

Proceedings of the

Speeding Towards the Abyss: Contemporary Arms Racing and Global Security

conference

hosted by:

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&

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List of Abbreviations

A2/AD	Anti-Access Area Denial
AI	Artificial Intelligence
AIPAC	American Israel Public Affairs Committee
ASAT	Anti-Satellite Weapons
ATT	Arms Trade Treaty
BJP	Bharatiya Janata Party
C2	Command and Control
CCW	Convention on Certain Conventional Weapons
CIFAR	Canadian Institute for Applied Research
CD	Conference on Disarmament
FMCT	Fissile Material Cut-off Treaty
GGE	Group Governmental Experts
IAEA	International Atomic Energy Agency
ICT	Information Communication Technology
IHL	International Humanitarian Law
INF	Intermediate-Range Nuclear Forces Treaty
IR	International Relations
IRGC	Islamic Revolutionary Guard Corps
JCPOA	Joint Comprehensive Plan of Action
LAWS	Lethal Autonomous Weapon Systems
ME	Middle East
MIRV	Multiple Independent Reentry Vehicles
NPT	Non-Proliferation Treaty
NSA	Non-State Actors
OST	Outer Space Treaty
OEWG	Open Ended Working Group
PLA	Peoples Liberation Army (China)
PPWT	Prevention on the Placement of Weapons in Outerspace
SAR	Search and Rescue
START	Strategic Arms Reduction Treaty
TPNW	Treaty on the Prohibition of Nuclear Weapons
UNIDIR	United Nations Institute for Disarmament Research
UNGA	United Nations General Assembly
WMD	Weapons of Mass Destruction

Summary

Speeding Toward the Abyss was a one-day conference hosted by the Center for International Policy Studies (CIPS) and the Canadian Pugwash Group (CPG) and held at the University of Ottawa. The conference comprised seven panels across a diverse range of themes related to the current international security context, including the dynamics of arms racing, the new generations of nuclear weapons, the status of the arms control and disarmament architecture, emerging technologies of space, cyber and autonomous weapons, the international strategic context and Canada's role. The outlook for international security looks grim as new forms of arms racing emerge, the risks of intended or accidental escalation increase and the capacity of multilateral institutions to address these threats is diminished.

Panel 1: Nuclear Arms Racing: US-Russian Relations and the Threat to Strategic Stability. Moderated by Rita Abrahamsen. Speakers: Ernie Regehr (The Simons Foundation) and Nancy Teeple (Royal Military College of Canada).

Mr. Regehr

Mr. Regehr summarized themes from Defence and Foreign Affairs committee reports from the 42nd Parliamentary session providing a broad overview of Canada's strategic context. Ultimately, his assessment was that parliamentary committees had done useful work: while remaining firm against Russian aggression there were also calls to promote dialogue and diplomatic measures with Russia. He noted two prominent themes involving Canada - Russia relations: Eastern Europe, where there was strong condemnation of Russian actions toward Ukraine and the Arctic, where opinions shifted. The willingness to use force demonstrated by China and Russia were identified as threats to stability. Mr. Regehr agrees, but argues that other states have also used force, noting interventions in Kosovo, Iraq, Afghanistan. Within the reports, there were some differences of opinion with regard to the Arctic. Points discussed were escalatory risk of Russian strategic bombing patrols, Russian intentions (A2/AD as opposed to force projection), ways to move forward cooperatively with Russia (calls for cooperation and ending post-Crimea non-communication), and possible NATO roles in the Arctic. The Parliamentary reports maintained that Canada does not face a state based military threat and recommended reinforcement of existing mechanisms: early warning system, enhancing situational awareness, icebreaking capacities, providing the Rangers with a maritime capability, bolstering SAR, disaster response and support to civilian authorities. There was some concern that a NATO presence in the Arctic would destabilize the situation. Some assessments in the reports urged capabilities to break Russian A2/AD (anti-submarine capabilities). On this point Mr. Regehr questioned why it would be necessary to threaten nuclear deterrent forces and cautioned as to the negative security implications of such a strategy. Recommendations for strategic stability tended to support reengagement and dialogue with Russia, military restraint and arms control. The reports warn of over reliance on military responses noting that even defensive measures will be viewed as threatening to the other and risks escalation. Mr. Regehr quoted at length from a Commons Defence Committee report which recognized the importance of a initiating a dialogue on disarmament.¹ Despite the formal government agreement to the report's recommendation for Canada to take a leadership role in promoting an intra-Alliance discussion, Mr. Regehr critiqued the government's inaction as a failure to appreciate the importance of arms control for managing the strategic environment. Finally, the reports, which he is in agreement with, suggest that Canadians would support their government in recovering some of the activist disarmament sentiment of previous years.

