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CHEMICAL WEAPONS THREATS

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I have the honour of chairing this session on reducing bio risks and chemical threats. I would firstly like to introduce the very eminent panel we have here. You have their biographies in the information pack. I am sure we are very much looking forward to hearing their presentations, so I will soon hand over to them. After hearing their three presentations, there will be an opportunity for questions and answers. At the very end, the speakers will wrap up and respond.

Dr Iris Hunger

I very much thank the organisers for inviting me, and the Chair for introducing me. I am speaking as a non-governmental person today. My topic is from the biological side of this panel.

EU policy towards bio weapons, arms control and non-proliferation is grounded in the 2003 Strategy against Proliferation of Weapons of Mass Destruction. This strategy stresses the need for the universality of the Biological Weapons Convention, for proper national implementation and to continue work towards verification. If we look at the activities that the EU has carried out over the last six or seven years, they were mostly restricted to the first points – universality and national implementation.

Over the last five years, a number of EU instruments have made the commitment to strengthening the Biological Weapons Convention (BWC) and making it more concrete. We had an EU joint action in 2006, which specifically addressed two points: universality and national implementation. There were a number of regional seminars in 2006, 2007 and 2008, under that joint action, aimed at improving or working towards universality. There was a general offer of assistance to states that had problems with developing national implementation measures.

In addition, in 2006 the EU worked to put their own house in order and agreed to the EU Action Plan on BWC issues. That action plan had two points, the first of which was efficient use of confidence-building measures (CBMs), which are annual declarations under the BWC, but they are not declarations in the sense that we know them from the Organisation for the Prohibition of Chemical Weapons (OPCW) or Chemical Weapons Convention (CWC) fronts, since they are voluntary information exchange measures. The action plan asked that all EU Members hand in their CBMs annually from 2006. They should have done that before, but most of them – quite a number – did not. After 2006, this picture changed and almost all of them now provide their annual declarations.

The second point was to look at the UN Secretary-General mechanism. That mechanism is independent of the BWC and allows investigation into the alleged use of chemical and biological weapons (CBWs). The aim there was to help this mechanism work more efficiently by updating lists of experts and laboratories, which would be made available in the case of such investigations. Those were the two points on which the EU provided input.

In 2008, there was a second joint action from the EU side, which was implemented in May 2009 by the

UN Office for Disarmament Affairs. Besides these old topics, universality and national implementation, this 2008 EU joint action also looked at the CBM submissions. They put more emphasis on these annual declarations, and there were a number of visits to states that had problems with providing their first declarations. It is not always simple to collect the information that is required in those declarations.

The fourth part of that new joint action was to support the intercessional process, so those annual meetings. In respect of that last point, two workshops were held – one on the UN Secretary-General mechanism that I mentioned already, and the other on Article 10. Article 10 in the BWC area is one of the biggest problems. It is the Article that requires cooperation and technological assistance, and asks states not to hamper the technological development of states in implementing the BWC. I am pretty sure everyone who is familiar with the CWC knows that there is a similar Article, with similar problems, there. In the BWC, my feeling is that this discussion had gone a bit out of hand.

The last joint action was concluded by December 2011. If I take a summary look at what the actions on the BWC were over the last five years, I would say what has been done was defined mostly by the possible, not by the necessary and even less by the desirable. It was focused on the issues that it was possible to discuss, not those that the BWC most needed to be strengthened.

However, verification remained a goal for the EU. It was on all their statements, including the one made at the end of 2010 at the last meeting of state parties before the review conference of last year. It was in the joint position for the BWC review conference of July 2011, and it was mentioned in the EU statement at the beginning of the review conference last December. The EU was not alone in calling for verification. From the end of 2010, basically all major players also voiced this position. One exception was the United States.

To an outside observer, the situation at the beginning of the review conference last December seemed ideal for an important mediating role for the EU. On the one side, you had many non-states and Russia that had mostly rhetorical statements, I am pretty sure, about the importance of verification for the BWC. On the other side, you had the US, which still opposed verification as a term, but were much more open towards increasing transparency and demonstrating compliance. They used different words but, to a certain degree, their position was much more open than it used to be.

During the first week, there was some hope that we would make progress on the compliance issue. If we look at the role of the EU during the review conference, I would say it was very limited. The EU statement at the beginning was basically a read-out of the EU position for the review conference from July 2011. We had a single document from the EU. It was not even a working paper; it was an information paper. The topic was not compliance or any of the other important issues. It was demonstrating that EU states are implementing Article 10 technical cooperation requirements in a sufficient way. Then there were 13 documents by individual EU member states, but not from the EU as such. Most of those 13 documents were really just by one state, not groups of states. There was

one exception, on codes of conduct and awareness-raising for scientists, where Sweden and the UK were co-sponsors, together with many others.

The last thing I did in preparation for this discussion here was to look at the daily reports that the BioWeapons Prevention Project (BWPP) is preparing for all the BWC meetings. When you count the references to the EU in all the daily reports for the EU conference, it appears exactly six times. This is just an illustration that, in my view, the EU was not acting as one player; individual EU states played a role.

In conclusion, I would like to say that, if there is an actor that can prevent the BWC from moving even closer towards a non-committal discussion forum on disease surveillance and countering bio-terrorism, which it has been over the past ten years, in my view, the one player that can do that is the EU. There is no one else that could seriously take on that task. To fulfil the function of true guardian of the BWC, the EU needs to work for a new debate on verification, and it needs to address three points.

It needs to address the information-monitoring capacity that any international regime needs. We have a proto-system for that with the CBMs. Some work has been done by individual EU states on them; they could be further developed, but need to be much more demanding and in depth than we have seen during the review conference. I can go into more detail if people are interested. We need to look at challenge investigations. Again, we have a proto-system in place here, which is the UN Secretary-General mechanism, but that only addresses alleged use. You cannot use that mechanism to address alleged development, protection, stockpiling, testing, etc. In between, what we need are what are usually called consultation procedures to address issues that are not serious enough to fall under a challenge investigation, but that need to be addressed in a serious and detailed way.

Sometimes people ask me why I am so adamant about verification. I believe the verification debate is important now. There is relatively little concern at the moment that states are developing bio weapons. There is a different issue with bio-terrorism, but that is not the issue of the BWC. I fear that this could change in the future. At the moment, it might seem okay for us to leave implementation of the BWC to national authorities but, if technological developments and new security assessments change those perceptions and make biological weapons attractive for states at a later point in time, we will be very sorry that we did not do anything now when, in my view, it is possible. Thank you.

