILLIAMS: Thank you, Barbara, and congratulations again to all the Fellows. Being the Chair of the Peter G. Peterson Leadership Excellence Award Committee, and serving beside William Dudley, Roger Ferguson, Alan Greenspan, Marie-Josée Kravis, Greg Mankiw, and Andrew Tisch has been one of the great pleasures in my role as the Chair of The Economic Club of New York.

The award was created back in 2011 through a generous personal gift from the Peter Peterson, Former Chairman and longtime member of the Club. In 2022, the award was renamed in his honor. The award has been presented to prominent individuals who exemplify the very best in leadership, while nurturing a positive economic and social

impact. Past recipients have included former Secretaries of State, George Schultz, Henry Kissinger; Former Chairs of the Federal Reserve Paul Volcker and Dr. Alan Greenspan; and Former Vice Chairs of the Federal Reserve System, Alice Rivlin along with last year's recipients, Stanley Fischer and Roger Ferguson.

As we prepare to honor the eighth recipient of this important award, please join me in welcoming Club Member and one of the children of the late Pete Peterson and Chair and CEO of the Peter G. Peterson Foundation, Michael Peterson, to the stage to share a few words along with 2022 winner, Roger Ferguson, to present this year's winner. We'd also like to thank the Peter G. Peterson Foundation for supporting the Class of 2023 Fellows Program as well as the dinner this evening.

Michael Peterson

Thank you, John. Thank you, Barbara. On behalf of my colleagues at the Peterson Foundation and my family, we are deeply honored by this award named after my father, and we couldn't be more thrilled with tonight's recipient. My father loved the Economic Club and everything it stands for. To him, ideas mattered. He cared about ideas. He wanted to come up with ideas. He wanted to hear about your idea. He wanted to talk about someone else's idea. This type of rigorous transparent dialogue in pursuit of the right policies and the right solutions is what the Economic Club is all about. So he very

much appreciated this important New York institution.

And if you care about ideas, who better to receive this award than Bill Gates. Bill has many accomplishments among various leadership areas from business to technology to his broad humanitarian and philanthropic work. Bill even received a Person of the Year Award from *Time* magazine in 2005. As you may have seen, Taylor Swift did receive it this year. But don't feel bad, Bill, Taylor Swift has no Peter G. Peterson Award for Leadership Excellence.

Bill, my father admired you so much and treasured the time you spent together. Among your many pursuits, you and I share a passion for fixing the broken healthcare system in the United States. Our inefficient healthcare system not only leads to worse outcomes and less healthy populations but our rapidly rising costs also depress wages, harm our competitiveness, crowd out funding for important priorities like education. And if we don't take action soon, it will drive our national debt to levels that will rob our kids and grandkids of their economic future.

In economic terms, the waste in the healthcare system represents a staggering 10% of U.S. GDP. So in America we actually waste more on healthcare than we spend on K-12 education. Imagine that. So I see healthcare delivery as the number one economic issue and opportunity for the United States and it gets far less attention than it

deserves. The Peterson Center on Healthcare is working full-time on this issue and Bill is a member of our Advisory Board. We're so fortunate to partner with him and his team on this critical area. So, thank you, Bill.

Now, it's my honor to introduce Roger Ferguson, who will present the award. Roger is also a great friend and supporter of our work. Number one, he is last year's recipient, as noted, of the Peter G. Peterson Leadership Excellence Award. Number two, he is a Board Member of the Peter G. Peterson Institute for International Economics in Washington. And number three, he is a member of the Advisory Board of the Peter G. Peterson Foundation. So, Roger, my friend, you have hit the Peterson Trifecta. And you can see from Roger's resume how creative my dad was in naming things.

But in all seriousness, Roger, the support and advice you've given me since my father's passing has been so personally meaningful. Your insight and expertise have been so valuable to our work and to our nation as a whole for many years. So thank you for what you've done and continue to do for the world economy and as an inspiration to so many others. So welcome, Roger, and you can present the award.

Roger Ferguson

Thank you for that kind introduction. And I'm sure all of you are waiting to hear that

introduction, so let me move on to the main event here. And it's obviously with a great honor and admiration that we gather here today to present the Peter G. Peterson Leadership Excellence Award to the visionary whose impact transcends industries and whose commitment to innovation has reshaped our world. Bill Gates, a name synonymous with groundbreaking technology, philanthropy, and global change embodies the essence of leadership excellence. Through his relentless pursuit of innovation at Microsoft, Bill revolutionized the tech landscape, setting a benchmark for entrepreneurship and technological advancement.