Dr. Nancy Teeple

Dr. Teeple examined contemporary US-Russian relations noting, the confrontation in eastern Ukraine, grey war, nuclear modernization programs, as well as deployment of missiles in Europe, plans to enhance missile defense in the US, deterioration of arms control treaties (INF treaty, JCPOA, non-renewal of START). She then explained post-Cold war tensions that contributed to the present situation- Kosovo, NATO enlargement, 2002 US abrogation of the ABM Treaty). She notes that the current situation is similar to the Cold War but more intense, evident in new forms of arms racing. The US and Russia remain the central nuclear competitors, however, new players and third party variables complicate strategic stability. For example, US capabilities developed to deter China or North Korea may be threatening to Russia who may push for the development of weapons to target asymmetric weaknesses.

Dr. Teeple highlighted current Russian perspectives drawing from a state sponsored Russian report². Highlights include an awareness of complexity and risk, calls for new understandings and approaches to avoid nuclear war, blaming of the US for destroying the nuclear infrastructure and developing new non-nuclear weapons. Dr. Teeple noted that it is dangerous that the report looked upon weapons that guarantee a second strike as stabilizing. It is also interesting that Russia does not see China as a threat but looks to cooperate. She explained how Russia's perspective differs from the US desire for 'absolute security' whereby Missile defence and denial systems are designed to provide strategic advantage through

¹Canada. Parliament. House of Commons. Standing Committee on National Defence. (2018, June). Canada and NATO: An Alliance Forged in Strength and Reliability. 42nd Parliament, 1st Session. Available:

<http://www.parl.gc.ca/committee/CommitteePublication.aspx?SourceId=80836>

<https://www.ourcommons.ca/Content/Committee/421/NDDN/Reports/RP9972815/nddnrp10/nddnrp10-e.pdf>

² Karaganov, S, Suslov, S. (2019). The New Understanding and Ways to Strengthen Strategic Understanding. Higher School of Economics, National Research University. http://svop.ru/wp-content/uploads/2019/09/REPORT_Eng_1.pdf

counter-force dominance. Challenges to relations are provocative and destabilizing technologies and deterrence by denial systems, which contribute to strategic instability. Dr. Teeple summarized a few locations of offensive and defensive technological development for the US and Russia. Advances and actions are perceived as threatening given increased stealth, speed, accuracy of new low or high yield nuclear weapons, as are sub-nuclear weapons such as hypersonic cruise missile technology. Referencing the August 2019 failed weapons test, Dr. Teeple paraphrased an analyst who remarked that *as Russian tests fail, they learn, they learn until they succeed*. Another important danger is the observation of the entanglement of nuclear and conventional weapons seen in China and Russia. Dr. Teeple raised a number of questions of how to achieve strategic stability in light of challenges acknowledging that the concept of ‘strategic stability’ is ambiguous and problematic. She argues that provocative comments by all sides do not incentivize dialogue but that sustained dialogue is required to understand the dangers of abandoning treaties, entanglement and perceptions of strategic weapons and doctrines. Further, limitations on technology that makes weapons more threatening (hypersonic) and limiting tactical nuclear weapons is required. Unilateral action would need to incentivize the weaker state to cooperation and may demand the stronger state to initiate efforts.

