SCOTT SAGAN: Scott Sagan from Stanford University’s Center for International Security and Cooperation, and this panel is entitled, “Are the Requirements for Extended Deterrence Changing?” One of my pet peeves at conferences is when people read the introductions of all the – or read the descriptions of all the speakers, which are in your book. So I’m not going to do that. I want to give them more time. Turn to pages 22 and 23 to get the formal descriptions.

Our speakers will be Lukasz Kulesa, the head of the research office at the Polish Institute for International Affairs, first. Ambassador Yukio Satoh, until recently the president of Japan’s Institute for International Affairs, and a long distinguished career in the Foreign Service will speak second, and George Perkovich, vice president for studies and director of the Nonproliferation Program, and the head of this conference. I think of this conference, and people have often said, that this is the Woodstock of the nonproliferation field and if that’s the case George is the Jimi Hendrix of the conference.

(Laughter.)

GEORGE PERKOVICH: I wish I was. That would be great.

SAGAN: My instructions to them were threefold. One is to the degree possible, try to avoid the phrase “nuclear umbrella” which both connotates a defensive mechanism rather than what extended deterrence might be but also doesn’t differentiate appropriately between the kind of extended deterrence which says a country will support its ally if it is attacked by nuclear weapons with a nuclear response and one that says we will respond with nuclear weapons regardless of how you are attacked. There are many forms of extended deterrence and we need to differentiate between them.

Second, I asked them to also differentiate between their own personal views and other views in their countries because very often, as was explained this morning, there are ranges of positions and it is valuable for us to understand the full ranges of positions, not just an individual one. And then I lastly asked everyone to be brief, to give time for discussion, questions, and comments. Each speaker has been given 15 minutes. At 12, I will warn them that their time is coming to a close and at 15, like Nikita Khrushchev, I will take off my shoe and pound it on the table. That should be a real deterrent. Lukasz?

LUKASZ KULESA: All right. Thank you very much, and having in mind the time limits I'll go straight to the point with just two brief statements at the beginning. First of all, I’m very grateful to be here and it’s both an honor and a pleasure to be at Carnegie and to address such an audience. Second important remark, I’m speaking here on my personal capacity and when there is a view of the government I clearly state that this is the view of the government. The rest is attributable to me.
But before going to deterrence, I have to say that it’s a great pleasure to tell you that a group of three elder statesmen from Poland joined the ranks of those who support the goal of nuclear zero. On Friday, in the biggest Polish newspapers, there was an article by our former presidents, Aleksander Kwasniewski and Lech Walesa, and the first prime minister of non-communist government in Poland, Mr. Tadeusz Mazowiecki, who wholeheartedly and completely supported the goal of the world free of nuclear weapons.

But coming to the extended deterrence, I think here it’s obvious that one-size-fits-all approach simply is not possible because of the different nature of the threats, different nature of the challenges in different regions of the world.

So the description of the panel putting together different region, different threats is kind of misleading. We should concentrate on what does it mean – what kind of – what are the condition for credible extended deterrence in a given region, and even within the given region for a given country or a sub – subregion. And here, I think that in Europe the value of the extended deterrence is not tested but such dramatic events like the launch of ballistic missile by North Korea.

But that being said, in Europe we also – that’s quite a polarization of opinion, some claiming that because of Russia and of Iran it’s high time to mobilize, to get ready again for every scenario including nuclear scenarios, while other are claiming quite passionately that Europe is in fact a postmodern entity which does no longer need to rely on nuclear weapons in conducting relations with others, especially if relying on nuclear weapons means having close contacts with those ugly and unpredictable Americans. And the Atlantic alliance would be a forum in which those two extreme positions and all of those in between would crash and there the differences would be played out because what is the issue is often being presented as the issue of the presence of the U.S. nuclear weapons in Europe—never officially admitted where and in what numbers but I think we all know that they are there. But before going into the question whether they should stay, under what conditions—from the perspective of the Central Europe—they could be withdrawn, it’s worth describing the conditions of the nuclear weapons they have right now, what is the purpose of the nuclear weapons for the alliance as it is now. And here, I would argue that since the beginning of the Cold War the function of the nuclear weapons has steadily evolved from an element in the warfighting scenarios into a kind of insurance function, and here insurance against the uncertainties of the future.

I think it’s also increasingly clear, at least for the Europeans, that every use of nuclear weapons would have a strategic effect regardless of the type of weapon used, its means of delivery, or the target. That, of course, makes every distinction between strategic and substrategic or tactical weapons increasingly irrelevant. But with all those changed conditions still I guess – and this is my personal opinion – that it would be still premature to move towards a non-nuclear NATO. Nuclear
weapons will remain valuable tools in any future contingency in which the alliance is confronted
with a nuclear-armed hostile enemy.

This, of course, includes the worst case scenario of an aggressive and assertive Russia, of
Iran armed with nuclear weapons, and also of a possible emergence of the next nuclear players,
especially in the Middle East. And in all these worst-case scenarios, the nuclear potential of the
alliance would not be meant for fighting the war but rather for establishing an even field for
conducting relations with such a country by removing the threat of attack, removing the threat of
strategic blackmail, and also removing the possibility that Europe, no longer protected by extended
deterrence, would become a second-best target for everyone who has issues with the United States.

To put it very bluntly, in the future NATO may still need to emphasize the element of terror
to keep the relations of its opponents in a very delicate balance. But if one subscribes to the notion
that the only function of the nuclear weapons is this insurance role in the alliance, then the
credibility of the extended deterrence depends not necessarily on the deployment of U.S. nuclear
weapons in Europe or on the modalities of transferring them to the allies in times of war but rather
on the convergence of interest within the alliance and on the willingness of the nuclear weapon
states to defend other members from aggression.

And here, of course, despite occasional differences between the two sides of the Atlantic and
within the alliance, I think we’ve reached this kind of – this level of interdependence and policy
cohesion that Europe does not longer needs hostages in the form of the U.S. nuclear bombs stored
somewhere in the bases on the continent. I think it’s hard to imagine a situation where Washington
and London and Paris would not react in the extreme cases of aggression against any member of the
alliance, even if conducted by a nuclear arms adversary.

Of course, any failure to do that would – as a minimum it would result in the collapse of the
whole concept of the West as a credible and cohesive force. Here the conventional wisdom holds
that the countries of Central Europe, and especially Poland, they would strongly object to any
changes in the NATO nuclear posture because of the fear of Moscow, because of their fear of
Russia. I would argue that this is an oversimplification.