However, his leadership extends far beyond board rooms and computer screens. His unwavering dedication to addressing global challenges through the Bill and Melinda Gates Foundation showcases a rare blend of strategic vision, compassion, and courage. From eradicating diseases to empowering communities, his commitment to societal betterment exemplifies the very essence of leadership excellence that The Economic Club of New York and Peter G. Peterson both stand for. So today, Bill, we are honored to present you with this award. Without further ado, Bill, can I invite you, on behalf of the Economic Club trustees and all of us here today to step forward so that I may present you with the award.

CHAIR JOHN C. WILLIAMS: Thank you, Michael. Thank you, Roger. So now we move to the heart of the program tonight, in which Chair Emerita and Chair of the Museum of

Modern Art, Marie-Josée Kravis, will sit down for a conversation with Bill. The program will end promptly at 8:00 p.m. And as a reminder, this conversation is on the record as we do have media on the line and here in the room. So, without further ado, please join me in a round of applause as we welcome the new Peter G. Peterson Leadership Excellence Award Winner, Bill Gates, and the Club's Chair Emerita, Marie-Josée Kravis for the conversation.

Conversation with Bill Gates

CHAIR EMERITA MARIE-JOSÉE KRAVIS: Well, congratulations and thank you for being there. John mentioned, and Roger mentioned the impact that you've had on the tech landscape, which you've really changed all of our lives by making software so widely available. You've really changed the culture and the way we live and the way we interact and so on. So congratulations on that.

And also you've not only changed our lives but you've saved so many lives. They talked about eradicating disease, but when you look at the numbers in the last 20 years, it's estimated that through the foundation and your partners you've probably saved about 32 million lives with the work that you've done on polio, malaria, tuberculosis, HIV. And cutting the infant mortality rate by half is really remarkable. So thank you for all you do.

And I know that you've just come back from COP-28. That's another area where you're working very hard to improve our lives and also _____. And you came back from COP-28 by saying that you felt relatively optimistic, the glass half full. Why is that?

BILL GATES: Well, climate is a huge challenge because the hydrocarbons that have been key to the modern economy have this side effect. And as the CO₂ and a few other gases accumulate, that warming effect causes serious problems, primarily near the equator and primarily for outdoor work. But it's something that if we let it go unchecked, we'll start to destroy ecosystems and even in temperate zones it starts to be quite serious.

And my view of it came entirely from the work of the Gates Foundation where I was visiting Africa just after the turn of the century, learning about agriculture, and hearing from farmers that the hotter, less predictable weather was a challenge for them. And so I got educated. A couple of scientists did a lot of sessions for me starting around the year 2000. And it was actually the Paris meeting of this COP event, the meeting that was in 2015 where my commitment to create a new group called Breakthrough Energy came forward. I'd say in a way that's worked out very well because there is no one that can try and solve climate just by ___ high prices, it's clear now that, you know, given all the economic challenges, including, you know, an ___ budgets being overspent, in which Pete Peterson was a very articulate advocate. And he will be proven right,

although people didn't listen much in those early days.

But anyway, we don't have infinite resources. So if you want to solve a lot of problems, you know, reducing inequity and a lot of the global health things that are our foundation's priority, and solve climate as well, you have to use innovation. So, anyway, I committed to create a group that would philanthropically fund early ideas and policy work in a venture, but a new venture construct, a 20-year sort of high-risk, double bottom line approach on companies.

And so we had, this year's COP meeting, COP-28 was in Dubai. And so we had over 40 of those companies – we have about 100 – come and talk about what they're doing. And the big companies would come in, governments would see, okay, what kind of policies can help these things bootstrap. The dream is a pretty clear economic dream, which is that across every year of emissions, you have approaches that are superior to the current dirty approach, but without increasing the cost, what we call a zero green premium. And we're making a lot of progress towards achieving that. So those partnerships and the engagement on innovation was what made me feel good about this latest COP meeting.

CHAIR EMERITA MARIE-JOSÉE KRAVIS: Maybe you could elaborate on the zero green premium because we talk a lot about emissions, and we may not meet, we

probably won't meet the Paris target of 2-degree Celsius. But you have sometimes said that maybe we focus on the short-term issues on emissions but not enough on the zero green premium, the steel manufacturing and so on. Maybe you could elaborate on that, explain your thinking.

BILL GATES: Yes, so, you know, there's actually quite a few sources of emissions. People are probably most aware of making electricity, you know, where natural gas and coal are often used. That's a little over 20% of global emissions. They're aware of transportation, although they focus mostly on passenger cars, but you know, planes, boats, trains, trucks are over half of that emission category, and not passenger cars. But there electrification has started. You have industrial emissions. That includes cement and steel, you know, plastics, paper. A lot of things people don't think about much but are key to the physical economy. Then you have agriculture and you have buildings.