Clara Ganslandt

Thank you for raising those interesting ideas and challenges for the future.

Dr Jean Pascal Zanders

Thank you very much. Before I start, I want to make the comment that I am a member of an EU think tank, but we are intellectually independent from Brussels. We are based in Paris for a reason. The ideas that I represent here are mine, as a researcher. Now I come into my role as a Belgian from

Ostend on the coast, which is not far from Ypres and so forth. When I was younger, when the generation of my grandparents was still alive, there was still very much of a consciousness about the First World War and chemical weapons. That is probably also one of the reasons why I became interested in this.

Think about what is coming towards us. In two years' time, we will have the centenary of the start of the First World War. One year later, on 22 April, the first major chemical attack was conducted just outside of Ypres. Five years from now, 2017, there will be the 100th anniversary of the first use of mustard gas, which everybody still knows today. In 2018, we can probably say that chemical warfare had been conventionalised as part of military operations during that war. Every party was using it at that time. In the province of West Flanders, near Ypres all the way to the coastline at Newport, every year people are still digging up chemical munitions from that time, posing some sort of risk.

In this presentation, I want to address a few aspects of the future of the CWC and its regime. When I was first thinking about the future of the CWC, which was way back in 1996, when I wrote my first paper on what the Convention might be 20 or 30 years from then, I conveniently took 2007 and then 2012 as breaking lines between the backward-looking aspect of the implementation of the Convention – namely declarations and destructions of all chemical munitions. The forward-looking dimension of disarmament is actually focusing on the prevention of future weapons programmes. As we know, now and since the last Conference of States Parties at the end of November, there is not going to be such a clear transition from one phase to another. Two countries, Russia and the US, have had a series of problems in terms of meeting the destruction deadlines. They have now been extended.

Also, the whole phase of starting to think about the future of the Convention will last for quite a prolonged period, which the states parties initiated last year in the form of what I conveniently call the Ekéus report.

However, even if we move to that forward-looking aspect of the Convention and how to maintain its relevance over the next decades, we still have to deal with a couple of chemical weapons issues. First and foremost, we will have to expect and are going to be given some new and modified chemical weapons declarations. We only have to think of Libya, Iraq and so forth as current issues. In addition, at the moment about eight or nine states are not yet party to the Convention, if we take South Sudan into consideration. Among those, there are still several that we generally believe have sizable chemical weapons stockpiles. Syria is one that comes to mind. North Korea is another. There may be one or two more in the Middle East.

The problems of abandoned chemical weapons is not perhaps going to stay as a major topic once the issue between Japan and China has been resolved to the satisfaction of both parties, but perhaps sea-dumped chemical munitions might become a bigger issue in the future, particularly as the sea bed is being increasingly exploited for commercial activities. In a couple of areas, for example, the Belgian coast or Baltic Sea, ports are being expanded farther into the sea to enable larger ships to dock. Those

sea-dumping areas may become an issue. Besides that, we have the traditional agenda of terrorism, crime, violence and social movements, and the scientific, technological and industrial developments taking place.

The one aspect I want to focus on and discuss today is what we make of the future governance of the CWC. The OPCW is a purely inter-governmental set-up. It is an agreement. It is an organisation for governments by governments, basically. Right now, the big question is where their place will be in the future. If we look at economy-, technology- and security-related processes, in the triangle of interaction between those, governments are not even the biggest player in those developments. Very often, they undergo those processes, but there are actors other than governments, particularly in the sphere of economics. We have transnational companies and so forth playing a role. At their best, governments can perhaps steer processes, but they definitely no longer drive those processes. If governments already have a more limited role that they can exert within that, we have to think that specific entities like the OPCW might become even smaller.

A couple of my thoughts also come from my experiences in the field of the Biological and Toxin Weapons Convention (BTWC), which has no international organisation. The whole governance dynamic is different from the CWC. A more important point to make on this is that, when the OPCW was created, in the PrepCom days when discussions were going on, from 1997 onwards, having been in The Hague then you had a strong feeling that civil society and other stakeholders were put and kept on the side. At that time, the states did not want to have people from outside actively involved. In the BTWC, this has changed dramatically over the past decade, particularly because of the intercessional process that Iris has already been referring to. The intake of different stakeholders from the scientific community, industry and civil society in its various aspects has been enormous. They have had a major input into the processes leading to different forms of activity.

What is my long-term vision for the CWC? That will form the foundation. If we come to a situation when all chemical munitions have been destroyed, so we can move into a certain routine for the inspection of factories and other types of facilities that have been declared, I see that the primary function of the CWC and the OPCW will be to undertake the worldwide social shaping of preferences about treaty-relevant technologies and their application. What I am referring to here are the dual-use technologies we are dealing with – technologies, equipment and products that can be used for legitimate peaceful purposes or otherwise for creating munitions. I am not just speaking at the level of states for weapons programmes, but also at the level of individual groupings and industry representatives seeking some easy money because somebody somewhere is interested in something.

How do we shape those decisions so that, when such a request comes, the answer is no? We could not think that, in today's globalised world, with the interconnectivity of industry, economic ties and so forth, we might actually prevent armament. I am not really too sure about that. Sorry for being a bit pessimistic, but industry very often goes where the money is. Think about today. In the most globalised of industries, Google is prepared to undertake censorship on behalf of governments. It just

shows that the fundamental principles of access to information in that particular case can easily be compromised. The same can be true here.

Where do we look if we want to look for wider stakeholdership to maintain those basic principles? As I have already indicated, I find that the CWC and the OPCW, as they are right now, are a bit isolated. They are like an island on their own. Except for some very formal linkages to other organisations, I cannot see much of a dynamic there. The policy of confidentiality, which is inextricably linked to the OPCW culture, plays a role. Obviously that has to be there, we understand, but it affects every single aspect of communication with the outside world. One example I could give is what I would call the very deficient media outreach in the case of Libya, where armchair generals and self-professed security specialists were able to say the most stupid things about Libya's chemical weapons capabilities and development scenarios. There was simply no response from the OPCW. At one point, they made one statement just giving basic facts, with no context whatsoever.

As I have already mentioned, states parties see themselves as the sole owners of the treaty. Already in some of the meetings – and you can also see it in the Ekéus document – there is some sort of push back to proposals to have a wider set of stakeholders involved. In that document, you see something quite interesting emerging, in a statement in one of the first paragraphs that the states parties are the owners of the OPCW. It does not say they are the owners of the CWC; it says they are the owners of the OPCW. Where does that leave the CWC, because there is more to the CWC than just the OPCW? Industry and scientific organisations are looking for greater interaction and involvement there.