Discussion

The question period discussed a number of important themes. The first comment addressed the lack of discussion with respect to the UN, which was stressed to be the only meaningful chance to halt escalating arms racing. The commenter further noted Canada’s partiality to NATO and NATO expansion into Russian sphere of influence, missiles in Turkey, forcing NATO members to oppose the Ban treaty (TPNW) and NATO building a weapon advantage. It was responded that there was a mixed appreciation of Russia’s perspective in the Reports. Another commenter noted that expansion of NATO concerns held by Russia were addressed within the original US Russia post-Cold War agreement. It was replied that this agreement, in 1997, was established in an entirely different climate. A second commenter stressed that the US pursues dominance as a point of deterrence at all costs and do not care about Russian concerns. It was noted that a high ranking US official in NATO is deeply concerned about the prospects of a biological war. The comment was replied to with a more hopeful experience referencing interaction with an American strategic commander who it was felt sincerely desired a nuclear free world. It was noted that a cognitive dissonance exists in how strategic thinkers think about absolute security and it was argued that this is what we need to focus upon. A third commenter argued that the discussion of who is the stronger party is a moot point since a second strike capability exists on both sides and that there is no real possibility of a successful first strike. Another comment asserted that the collective power of the rest of the world is being held hostage by nine nuclear states. The commenter desired Canada to be a leader in disarmament with activism of parliamentary leaders. It was replied that calls for dialogue are political decisions. Further, that political will is part of the problem and limits where there can be room for a dialogue. Civil society needs to produce an inventory of recommendations, which can be politically useful when the political moment is ripe for receiving the information. However, Canada is not at the proverbial ‘big-boy’ table with the nuclear powers. However, Canada is at the table where the overall balance of the strategic context is discussed and middle power dialogue and support is under recognized and needs to be promoted more.

Panel 2 - Nuclear Arms Racing and the NPT: A Middle Power View. Moderated by M.V. Ramana. Speakers: Peggy Mason (CPG/Rideau Institute) and Marius Grinius (CGAI).

Ambassador Mason

Ambassador Mason provided a pointed perspective of Canada’s approach to the NPT’s 2020 review process. She recalled that the NPT represents a tripartite bargain – that non-nuclear weapons states are not to acquire weapons, nuclear weapon states are to pursue– good faith disarmament, and all states are to have peaceful access to civilian nuclear uses, and that this treaty has been at the heart of the global non-proliferation architecture for almost 50 years. However, current tensions are steering the NPT 2020 process to a likely failure. Historical context of the function of the NPT was provided: negotiated in 1968 and entering into force in 1970 with a review conference every five years aiming at consensus in a final document. There was an alternating pattern between agreement and failure until 1995, when the treaty was extended indefinitely and concrete obligations were specified for the nuclear weapons states. The concerning issue is that 2020 could mark the first time that there would be two consecutive review conference failures, the failed 2015 review conference and the 2020 one. The heart of the problem has always been a lack of consensus as to the extent of progress on the goal of disarmament. When the non-nuclear states felt that, there had been sufficient progress they were satisfied and there was consensus. Ambassador Mason warns of the urgency of the situation, that we are ‘on a fast treadmill in the

wrong direction'. However, Canada could play a role in heading off a debacle. She quotes from her own testimony at the House of Commons Standing Committee on National Defence in May 2018.

Canada, of course, is a non-nuclear-weapon state party to that treaty, as are all of the other NATO members with the exception of the United States, the U.K., and France, who are nuclear-weapon states party to that treaty. The treaty sets up two groups. The vast majority are the non-nuclear, with five declared nuclear-weapon states.

Under article VI of that treaty, as interpreted unanimously by the 1996 advisory opinion of the International Court of Justice, all states party to the NPT, whether non-nuclear or nuclear, are under a legally binding obligation "to pursue in good faith and bring to a conclusion negotiations leading to nuclear disarmament in all its aspects under strict and effective international control". This legally binding international obligation stands in sharp contrast to the strictly political commitment made by NATO member states to its nuclear posture, and not a legal obligation, there being no reference whatsoever to nuclear weapons in the North Atlantic Treaty³.