And so the idea is that, you know, today if you try and make cement without CO2 emissions, it costs over four times as much to buy that cement. And if it was just rich countries, you could say, ah, you know, we'll force people to pay more for their cement and, you know, maybe their houses won't be as big or something like that. But two-thirds of emissions come from these middle-income countries, including China, India, but Brazil, Mexico, Vietnam, Indonesia, where two-thirds of humanity lives. There, these services that create the emissions are just basic infrastructure and shelter.

And so the idea of making it more expensive, you run into the deadlock that those countries would turn to the rich countries and say please subsidize these costs, because why should we slow down providing the basics when we are not responsible for the historic emissions. But the total price tag for that, using current techniques, would be triple the entire development aid budgets given to all countries for all causes. And so it's never going to happen. So how do you deal with this contradiction? I mean, you know, people who just think about climate think, well, they should do it. We should just tell them to do it. Or maybe, you know, we should lower the incomes in the rich countries fairly dramatically to fund that. But that's also not going to happen.

And so the way that you solve that is you come up with a new way of making cement that costs less, the same or less. Zero green premium means the same. Negative green premium means less. And you have to do that across all those areas. And so, you know, at a very early stage, you want a lot of government R&D, which Obama was president during 2015, he and 40 other government leaders and I had this event, this R&D event. They committed to double their research budgets. I committed to create Breakthrough Energy.

And so it's only been eight years that we have these 100 companies. And four of them do have that idea for cement and five for steel and some for ships, some for planes, some for beef. That's why there's so many companies is because you have a lot of sources. And the different techniques, although they all, the ones we have all work at

the lab level, scaling it up to achieve this low price, and a lot of them will fail as we go through that, but we have enough to feel quite confident that it can get done.

As you said, there's a deadline, because it takes a lot of time and you have to go to all countries, we won't meet our highest aspirations. But we can stay within a range that it's not a climate disaster. We still need some adaptation as we get somewhat above 2 degrees, and that was a big topic at the COP. In fact, the Gates Foundation does the work in the adaptation, whereas Breakthrough is all about reducing emissions, which is called mitigation.

CHAIR EMERITA MARIE-JOSÉE KRAVIS: But you talk about scaling up, you also have to accelerate or energize the ecosystem. And, of course, you did that when you started Microsoft. Are there any lessons that you learned in terms of creating an innovation culture or accelerating or scaling up? And then I wanted to ask you about, I don't know if it's apocryphal or not, an anecdote where when you started Microsoft, you had memorized the license plates of all your employees so that you could see when they were in and out. And so is that part of that innovation culture?

BILL GATES: Yes. It's not that many license plates. I mean we only had a few hundred employees.

CHAIR EMERITA MARIE-JOSÉE KRAVIS: That's a lot of license plates. So it's not apocryphal.

BILL GATES: They came in and out. No, we had this thing where we had a parking lot that was linear. And so the first to come in would park in the first spot, the second, the third spot. And it was considered a bad thing that when you left, there were cars to the left of you. That meant you'd been lapped. You know, somebody came in before you and left after you. And so that was like, oh, no.

And we taught this to one of our partners. We were working with IBM at one point. And only one out of several hundred people at this IBM lab adopted our view. But when we went to visit him once, he said, oh, there's a guy who is beating me in all the time, and he's here all the time. I'm so embarrassed. Well, then we looked at it. We said, oh, shoot, that was our rental car that we left here like a month ago. So there's not really anybody who is beating you in day and night.

Anyway, yes, the notion of how hard for you it should be in creating these innovative companies, you know, do you push it too much? You know, everybody's different. You know, Elon pushes hard, maybe too much. Steve Jobs pushed hard, maybe too much. I think of myself as very nice compared to those guys. Anyway, but yes, you have to have a certain intensity. And in my 20s, I was monomaniacally focused on Microsoft. I didn't

believe in weekends or vacations. And so I tried to set a good example there.

But, yes, the early days of software were quite amazing. And it is fair to say that given the positive experience I had there, I view every problem through this innovation lens.

And how do you get the smart people, the mix of talents, what sort of time frame? How do you go in and review what's going on and make it clear, okay, that's going well, that's not going well. And so whether it's at Microsoft or the Gates Foundation, which health is our biggest area, and then this climate work, that idea of innovation is interesting.

Now, as you move into new domains, you do need to adapt. The very best author on climate-related technologies is Baslow Shmiel(?). And he said, Bill, you're going to be the most ___ person ever because when you write software you just kind of ship it, you know, it doesn't have to be perfect. And when you do, like electricity plants, you have to build them, you have to permit them. You have to get transmission. And the degree of improvement in the digital area is literally exponential. I mean the computer in your phone is a million times better than the first computer I dropped out of Harvard to write software for, actually ten million times better.

