Toby Dalton: Now for today's program during the lunch. I think it's more important than ever, as the panels this morning made clear, that we think through some of our fundamental assumptions about how nuclear deterrence works, how it may not work, how risk-taking is a part of that, and to really think through some of the anecdotes that we rely on to explain today's world, and what better time to do that than here at the conference.

We're exceptionally thankful to the MacArthur Foundation for sponsoring this lunch, and to help launch this new research network on rethinking nuclear deterrence that they've begun.

To introduce today's discussion, I'm pleased to invite our friend and colleague, Matthew Bunn, to the stage. Matthew is the James R Schlesinger Professor of Practice at the Harvard Kennedy School. I think he’s widely known for his tireless efforts over the last many years to help identify and analyze nuclear risks, and to prescribe all kinds of nuclear security measures that have been quite effective.

Matt, over to you.

Matthew Bunn: All right.

Toby: Thank you.

Bunn: Thank you very much, Toby. Welcome, everyone, and thank you for being here for this lunch marking the creation of the research network on rethinking nuclear deterrence.
Before I talk to you about that network, though, I did want to say a few words about the passing of Ash Carter earlier this week, my colleague and friend from Harvard University, and a true giant in our field.

Ash died of cardiac arrest just a couple of days ago. We mourn his loss, and our hearts go out to his family and friends.

As you know, Ash served as Secretary of Defense, and in multiple previous positions at the Pentagon, as well as in his academic roles, including as Director of the Belfer Center where I and my program operate. He lived a life dedicated to public service, and in particular, to reducing nuclear dangers, the topic that so consumes us here.

Ash helped conceive of the radical idea that the two former nuclear superpowers should work together to dismantle and secure the nuclear, chemical and biological legacies of the former Soviet Union, what became the Nunn–Lugar program. He helped draft the legislation. Then when he went to the Pentagon, helped implement that effort. As a result, we ended up with one nuclear power from the collapse of the Soviet Union, not many. We had hundreds of missiles, bombers, submarines dismantled, thousands of nuclear weapons removed from those launch vehicles, new security measures put in place for nuclear chemical biological stockpiles and more.

Ash was also a deep thinker on nuclear deterrence, the subject of our research network. As assistant Secretary of Defense, he oversaw the Clinton era nuclear imposter review, several reviews before the one that came out today. He continued to focus on nuclear weapons and deterrence for the rest of his life.

Let me turn now to this new research network.

A great deal of work, of course, has already been done on the subject of nuclear deterrence, and the issues it poses. Many of you in this room are doing terrific ongoing work on that topic. Why a new network on these themes? I would say there are four key reasons to rethink nuclear deterrence. Two of them, long-standing, and two of them, evolving.

First, nuclear deterrence has always had some risk of leading to unimaginable catastrophe, a risk highlighted by this month's 60th anniversary of the Cuban Missile Crisis. It's always worth thinking and working to try to reduce that risk.

Second, the terrifying human consequences that could be caused if nuclear weapons were ever used, and the terrifying consequences that were caused when they were used in 1945, raise deep moral and ethical issues that need to be grappled with. Those things have been true throughout the nuclear age, and they've long driven calls for disarmament.

Today, we need a broader debate with more diverse voices included, along with different ways of thinking, including more voices from the global South, and ideas from fields ranging from decision science to complex system dynamics.

Then there are the two evolving reasons. One is, changing geopolitics. Russia's war on Ukraine, as we've all been discussing, a war of aggression, led by a veto-wielding
member of the security council charged with protecting International Peace and security, a conventional war under a nuclear shield, is transforming international politics in profound ways we're only beginning to understand.

Goodness. I think the microphone just changed in some important way. Perhaps I should back away from it a little bit. [laughs]

[applause]

I hope you were able to hear the previous part, I don’t know.

[laughter]

Russia's repeated nuclear threats, followed by absurd denials of having made any nuclear threats, have raised nuclear risks to levels that we haven't seen in decades, probably since the Cuban Missile Crisis.