Ambassador Mason argues that there is a fundamental contradiction between NPT and NATO membership. This occurs because under Article 6 of the NPT, as unanimously understood in the 1996 ICJ decision, parties are under a legally binding obligation to achieve nuclear disarmament. She notes that current NATO nuclear policy is just that - a policy, not an obligation! Essentially, the position Canada has traditionally taken in the past has been to try to square the contradiction of being protected under a nuclear umbrella and advancing disarmament goals. Previously Canada was a whole-hearted member of the non-nuclear state members of the NPT, there was no such thing as a NATO bloc. However, something changed with the negotiation of the Ban Treaty. Canada is not a member. Ambassador Mason argues that Canadian non-membership did not come out of a procedural objection. Instead, of playing the traditional bridging role, Canada has provided cover for the nuclear states. Ambassador Mason quotes again from her testimony:

So where does all this leave Canada? The answer is clear. It is our legal obligation under article VI of the NPT to begin the process—this of course will take a while—of signing and ratifying the nuclear ban treaty by absenting ourselves from NATO's nuclear doctrine and beginning a dialogue within NATO with the aim of convincing other non-nuclear-weapon states in NATO to similarly renounce NATO's unnecessary, dangerously provocative, and counterproductive nuclear posture⁴.

The Canadian government responded to the National Defence Committee report by saying that they agree with the recommendation, but offers no new action within NATO. Ambassador Mason argues that were Canada to take the recommendation seriously in the lead up to the 2020 NPT conference and join the Ban Treaty, - it would signify that Canada was back as a serious player. Ambassador Mason argues that it is the quintessential role of the middle power to find every possible way to promote dialogue and this role is urgently needed now in bridging the gap between the nuclear and non-nuclear states.

Ambassador Grinius

Ambassador Grinius noted how the current NPT review is distinct from his experience at the 1985 review conference, where the USSR and US both had mutual interest in expansion of the NPT. He argues that Canada overall has retreated from the activist role that was played in the past, despite nostalgic political rhetoric. He suggests that the highest priority is in reality the relationship with the US, regardless of whether Conservative or Liberal governments are in power. This poses difficulties for Canada with respect to dealing with different types of administrations in the US. He describes how the situation came about noting, the Harper regime's lack of enthusiasm for multilateralism and the drift in foreign and defence policy under Trudeau. Thus, Canada has been retreating on the world stage and worryingly, other middle powers

³ Canada. Parliament. House of Commons. Standing Committee on National Defence. (2018). Evidence. Meeting 22 November. 42nd Parliament, 3rd Session, 1549. Available: <https://www.ourcommons.ca/DocumentViewer/en/42-1/NDDN/meeting-71/evidence>

⁴ Canada. Parliament. House of Commons. Standing Committee on National Defence. (2018). Evidence. Meeting 22 November. 42nd Parliament, 3rd Session, 1555. Available: <https://www.ourcommons.ca/DocumentViewer/en/42-1/NDDN/meeting-71/evidence>,

are following Canada's lead. Ambassador Grinius expands on the severity of the situation, whereby, the NPT is under siege. Outliers, India, Pakistan and Israel are laughing at those who take NPT seriously. North Korea is now a nuclear weapon state thanks to Pakistan, Russia and China who supplied different aspects of the technology and delivery capabilities. Strategic stability is occurring as 'a new great game' with an ascendant China with global ambitions, aided by junior partner Russia. At the same time, there is a US strategic retreat from its obligations, especially under Trump. The UK and France remain in love with their nuclear weapons, which maintains their permanent member status at the UN Security Council. Russia and China cooperate when it is in their interest and both like to keep US off balance. China, with respect to the NPT can 'hide in the weeds' not having to do anything, and sit back and watch, leaving the US to do all of the work. In terms of diplomatic movement, despite some good work, they have not progressed. Ambassador Grinius is not optimistic about the 2020 Review conference. He suggests that Canada should be talking to middle powers committed to the NPT. Another dangerous trend has been within the Nuclear Suppliers Group (NSG) whereby middle powers are being pushed to allow 'foxes into the NSG henhouse'. For example, the US bamboozled NSG states to let India receive membership and China pushes for Pakistan to be admitted. Nuclear proliferation control is diminishing. Iran is doing well as is North Korea. Tactical nuclear weapons are a new threat without any reflection as to why arms control is important or required. Here, Ambassador Grinius poses a challenge to the logic of possessing such nuclear weapons: *what is the point when conventional weapons are so accurate and lethal? What would you do with them? Why are they needed?* Ambassador Grinius stresses that there are massive global implications of any nuclear weapon use, including tactical. Therefore, we have fallen into a situation of arms racing, without any understanding or rationale of why you would need these weapons. He closed noting that we will need some time to figure this nuclear muddle out, and will need new political thinkers and leaders to make it happen.