Certainly, Poland as well as other Central European countries is interested in an alliance
which can credibly fulfill its defense and deterrence function. As a consequence, as long as NATO
is serious about remaining a military alliance and not a kind of global crisis management
organization, and as long as it counts three nuclear member states within its members, the nuclear
component should be integral part of the Article V package.

So the extended deterrence, especially the one provided by the United States to these
European allies, is a significant reason to treat the alliance as the most important guarantee of the
security of Poland. Does it mean that any changes in the NATO’s nuclear posture are taboo for Warsaw? I would say not necessarily, but such changes need to be conducted in such a way that would not weaken the transatlantic link, that would not weaken the image as a credible security provider both within the alliance and in the eyes of outside actors including Russia and including Iran.

From the perspective of Central Europe’s, the greatest danger of any move to change the parameter of the extended deterrence – for example, of making the decision to eliminate the U.S. nuclear weapons from Europe – would be to create the impression that NATO has somehow gone soft where its primary function of defending the territories of the member states is concerned. Therefore, such a move it is – if it is agreed within the alliance, would probably need to be somehow balanced by a set of decisions giving credible reassurances on the value of Article V.

This should be first and foremost the affirmation of the function of the strategic nuclear forces as the supreme guarantee of the security of the allies. Additionally, practical measures can be agreed and should be agreed upon to strengthen the conventional defense potential and cohesion of the allies.

This action could include the resumption of contingency planning for Article V scenarios, and it’s important to note that this was mentioned also by President Obama in his Prague speech. Of course, more frequent exercises of NATO forces scripted to rehearse the in-area defense scenarios, also strengthening of the potential of a given country or region during a crisis, and in such exercises also the recently created NATO response force should play a role.

Thirdly and finally, it’s about putting the physical infrastructure of the alliance within the member state admitting during the 10 years but more so – more – also a rather more elusive concept of the presence of the alliance in those member states. And by presence I mean visits, I mean statements, also maybe putting various NATO agencies in those member states. On a parallel track, some of the allies would most probably expect the United States to increase its presence on their territory, though not necessarily by building new bases or new installation.

I think the arrangements might be made between Poland and the United States on the non-permanent deployment of the Patriots anti-aircraft and anti-missile systems in Poland, which were made last year in the framework of the missile defense deal, this is an example of such an approach of seeking additional U.S. presence. Well, finally –

SAGAN: You got two more minutes.

KULESA: Two more minutes. Okay. Some brief remarks on Russia, and of course, here Poland is often perceived a kind of Cold War warrior willing to settle old scores with Moscow,
ending up unnecessarily provoking the proverbial Russian bear. But despite the fact that we might not like certain aspects of the internal or foreign policies of Russia, the nuclear issues are approached with a very sober sense of realism.

No one can be interested in introducing the element of a nuclear confrontation in the present relations between NATO and Russia, and here it’s worth to remind you that Poland is one of the countries which is excluded politically from fielding the nuclear weapons by the so-called “three no’s” pledge made in 1996 that NATO has no intention, no plan and no reason to deploy nuclear weapons on the territory of the new member states.

But I think for now and for the foreseeable future there is no need to deter Russia. Russia is not that kind of – not that kind of actor that in the present circumstances needs to be deterred. Of course, there are certain statements, certain actions that raise some concern. For example, the announcement that Russia might aim the nuclear weapons at the territory of Poland or the Czech Republic or that Russia might deploy the Iskander short-range ballistic missiles to the Kaliningrad oblast.

But I think they should be treated as they are or maybe as mainly political tools with limited military usefulness. The alliance cannot overreact and on the contrary we should find ways to cooperate with Russia, to engage Russia in this quest of – of making the extended deterrence less salient. Here, for example, I would put aside the possible decision to withdraw the U.S. tactical nuclear weapons from Europe which, by the way, I agree with one of the panelists in the morning – it should be done unilaterally by the alliance without making it a subject of military negotiations with Russia.

I think if we make this decision we may invite Russia to follow suit with the reductions of its tactical nuclear weapons potential and more transparency, but it will be a mistake to start it as a subject for negotiations for one simple reason. For Russia, the issue is about relocating the weapon system that’s already on its territory. For the United States, for the alliance, it’s about removing certain weapon system from the territory of the European allies so that the entry points are completely different. Aside for – one more minute –

SAGAN: One minute.

KULESA: – aside from the nuclear weapons, I think prioritizing the role of NATO in creating the missile defense architecture covering all the territory of the alliance and therefore taking off the stigma of the U.S. unilateralism from the project. And, of course, if the fielding of such a system is clearly linked to development of Iran’s ballistic program then Russia would be not in a position to question it purpose.
Finally, two practical issues—doing something about a conventional arms control regime in Europe, which is fatally blocked, and also discussing in a serious way a common approach to crisis management and to conflict resolution in the Euro-Atlantic areas—I think that would be one of—one of the ways to make the nuclear issues less salient in the relations in Europe. Thank you very much.

SAGAN: Thank you. Mr. Ambassador?

YUKIO SATOH: Thank you. Well, as it was already mentioned by the previous speaker, the concept of extended deterrence has regional variations reflecting the different regions’ strategic conditions. The one for Japan is unique because it is intrinsically linked with Japan’s non-nuclear policy. Since 1960s, Japan has been committed to the Three Non-Nuclear Principles of not possessing nuclear weapons, not producing them, and not permitting their entry into the country. A strong sentiment against nuclear weapons prevailing among the Japanese people lies behind this policy to deny themselves the possession of nuclear weapons in spite of the country’s capabilities to do otherwise.

The nuclear bombings of Hiroshima and Nagasaki remain vivid national memories.

Strategically, Japan’s adherence to the Three Non-Nuclear Principles depends largely, if not solely, upon the credibility of the Japan-U.S. Security Treaty, or more specifically, the credibility of the United States’ commitment to provide deterrence for Japan.

In coping with conceivable nuclear threats, the Japanese government has hitherto expressed no more than sheer and total dependence upon the American deterrence.

The present Defense Programs Outlines, which was adopted by the cabinet in 2004, for example, takes the position that “to protect its territory and people against the threat of nuclear weapons, Japan will continue to rely on the U.S. nuclear deterrent”. This position has been maintained ever since the first Defense Program Outlines was adopted in 1976.