And so, will I adjust, you know, as I get into vaccines or electrical plants. And that's a challenge to continuously learn and find the people in those domains who can help me, and then create organizations that aren't satisfied with the status quo.

CHAIR EMERITA MARIE-JOSÉE KRAVIS: So you were talking about technology and technology changing and so on. So obviously AI is on everybody's front burner. Even today, Google announced Gemini or at least a forerunner of what Gemini will be. How important do you think AI will be in terms of, not just climate change but the work that you're doing in health and vaccines and so on?

BILL GATES: AI is the most profound change of this era. You could say it's even greater than digitization. And digitization is a huge thing. I mean the way buyers find sellers, the way you organize your memories, the way you communicate, digitization, starting with the PC and then with tablets and phones and connecting those all together, it's hard to overstate what a profound change that was.

Now, AI sits on top of all of that. And so, you know, the dream is that, say in Africa somebody who today would never get the advice of a doctor, on their cell phone they say that AI software will be taking their symptoms and challenges and providing them the same quality of medical advice that only in a rich country could somebody have available. In fact, this is on demand with up to date data about all the health status. So actually if you do it well, it's even better. So a personal tutor, you know, using AI for scientific modeling. It's very exciting.

The advice I give to Microsoft is all related to AI. The work of the foundation, and the

work in climate as well. This is a fantastic accelerant of that. And we've even been asking innovators in Africa, okay, what are their dreams, and trying to make sure they get the resources so the lag between when AI is helpful for key problems in the rich countries to one that's helpful in these countries, that lag is very, very small.

CHAIR EMERITA MARIE-JOSÉE KRAVIS: Are you concerned, though, when you think of AI...(Audio issue)...three dominant firms that are leading?

BILL GATES: Well, AI is going to have a lot of uses. And, you know, in any domain, whether it's like legal or architecture or drugs, you will have, in each one of those verticals, dozens of companies competing. The actual base platform within the capital intensity that it currently requires, I mean Microsoft is going to spend \$50 billion building AI infrastructure, you wouldn't want too many companies to borrow \$50 billion to do this. And I can assure you that the level of competition in the tech industry is heightened by AI because the so-called agent that will be built in takes activities that you think of as separate today, like doing a search or running your productivity software or doing something on your I-Phone, or going and buying something, they really become one software category. And so, you know, the competition to build that agent, it's to a level of competition, where all we can say for sure is the user is going to get something that was written down as a dream by me and others over 30 years ago.

CHAIR EMERITA MARIE-JOSÉE KRAVIS: So how do you, for example, we're talking about AI and the applications and so on, how do you decide, in terms of the allocation of your resources, your time, your efforts at the foundation, and also in your ventures?

BILL GATES: Well, yes, so in the 1990s, as Microsoft was succeeding, I was studying the various foundations. You know, Rockefeller, Carnegie, Ford, many of them, and trying to think, okay, given this money that I, or even my family would need, was a small percentage of what my ownership in Microsoft would end up being worth, how should it go back to society? And, you know, I was kind of stunned. You think of capitalism as like, okay, there's some big need, we all go and apply resources to it. And it's, you know, semi-sane the way they allocate resources. But, in fact, there are things that that market approach doesn't work for.

For example, at that time, when I was learning, like what do children die of, and who is working on that, you know, over a million children were dying of diarrhea a year, over a million children were dying of malaria a year. And, you know, it's kind of mind-blowing. So you say, okay, who is working that that? Well, because the people who have malaria have no money, there's no opportunity for a capitalism-driven firm to make that a priority.

For diarrhea, in a way it was even worse, which was there was this great vaccine that

got rid of the primary cause of diarrhea, it's a thing called rotavirus. So the kids in the rich countries who had zero chance of dying of this diarrhea, because of good medical care, were getting a vaccine so that you didn't have these bouts of sickness. Whereas, a million children were dying in poor countries who this vaccine could have saved. Now, the vaccine at the time was very expensive, but it was very clear that if you really cared about it, you could get it to be \$1.

Anyway, so when you find something dramatic like that, I mean in a way it was kind of sad to realize, wow, the world's allocation of resources isn't quite sane. And yet, you know, it's an opportunity for the foundation to be, you know, to hire incredible people and build partnerships. And so that was a full-time activity, you know, I started the foundation in 2000. In 2008, I switched from being full-time at Microsoft to being full-time at the foundation. So I'm 15 years into it and it's been fun, successful.

CHAIR EMERITA MARIE-JOSÉE KRAVIS: And you allocate, what, about 80% of the foundation's funds to global needs?