I will just give you a few concrete figures to illustrate what I mean about the isolation of the OPCW. If you look at the last review conferences, in 2010, the Nuclear Non-Proliferation Treaty (NPT) had 67 organisations from civil society registered as participants. The BTWC last December had 47 organisations officially registered, which was up from 31 in 2006. In 2008, the CWC had 22 organisations. That is despite the fact that there is an international organisation with outreach, media and so forth.

There has to be a purpose for that broader stakeholdership. In the statement of my vision for the future of the CWC you find the essence. Essentially, you have to reach out to different constituencies within society to maintain the legitimacy of the treaty and the organisation. It costs money to implement that particular treaty. It is about budgets and that needs to be legitimised. However, it is also about acquiring and absorbing input from broader society as to where the treaty may go in the future. A treaty is not static; it is a living organism that needs implementation. It needs input to be able to identify issues and be able to address them. The big question is whether states must do everything in disarmament in the future, or if we can have a functional division of labour, like we already have for land mines or whatever, where states are the developers and the keepers of the norm, and NGOs and other organisations implement certain aspects of the treaty.

As I have said, we are pushing back based on the concept of sovereignty. There are different ideas of

sovereignty at play, and we can see that one's openness to transparency plays a big role in terms of whether one wants to see the involvement of instruments other than civil society, professional organisations and so on.

My final comments will just reflect on the EU. Iris had quite an extensive discussion, and much of what she has said is something with which we are struggling today. Namely, we are post the Lisbon Treaty. There is an independent External Action Service, and as a consequence of that, it is no longer possible for the EU to sit behind the Presidency, because of its reduced role. Taking that into account for the EU, I would say that the role of the CWC is, by definition, limited, for the simple reason that the EU is not a state party to that Convention. It has observer status, which perhaps has been a little enhanced since it was agreed at the UN in April of last year.

Having said that, I think it is fair to say for the EU that there is consensus in the support for the CWC. After all, it is a grouping of 27 states. That support takes different directions. First and foremost, it is a requirement for all EU member states and candidates to be a party to the CWC and to be in full compliance with the treaty, plus some additional non-proliferation legislation that is a part of the EU body of laws.

I would also venture to say that the EU as an institution plus its 27 member states are probably, together, the largest contributors to the OPCW budget. This takes on different forms. The most prominent are the joint actions and also the destruction assistance, given particularly to Russia. There are a number of different activities, such as conference and seminar supports. This non-proliferation consortium is just one aspect of the work there.

In the light of what I have been explaining today about the future, I think it would be good for the EU to start exploring in what ways the broader stakeholdership in the CWC, both in terms of its concept and future implementation, should become part of the discussions. Perhaps it is something for the Non-Proliferation Consortium to explore.

The EU is a champion in supporting civil society activity in a variety of areas, particularly human rights. Instead of being wholly targeted towards the international organisation in The Hague – that should not diminish, and that is not what I mean to say – it could probably also be part of organising a number of activities, not just between governments but between different constituencies within the countries. If we look at different parts of the world, their interest in disarmament and non-proliferation questions is not the same as it is in Europe and North America. This morning, the example was already given about Latin America in terms of nuclear issues. Communities are very small. That type of discussion should be advanced.

In the BTWC area, it is interesting to see how networks are being formed. We see a future governance model existing with multiple layers of networks, which involve states, obviously, but also international organisations such as the World Health Organisation (WHO), the World Customs

Organization and the Rio Convention. If everything comes together one way or another, there are scientific and professional associations coming together, and so forth. It works horizontally and vertically. I think that is one of the areas to start exploring in the future to maintain the relevance of the CWC. Thank you.

Dr Patricia Lewis

Firstly, I want to thank the organisers very much for inviting me to speak in my new capacity, and I particularly want to thank everyone for being here. Most of the meetings that I go to that have a nuclear component have a CBW [chemical and biological weapons] seminar and workshop that tends to be under-represented. What I am seeing here is a great interest in the CBW issue, which I think is very heartening.

The question that we were posed, to a large degree, is not only what the EU can do but what is the threat? So it is reducing the risks and the threats of CBWs. I think it is very difficult. One of the issues with which we grapple a great deal in our work is trying to get a real handle on what the actual risks and threats are. We quite often find in our community that people can overplay the risks and threats, and then, quite often, for various other reasons, they can underplay the risks and threats. Trying to actually ascertain what they are seems to me to be one of our biggest problems. If we do not manage to get this right, our responses tend to be inappropriate. We might tend towards legalistic frameworks, when they are not necessarily what are needed. We might tend towards deterrent frameworks, when they might actually provoke rather than prevent. The whole issue of information, analysis, putting that information out to the general public and starting a debate between non-governmental organisations as well as governments is so very difficult, but terribly important. That is really where we need to focus in the future.

My sense of this whole issue is that this scourge is not over, despite there being now almost 100 years of effort. The whole focus of our work still needs to be on prevention of use. That connection between preventing use and preventing possession is the fundamental approach that we have taken since the BWC and the CWC. Since the 1925 Geneva Protocol, moving out towards preventing possession has been the underpinning of prevention of use. We forget all the time in our work on arms control why we are doing it. We are not just doing it as part of a legalistic framework or some kind of international approach, in which we are all turning up to meetings and discussing the minutiae of our treaties. We are doing it because we want to prevent their use and the unbearable death, dismembering and disability of people, as we have seen in the past. We do not want that to happen to anyone else, and we have to keep remembering that. It is so easy to put that to one side in our work and to forget about it and yet, if we forget about it, we can be completely lost. We get lost in the tiny little details of treaties, in which some things can become seemingly very important that, actually, in terms of the big purpose, may not be so important.

What are we worried about? Are we worried about states? Yes, we are still worried about states. Jean-Pascal mentioned the DPRK for one. We have seen Syria and Libya. We do not yet know where

we are with Syria. There are others. What about Burma? What is going to happen there, for example? Where are we with those countries? Our information set seems to be very poor. Libya is a very good example of that.

Non-state armed groups are very connected with some of these regimes. Do we know whether non-state armed groups are going to be supplied in extremis, in certain circumstances? We know that some of them have an interest in developing their own, and we have seen moves towards that end. Is that a serious threat or a kind of hobby – the mad ramblings of a few scientific people who are in those particular groups? Are they likely to succeed? We have seen some attempts. We have seen, thank God, failures on the whole, but we have seen a few successful attempts. Are we likely to see more? What can we do to prevent that? Are the regimes sufficient?