Unlike the case of NATO, however, there have been no official consultations between Washington and Tokyo on how American extended deterrence should function, nor even any mechanism put in place for such consultations.

This is largely, in my eyes, due to Japan’s reluctance to date to be involved in American nuclear strategy. The United States on its part has not seemingly missed the lack of strategic consultations with Japan.
Yet the United States for its part has been steadfastly assuring the Japanese in increasingly clear manner of its commitment to provide deterrence for Japan by all means, including nuclear.

For example, the Japan-U.S. joint statement issued at the last Security Consultative Committee meeting held in May 2007 recognized that “the U.S. extended deterrence underpins the defense of Japan and regional security”. This committee meeting was attended by the Japanese ministers of foreign affairs and defense and the U.S. secretaries of State and Defense.

With this shared recognition, the United States then reaffirmed that the full range of U.S. military capabilities, - both nuclear and non-nuclear strike forces and defense capabilities - formed the core of extended deterrence and supported U.S. commitment to the defense of Japan.

Most recently, President Barack Obama assured the Japanese Prime Minister Taro Aso of the continuing U.S. commitment to the Japan-U.S. Security Treaty. By the way, quite symbolically, the Japanese prime minister was the first foreign visitor the president received at the Oval Office, and Japan was the first foreign country Secretary of State Hillary Clinton visited in her new capacity.

On top of these political assurances, U.S. force presence in Japan by itself signifies a sort of physical assurance of American commitment. U.S. forces operate strategically important facilities in Japan and around 17 US naval vessels, including an aircraft carrier, are “home-ported” in the country. Japan’s so-called “host nation support” covers around 70 percent of the non-salary cost required for American force presence in Japan.

The deployment of U.S. missile defense systems in response to the North Korean nuclear and missile tests to date is yet another testimony to the American commitment. These deployed systems include a land-based X-band radar, Aegis vessels equipped with Standard III missiles and land-based Patriot III missiles. Furthermore, progressing operational cooperation between U.S. forces and the Japanese Self-Defense Forces solidifies military bases for American extended deterrence.

More importantly, in sharp contrast to the European situation, the importance for Japan of the American nuclear deterrence has increased since the end of the Cold War, as the country has become exposed to a diversity of conceivable nuclear threats, such as North Korea’s progressing nuclear and missile programs, China’s growing military power, and Russia’s strategic reassertiveness. These developments are making Japan increasingly vulnerable to possible or potential threats by nuclear and other weapons of mass destruction (WMD). Ensuring American commitment to extend deterrence against such threats is therefore a matter of primary strategic importance for Japan.

Theoretically, there are three possible sources of nuclear threat to Japan – (a) nuclear weapon states in the region, namely Russia and China; (b) North Korea; and (c) terrorist groups or
non-state actors. Among them, North Korea is the focus of Japanese security concern today. Iran’s nuclear programs are indeed worrying. However, Iran is far away, at least in the Japanese public’s eyes, and more importantly, North Korea’s programs are far more advanced.

The North Korean problem is compounded by the difficulty of judging whether or how deterrence would work vis-à-vis North Korea. This reclusive regime’s unpredictability and defiance make it difficult to exclude the possibility that Pyongyang might use nuclear and other weapons of mass destruction out of desperation.

Japan has therefore been engaged in the development of ballistic missile defense (BMD) systems in cooperation with the United States. Although the BMD systems still needs to be improved before they can be considered fully reliable, they are designed to eventually function, at least conceptually, as a supplementary means for defending the country against North Korea’s missiles if the deterrence were to fail.

In addition, the BMD systems’ purely defensive characteristics stabilize rather than destabilize the regional strategic balance, although China reportedly has different views.

With respect to Russia and China, it is plausible to assume that the two nuclear powers would make rational strategic calculations, if not for the same purposes as Washington and Tokyo, then with regard to the risks involved in strategic nuclear operations. Engaging them in nuclear arms reduction negotiations would therefore be the first step toward reducing the potential threats their nuclear arsenals might pose. Given that the United States and Russia together possess around 95 percent of the nuclear weapons existing in the world, it would be practical to advance the process of nuclear arms reduction in two steps; first, by restarting strategic arms reduction talks between the United States and Russia, and then by engaging China as well as the U.K. and France in the process.

The recent agreement between the United States and Russia to start strategic arms reduction negotiations is encouraging in this context. For Washington to engage Beijing in preliminary strategic talks in parallel with U.S.-Russia negotiations would also be essential to the same end.

Such moves on the part of the five nuclear weapon states would hopefully help create positive political backgrounds for separate efforts to make the Korean Peninsula free of nuclear weapons, to prevent Iran from possessing capabilities to produce nuclear weapons, and to persuade India, Pakistan and Israel to join the endeavor to make the world free of nuclear weapons.

Needless to say, the progress of such nuclear arms reduction talks among nuclear weapon states is critically important in order to reduce the risks of accidental or miscalculated nuclear confrontations between nuclear powers.
The concept of deterrence needs to be redefined in the context of the post-Cold War strategic conditions, particularly non-confrontational strategic relations between the United States and Russia and between the United States and China. Nonetheless, credible American deterrence for its allies, particularly those without nuclear weapons, will have to be maintained as long as diverse nuclear and other WMD threats remain.

I want to stress in this context that without credible means for deterring the use of biological or chemical weapons it would be too early to limit the purpose of nuclear deterrence solely to deterring the use of nuclear weapons. This is particularly true for Northeast Asia, where North Korea is suspected to possess both biological and chemical weapons.

On the other hand, preventing terrorist groups or non-state actors from gaining access to nuclear weapons or materials must be pursued by other means than deterrence, for it is doubtful that the logic of deterrence itself would work with them. A broad range of policy means from safeguards against the proliferation of nuclear materials and technology to security measures for nuclear weapons and materials and to proliferation security initiatives (PSI) must be strengthened to this end.

Finally, and most importantly, I would like to touch upon the question of the credibility of the American extended deterrence from the recipient’s perspective.

In recent years, the Japanese have become growingly sensitive to the credibility of the American commitment. Exposed to a series of dangerous actions by Pyongyang, particularly its test-shooting of a missile over Japan in 1998, its nuclear testing in 2006 and yet another test of a long-range missile, the Japanese have come to realize anew the importance of the American extended deterrence for their security, and this has made the Japanese more sensitive than ever to Washington’s attitude to North Korea.