It's not just that situation. We have intense US-Russian hostility, intense US-Chinese hostility, intense US-NorthKorean hostility, intense India-Pakistan hostility, all of which raise the chance of crises, raise the chance that crises will escalate to conflict, raise the chance that conflict would escalate to nuclear years. At the same time, getting agreement on any risk reduction measures much more difficult. At the same time, still in the geopolitical space, we're moving toward a more multi-polar nuclear world which will complicate nuclear balances. That's another reason for rethinking.

The final one is changing technology from cyber, to counter space, to missile defense, to artificial intelligence, to long-range precision conventional strike systems. There's a wide range of technologies that are affecting nuclear balances, either for good or for ill. There's certainly a need to rethink the principles and approaches, and to explore whether there are plausible ways to get out of our nuclear dilemmas. To do that, with the generous support of the MacArthur Foundation, our managing Atom group at Harvard began working with policy and academic institutions around the world to establish a network that could bring together several strands of deterrence work into a common dialogue.

We have established four working groups, which you'll hear about in a moment. One is focused on understanding the pathways by which nuclear war might occur, and mitigating their risks. For example, one effort that we're working on, I like to call data for deterrence, which is looking at past incidents, we have very little data for understanding nuclear deterrence, but we can look at the near misses that happen, the factors that made them more dangerous or less dangerous, and how those factors are changing over time or could be changed by policy. We can look at synthetic data from War Games to look at what factors cause people to reach for or not to reach for the nuclear button.

One group focuses on evolving technology and the future of Arms Control. One group focuses on the legal and ethical aspects of nuclear deterrence. One focuses on beyond nuclear deterrence, how might we get out of the situation we're in. To my mind, they're working on the answer to a question Frederick Clay posed many years ago, can nuclear deterrence have a happy ending?
In addition, our network will include efforts to engage with policymakers in multiple capitals, and support for some particular projects that are outside the domain of any of the particular working groups.

To give you a better understanding of all that, let me turn it over to my colleague, Francesca Giovannini, who will lead a discussion with leaders of each of the four working groups, and will introduce them. Thank you very much.

I apologize for the fact that apparently the microphone only started working halfway through what I would say. Take care. [applause]

Francesca Giovannini: Thank you. Thank you so much, and thank you indulging us while you are having your dessert. We'll try to be brief, but also to the point.

I want to start by acknowledging that the idea of this research network, or rethinking nuclear deterrence came from many women. In fact, it is a women-led initiative that came about, thanks to the effort of Emma Belcher, Angela Schlater, Heather Williams, John [unintelligible 00:10:38], and also greatly benefited from other women who thought the same about the complexity of the historical moment we are living in. I'm thinking particularly about Erica Gregory and Cheryl Winner.

All these women came with the realization that fundamentally we need to rethink a little bit nuclear deterrence, not only to challenge that, but to understand nuclear deterrence as a complex, multidimensional system, a system of politics, of culture, of norms, of economics, and also to realize that this very nuclear deterrent system is also under challenge by many other forces, environmental justice, racial justice, international development. We can no longer think about nuclear deterrence in isolation from these great systemic forces that are fundamentally shaping nuclear policy as we know it.

These women came also to recognize the need to engage a new community of global young scholars, people who might have an interest in environmental justice, but might also want to think a little bit about the role of nuclear weapons, or people that come from critical theorists and might want to engage with the question of nuclear deterrents.

The scope of this research network was fundamentally two-fold, to bring into the fold in a continuum, in a sustained manner by providing a platform, generations, disciplines, perspectives, world views that could somehow engage on a systemic level on all these big issues. Our hope is that we will create a body of scholarship that meets not only the current moment, but maybe 20 or 30 years down the line.

The second main goal was really to revive nuclear studies within universities. There has been a recognition that international security has driven probably in university, but nuclear studies is dwindling. There is a great need to bring universities back to the table and doing some serious work, what we used to do. This research network has multiple purposes and has many mothers. I want to thank them all for taking the initiative with me in leading this.