How can we prevent leakage to non-state armed groups? We have seen, for example, leakage of small arms and light weapons to non-state armed groups. We have seen leakage of land mines and cluster munitions to non-state armed groups. Can we see that with WMD? What is missing in the CBW regimes is where I started to look. One of the big things missing is often our sense of purpose and of why we are doing it.

I just wanted to address a few things that Jean-Pascal brought up in terms of the CWC. One is this transition from the end-of-April disarmament phase. It is obviously not really the end of the disarmament phase – there is a whole lot more to get rid off – but a huge chunk of it has been done. This is the next phase for the CWC. You asked about the advisory panel and why it talked about the OPCW. That was in the terms of reference. It was about the future of the OPCW, not the future of the CWC. It would have been an interesting exercise to look at the future of the CWC, but it would have been a different exercise. I am not sure how welcome it would have been by member states, but we will leave that one hanging in the air. It seems to us on the panel that our main concern was the long-term sustainability of the OPCW in order to support the implementation of the CWC. We did have the implementation of the treaty at the heart.

The engagement of industry is very important; it is fundamental. It has perhaps been somewhat neglected of late, naturally, because of the focus on disarmament. Without the support of industry, in the long term the CWC will suffer. Universality is very important.

We also saw that there needs to be more connection with and support for the OPCW from the wider international community. They are rather isolated in The Hague. It is a lovely place. Obviously it is great in terms of the international community but, in terms of their colleagues in Vienna, New York and Geneva, there is a little bit of isolation. We need to see more link-up, stimulation, connection, exchange of ideas and exchange of experiences. This is something that is done quite badly in the international community. Unless member states insist on it, I can assure you that it is not going to happen. That is something I would certainly do. I would see that as part of capacity building for a lot of the other states that require that.

I was heartened at the conference of parties that we are seeing the taking-up of advice from the panel. For example, there is the ability of the Director-General to extend the contracts so that people with expertise can be kept. That seems to be very important. That was something that concerned us a great deal. We very much understood the desire not to have dead wood in the system and people staying there as a job for life. On the other hand, losing expertise seemed rather silly. You need some kind of judgment and balance there.

What about outside states and those outside the treaty, as well as those inside? As Jean-Pascal said, we are likely to see modified declarations, shall we say – to be polite. We hope we are likely to see, as it becomes more universal and more states come in, regime changes occurring and new declarations. There are some people who were rather shocked that Libya possessed weapons that they had not declared. Should we have been shocked?

One of the things that I have found in the few years that I have been working on this subject is that we are very bad at knowing what is out there. The intelligence community seems to be the one area that keeps getting it wrong. Either they have them when they do not have them, or they do not have them when intelligence says they do. We keep being told information with such certainty. Deals are done with certain governments, such as the Libyan government, over certain issues that have turned out not to be fully on the table. Perhaps that was known and we were told, or perhaps it was not known.

What I would like to see from the intelligence community is less certainty in their information or at least in the way that it is put across to the general public. Maybe that is not possible in our political systems. Certainly having spent the last three years in the US, I do have some sympathy with the intelligence community. It is very hard to have a grown-up discussion in which people say, 'I just do not know,' or 'We're not sure,' because you are expected to be sure. People come out with some very strong statements that are based on very poor information. This is a real problem. What we see repeatedly is that the international organisations tend to get their information closer to the mark, not in every case but in many cases, compared with the intelligence communities. There is a trend here. I am sure that is going to be quite a controversial statement, but it is what I am noticing.

We need to have a very big look at the way in which information is analysed, understood and transmitted within our societies over these issues. They are very difficult to work out.

On biological weapons – you will gather I have been asked to bridge the two – I wanted to take up Iris's approach to verification. One of the areas that is missing in the discussion of international regimes is the history of biological weapons verification. There seems to be a continuing and mistaken belief in verification's abilities. Certainly in the US, despite all the evidence that has since come out, Iraq was thought and still seems to be thought by many as 'proof' that biological weapons verification was or is impossible. This is a misreading of the facts.

In fact, if we look at the experience from Iraq, we could use the same set of information to demonstrate the opposite. Indeed, the impact of inspections and of the UN Special Commission (UNSCOM) in particular was quite severe. Whether that would be replicable is another story, but it is certainly not proof that arms control and verification are impossible in the biological weapons field. That is not to say it would be high confidence – I think we would probably all be in agreement there – but is it worth trying? If so, what could be done? I would not recommend returning to the [1925 Geneva] Protocol for lots of reasons. One is I think most of us would probably walk out this room and give up rather than go back to that. Is keeping things as they are the option? Can we continue indefinitely with the Intersessional Process (ISP)? Is that also not enough to make you want to go out and shoot yourself? We need to think about moving on. What do we do?

Perhaps what we could do is use these next five years to develop a new approach and change our approach to bio-weapons (BW) verification. We can use what we have learned through CBM and the experts meetings, from UNSCOM, the UN Monitoring, Verification and Inspection Commission (UNMOVIC), the code of conduct process and so on to find a new approach.

Although I know the outcome was disappointing, I am heartened that quite a lot of things are going to be addressed in the ISP, one of which is developments in the field of science and technology. That mostly refers to Article 7, I understand, but it could also be useful for developing verification. Why not? If states want to, they can. In fact, it says, 'review of developments in the field of science and technology related to the Convention'. Why not make that review of the science of technology for verification, which is also developing, as well as the science and technology for biological pathogens? Strengthening national implementation was agreed. Let us include that. In science and technology, states agreed to 'possible measures for strengthening national biological risk management, as appropriate, in research and development involving new science and technology developments of relevance to the Convention', and any other science and technology developments, I should say. That is an area where states could develop – perhaps in groups. Perhaps they do not need to do it all the time through the ISP. Perhaps they can do it outside, and bring in what they know and have learned.

What about establishing an expert group to investigate ways of enhancing verification techniques – such as markers denoting the origins of pathogens, for example, or an on-site inspection spot-check approach – and the engagement of civil society, trades unions, professional bodies and so on? Where could the EU make a contribution in this case, and what about an EU government regular civil society forum that could provide input into that process, with the view to moving things along and not just keeping things as they are, but developing it?