For example, the Bush administration’s policy conduct, which appeared in the Japanese public’s eyes to give priority to preventing the proliferation of North Korea’s missiles and nuclear technologies over eliminating the North Korea’s nuclear capabilities, has aroused some concern in Tokyo, and Washington’s decision last year to rescind prematurely, again in Japanese eyes, the designation of the DPRK as a State Sponsor of Terrorism raised questions in Japan about Washington’s sense of solidarity with its ally, which was agonizing over the issue of the abduction of their citizens by North Korea.

Even the propositions advocated by eminent American strategists to pursue “a world free of nuclear weapons” have given rise to some anxiety about the possible negative impact on the American extended deterrence, although the same propositions were welcomed by those who were more concerned about the lack of progress in nuclear disarmament. Furthermore, the Japanese
concern about the credibility of the American extended deterrence could increase if the U.S. government were to unilaterally move to redefine the concept of nuclear deterrence, particularly to reduce dependence upon nuclear weapons in providing deterrence, without proper consultations.

Given all these, the time has come for the governments of Japan and the United States to articulate better a shared concept of extended deterrence, nuclear or otherwise, in order to assure the Japanese people that the U.S. deterrent will continue to function in the face of changing strategic circumstances and technological developments. Thank you.

SAGAN: Thank you very much and thank you for staying within the time. George?

GEORGE PERKOVICH: Great. Those were – those were two terrific presentations and so I’m going to try to follow on where Ambassador Satoh left – left off. I also want to put in a plug. Lukasz is a very modest young guy and he has a great paper on extended deterrence and a Polish view that’s available on his organization’s Web site and we will post it soon on the Carnegie Web site. So I urge you to look at that.

KULESA: Thank you for mentioning that, George.

PERKOVICH: He’s blushing now but it’s a really good paper.

SAGAN: He still gets to ask you tough questions afterwards though.

PERKOVICH: Yeah. No, I know he’s waiting.

KULESA: I’m always encouraged to ask tough questions so –

PERKOVICH: Well, I’ve been to Poland – that’s normal. What I want to do is pick up and say that it’s clear that the discussion of creating a world without nuclear weapons has engendered or intensified a lot of this concern about extended deterrence, and I would say a couple things about that right up front which is that clearly neither the U.S. nor the wider world is close to eliminating all nuclear weapons including U.S. nuclear weapons, and – and we’re not close in terms of creating the political security relationships that President Obama, Secretary Shultz, that all of these people understand would be necessary before we would eliminate these weapons.

I think the U.S. position is clearly that as long as someone has nuclear weapons the U.S. is going to have nuclear weapons, and if the U.S. eliminates its nuclear weapons that’s going to mean that everybody else had eliminated their nuclear weapons and so the threat environment would have changed enormously. So I think a lot of this worry is about something that’s very far from happening, but today what we ought to be focusing on well, what are the threats that allies in
Europe, northeast Asia, the Middle East where they’re friends if not formal allies – what are the threats that we must deter with them and how should we deter those threats.

I think it makes sense to do those calculations on a regional basis. Lukasz and the ambassador talked about Europe and East Asia. I want to say something very, very briefly about the Middle East and then move on because there’s an idea floating around, and Hillary Clinton alluded to – Secretary Clinton alluded to it – that in the Middle East if Iran continues to move forward with enriching uranium that, you know, the U.S. should extend nuclear deterrence to Iran’s neighbors that are friendly to the United States – extend the U.S. nuclear deterrent.

I would say that that’s a really bad idea for the following reason that – that it’s premature now because Iran doesn’t have nuclear weapons. Admiral Mullen and others have said it’s a ways away. But talking about it now actually would strengthen Iran’s case in terms of international and regional opinion because it would be interpreted – the headline would be U.S. threatens to nuke Iran – U.S. threatens to provide nuclear weapons, you know, against Iran, and so lots of people that we’re trying to mobilize for diplomacy against Iran would say well, of course Iran wants nuclear arms.

Iran doesn’t say it wants nuclear weapons but the public discourse about that, I think, would create an environment that wouldn’t put more pressure on Iran but in fact would kind of make their case stronger. That isn’t to say that we – of course, we need to do much more to strengthen the confidence of – of Iran’s neighbors but ironically the thing they’re most worried about is we’re going to make a deal with Iran to get it to stop but to improve a relationship with Iran at expense with the Arabs.

So this is a problem that can’t be solved by extended nuclear deterrence I would – I would argue but needs to be done through conventional capability, missile defenses, consultation, regional dialogue, and – and security building more than by extending nuclear deterrence at least at this point given where Iran is.

Now, in each of the regions I – I think we need to like step back and – and do in close consultation with our allies. As the ambassador was saying and as Lukasz was saying, a lot of this is about process. Does the U.S. kind of calculate what it wants to do and then come tell people, here’s what we’re going to do, or do we actually start from the ground up. And I would suggest you need to start from the ground up and say, what are the threats to each country that we’re talking about, what are the probabilities and severities of various threats, because you can have a whole world of threats but at some point you have to say well, what are we really worried about which threats could only be deterred or defeated with nuclear weapons.
For example, are nuclear weapons necessary to deter large-scale conventional military aggression against allies and which ones in which cases? Poland? Japan? Where is the conventional military threat to Japan? What level of aggression would in any way be plausible to convince the president of the United States to order the use of nuclear weapons? In other words, we throw around, well, we got nuclear deterrence and everything else. But we’ve lost a war in Vietnam – we’ve fought other wars without threatening to use nuclear weapons because the scale of the problem and of the war in these cases wasn’t sufficient enough to – to justify using nuclear weapons. When we talk about extending deterrence to allies, well, what’s the scale of the threat where we think that nuclear weapons would actually come in and be credible?

The ambassador talked about are nuclear weapons necessary to deter or retaliate against chemical or biological weapons. Well, first of all, let’s make distinctions between chemical and biological weapons because I’ve not heard anybody posit a chemical weapon threat that would be of such a scale in terms of its threat to the existence of another state or whatever that would warrant the use of nuclear weapons after more than 50 years or however many years it’s been where they haven’t – where they haven’t been used. So I think there’s a lot of much more careful work that has to be done to say okay, where is this credible.

Now, for those threats if we identify them in each case where you say well, only nuclear weapons could plausibly deter this realistic threat, then it seems you would want to scrub that and say, well, there’s something else we can develop that would deter that threat or is it inevitable and for always that it will. And maybe the answer is it is forevertable (ph) – forever and – I like that, forevertable. (Laughter.) That’s mine, okay? Copyright that. The – that you have to have nuclear weapons. Well, then one should accept that answer. But do the work.