Now, represented here are some of the co-chairs of these four working groups that will lead to the academic work of the research network. I also want to mention that
together with the four working groups, we also have an advisory body. We have an academic council, we have a policy track section. We have multidimensional of these activities that will actually take shape and form.

I also want to say, if you want to read more about the research network, we have a homepage right now on the Belfer Center. Please email me and I'll be very happy to reach out and have a discussion about what we intend to do.

What we want to do today is to showcase some of the ideas, the defining questions that these working groups will work on. I want to underline the point that the network is unique because we will try to bring into conversation all these working groups and these domains in a way that we have not done before.

I want to start with Manpreet Sethi. We are very lucky to have Manpreet co-chairing with Matt Bunn, the first working group, which is understanding and mitigating the pathways to nuclear war. Manpreet is part of the India Council of Social Science Research.

Manpreet, I want to ask you, there have been many studies done on pathways or to nuclear war. How is the working group going to be slightly different or capitalizing on the scholarship that already exists?

**Manpreet Sethi:** Well, we've been trying to grapple with that question too. Let me first start by wishing everyone good afternoon, and such a pleasure to be here to be able to meet in person once again.

Now, we started this year with the P5 statement which re-articulated the formulation of Reagan and Gorbachev. We seem to be ending the year with a sense of gloom and doom, as we've been hearing in the first two sessions.

Now, exactly 60 years from the Cuban Missile Crisis, the real-life drama that is unfolding before us is bringing to the fold the risks that come with the presence of nuclear weapons, and the fact that wars have not been banished from this world. This working group then is focused on identifying pathways that can lead us to nuclear war, and trying to then plug the gaps in order to ensure that deterrence does not break down.

Now, it's very humbling when we started work on this, there's so much work that's already been done. For us to be able to find that space where we might be able to add something new to the literature that already exists, or to some of the new thinking about what these pathways are, that's essentially been the focus of this working group.

Just to start with the example of Russia-Ukraine, what are the particular factors that could get us into a conflict situation where nuclear weapons could get used? What could be some of the actions that might lessen the chances of nuclear use happening? I mentioned Russia-Ukraine only because it's the immediate context, but the actual, when you look at several theaters around the world, there is so much of an adversarial nuclear relationship in a dyadic, a triadic, and what I call the strategic chain format, because what happens in one particular dyad has an impact down the chain in several of the regions.
The point that this working group is going to be working on is examining factors such as nuclear doctrines, behavior actions, force postures, leadership styles, psychology of leaders, public opinion. That could make a difference in terms of pushing or pulling us back from the nuclear brink.

How do we plan to do this? We want to create data sets, as Matt already said, based on several past incidents that have happened. What are the factors that worked in those cases that could have led to escalation, but which allowed the crisis to fall back from the use of nuclear weapons? Whether it was, for instance, the Cuban Missile Crisis, about which we know enough, but the Ussuri River Conflict between Russia and China, the Kargil Conflict between India and Pakistan, the India-China standoff that has been on for such a long period of time. Find data sets from there based on a certain set of questions.

What factors could have caused escalation, which help to reduce the tensions? Are there commonalities in these factors across regions that one can think of? How would new developments, like the social media explosion, or the new technologies that are intersecting with nuclear deterrents in ways that we don't even understand yet, how are they going to be factors in causing pathways to open up for use of nuclear weapons?

The idea is to identify these factors across regions, across the adversarial dyadic relationships in order to find what works, and then to be able to find certain ways of mitigating the risks that exist that could lead us to a deterrence breakdown.

**Giovannini:** Thank you very much. I want to also show that each of the working group builds on each other. I'm going to present them in a continuum as how we have created it to show the kind of narrative that is moving somehow on inspiring some of the scholarships.

The second working group created has to do with ethics law and nuclear deterrence. I can't think of somebody better than Scott Sagan leading this group, together with a fantastic philosopher, Janina Dill, at Oxford University.