BILL GATES: That's right. So we picked two causes – U.S. education and global health. And global health, the key metric is avoiding deaths, children's deaths, which as was said, you know, has gone down from over 10 million to under 5 million during the time of the foundation. Now, we have many partners helping us to do that. And now we're

working to cut it in half again. And so that's gone very well.

The education piece, you know, we funded charters. We funded new curriculum. But, in fact, strangely, even though we thought, okay, well, that's in a rich country and things are very stable, and we'll just try, compare things in terms of how you train teachers and curriculum, that actually, if you take the macro statistics, are kids, even pre-pandemic, are they better at math today than they were, say 20 years ago, or even 30 years ago? The answer is no. So nobody who is in that field can say, hey, look at what I did. I mean maybe you funded a few charters that are doing well, and that's really nice. You should go and see that.

But at the full scale, which, you know, most people at public schools, non-charter public, it hasn't improved at all. We still believe, and now AI is a huge part of this, and not just teaching the subject, but also engaging you in motivational things. Which if you had a one-on-one tutor, a lot of what they do is not just your misconceptions but also, okay, if you need sports problems, construction problems, you know, medical problems, why is what seems sort of ridiculously abstract and maybe there's other people better than me, why should you keep pushing on and care about math. And, you know, we have 60% of ninth graders who say they don't like math and they're not good at math, and it's kind of a self-fulfilling prophecy. So, anyway, we are still very committed to that area, but we have not had dramatic success like we've had in our work in health.

CHAIR EMERITA MARIE-JOSÉE KRAVIS: And do you have a view as to why you haven't been able to move the needle?

BILL GATES: In our health stuff, you know, basically when we wrote our first \$30 million check for malaria research, we became the biggest malaria researcher. I mean a little bit it was because we could take innovations that are done for rich-world health, and we could apply them to where the most deaths are. And we were able to get people from pharmaceutical companies who wanted to come and focus on these problems. And because, you know, I was able to hire some very good people, they hired very good people, so we have a huge, 30 malaria people, TB people, HIV people. And we really understand making this stuff low-cost. So it's been incredible.

You know, now gene therapy in the U.S. costs a million a case, which that's completely unaffordable, at least for many countries. Even in the U.S. it's a problem. So now we're going to get that to be like \$1,000 and cure sickle cell, cure HIV. And it's fun when you set these very ambitious goals to see what sort of thinking that attracts. So, you know, I still believe, particularly with the work we're doing, we're very focused now on math because that's a real predictor of whether you drop out of high school. Your attitude in middle school and ninth grade towards math, if you can help with that.

And, you know, we have hundreds of schools where we've trained the teachers in a

different way and used different curriculum where at least as long as the schools are willing to implement those programs, we have significant improvement. But the ability to maintain a reform like that in the face of the school board or the union or just it's more work, you know, it's been tough. So the adoption at scale, which is a challenge for climate or education, we solved that in health far better than we have in education.

CHAIR EMERITA MARIE-JOSÉE KRAVIS: Speaking of health, you were also prescient with regard to the pandemic. And as prescient as you were, you didn't have very many people listening or paying attention at that time, and you must have been disappointed also with the reaction of most of the developed countries.

BILL GATES: Yes, so the pandemic was inevitable but things that only happen every 30 years or so, humans aren't that good at staying alert. So like, I'm in the Office of Pandemics and I've been coming into work and I'm ready. But, you know, there's some other department of like listeria outbreaks, which are kind of minor things and they're working hard, and so maintaining that capacity.

Now many human problems, like earthquakes, there's lots of small ones that are reminding you that there will be a big one. In pandemics, there basically aren't. I mean actually the definition of the word is that it goes global. And in the U.S., this respiratory transmission mode, which is the great threat because you're often transmitting before

you're symptomatic. You're, of course, still ambulant, so a bus, a plane, a classroom, you're transmitting. And we had two modest-sized pandemics, flu pandemics in the last century. And then, of course, the Spanish flu was a gigantic pandemic. But people don't remember it. I mean you have to read history books by and large. And that was going to happen again, and it did.

And now we're engaged to see if it happens once, do people take it seriously for the next time. And that, you'd normally think we would get serious. We're not because we've kind of politicized the whole thing. We don't even want to talk about it. There are some technological things, like making lots of diagnostics quickly. Doing what's called sewage or environmental surveillance to have an early warning signal. There are a few things, I was talking today with the President's Science Advisor about how do we get more activity in these areas. So we'll see.

There's both naturally-caused pandemics, which the risk is about 1 to 2% a year. And then there's intentionally-caused pandemics, bioterrorism, and non-state actors are being enabled with new tools to do that. So you have to add that on and it's a little bit harder to estimate the risk of that. But it should make us a lot more serious than we happen to be right now.