Couple of examples that strike me that if I were in Europe – and this is one of the reasons why I like Lukasz’s papers that was in his presentation – it’s very kind of careful and realistic in saying well, what are the real probable threats. I look at Europe and I say Estonia was shut down – it was strategically attacked by computers a couple of years ago. I mean, talk about affecting a whole population and a state – that did it.

Well, is somebody going to nuke whoever did that? Let’s say the addresses all look back at Russia and you could find that it was Russian state activity. Who’s going to use nuclear weapons against the cyber attack? Serious implications for Central Europe. Gas got cut off. That – in this country that – I mean, you know, I mean, that’s – that’s, you know, maybe we’d go to war for things like that but I don’t know about nuclear war if a country cut off your energy supply but that’s a real problem or concern that we have.

Seems to me in Japan’s case we talked about North Korea, which does have nuclear weapons and is popping missiles over Japan. So there you say, okay, well, that’s something that’s
starting to invoke a nuclear deterrent. And I wouldn’t deny that but I’d also ask okay, if – if – what we would do or threaten to do or need to do to deter North Korea is to threaten the existence of that government, do you – do you need nuclear weapons to do that, first of all, but secondly, is that what you would use in reality if you decided to go to war with North Korea.

And a lot of it would depend on where the leadership of that government is and what – how many civilians would be killed but we can’t at the same time say that the poor North Korean population lives in a total dictatorship where they have no idea about reality, they have absolutely no freedom, they’re not responsible for their government and then we’re going to blow them all away, and I think any president of the United States would have to be thinking about the political moral implication of when and where you use nuclear weapons and whether that was the only alternative. And I’m – again, I’m not saying that the answer is not nuclear weapons. I’m saying these are the questions we ought to be working through with Japan and with South Korea and – and others in each – in each case.

I would say that in all of this discussion we kind of – there tends to be this kind of perhaps nostalgic sense that there were some halcyon days of extended deterrence and now things have gotten kind of tougher, and I, in looking back on this, I – I would suggest, A, that the discussions about extended deterrence now were much easier than they were in the Cold War, first of all. There has never been a halcyon day of extended deterrence because there’s always been this tension between the allies’ fear of entrapment – in other words, the U.S. – we’re tied to the hip and we have nuclear weapons and the U.S. may go off and do something that actually gets you stuck in our war with nuclear weapons flying at you because something the U.S. did that may or may not have been smart.

And there were – for example, in South Korea there were concerns in, you know, six, seven years ago that the U.S. would start a war of regime change against North Korea, and the South Koreans didn’t want to get caught up in that war. But being tied with the U.S. and the security relationship they could be entrapped. Same thing happened – you go back and look at history when Truman was contemplating or the Truman administration was contemplating using nuclear weapons against Korea. It was Churchill who was not exactly kind of a softie on these things who said, you know, whoa, don’t go threatening to use nuclear weapons – we’re going to get caught in the middle of that. And – and so it was the allies that – that – that went – you know, to Ike – Truman and then Eisenhower saying, don’t make nuclear threats over the Korean War because they didn’t want to get entrapped in what we did.

On the other hand, the other part of the tension is the fear of abandonment – that we won’t fight with you – we won’t defend. And so there’s a concern I’m told in Japan, for example, that well, if the U.S. accepts mutual vulnerability with China – you know, that we don’t try to take away China’s capacity to retaliate then – then that means if there’s war somehow involving China and
Japan that the U.S. won’t actually come fight for Japan because we won’t want to put the U.S. at risk from Chinese retaliation.

So we would abandon – abandon Japan or decouple is another – another phrase. Well, those concerns were even more intense in – in the Cold War. You’re talking about thousands of nuclear weapons and so on. So this concern is here today but it – but it’s not – it’s not new and we need – we need to wrestle with it. My sense then is you get then led to some operational questions which, again, have these dilemmas. On the one hand, Japan especially now or Japanese officials especially now want to be reassured about extended –

SAGAN: It’s 12 minutes, George.

PERKOVICH: Okay. Extended nuclear deterrence and there’s a desire for a visible presence, as Secretary Schlesinger says in all the reports he’s writing – got to have a visible extended deterrence. On the other hand, Japan doesn’t want nuclear weapons on its territory or coming into its ports so I’m not sure – like visible but not too visible and similarly in Europe you have governments that come to U.S. officials and say or say publicly as I said this morning, you know, we want nuclear disarmament, we got to get rid of nuclear weapons, but then privately come to the U.S. and say, you know, we want to keep nuclear weapons in Europe but please let’s don’t have a debate about it because our publics don’t want us to have nuclear weapons in the country so don’t talk about it.

And so you can’t simultaneously say: credible (turn ?), has to be visible and so on and so forth, and then say, don’t talk about it, don’t base it here, don’t let us know when it’s coming around. And I think this reflects the same tensions but this has to be part of the ground-up discussion that we have. Seems to me that if one was really serious – no, people are serious for credibility and to show seriousness if these were really security issues what you most want is U.S. conventional forces based on your territory – that the way, for example, to reassure Japan it seems to me is that that fleet that you mentioned or those ships that you mentioned that are based in Japan I can pretty much guarantee if those ships get attacked in Japan the U.S. is going to fight.

But if you don’t have conventional forces there then I think you lose the kind of coupling that you really want. But the nuclear forces, it seems to me, are much less relevant for that kind of coupling and, for example, I think the bombs that we have in Europe – and I’m not an operational guy and there are a lot of military people here who are – but it strikes me that those air drop bombs that we have in Europe would probably not be what we would use if we’re going to go fight a nuclear war with Russia.

But if there were a war coming you’d probably want to get them out of Europe so they wouldn’t invite a Russian attack and so in a sense you’d be leaving with them rather than coming in
with them because they’re just not the systems that you would use. But somehow we keep them there for political reasons.

Last point – Lukasz hit it very well I think when he talked about Article V in the NATO context and I think this goes to the heart of the concern of Japan and others. The question is will the U.S. fight with Japan if it's with North Korea or China, fight with Poland if it comes to a conflict with Russia. It's not about nuclear weapons. It's about whether you'll actually be there and in the NATO case whether the other allies would actually be there and that make Article V really meaningful. And that’s the real issue and nuclear weapons shouldn’t be a substitute to that issue of what is the nature of the – of these commitments which were more about kind of allegiance and also, I would say, about priority – who comes first for the United States.