The big problem with all of this is how you then avoid the fault lines that exist in the international system. Everybody is so entrenched in what they said before and what they are going to say next. One of the problems – and this probably not going to be terribly popular in this room – is that we work in these silos of chemical and biological weapons, which we tend to connect together, hence the

title of this. Then we have the nuclear issue, and we keep that separate. We have the nuke wonks, and then the CBW wonks. Some of us bridge the two, but it is mostly different. I love the fact that there are so many more women in the biological and chemical weapons field. The nukes could certainly use that.

Part of the problem is that, because these weapons have been lumped together as WMD for so long, there is a fetish about them and a connection between them. The problems we have in the nuclear realm infect the chemical and biological realm. The fact that, in the past, we referred to chemical weapons as 'the poor man's bomb' has reinforced this. The inequities in the nuclear world feed into the chem-bio world. We will not be able to completely deal with the chemical and biological world unless we deal with the nuclear world. Of course, there are many other weapons systems and big issues with regional security – I am not pretending it is just about the hardware here – but this is certainly true in the political structures. The haves and have-nots in the nuclear world are creating problems for us in the chem-bio world, and we need to understand and address those issues. In the end, for chemical, biological and nuclear, the focus has to be on preventing use.

Clara Ganslandt

Thank you very much to all three speakers for these very thoughtful and stimulating presentations.

Questions and Answers

Paul Schulte, Non-resident Senior Associate, Nuclear Policy Program and Carnegie Europe, Carnegie Endowment for International Peace

This is an example of 'de-bounded risks', which Ulrich Beck writes about. It is not unique. CBW is like cyber, space and the environment; we do not know the probability of occurrence or the severity of outcome. This drives us mad. We do not have decision processes for this. I do agree that it is worth looking at the science, because my impression is that science has changed so much – gene splicing, nano- and bio-interactions and proteomics – that much of previous verification thinking is irrelevant. We should think about use and the normative aspects. In that, I found a quotation from Assad the other day: 'It is natural for us to look for these things, because weapons are cheap and easily available. Of course we would use them.' This interacts with the Israeli nuclear point quite obviously. It is also interesting that there was no public criticism of that in the Arab world or anywhere else. It is normalised.

Who knows how that is going to work out, because we have no idea of the other over-arching question here – cross-domain deterrents? What are you entitled to do in the event of a space, nuclear or chemical attack? What will be thought equitable and proportionate? This is a field where a lot of scientific, moral, ethical and military reflection is needed, because we do not have an idea of equivalences, which might moderate the tendency towards use, which will not be normatively challenged, at least by enough people on your side.

Rogelio Pfirter, Former Director-General, OPCW

I have some comments on some of the issues that were raised here, firstly on the EU. Having been on the receiving end of the implementation of the 2003 EU Strategy against Proliferation of Weapons of Mass Destruction, I can only commend the efforts of the EU on the two fronts that were mentioned here by Iris Hunger. I regret that no more emphasis has been placed on the verification front, as far as the BWC is concerned.

I am not from the EU – I hope I am not considered to be out of order – but, from a practical point of view, it seems to me that the prompt filling of a position like the one Annalisa Giannella had, which is no longer there, would be a very good step to show EU concern and interest in having a focus on this international organisation, 24 hours a day, seven days a week. Having that direct link when we were in The Hague was crucial for the organisation to feel the presence of the EU. The EU is, by the way, the major payer of contributions, and yet does not play the influential role it should, perhaps because it never gets its act together. I entirely agree that at the last review conference of the BWC that role should have been more evident, and it was not.

As someone who has participated for several years in the wreath-laying ceremony on Armistice Day in Ypres, I could not agree more that we need to be reminded of why we are doing what we are, why we are pursuing this very worthy cause, and why it is essential to peace and security to avoid future occurrences and ensure that these instruments are applied and effectively complied with. I would rather not speak about the future of the OPCW. I have to say that the panel has raised ideas that are already there forever. We all knew that there would be an end to disarmament and an emphasis on non-proliferation. We knew about science and technology. The real challenge now is to face those things in situ and on the field. The panel has indeed produced some very worthy recommendations, with which I strongly sympathise.

There are points that I think need some clarification. Industry has been there forever. Indeed, there would have been no CWC unless industry was involved. Industry was part of the negotiations. Industry helped to shape the verification regime in the OPCW from the very beginning. Industry has always been there. Perhaps what is needed is a question of emphasis, but industry has been there forever, and there would be no OPCW success were it not for the presence of industry. That is an important point.

Another important point that was mentioned in passing is about the location of the OPCW. As someone who sat for 15 years as a delegate at the UN in New York, and who has attended Security Council events, I was not part of the mafia in Vienna or Geneva, but I was very much part of New York. When I arrived at The Hague for the first time, I looked at people and did not recognise anyone from the old days. I wondered if this would be good or bad. In the end, after eight years there, I think it was very much for the good of the organisation. One thing that was absolutely avoided was

cross-pollination – delegates who move from one meeting in Geneva or Vienna and bring with them the viruses that they developed in the previous meeting, the irritations and confrontations. The OPCW was twice successful in its review conferences, and those review conferences were carried on by people who were not necessarily initiated in these things. More than that, I believe that, had they all been initiated, we probably would never have succeeded in having a final declaration. It was their emphasis on the vision of the organisation, and the need to ensure that the OPCW continued to work, that saved the day. The last review conference finished six hours later. In the end, it was decisive because of those people who very much wanted that organisation to succeed and felt a sense of responsibility. It is not such a bad idea to isolate the OPCW from cross-pollination with other failed exercises. I attribute to that a good part of the success of the organisation.

For the OPCW and the CWC also, the existence or non-existence of a constituency is not just a question for the organisation. The truth is, perhaps because of the success of the organisation, civil society has not shown much interest in the OPCW. There are organisations that have always been participating in the review conferences, but I can tell you that the number of applications is very low. Should the OPCW go out, finance and promote think tanks around there to take an interest? Maybe it should try to generate interest, but it is for civil society. The emphasis has always been on nuclear. Chemicals perhaps were seen as something that were succeeding or working out well. Never.

Dr Cindy Vestergaard, Project Researcher, Danish Institute for International Studies

This is just to follow on from what Rogelio Pflirter was saying regarding industry. How do we reach out to them on the bio? They were a huge lobby group against verification, and we overlook this a lot when we focus on the States but, on the lobbying side, they have a lot of power. Their role in negotiation is extremely important. This also links to the issue of bio-defence. I am wondering how we deal with those two issues, particularly now since we have academia and the universities receiving bio-defence funds, which they had refused before in the 1970s and 1980s. Could we just talk about the industry element?