**Scott Sagan:** Well, thank you. The last time there were was a major effort to rethink law and ethics and deterrence was in the late '80s, early '90s. There was a special issue of ethics, the leading journal in philosophy, where philosophers and political scientists debated, for example, whether it could be ethical to threaten to do something immoral for the sake of preventing another act that was immoral.

In the 1990s, we had the famous ICJ, the International Court of Justice ruling that ruled that most uses of nuclear weapons would be illegal. Then surprisingly, and I think very disappointingly, said that under supreme emergency, almost any use of nuclear weapons would be okay. Very surprising for the Court of Justice to rule that by one vote in favor of that advisory opinion.

Think about what's changed since then. Nuclear weapons were very large, and some of them were indiscriminate in their targeting capability during the Cold War. The laws of armed conflict, the United States refused to ratify the additional protocol of the Geneva Convention. When we signed it, we issued a reservation saying that this
does not deal with nuclear weapons. We were facing a standoff with a large state that had mutually assured destruction capabilities against us.

Today, all three of those conditions don't hold. We have low yield weapons on strategic systems that are much more accurate, much more lower in yield. We have the United States declaring that all nuclear operations planning and use options will be held to the highest principles of the laws of armed conflict. The Soviet Union and the Chinese always said that, the United States didn't until very recently. I think that it's likely the United States takes that seriously. Although I disagree with some of the implementation, I'm not convinced at all that the Chinese government or the Russian government pays attention to the Geneva conventions that they signed without any reservation.

Think about the differences between the nuclear world we face today, where we have the DPRK, which doesn't have an assured destruction capability against the United States. Iran, which may break out, but doesn't have an assured destruction capability. China, which will soon if it does not already, and Russia, which clearly does.

Could the use of nuclear weapons be legal today? Could the use of nuclear weapons be ethical today? I have a clear, simple answer. It depends. What our group is trying to do is translate on what would that depend. Depend on targeting? Does it depend on escalational control? Does it depend on the mixture of collateral damage compared to the importance of a target, the principle of proportionality? Is it different when you're facing a large state versus a small state?

What we are doing at Oxford, just starting next weekend, is gathering together a group of leading philosophers, political scientists and legal scholars. One thing that we're trying to do with, Janina Dill and I are trying to do, is to make sure that we're inviting people who haven't worked on this subject, who have worked on important related subjects, and we hope to rope them in, or to inspire them to get more involved in these issues.

Because I worry very much that we often preach to the choir too much. We talk to each other, and that's important, That's an important thing for a network to do and for a community like this to do, but it's also important for us to renew the community, bring in new ideas. We're having this meeting next week, which we're calling an exploratory meeting, where people are not asked to present papers. They're asked to read the NPR, to read five of the leading articles that have been published over the last decade on these and related subjects. Then you just reflect on what are the gaps, how would your discipline or your analytical approach help us understand what further work needs to be done.

I have my own views on what it depends on, but our group is going to try to determine that, and we'll be conducting a great deal of research over the coming years trying to answer those questions.

**Giovannini:** Fantastic. Each working group has a different membership. Manpreet's working group has mostly a representation from nuclear weapons states. Scott, as talked about, has philosophers, legal specialists, political scientists. The third group is arms control in emerging technology, which has rather broad mandate, but it was
also an attempt for us to really engage very seriously with technology experts in a way that maybe we have not done consistently.

Ulrich, at the University of Hamburg, and Heather Williams, at CSIS, are now leading this working group with us, and they also have established a next-gen dialogue. Let me turn over to you, Ulrich.

**Ulrich Kühn:** Well, first of all, thank you so much, Francesca, and thanks a lot to MacArthur and to Harvard, Managing the Atom, for being part of that group. I think that our group on arms control and emerging technologies has very difficult task ahead. So far, what we did was we, Heather and I, we sat down and we basically tried to identify what are already discussions that are taking place in the arms control realm after February 24, the Russian invasion of Ukraine, and what are potential debates that we need to have in the field to make sure that arms control stays relevant in the years and decades ahead. We identified a few of those.