Is it the relationship with China or the relationship with Japan? Seems to me that’s the fundamental question and not a question about nuclear weapons. And so we kind of mix these things up and put way too much burden on nuclear weapons in a political, strategic and psychological sense and not enough on what are the real issues of reassurance and what are the real threats that we have to address. And I'll stop there. Thank you.

SAGAN: Before we turn to the audience, I would like to give Ambassador Satoh and Lukasz a minute or two if there’s something specifically in George’s comments that you would like to respond to. I know in – in the case of North Korea he was concerned specifically about differentiating chemical, biological, and conventional threats, and this last point, I think, about putting too much weight on nuclear weapons versus other ways of signaling commitment and allegiance are issues that certainly are important for Poland as well. So you’d like to take a minute?

SATOH: I have two points to say. First of all, each of the issues which George just shared with us is very important. I stressed in my initial presentation the importance of having consultations (on extended deterrence) between our two countries, and these issues should be the subject for such consultations. But, secondly, I can’t agree to what George said at the end; Japan or China, which is more important for the United States. I think Japan is far more important to the United in the context of what we are talking about, because we are allies. The United States and Japan are allies. China is not an ally of the United States. So there is no need for us to try to discuss the point, at least from my point of view. It's too obvious. And, the United States does have commitment to the security treaty with us.

SAGAN: Uh-huh. Thank you.

KULESA: Just a short point on Article V and the importance of nuclear weapons. While we don’t wake up every day thinking about extended deterrence, which might be unfortunate from my point of view because I like the subject, but when we discuss NATO we discuss operations, we
discuss the relation between and the balance between operations and Article V. But Article V meant as an overall assurance in which that the nuclear component is the least important one at least in – at least for now, and I hope it’s going to stay like that for the future.

So when we’re discussing this list of additional parts of the Article V package, these are conventional and these are all kind of very obvious points that the alliance somehow lost along the way when it all – everyone wanted to do expeditionary operations – everyone wanted to do a little bit of everything, going to Pakistan help the victims of the earthquake, shipping goods to the United States after the hurricane.

So we somehow got our eyes off the ball that this is a military alliance so, for example, it should do planning about the different scenarios, not only involving our favorite Eastern neighbors, the neighbor because, you know, frankly I don’t see – I think nobody sees a serious possibility of going to war with Russia. There’s the kind of disagreements that we might have over energy, over NATO enlargements, over how to behave in this region between European Union and NATO countries and Russia. This cannot be resolved by force and, you know, introducing the element of force into that relationship would be actually very counterproductive. I’ll stop here.

SAGAN: Okay. Thank you very much. Let’s open this up. There are going to be people with microphones and if you raise your hand I’ll try to start making a list. I have Chris Chyba first here so right here. We’re going to pass the microphone around as well as there so I’d recommend that you stay in your seat so you don’t have to – and I’ll try to grab people – I’ll identify people. So can you get the mike up here?

Q: Thank you. This question is inspired by George Perkovich’s call for not only thinking through the – the kinds of threats or circumstances under which nuclear weapons might or might not be important but having detailed conversations with allies over exactly those topics.

And that’s very appealing to me but there does seem to be some tension between that and the longstanding assertion that ambiguity is important in deterrence, both to avoid the kind of commitment traps that Scott Sagan’s written about but more broadly the assertion that ambiguity allows you to broaden deterrence because your adversary simply doesn’t know the circumstances under which you might employ nuclear weapons. So I’d be interested in whether members of the panel think that ambiguity is important, and if so how, do you reconcile that with the kind of detailed discussions that George is calling for?

SATOH: Shall I say?

SAGAN: Yeah.
SATOH: I personally think that ambiguity is always important in the concept of deterrence. When I talked about the importance of consultations between allies, I did not think that, for example, the Japanese government, which is the recipient of deterrence, would disclose everything discussed. The importance of consultation is the point we have to think.

One more point with regard to the ambiguity: as I said about the biological weapons or chemical weapons, I would oppose the idea of narrowing the target of deterrence only to nuclear weapons. I'm not saying that we should use nuclear deterrence against all. But, there is a certain distinction between declaring that we are not going to use nuclear weapons against biological (or chemical) weapons and not saying anything about the point, just to keep the target of deterrence rather ambiguous. In this context, too, I think ambiguity is necessary.

I should have said at the outset that in my presentation I used the word “deterrence” not “nuclear deterrence”, except for the part I quoted from the Japanese government position. This is because deterrence is made of many different components, not only nuclear. And with regard to what to deter, some ambiguity is required.

SAGAN: I would just make one quick point here is that people will often, I think, misuse history and forget more recent interpretations of history when we talk about ambiguity here. It is often said, for example, that the ambiguity that was expressed to Saddam Hussein through his foreign minister was crucially important in stopping them from using chemical weapons. Well, A, that’s questionable historically but, B, we now have on record the president of the United States in his memoirs saying, I had no intent to ever use nuclear weapons under those circumstances. So there is some inherent ambiguity in the situation but we should at least look at what people have said afterwards and to understand that that does reduce the credibility of even ambiguous statements, it seems to me. I have Peter –

KULESA: If I may –

SAGAN: Oh, yeah. Please. Sure.

KULESA: All right. So –

SAGAN: Then give the mike back to Peter Hayes, the very tall man in the back.

KULESA: About the consultations and discussions, of course there are different for a fora that. There’s – there are open fora like this but there are more closed one when you can discuss issues that you don’t necessarily want others to hear. But more importantly about the ambiguity, there is an important thing to keep in mind – that if you try to somehow make it more clear or narrow down the instances in which you could use nuclear weapons at – at NATO forum it would
automatically or almost automatically translate into the policies of the three nuclear member states which are the members of the alliance, and they might object to having this pressure applied to them – for example, not to include biological, chemical, or to – to adopt a non-first use rule. So this is a very important point.

PERKOVICH: Just one sentence. Chris, I think the biggest challenge right now is to reassure the allies more than to deter other people, and so I don’t know about ambiguity and reassurance being sufficient. So I just would flip it.

SAGAN: In the back.

Q: Peter Hayes – a question for George and Ambassador Satoh please. The conceptual dichotomy that I’ve heard all day and that this panel is between deterrence and reassurance – deterrence of the adversary and reassurance of the ally or friend or partner. But there is a third dimension to the relationship which is compellence (ph), and in fact I don’t think Truman was deterring the North Koreans in the war. He was attempting to compel the Chinese to leave the war with the threat of nuclear weapons.