Discussion

The commenter noted the dire situation the world is in with the nuclear disarmament architecture crumbling before our very eyes, and cautions that a failed 2020 NPT review conference will have catastrophic effects on nuclear proliferation. He provides a list of recommendations arguing the only way is to build a bridge between two opposing camps. The commenter asks/suggests 'could this conference make a statement, a message to the government, imploring Canada to work with like-minded states', to work diligently to secure that consensus, which is possible to save the NPT? It was replied, *yes, by any and all means let's do this*. Further, that we need to keep the conversation going laying the groundwork for future discussions; the previous commenter was correct, we need to organize our reflections and put them somewhere in the cupboards waiting for the right time. Another question was about China. It was responded that China has a no first use policy but this could change. Another comment was that the PLA are undergoing a huge reorganization, modernization and upgrading MIRV and ICBM technology. A commenter asked for clarification as to the Canada-US relationship and the implications of different administrations. It was replied that the primacy of the US relationship does not mean there isn't anything for Canada to do. The responder continues to explain minister Freeland did not have the NPT as a priority as she was consumed by trade negotiations. Another reply was that nuclear issues and NATO policy is simply a lower priority. Another comment was that signatories of the NPT should not be hosting new weapons which is an extraordinarily dangerous situation. It was responded that there is a massive nuclear weapons modernization within NATO with new roles and new weapons. The arms race has accelerated so we need a really meaningful gesture from the nuclear states. A question was whether there is anything Canada can do? It was replied that Canada's role needs to work within NATO, but NATO took an unjustifiably hostile approach to the Ban treaty. A question was raised as to how would developing countries hold great powers accountable, if they don't see Canada doing it. It was responded that is a concern over the implications of a failure of the 2020 conference and that it must be communicated that a nuclear weapon is not going to increase security – but it will make all others less secure. Pressure has to be put on trying to change the behavior, not creating more weapons. It was also noted that Bush had quietly tolerated the PLA expanding its offensive nuclear forces and a caution to pay attention to Iran as Obama's deal was a delay. Another question related to ameliorating the threat posed by tactical nuclear weapons. Is there a way of withdrawing the tactical nukes? It was replied that new tactical nuclear weapons will require new combat aircraft to be able to deliver them. Not acquiring these planes may provide the answer for some of these basing states which seek to get rid of the tactical nukes.

Panel 3 - South Asia: The Most Dangerous Case? Moderated by Farhad Rezaei. Speakers: Peter Jones (UOttawa) and M.V. Ramana (CPG/UBC).