The first one that I would like to share here today is that, in our view, while the deterrence community has already fully embraced this multi-polar world with the US facing two pure competitors, I would say that the arms control community is not yet there intellectually, and particularly not when it comes to potential concepts. I think that we need to start talking and thinking about what arms control in a multi-polar world could or perhaps should look like.

The second point is that, also due to the war against Ukraine, arms control has somewhat taken a backseat that relates back to the old paradox from Colin Gray, that in these times where it's most relevant, basically you will not achieve relevant arms control. The point being here is that, it also comes with a narrative, and the narrative basically says that the age of arms control is over now. I think we need to prepare ourselves and push back against that narrative that arms control is particularly relevant right now.

That leads me to my third point. That is basically, what is the mistake that we should avoid? Arms control has often in the past, I would say 20, 25 years, portrayed as an instrument that reaps particular benefits in a cooperative environment, particularly when it's linked to a broader political concept like cooperative security in Europe, the whole idea of John Steinbruner and others at the time. I hear that very often. I'm myself from Germany. I hear for instance, from Germany officials that are saying we cannot do arms control with Russians because there is no trust there.

I think that's particularly the wrong approach because we need to look back at the origins of arms control, and we need to relearn some of the historical lessons here, and provide a security focused narrative for arms control, one that does not depend on an overarching cooperative security approach, but one that serves the national interest, that serves the interest of our partners and of our allies. That is actually a hard military security instrument that contributes hopefully to us all surviving, not just the next couple of weeks, but also for the years and decades ahead.

My fourth point is that, arms control scholars need to think hard about what benefits the multilateral non-proliferation and disarmament regime still holds for countries such as Ukraine, and particularly when it comes to the non-use of nuclear weapons against non-nuclear weapon states.
Clearly, as we just heard this morning, Russia has devalued all the negative security guarantees. Francesca has written a wonderful article in arms control today about the issue. Most doctrines of nuclear weapons states do not explicitly rule out nuclear use against even NPT compliance states. WMD free zones do not capture non-aligned states in Europe. What new safety measures are needed for countries like Ukraine? I think that's the point that we urgently need to think about in the arms control realm, and where we need to give answers soon.

My last point is that, particularly when we look at emerging technology, I would say that too much of the debate about emerging tech centers on strategic stability, but beyond that, some emerging technologies could also have profoundly negative impacts on human security as well. I think we need to start breaking off these scholarly silos that have formed over the last couple of years when thinking about emerging technologies. We need to start building bridges between nuclear and non-nuclear scholars on emerging technology. We need to be also honest in that regard that of course, there are certain emerging technologies that could have a stabilizing potential even in crisis situations such as AI for C4ISR.

The overall picture on emerging technology is much more mixed and is much more complex than often assumed, and this is exactly the realm where we want to get into with that group. As Francesca just said, one thing that so far sets us apart, but perhaps the other groups might want to mirror, is that we want to also bring young scholars on board. We want to bring those people on board that have creative ideas, new ideas. If you do have so, please approach us and we try to incorporate that. We hope that we at least have a little bit of an impact on the arms control community because the next couple of years will be even tougher than the last 10 or 15 years that we saw. Thank you.

**Giovannini:** Thank you so much, Ulrich.

All right. Last but not least, before we close the panel, I want to introduce you to one of the co-chairs of the fourth working group, which we called Beyond Nuclear Deterrence. Rebecca Gibbons, who is obviously a very familiar face in this nuclear community from the University of Southern Maine, she is co-chairing the working group, Stephen Herzog at ETH Zurich, and Hassan Elbahtimy at King's College. The conversation we had about establishing this group was obvious, but it was also quite frankly a challenging issue. We wanted to give finally this idea that, look, countries that have renounced nuclear weapons are not just naive countries that think everything is going to be fine. They did have very serious security discussions, they take their security very seriously. They are non-naive, but they've just chosen an alternative path.