So when I think about the U.S-Japan alliance and the current problems with North Korea, what comes to my mind is the fact that the North Koreans are not playing a deterrence game at all. They’re playing a compellence game and they’re stalking the United States in an attempt to force it to change its policy just like any stalker harasses an individual, and they will not go away if we try and deter them. In fact, if we hold up their egregious violations that will in fact encourage them to further attack the IAEA or the U.N. Security Council resolutions – perfect target of opportunity.

And so the problem for the United States in dealing with someone turning the tables and using nuclear weapons for compellence purposes is that this is greatly disturbing to the ally who has relied on the hegemon, in this case the United States, to curtail the proliferation of a potential adversary. But it seems to me that the real question there is not about nuclear extended deterrence per se – it’s about the nature of American security leadership in the context of the Korean peninsula and its inability to negotiate effectively with the North Koreans given who they are and their goals and our inability to deal with that. That’s not a question of extended deterrence. It’s a question of leadership.

PERKOVICH: Well, I think you’re right as always but – and on all things but the – but the broader – and so on North Korea I think the broader category is I’ve tried to look historic – and I haven’t done it in a systematic way – how often nuclear compellence worked but I think in most instances I could find it didn’t work. So one of the things that’s interesting is – is North Korea making nuclear compellence work, which is an interesting phenomenon if it is, and how does that differ.
And I think one of the reasons why that may be working does go back to kind of regime type in a sense because they can get away with a lot internally that you wouldn’t be able to do in another state where you’re trying to use nuclear compellence, or in the cases when the U.S. was trying to do that you’re in an alliance structure and you have political relationships that really matter to you.

And so when the other guys – your pals come up and say, geez, you can’t do that, you listen whereas North Korea – we thought maybe China would be that pal and – and we could get the Chinese to go, you know, talk to the North Koreans. It turns out that may or may not have – have worked and so this may be one of those – an interesting case of compellence working when generally it doesn’t work. But other than that, I don’t know what to say.

SATOH: Yes, this is a very difficult question to answer theoretically. But in practical terms, first of all, how do deal with North Korea is very difficult. Therefore, in my initial presentation I said that we did not know whether or how the concept of deterrence would work with North Korea. In conducting the very difficult negotiations to dissuade North Korea from nuclear programs, consultations between the allies are very important in the context of reassurance. So, the whole process is always coming back to the point of alliance relations. I cannot go beyond that, because after all I don’t know what is the best way to deal with North Korea.

SAGAN: Mike Wheeler is here – right by the microphone stand.

Q: Mike Wheeler, Institute for Defense Analyses, currently detailed at the Defense Threat Reduction Agency. The speech that President Obama gave yesterday, we saw clips of it today. We have materials passed out. But there was a passage that immediately preceded what we saw, which I think is extraordinarily relevant to what we’re talking about today. It’s three sentences long so if I could quote it just briefly: “This marks the tenth year of NATO membership in the Czech – for the Czech Republic. I know that many times in the 20th century decisions were made without you at the table. Great powers let you down or determined your destiny without your voice being heard. I am here to say that the United States will never turn its back on the people of this nation.”

Now, the point I think that’s being made is that there are three different things we need to distinguish. One is the sense of security that a country has, and that’s how it defines its security for itself. The second is going to be security assurances in a large sense and the degree which it will rely on security assurances as opposed to self-help. And then you get into extended deterrence, because then the president went on and talked about Article V and so forth. Now, the question I would pose to the table, and it gets to this way of looking at things, is the Obama administration’s going to be in a difficult situation.
On the one hand, it’s attempting to restore trust. It’s attempting to be able to make a statement to a number of allies and potentially to a number of other countries in the world, you can trust the United States. On the other hand, it has to engage very quickly with the Soviet Union’s successor, Russia, on the treaty that we had negotiated with the Soviet Union near the end of its demise, START-1, and the extension of START-1 and then get on into the others.

Now, the issue as you get into these negotiations – it was alluded to at the start of the discussion and the panel – one of the issues you’re going to get to probably not in the first phase but in early follow-on phases is going to be the questions of non-strategic nuclear weapons and forward-deployed American nuclear weapons, and it’s extremely difficult to have the intimate kinds of consultations which allow you to see every twist and turn of that kind of negotiation.

And so the question I would pose to the panelists is this: Are you confident that the Obama administration is going to be able to establish a sufficient level of trust in American intentions and that they take your security seriously, i.e., what was alluded to in the Czech Republic where from the Munich Conference on their security was not taken seriously – that this trust can be restored in such a fashion that within a reasonable time frame you’ll be able to move the START process, the bilateral process, forward going beyond whatever the first phase this year is to the other kinds of nuclear questions that’ll be involved in it?

SAGAN: I think that would be directly to you.

KULESA: Well, let me – let me start by saying that’s the kind of language that President Obama used in Prague and the certain message that was given was tailored for – for the needs of not only the Czechs but also other countries of Central Europe which express certain doubts about the value of Article V and the value of the U.S. attachment to their security. So it’s very much welcomed. We’ll see what would be the next stages.

There are some issues which we would like, for example, for the United States to support and to promote during the discussion of the new NATO strategy concept but there are also some general rules of making deals with Russia if the discussion about is about the strategic – strategic nuclear forces and means of delivery be it as it is. But if it gets broadened to the issue of missile defense, if it gets broadened to the issue of non-strategic weapons, we’d like to know about it first, not necessarily from the CNN.

But I think there’s also in my part of Europe a great deal of hope and a big credit given to the U.S. administration for the way that it’s tried to engage the European countries and also Russia. Of course, on the way of conducting negotiations that the basic deal is that – the basic rule is that you cannot at the same time ask for cooperation and – and slap a partner in the face. And I think the Russians are saying exactly that. You cannot engage in serious negotiations on strategic
armaments and at the same time continue your policy on missile defense or continue your policy of NATO enlargements. So there is a very delicate balancing act to do by the United States and very interesting to watch in the next couple of months.