CHAIR EMERITA MARIE-JOSÉE KRAVIS: You mentioned politicization. Whether you

look at climate, with climate deniers and scientific evidence, whether you look at vaccines and pandemics or health issues or even education, you mentioned things that work but that aren't widely adopted. Our society has become increasingly politicized, divided. Is that something that concerns you deeply?

BILL GATES: Well, it's certainly concerning. If I had the magic solution for that, I would definitely prioritize it. During the pandemic, it was troubling that people's fact base is different, were different. I mean people said that vaccines were being made to track people and that I was somehow doing that. And so, you know, why would they think I want to track people? And what am I going to do with that information? So sometimes you just have to laugh at those things. Or that somehow I make money off of vaccines and they're a bad thing. In a way, you just have to keep pursuing these things because when the next pandemic comes, you want to be able to make the diagnostics and the vaccines. And so even though it's a little bit lonely, there's no reason to not keep working on it.

CHAIR EMERITA MARIE-JOSÉE KRAVIS: But with AI, aren't the risks of misinformation, disinformation going to grow?

BILL GATES: It's hard to say. You know I actually have been thinking a lot about how we use AI to reduce misinformation. And AI makes these mistakes now, so that's a

different thing. And we're actually making quite a bit of progress on getting the AI to be more reliable.

CHAIR EMERITA MARIE-JOSÉE KRAVIS: That's what makes it complicated for health also.

BILL GATES: It is, although, you know, if you have the human make the final decision, like it advises the doctor, hey, maybe you should have asked this question. It summarizes the session. It helps write the prescription. It helps write the letter to the insurance company. As long as the doctor is kind of the final point of review, if you can make a doctor 30%, 40% more productive, like we have with developers who write code. And I see that across basically every profession, people who do support calls, sales calls.

You know, this is a gigantic productivity increase that should suffuse broadly in the economy over the next five years. And that's a faster productivity increase than we've ever had, even during the 1880s electrification, which those were the good old days because productivity went up a lot. This is actually more rapid than that. So as long as humans are reviewing these things. But we have new techniques in the basic design that will deal with those inaccuracies.

CHAIR EMERITA MARIE-JOSÉE KRAVIS: I interrupted you. You were talking about disinformation or misinformation.

BILL GATES: It's a concern. You know, when we got the internet, we said, wow, this is going to be, we're going to make the world so factual because, you know, when you read an article and it refers to a lawsuit, then you can go and look at what the plaintiff said and what the defendant said. You can look at the testimony. You know, there's some scientific question, you can go read the articles and see everything about them.

And so I will admit the people who drove the digital revolution, including myself, really thought that the world would get more rational. The fact that people with crazy ideas, there were a lot of them out there, they were just not finding each other. And now the digital tool said, oh, you think that crazy thing? Me too. Let's get together and have a critical mass of crazy people. Let's call ourselves Q-Anon. And, you know, wow, we enabled that as opposed to like Socratic debate. And so there are problems that the younger generation hopefully will be surprisingly creative at helping reduce.

CHAIR EMERITA MARIE-JOSÉE KRAVIS: And are you a proponent of regulation?

BILL GATES: Well, regulation, yes, I mean when it comes to something like AI or misinformation, you know, saying you're not for regulation would make you sound

stupid. But when it comes to the particulars, I mean I was in, you know, Senator Schumer organized a briefing session, I think 21 people, including Satya and Sam and Elon, and you name it. And some other people, I wasn't sure why they were there.

And so the idea that politicians are at least interested and starting to use it in a hands-on way, that's a constructive thing. How much they're really going to revector it or choose to slow it down, there's a lot still up in the air there. I mean, you know, you could look back on social networking and say what, even today, what is the regulation that takes, preserves what's good about digital openness and at least reduces some of what those negatives are. And I still consider that a largely unsolved problem.

CHAIR EMERITA MARIE-JOSÉE KRAVIS: And a single country can't solve it. There has to be a global solution.

BILL GATES: Well, for AI, you know, for social networking you could just impose that domestically. I mean, you know, China runs a very different regime in terms of what citizens get to see on their social networks and there's a lot of money that goes into that. They're kind of unique in that respect. But, yes, in terms of AI, if you want to, say slow it down, or not let it go into certain areas, the climate, the global cooperation problem needs to be considered in any proposed solution.

CHAIR EMERITA MARIE-JOSÉE KRAVIS: And are you optimistic about that?

BILL GATES: I'm more optimistic about AI because of the near-term benefits. And a lot of the, you know, we don't want people with ill-intent to get ahead with AI. Because things like cybercrime and designing bioterror attack viruses, you'd like to have the good guy defense, the stay ahead of the bad guy offense. And that, to me, for the next several decades, the primary thing is AI as connected to bioterrorism, cyber-attacks, and weapons, physically destructive weapons, and making sure that the good guys stay ahead on those things.