Dr. Jones

Dr. Jones shared his personal insights about the south Asian context based upon his work as a practitioner of track 2 and track 1.5 dialogue between India and Pakistan through the Ottawa Dialogue. He prefaces his presentation that this is a very dangerous situation, possibly the most dangerous part of the world. He noted that Arms control in the region is a triangular problem: India sees China as its greatest threat and sees Pakistan as a secondary threat, and adjunct of China. Pakistan in turn argues that because India's nuclear arsenal is so large, they need a larger one. Dr. Jones notes that a massive problem is that there is no ongoing strategic dialogue between the countries and that the habit of dialogue is deeply flawed (both sides stop talking during crisis). Informally, participants (former military and political strategic leaders) claim that they 'know each other' via cultural similarities, but in reality there deep and increasing misunderstandings. A common reflection by participants has been, 'what do you mean by that'. Dr. Jones' characterization is that this ambiguity is seen as a benefit but it is actually very dangerous. Further, regional safeguards are weakening. Some problems are doctrinal and some are technological. India has an official policy of no first use (although increasingly qualified) but Pakistan does not believe this to be credible. However, they are concerned with a recent Indian approach - 'Cold Start' which is India's strategy to launch a significant retaliatory conventional attack within a few days. In response, Pakistan has developed tactical / theater nuclear weapons and forward deployed them to the front arguing that this was what NATO did during the Cold War. The storage of nuclear weapons in 'mated' positions in forward deployed or on submarines is concerning. There are also problems where launch authority has devolved to lower C2 levels. Another concern is the vulnerability of Pakistan's conventional submarines carrying nuclear weapons during surfacing which imposes a 'use it or lose' pressure on leaders. Another issue is the massive growth in both countries' scientific and industrial complexes without any reflection as to how much is enough and the type and quantity of weapons that are desired. Looking ahead, what is concerning are commitment traps. This occurs when Indian leaders have promised substantial retaliation. Subsequent pressure arising through social media is dangerous, as the government can be seen as weak if not. Another issue is in discerning between preparation for attack posturing and prudent management. Further, Modi policies on Kashmir have been escalatory. How then can escalation risks be addressed effectively in this challenging environment, where crises occur regularly, with conventional military sides to them and where both sides suspect each other? Overall, there is no evidence of a willingness to resolve the confrontation from either side and Dr. Jones is not optimistic cautioning that they have come close to resolving Kashmir, but that now seems unlikely.

Dr. Ramana

Dr. Ramana begins with a satellite photo of the Indo-Pakistani border which is so brightly lit it can be seen from space, reminding of the heavily populated areas which would be affected by nuclear war and the high degree of tension. Dr. Ramana explained that a lot about south Asia is like the Cold War, but there are marked differences. For one, territorial proximity means much shorter flight times (as low as 5 minutes) than the Cold War (about 25 minutes), which implies much shorter warning and decision times. Currently, India and Pakistan are involved in an Arms race; both are increasing fissile material stocks, enriching uranium and producing weapons grade plutonium. Further, technological innovations such as developing missiles, which are pre-fueled and have warheads pre-loaded, are problematic. Dr. Ramana summarizes Indian and Pakistani capabilities. India operates a triad with long-range bombers, land based missiles (short range - *prithvi* and long range - *agni*). Development accelerated after 1990 achieving longer ranges, bigger capabilities and nuclear powered subs with plans for ballistic missile defence. Missiles are aimed at Pakistan or China. Pakistan operates bombers and land based missiles. The longest-range land based missiles are capable of targeting an Indian naval base in the Bay of Bengal. Pakistan has claimed they have tested MIRV technology and are attempting to build sea-based capabilities; trying to develop nuclear subs but not yet. What Pakistan is doing can be understood as full spectrum deterrence, to counter a whole range of Indian capabilities. The arms race occurs as India moves forward on one dimension, and Pakistan tries to catch up but the gap is widening. Dr. Ramana does not like the term 'deterrent'. He argues that nuclear weapons do not automatically deter and what happens depends on the circumstances. Further, nuclear weapons and arms races are inherently destabilizing. The acquisition of nuclear weapons has not meant a lack of war; in fact, Dr. Ramana suggests that the 1999 war over Kargil may have been caused by nuclear weapons opposite to deterrence theory. Dr. Ramana notes crises where there were great escalation risks, including suspected deployment of nuclear assets (1999, 2001-2002, 2019). India's primary document governing the use of nuclear weapons is the *Draft Nuclear Doctrine*, which specifies a no first use (NFU) doctrine, but which supports 'punitive retaliation'. Dr. Ramana argues that the NFU doctrine provides diplomatic cover, however, Indian leaders, have made statements that suggest that they would not abide

by this doctrine when under real attack; in reality, there is probably a launch on warning posture. The question becomes, how reliable is the warning when there is such as short range, time to detonation? Another question for India is about determining the authorship of attacks and the extent of control the Pakistan government really has over its terrorist groups. Another worrisome aspect is related to the lessons learned of the periodic crises where both sides claimed victory: India claimed that coercive diplomacy worked and Pakistan claimed that India did not attack because it had nuclear weapons. This validation of the usefulness of nuclear weapons is a huge problem. Also, the role of social media is new and problematic as it goads governments on both sides to do something about it. Dr. Ramana also thinks that the US is a fourth player to the existing triad understanding of the situation (India, China, Pakistan) because the US desires to have India as an ally against China.