PERKOVICH: I just – real quick. I mean, Mike, you know, you think in a much more complicated fashion than I do so I’ll probably prove it right now but it seems to me that on the specific issue that you’re talking about, of the arms reduction process and tactical weapons and how it relates to security, first of all, we’re a pretty long way away from a time when you’d bring tactical or substrategic weapons into the formal discussion, number one. You might decide in consultation with allies, you know, to remove them but in terms of trying to negotiate them with Russia, that I don’t know that that’s something that’s talked about – well, certainly not in START follow-on and – well, not the START renewal or whatever we’re calling it, and then the next round I don’t know that they’re talking about it, number one.

But number two, it seems like the very important thing is to end – is to end the distinction between strategic and substrategic weapons and – and because that’s – that distinction is a totally Cold War distinction and that what we ought to be saying even before we try to negotiate on it is say any nuclear weapon is a nuclear weapon, and – and the use of a short-range or tactical weapon in Prague is a strategic event, and that – and so from the standpoint of kind of framing the issue and the security issue it seems to me that if you declare that what you can do before you get your arms around them in an arms control process seems to me that would strengthen, actually, deterrence because you would say by definition if any of these things are used it’s strategic. We’re not saying what that – what we’re necessarily going to – how we’re going to respond but it’s a strategic event. At least that would be the argument I would make.

SAGAN: Mark Fitzpatrick, right here on the right.

Q: Thank you. Mark Fitzpatrick from International Institute for Strategic Studies in London. It’s a fascinating panel and discussion. It has an added advantage of a – of a new big idea proposed by Ambassador Yukio Satoh of the strategic consultations that he suggested. Two questions in this regard – one is how difficult will it be that – to do this in Japan? Does it require any basic change in Japan’s nuclear policies which to date have been very ginger about getting involved in any discussions about U.S. strategic policy?

A second is if you could think of any – what are the kinds of decisions United States might be taking as we move forward in steps toward disarmament that would cause the most discomfort in Japan? The example you raised of the United States prematurely you’re your words, withdrawing the terrorism designation from North Korea, you know, had nothing to do with extended deterrence but it had everything to do with Michael Wheeler’s first category of consultations and broad relationships.
I’m thinking of, you know, withdrawal of forces. In 1991, when the United States withdrew nuclear weapons from surface ships and from the Korean Peninsula I guess it was probably applauded in Japan. I wondered if – maybe if it caused some consternation. And a third category would be, you know, general reductions in forces. I have heard some Japanese self-defense force officials saying any reduction in American strategic forces that would move in the direction whereby China could aspire to parity would be a serious concern to Japan. In the – in the panel discussion before this one, you know, there was a lot of discussion of this issue of China and whether parity might be something to aspire to, and the panelists were arguing in the opposite. But I wonder if you could, you know, elaborate any – on these or maybe in your upcoming expanded version of the paper you’ll be doing that.

SATOH: Yes. On your first point of whether or how difficult it would be in Japan to start consultations with the United States on strategy, I don’t think it’s so difficult. We already have all sorts of mechanism to discuss together the issues related to the Japan-U.S. Security Treaty. But, somehow matters related to nuclear strategy have been kept out of the agenda.

Given the diversification of potential nuclear and other threats, as I said earlier, the time has come for us to create some kind of mechanism through which we can discuss the common strategy, particularly if United States is going to reduce dependence upon nuclear weapons in their strategy. As I told earlier, when Japan thinks about deterrence, we are thinking that deterrence is composed of many different forces, not only nuclear. Nevertheless, Japan needs to be told about changes in America’s strategic thinking through the official channels rather than through New York Times. Therefore, I think that a new consultation mechanism is necessary.

The second question is very difficult to answer, because it depends upon the perceptions of the persons who are talking about, for example, the level of American commitment. But, in total, I think the United States’ commitment to the defense of Japan or the security of the region has been strengthened. If what I read in the paper is correct, the United States has deployed at least five Aegis vessels around Japan this time. Japan deployed three. Two of the three are equipped with Standard III missiles, and, I think, South Korea also deployed one.

We were not trying to shoot down the missile, but if the missile test had failed, then it could have caused damages. Therefore, we have deployed our own Aegis vessels. And, the United States deployed more. Well, This is a testimony to American commitment. The more we will come to know about this, the Japanese public will be reassured. I think that our alliance is in a very good condition right now.

SAGAN: This is going to have to be the last question. Virginia Foran?
Q: Thank you. Virginia Foran-Cain from Center for Naval Analysis. I also want to kind of key in on this notion of what the Obama administration and what successive administrations would have to do to reassure. And just to note, George, my painful discovery of security guarantees and investigation into alliances one of the things – it wasn’t just the severity of threat that mattered. It had to do with the frequency of threat, and that was kind of an interesting and it helped explain the India-Pakistan case. So just that little advertisement.

The other issue is the remark that Kulesa pointed on about the alliance as being an important forum for the discussion, and perhaps I want to raise the issue as is it a forum that cannot be lived without – is it the sine qua non just like high technology was for India in terms of broadening our relationship and changing the nature of our strategic relationship with India – is the nuclear alliance or the nuclear security guarantee, whether that’s in a collective agreement or a bilateral agreement, can that be lived without.

And the case in point is the Japanese case. Ambassador Satoh, you mentioned a list of – I don’t know if – I’m sure they may not have been in priority order but North Korea, China, and Russia as being the most problematic. Could you imagine if those problems were to go away would you be willing to live without the mutual security agreement with the United States?

SATOH: My answer to your question is that it’s a bit too early to speculate about this. I made a list of causes for potential threats. But, if North Korea, China, Russia will give up all nuclear weapons, that would be a part of the world free of nuclear weapons. But I think it’s too early to think about when it would come. Security policy is based upon the requirements of today. Of course, we should not lose sight of future goals. But what I said today is my perceptions about our present security requirements.

The first part of your statement reminded me of a very important thing I should have said earlier. Extended deterrence is only a part of the alliance relations. There are many, many things which we have to do in order to strengthen the alliance. Strengthening the alliance in the eyes of the Americans and in the eyes of the Japanese, is very important in order to strengthen the credibility of the American extended deterrence. That’s what I should have said earlier.

SAGAN: I think we’re going to have to – one just quick comment then.

KULESA: – a very quick answer. Let me put it like this. In a world free of nuclear weapons you would not need any alliances. But, you know, the requirements to get into both of these goals would include such a reconfiguration of international system and a re-configuration of the ideas which nation have about international politics that I don’t believe that in the foreseeable future it would be possible. Thank you.
SAGAN: I apologize for all those people, including many friends who did not get to ask their question. Before we go and hear the keynote address let’s have just one round of applause for this excellent panel.

(Applause.)

(END)