The quick questions for us was, what are the credible alternative path, if at all, that we can actually borrow maybe from other countries? I turn it over to Rebecca, and I have to say, she went around the world to find these ideas. I turn it over to you and congratulate also with some of the work you guys have already done.

**Rebecca Gibbons:** Great. Thank you, Francesca, and thank you for having us here at Carnegie. It's great to be able to talk to so many people about this new initiative.
The group that I’m co-chairing with Stephen Herzog and Hassan Elbahtimy is broadly looking at different potential transformations that could occur either inside a state or at the systemic global level that would bring the world to a place where we’re not relying on nuclear weapons. That’s why it’s called Beyond Nuclear Deterrence. We’re hoping to create novel scholarship, but also new relationships.

I thought I’d start answering your question by just talking a little bit about the process by which we have created this group. We really wanted it to be a diverse group. We know that we don’t know everyone in the field, everyone in the world is working on these issues. We had a proposal, a competitive proposal process by which people could submit to us a research project that connected to this idea of moving beyond nuclear deterrence. We are still finalizing the group, we have received an incredible number of excellent proposals, but I think one of the most exciting aspects of this group is just how diverse it is.

The small group will include people from at least 18 different countries, almost half from the Global South. We have people looking at different methodological approaches, whether it’s quantitative, qualitative, ethnographies, survey work, wargames, we have all sorts of different proposals, and we also have people from very different theoretical perspectives, from a critical security perspective, all the way to a traditional security studies perspective.

Our goal is to bring all of those people together in the hopes of creating this new scholarship. We’re going to operate by bringing this group together. The Zoom meeting coordination is going to be a huge challenge for our group as I think we exist in almost every time zone, but we will be meeting monthly by Zoom to get to know each other and really create real relationships, scholarly connections over the course of two years, we also plan to bring in speakers. If you’d like to talk to this group, we would welcome you to reach out.

We received so many proposals and such interest in this particular topic of moving beyond nuclear deterrence that we’re looking for a way to incorporate a broader group of people into the work, and being able to invite people to some of the sessions when we’re presenting our work or where we’re inviting speakers.

We also plan to hold dialogue between those advocates of nuclear disarmament and those who are strongly in favor of maintaining nuclear deterrence for security because we want to have those discussions. They’re very difficult, but I think they are important.

I wanted to give you a sense of some of the questions that we put in our concept note that people responded to in our proposals. To get to Francesca’s question, we ask, how do nonnuclear weapon states provide for their security? What are the security-related normative and institutional pathways through which populations and states may come to reject nuclear deterrence? Why is the risk and vulnerability of a nuclear attack or accident preferable to the vulnerability of not possessing nuclear weapons? Then how might norms in other areas, most particularly related to environmentalism, intersect with norms about nuclear weapons possession and use?
Those were just some of the questions we threw out. Again, we received so many great proposals, and I hope to be able to come back and answer your questions about what kind of research we have.

**Giovannini:** Fantastic. I want to finish by saying I think this is what maybe Angie Schlatter, who was really fantastic, the driving force with me on establishing this, I think MacArthur thinks about this research network as a tool for the community. This is your tool, it's not Harvard tool, it's our tool together. At the peak of this research network, we will probably have around 70 to 80 scholars involved at one time to dealing with different dimensions of nuclear deterrence questions. We will meet quarterly.

We will also have a newsletter, and the point is not to feature our work, the point is to feature the work of the nuclear community on deterrence. Whatever angle, whatever dimension, whatever aspect that you are writing on, please do reach out to us. We really want to create a dialogue, an ongoing dialogue on these issues because they are really difficult, and definitely very complex. We hope you will join us.

We hope to use the good trust the Angie and the MacArthur Foundation has put in us, and I hope you guys will be involved soon in many different ways. Thank you so much for listening, and thank you so much for our co-chairs for their work.

[applause]

**Kühn:** Thank you.

[00:36:25] [END OF AUDIO]