And, you know, eventually as AI is making the world richer, there are some deep philosophical questions about, okay, as this world of shortage which all of us have, where there's never enough doctors, teachers, blue collar, white collar workers, as you're relieving some of those shortages, your options as a society are almost so amazing that it's like we have a hard time contemplating, okay, what then? Because we've been so focused on enough food, disease, stability, and now we actually can get away from some of those constraints, which deals with things like an aging society and it creates a lot of leisure time.

CHAIR EMERITA MARIE-JOSÉE KRAVIS: What are you most excited about looking forward?

BILL GATES: Well, I get excited about really specific things. I mean, so we work on maternal deaths. And so a mother giving birth dies every two minutes. And there's three things. They either bleed to death, they get infection, or they have these blood pressure-related problems. And we think we can reduce all three of those very dramatically.

So we did a trial. We came up with these two drugs that, if a woman is bleeding, you give at the right time, then it has an incredible effect of saving her life. And we did a trial and, you know, it was a two-year trial where some people are getting the real thing and some are getting the placebo. This is one of those where after six months, they made us stop, not because it was futile or caused negative effects. It was so powerful, in fact, that the best sites where they set a very low threshold of the amount of bleeding before they intervened, it was an 80% reduction.

And this is \$2 worth of drugs and a little plastic drape that you put under the women that actually collects, and so you actually see how much bleeding there is, because doctors actually or anyone, attendants, are not very good at knowing that so they often fail to recognize. Anyway, stuff like that, I just get a kick out of it. And, you know, the world can afford \$2, those drugs. We're going to make them sublingual so you don't even have to give a shot. There's things like that in nutrition. There's things like that in HIV. We have magic ways of killing mosquitos. Anyway, innovation, both in my health work and in my climate work, is going even faster than I expected.

CHAIR EMERITA MARIE-JOSÉE KRAVIS: In your climate work, and I was looking at some of your investments, you've invested in fusion, for example. And I don't know, I have this notion, maybe it's my age, but that fusion, they always used to say, it has a great future and always will. And it seems to me that I've heard about fusion being on the cusp of, for so many years, what's your view on fusion?

BILL GATES: When I was young, I was super excited about fusion. And now, there's like 16 companies, mostly privately funded, surprisingly modest government engagement in this. Fusion is still, you know, fusion is where you split, like uranium and plutonium. I have a company in that space that I've put billions into called TerraPower, that's building a fourth-generation reactor in Kemmerer, Wyoming. So hopefully that, we'll build a lot of those and that will help with climate change.

In the fusion space, Breakthrough has invested in four of the 16 companies – I think we're about to get involved in a fifth – which all use very different approaches. So, you know, Commonwealth Fusion systems, that's MIT's sort of spinoff, it's building a really cool tokamak outside of Boston. They're probably ahead of schedule where late in the next decade they could be making, if everything goes well, cheap electricity with fusion. And it's a serious plan. There are some things that could surprise them on the negative side. But it's an incredible plan, and when you have 16 companies that are all pursuing somewhat different mechanisms, the failure, even of one, would not necessarily mean

the failure of the others.

So with fusion, you know, I have no doubt that in, I'll say, 30 years, a lot of our electricity can be made economically with fusion. Now that's not soon enough to help us with climate change. Well, I mean, not with the near-term climate change. So we need other non-weather dependent sources because if you try to do it with all weather-dependent sources, the scale of the implementation problem is unachievable in almost every country. And so we need these other fission and fusion things to work out.

But even AI, it's interesting here where we're modeling plasmas, which are these hot things that are the key to most of the fusion work – there's two approaches that don't use plasmas – but anyway, it's incredible stuff.

CHAIR EMERITA MARIE-JOSÉE KRAVIS: Speaking of incredible stuff, you put out a reading list every holiday season. And you just came out with your most recent one, I think it was last week or ten days ago. You read, what, 50 books a year?

BILL GATES: That's only one book a week. My son reads three times as many, so I'm kind of a piker.

CHAIR EMERITA MARIE-JOSÉE KRAVIS: Wow! But you don't only read books, you're

obviously reading a lot of other materials. But is there one that you're most excited about?

BILL GATES: You know, I have a thing called Gates Notes where I talk a lot about online courses that are great or various books or things like that.

CHAIR EMERITA MARIE-JOSÉE KRAVIS: You had an economics course in fact.