Daniel Feakes, Senior Policy Officer, OPCW

One point the advisory panel mentioned when talking about verification was this idea of verification as a process. Part of the issue, when it comes to the BWC, is that when people think of verification, often they think of inspections. It is their assumption that what verification means is putting inspectors on the ground. Verification obviously means a lot more than that; it is a process of declarations and clarifications. Inspections are just a part of that. What happens in the field is only one element. There is stuff at HQ or wherever it might be as well.

I have a few points on reaching out to other organisations. We are now looking at the whole issue of chemical safety and security, which involves different stakeholders and actors, particularly within the chemical industry but broader than that as well. On the subject of science and technology, our scientific advisory board now has a temporary working group on the convergence of chemistry and biology, which inevitably involves talking to people in the bio industry, in the BWC or generally in

the life sciences. We also have a quite active but still embryonic public diplomacy initiative as well. You can now find the OPCW on Facebook, Twitter and things like that, for example. There are efforts to try to go out and get people involved.

My final point addresses what Patricia said about the linkages between CBW and nuclear, and the potential of the CWC as a model for future talks and negotiations on nuclear disarmament as well. As you have heard, it has been successful; we have destroyed over 75% of existing chemical weapon stocks. Are there models there for future nuclear disarmament?

Ralf Trapp, international disarmament consultant

Iris was making a strong plea for verification in the biological weapons context. We otherwise heard about the fact that we do have verification in chemical weapons. There is always a slight tendency to portray this as though, somehow, the biological world has to catch up with what the chemical world has already achieved. I like to caution against that for a number of reasons, the first of which is convergence, which was just mentioned. As we go on, we will see the differences between biological and chemical science, technology and industry gradually disappear, or at least the overlap increase. This will raise a couple of questions in terms of how we deal with verification.

Secondly, a large part of the verification system that we have for chemical weapons has been designed against the old chemical weapons programmes. There is a broad consensus, at least today, that the threat is not related, certainly not in the longer term as we see it from today, with stockpiles of that nature. If you are thinking about futures, we are thinking about other things. We are not thinking about thousands of tonnes of nerve or mustard gas. That means the verification system that we have in the chemical field will increasingly be less relevant to the actual and emerging threats, and related more to the past, hence less effectiveness and impact. Of course, we do have advances in science and technology. The question really is: what do we need to rethink? Is it just the BWC, whether and how we can do verification? Is it a broader question of how we deal with chemical and biological agents, their production and day-to-day use? What does that mean for both regimes?

That leads me back to the discussion we had at the end. The purpose of all of this is prevention of use. The more this process emerges, the more we are dealing with a situation of uncertainties and intentions, which perhaps could or could not be turned into a weapon. How do we deal with verification in that context? What role is there for investigation, which is clearly based on a suspicion or allegation that something has happened? How much can we actually do in the future in these fields of science and technology with the type of verification that we used to do in the past, which was monitoring, declarations and bean-counting basically?

Prof. Erwin Häckel, Associate Fellow, German Council on Foreign Relations

I have a question to the panel relating to the thrust and subject matter of this meeting. The title refers to 'bio risks and CW threats'. Is this intended to be a different kind of question? More importantly with regard to the biological sphere, you are talking only about bio risks and not about bio weapons.

Of course, it would perhaps make sense to say that chemical weapons are clearly defined by the Convention and stealing this sort of hardware; whereas in the bio-sphere, what are we really talking about? Bio weapons or some kind of soft matter of scientific development or technological potential? If that is so, it would mean that, in fact, in the bio-sphere, we are dealing with something different from the traditional arms control and disarmament matter. That would perhaps mean it would be unwise to throw weapons of mass destruction in these CBW terms altogether. In one or two cases, it is hardware. In the bio-sphere, the worries are about a very rapidly developing field of scientific knowledge. We do not know where it goes.

Una Becker-Jakob, Research Associate, the Peace Research Institute Frankfurt

My comment relates to something that Jean-Pascal mentioned. I think he called it the 'post Lisbon Treaty' phase of the EU. The consequences of this phase were visible at the BWC review conference, where the EU was no longer represented by the Presidency but by the European External Action Service, where it participated as an observer with limited rights. I think it is very important for the EU to find a way to deal with this situation, so that it can continue to play or resume the important role it used to play in the regime. In particular, it needs to fill this intermediary position that Iris mentioned.

This brings me to my question: the issue of verification and how to proceed with this issue. The way I see it, the EU and a few other states are the only ones genuinely interested in taking the verification debate further. We have the US with its well-known position on verification and the non-verifiability of the BWC, and we have some very outspoken non-states and Russia, which insist on talking about verification in the context of a legally binding document. They do not seem to be willing to move to alternative ways of addressing the issue. I was very interested to hear Patricia Lewis's proposals on how the debate on verification could be started and who could be involved.

My question is to all of you, and to Iris and Patricia Lewis in particular. How do you think that these other actors should be involved in the process? The US, on the one hand, seems to be more flexible than it used to be. Do you see those states that insist on an old verification approach involved at an early stage, or do you think it would be more useful to have an internal in-group discussion first and then reach out to them at a later stage? I would be interested in your views.

Ngoc Phuong Huynh, Associate Political Affairs Officer, Biological Weapons Convention Implementation Support Unit, UN

If we are addressing bio and chemical risks together this afternoon, regarding convergence of these two regimes, how do you see that we can enhance or strengthen cooperation activities between those two regimes?

My comment is regarding how to reach out to industry. We have noticed, in several years working with the Unit implementing the Convention, how difficult it is to change perceptions in the industry, when we start introducing ourselves as representatives of the BWC. The 'weapons' word is eating

everything else. They are allergic. They are terrified. 'Oh my God, we do not have anything to do with weapons.' That is the end of the story. They do not want to discuss it further with us. That is the big problem.

Sanja Bujas Juraga, Head of Department, Ministry for Foreign and European Affairs (MFEA), Croatia

I very much appreciate your emphasis on strengthening the links between government and civil society. With all due respect to what Mr Pfirter said about the lack of interest of civil society to OPCW topics, I have a different example. The MFEA of Croatia initiated a seminar. The co-organisers were supposed to be the OPCW, the Croatian government, the chemical industry and academia. These non-governmental stakeholders were very interested in participating in that seminar, and then we came to our national authority, which is the contact point for the OPCW. Unfortunately, colleagues from the other ministry did not have an understanding of broadening the topics with the non-governmental sector. Their understanding was that it should be kept within the governmental bodies. I would very much like to thank the idea of strengthening that cooperation, raising awareness of the need for that kind of cooperation, because my colleagues from the national authority attended many OPCW seminars, and they came with relatively rigid views of that cooperation. The idea was to have the chemical industry and academia to raise awareness on one side. The other side would give some more practical and lively examples.

Maybe the need is for the OPCW to invite countries and national authorities to initiate that kind of cooperation much more, but also to raise the discussion, as was the proposal, to establish the governmental forum. In this case, we did not persuade colleagues from the different ministries to go with such a complex idea or organisation. This is just a comment, but there may also be some ideas for how to influence a different approach.

Dr Sameh Aboul-Enein, Deputy Assistant Foreign Minister, Ministry of Foreign Affairs, Egypt; Assistant Professor for Disarmament and Security Studies, the American University in Cairo

To bring the Middle East into this discussion a bit, one of the problems we are facing in the region is a total unawareness at the public level and within civil society of what bio risks and chemical weapons threats are. There is no knowledge of the terminology or understanding of their codes of practices, the line of practices in labs, for example, or the scientists. There is no organised format for that. It is all related to either security or the concept of a WMD region. When it is approached, it is understood first as the nuclear dimension, without understanding the references, what it encompasses and how comprehensive it is, and whether it is on the technical, terminological or scientific level. What I want to stress is that a lot of work needs to be done by civil society, NGOs and think tanks for this to be understood in the Middle East, if we are to connect this to a WMD-free zone in the region in the next few years.

Li Hong, Secretary General, China Arms Control and Disarmament Association

I have a comment regarding Dr Zanders' comments on the present risks or threats from CBWs. You mentioned that the focus should be on preventing the use of BW or chemical weapons (CW). I have a different view. If you are talking about nuclear, it is true that the most priority should be on preventing the use of nuclear weapons. There are so many stockpiles and their status is very high, so it should be prevented. The status of chemical and biological weapons is very different. CW have been completely banned, and the destruction of their stockpiles is going well. Verification systems are working well. A lot of industry verification has been conducted, which spreads confidence among states. Of course, we should continue with this process. In the BW area, I do not think that, at this moment, any country possesses stockpiles. Also, I do not see any risk of potential use of such weapons.

The short-term objective should be to continue with this verification system, like CWC. From a long-term point of view, the priority should be to engage scientists and the industry to make them have a code of conduct or common compliance system for civil society; then we can prevent the risk of CW or BW threats.

Louis-Victor Bril, Policy Officer, EEAS

My first comment is that we always see, think and are looking at the lists of technologies that are evolving very rapidly. Nobody can contest that, for 40 years, everything has completely changed because of technological evolution. That is a visible part. There is another part, which we are not thinking about too much. It is the evolution of society. Society has evolved as much as the equipment or technical side. This is more linked to the approach or method we have. I do not know if those are bio weapons risks or bio risks, but it is true that events like social networks are completely new. They did not exist 40 years ago. The global threats that the public is scared of have completely changed from 40 years ago. There was the Cold War. Now, it is completely different.

Another point is on the interests of the public. I will be a little provocative. The public is extremely interested in bio and chemical risks and threats. Just look at the newspapers for a few examples. Take last year and the story of cucumbers in Europe. There were relatively few deaths, but it was a tremendous issue in Europe. The public was following that, minute by minute. This is just food for thought. Pollution causes 2 million deaths in the world a year, so people are very interested in the level of pollution in cities. Look at the groundswell of the green parties. They were not at that level 40 or 50 years ago. There is a tremendous public interest in those bio and chemical threats, and, speaking about something else, in nuclear. Look at Fukushima. Everybody speaks about Fukushima, when it was not an explosion or catastrophe, having provoked direct death.

Dr Iris Hunger

I want to address three points. The first is that I heard CBW has been normalised. I do not see that. I think biological weapons, because none are in existence, at least not to any open source knowledge, are not normal weapons.

Paul Schulte

That was not what I meant, so do not shoot it down.

Dr Iris Hunger

I will talk to you again then. The second point was wider stakeholdership. Jean-Pascal mentioned numbers. Just looking at numbers is a bit problematic. We also have to look at what these new civil society actors are addressing. I see in the biological field, where I am coming from, that we have a new stakeholdership, mostly because we have two interesting issues. They are bio-defence, where industry comes in, and this code of conduct with awareness raising. It is a good thing that we have scientific organisations involved. I am all for that, but this increases the number of NGOs coming to Geneva. It does not address NGOs and BWC. I do not know how the NGO community, on BWC issues in the smaller sense, has not grown. In fact, it has depleted. We have very few people. There used to be a huge BWC research institute. There is still a role for bio risk assessment. It is not that more NGOs means a better stakeholdership for BWC.

The last point was on verification. The 2003 European WMD Strategy and expert group to look at verification was mentioned, so we should probably go back to that document and start from there. We had several questions relating to what we actually want to verify. We have the old uncertainties, intentions, etc. Prof. Häckel said that there is no hardware involved in these bio-risk tests. What is it that we actually want here? My view is that we do not want to verify weapons in the bio area; that is specialising. We want to verify the peaceful use of technology and how it is used. That comes down to intention. My answer, when people ask me, is always that we need transparency and dialogue. If you talk to people about why they are doing those things and are given a satisfactory answer, you can start to judge whether they are actually compliant or not.

That is where civil society comes in. I was very interested to hear the comment on the development of society. There have been efforts from the civil society side to gather what is in the open sphere on bio-weapons-related activities. They are not bio-weapons activities but bio-weapons-related activities that could be misused for bio weapons. That is something that we will probably see much more in the future, if civil society has the funding for that.

Dr Jean Pascal Zanders

Thank you very much for all the comments. Patricia mentions the linkage between nuclear, chemical and biological weapons. Anybody who knows me knows that I absolutely abhor the notion of 'WMD' for that particular purpose. Even in actuality, I do not think a 'B' or 'C' mass destruction will have that potential, but it is not their primary use. Anyway, you also have to look at this in a different way, which links to the problem we have with Iran.

In my mind, I am very convinced that many of Iran's attitudes today have to do with the way Iran was treated during the Iran-Iraq War. Under the terms of the Geneva Protocol at that time, Iran was not in violation of international law yet, because of the non-proliferation policies put in place at the

time, at the start of the Australia Group and so forth, Iran was not only denied access to chemicals to make chemical weapons – under international law, it had the right to retaliate – but also to defensive equipment and materials. That frustration at that time has much to do with its attitudes today. I personally feel we have to investigate that particular issue as a way of trying to get out of today's stalemate.