BILL GATES: Yes. Timothy Taylor. And there's a lot of amazing, you know, there was a company called The Great Courses, where you used to get the DVDs. Now, of course, it's all online. The world's best professors are incredible. I mean if you are a student, this is the best time ever because you can just go up there, whether it's, you know, the Bible, the Quran, fusion, it's all there.

And there's a book coming out in, I guess, by the end of the year, called *Not the End of the World*, by Hannah Ritchie, which some people will disagree with parts of the book, which is fine. But it gives you a more positive view of the progress we're making, not just on climate but with a variety of environmental challenges that we face. And so it should hopefully cause some real debate about, okay, which of these things is she right about? And therefore, what does that mean about the other ones? So I highly recommend it.

CHAIR EMERITA MARIE-JOSÉE KRAVIS: There's a book that you had on your list last year called *Irresistible*. And it was all about addiction, in fact, to technology, and the fact that so many leaders in the tech industry didn't allow their children access to those technologies. Don't get high on your own supply. Is that your feeling about technology generally?

BILL GATES: Well, everything has to be in moderation. I mean, you know, you give a kid a pinball machine, maybe they use it. You give them a video game, maybe they use it too much. I mean, and so you have to look at your children and say, you know, are they likely to overuse something and do you need to set limits on it? Even books, you know, if your kid only reads books and never goes outdoors – at least my parents thought I should go outdoors. So it varies by child.

I will say some of these AI agents are going to be particularly compelling. I mean you think video games are compelling. Wait until you just sit in a dialogue with these AI agents. I mean this makes video games look like nothing. So, you know, parents, employers will have to allocate our time in a controlled way.

CHAIR EMERITA MARIE-JOSÉE KRAVIS: Speaking of time allocation, how do you allocate your time? Do you allocate time for just thinking or for yourself?

BILL GATES: Well, when I was CEO of Microsoft, I had to set aside a couple of times a year for think weeks, where I'd get to go off and people would write proposals of things we weren't doing and we should be doing. Now, you know, I do set aside time to just read. I travel about a third of the time and that's usually meetings, like at this Climate Conference that I was just at. But, yes, if you want to be a student you do need to set aside time. And then, you know, I have lots of people who understand subject areas extremely well. So when I get confused, I'm very lucky, I can just send mail to somebody who knows physics or climate or cancer or Alzheimer's. And if they don't know, they do know someone who knows. So I get a lot of tutoring even without an AI to help me.

CHAIR EMERITA MARIE-JOSÉE KRAVIS: Any regrets? Things you wish you had done.

BILL GATES: Well, you make a lot of mistakes. I mean Microsoft made a lot of mistakes. I evolved as a manager and a father and things like that. There's no mistake where I'd say, oh, I'd love to live my life over and see if it would come out better. I mean I feel very lucky, and so I wouldn't want to risk. Things that at the time, you know, like Microsoft went through an antitrust lawsuit, which at the time seemed pretty difficult. You know, actually that's what got me thinking about going full-time for the philanthropy. So, even the comeuppances, at least so far, seemed to work out in the end.

CHAIR EMERITA MARIE-JOSÉE KRAVIS: Well, you mentioned the antitrust, that was

also a huge distraction. You might have done something else had you, and Microsoft might have gotten into Android or other technologies? No?

BILL GATES: Well, Microsoft, you know, Microsoft, not doing the operating system for the phone, that was one of the mistakes that, you know, I messed up on that one.

CHAIR EMERITA MARIE-JOSÉE KRAVIS: Well, we're not going to end up on a messed-up note. You've changed the world. You've changed lives. And thank you so much for ____.

BILL GATES: Thank you.

CHAIR JOHN C. WILLIAMS: Thank you, Bill, well, I messed up on that one, for being here tonight to receive the award and engage in this terrific, really terrific conversation with Marie-Josée. We extend our best wishes to you for continued success in all of these endeavors you described. And Marie-Josée, thank you for your insightful interview and for being with us this evening.

And thank you to all the ECNY members and esteemed guests joining them tonight and online for our closing dinner, making another successful and impactful year at The Economic Club of New York. Your presence is greatly appreciated. Next, I'd like to

recognize those of our 371 members of the Centennial Society who helped make tonight happen and whose contributions continue to provide the financial backbone of support for the Club.

We've had a lot of events these past few years for those members of the Club. And we've got one more for the 2023 season. That's on Monday, December, 11th. We have a luncheon event with Club Member, Brad Jacobs, the Chair of XPO Logistics, followed by the Club's Centennial and Member Holiday Receptions that same evening. So if we don't see you next week, we hope everyone has a wonderful and joyous holiday season, and a happy and healthy New Year. And for those of you in the room, please enjoy your dinner. We look forward to seeing you next year. We've got a lot of great programs planned for next year. So again, we look forward to seeing you there.