I liked Mr Pfirter's comments about the organisations and isolation. Firstly, Iris, I gave the figures just to show how few were actually in The Hague at a review conference. I fully agree with your qualification. In my answer, I was going to say that one of the things we have seen, and I am sure we are going to see this if we ever see a nuclear weapons convention in my lifetime – once the disarmament treaty and total ban of the weapon is in place – is NGO participation fall off in the nuclear area too. The problem we have in the chemical and biological areas is that the norm is there.

Whatever has to be done right now is quite technical and specialised. Automatically, when I look at many of the NGO organisations, we see a very high degree of corporationalisation in their activities. They are not the NGOs we were thinking of in the 1970s and 1980s. The quality is very different. That also limits the focus and continuation of the focus on certain areas, because those NGOs have an interest in maintaining those elements of the agenda. It continues. It is very difficult to move into different directions.

One of the reasons I feel strongly that we should have an interest in what might happen to the future of the CWC, 20-30 years from now, is that, while the treaty is of unlimited duration, it does not mean it will exist perpetually. There is quite a big difference between the two concepts. The context in which the treaty has to operate has to retain and make changes. If the treaty cannot change, it becomes obsolete and disappears. The oldest prohibition on chemical weapons currently dates from 1907. That was the ban on their use in the 1907 Hague Convention on the laws of war, yet nobody refers to that anymore. It still exists as a formal treaty.

Una, with respect to the BWC, verification and how to move forward, we are working very hard on it. One thing the BWC has that the CWC does not is that doors are starting to open via bio risks, safety and security management. It is a point of entry. What Pway [Ngoc Phuong Huynh] was saying about the weapons industry being opposed depends on how you approach it. If you take the disarmament approach, yes, they will; but if you try to understand what their interests are, how they might contribute and the benefits to them, you will have very different reactions. In December, we had meetings with quite a few industry organisations. They were quite interested and there is going to be follow-up, but you cannot take the disarmament angle as the starting point.

I think the representative from Croatia is absolutely right, and it is a well-known and good initiative, but it also reinforces a little the point I was making about the professionalisation of the communities you brought together. What Patricia was referring to was that we also need to get the dreamers, so to speak, involved to maintain a sense as to why we are engaged. For me, to come back to [Ngoc

Phuong Huynh], it is also one of the reasons I am not in favour of all that talk about the convergence of the CWC and BWC. This is true on a scientific level, but the purpose of disarmament, in my mind, is not to control science or industrial activities. The purpose is to take a different kind of weaponry out of military doctrine. The military doctrines for chemical, biological and nuclear weapons are quite different from each other. This is the reason why they are separate; why they were eventually separated. This is where I agree with Patricia: at the end, it all comes back to that fundamental ban on use.

To the Ambassador from Egypt, I make my final comment. Yes, I would love to engage with you to bring these types of knowledge together, but do not think your situation is very specific. I just want to mention how general the discussion in this room has been on CBW materials, compared with the specifics we entered into this morning. If you are in CW or BW communities exclusively, they become very technical too; however, for the broader knowledge, there is still a lot of knowledge. The separation from nuclear, and 'C' and 'B', has to take place. I always feel from the CW area that there is a pecking order. At the top, you have the nuclear people; then you have the 'Cs' and the 'Bs'. The nuclear people can say anything about 'C' and 'B' and it will be accepted, but the vice versa is not accepted.

Dr Patricia Lewis

There seems to have been a general discussion, which I was very heartened by, about the rapid changes in the chemical and biological sciences, and the convergence of the two out there in the real world. There is a need for the regimes and our approaches to adapt and evolve with them, and take them into account, so that we are not just fighting the previous types of weapons or agents that we have, but are ready and prepared for new threats and developments. That is absolutely true. The question is how we do that within the international community. It seems to be very hard for it to consolidate what it has now and to find agreement to move forward on almost anything. That is one of the hardest challenges we have and is why civil society is so important. I do not mind how it is done; I do not prescribe that. I just think that that engagement or discussion, whether it is behind closed doors, out there at a big forum or all of the above – whether it is regional or global – is all for the good. It is about starting that discussion.

About being in The Hague, I agree that we are not infected by the viruses of the nuclear world, like in Geneva. On the other hand, we are also not being as cross-pollinated by new ideas so easily. The IAEA and the Comprehensive Nuclear Test-Ban Treaty Organization (CTBTO) are actually working very well on the whole. Geneva has fabulous ideas if you are working on land mines or cluster munitions, or with the Red Cross. There is just one little part of Geneva that is having difficulties, and they are increasingly irrelevant, but Geneva itself has loads of ideas. The trouble is that there is a sense of isolation in The Hague. It is not that that is preventing the work of the OPCW, but I sense that the people who work there would like to have more intellectual stimulation. If we can find a way to do that, we will have a happy medium. That is the point.

The bio weapons review conference had a session on the Middle East. It had an Israeli and a Jordanian speaking on a joint paper that they had put together, because of this network of think tanks that now exists in the region. The Center for Nonproliferation Studies (CNS) is part of it, and I was, up until last week. They have been developing this capacity. CNS has acquired funding to bring in the next generation of experts and build that capacity in the region. That regional network is proving to be very important. We can build on that; it is not very expensive to do it. States that may be in the room might want to put a little bit of cash in there to develop the next generation of expertise, through that think tank network. It is supported by the University of California, Los Angeles, Sandia National Lab and the National Defense University. CNS is in it and my ex-organisation supported the next generation work. There is something going on. It needs to be built on but it is there, and they are producing fabulous work. You can see the joint paper they did.

Li Hong, in terms of use, I absolutely agree with you. We also must not be complacent when it comes to chemical and biological weapons use. Just because we have got rid of so many, which is good, and because the norms are being established, it does not mean they will not be used in the future. There are a number of key states that are still outside the treaties. There are some states that we may not worry about, but there are some others about whom we certainly do have some worries. In the longer term, we are concerned about non-state use. If you are a victim of chem-bio, it does not matter too much whether it was through a state or a non-state actor. We need to include prevention of that, as well as prevention of nuclear use. I agree with you wholeheartedly.

Clara Ganslandt

Thank you very much to the panel and to all of you for this very rich exchange of views. I took note on biological weapons that we need to think very hard now about verification and how we can continue preparing through the intercessional period. On chemical weapons, we need broader stakeholders and to engage civil society. There was also a comment made about the Middle East. How can we better look at how information is analysed and understood? There was the whole question of dialogue about this. Never forget why we are doing all this: for the prevention of use.