Discussion

A question was posed as to whether the Canadian government still supports the Ottawa Dialogue. It was replied that Canada did support it at inception but the funders are now predominantly the UK and US. There was a question about the prospect of a non-aggression pact, invest in actual channels of communication. It was replied that there is little optimism for a non-aggression pact, but it could be possible; there has been a historical precedent for cooperation, such as in 1984 when both sides agreed to not attack specified nuclear facilities. Discussion of Kashmir revealed that the situation seems to be worsening given that it is now an identity issue on both sides. Modi, the BJP, and the rise of Hindu nationalism and chauvinism makes Kashmir more dangerous. There was agreement that the situation in Kashmir will get worse especially with the BJP. There was a question about India's 2019 ASAT test and whether it signifies that India perceives itself as a global power. It was responded that India certainly claims to be a global power and they label Pakistan as a regional irritant, which drives Pakistan wild. There is a sentiment that India cannot be respected as a global power without demonstrating responsibility in their own neighborhood, although another reply disagreed with this assessment. Another reply offered a clarification - that there is a difference between the previous administrations which had a legacy of the Gandhian peace movement, whereas the BJP sees global power status in terms of the use of nuclear weapons. A question asked about the possibility of these countries joining the NPT as nuclear powers. It was responded that it is unsure whether they could join the NPT but expressed concern of rewarding countries unless they agreed to give their nuclear weapons up. Another reply expressed that dual use tech should not be provided to countries not in the additional protocol. There was a question about Candu technology. Dr. Ramana suggested that the possibility of Canada exporting nuclear reactors anywhere is gone. India has developed beyond this technological point already and would not be interested in the Candu in this area. There was a question about chemical and biological weapons stockpiles. It was replied that for India, this is possible but it would be a secret. Prior to India signing the Chemical Weapons Treaty, they had maintained that they did not have any chemical weapons but when it actually signed the Treaty, they admitted that they did have a small stockpile of chemical weapons. Another question asked about whether the world needed to see a limited war in order to convince of the real danger. It was replied that the argument is unconvincing as we are already woken up to the threat of climate change and still nothing is really happening.

Special presentation - "The Collapse of the JCPOA and the Prospect of a New Arms Race in the Middle East" by Farhad Rezaei

Dr. Rezaei

Dr. Rezaei discussed the JCPOA highlighting reactions and implications for Israel, Saudi Arabia and Egypt. He summarized the logic and context of the deal and explained that mistrust of Iran clouded the JCPOA from beginning. Israel, as the only nuclear state in the ME has worked to roll back Iran's nuclear program through multiple means - clandestine work with US help and lobbying for hard sanctions. Likud tried hard between 2010-2012 for a preemptive military strike; however, there was strong internal opposition and a lack of American support. Dr. Rezaei argues that the JCPOA did set Iran a severe setback and it was praised by the Israeli Atomic Commission despite Likud criticism. However, The IRGC painted 'Israel should be wiped off the map' onto missiles, which validated Likud claims that Iranian hardliners still wanted to annihilate Israel. Obama imposed sanctions against regime and associated individuals, but this was deemed inadequate. Trump's May 8 2018 abrogation of the treaty caused additional uncertainty. However, Israel is expected to continue to undermine the Iranian economy, lobby for sanctions and conduct sabotage. The Saudis did not publicly oppose the deal, but wiki leak documents indicate that the Saudis were unhappy. It was understood that the US was willing to tolerate Iran's nuclear expansion at the cost of the historical relationship with the Arab states. Some Saudi elements pushed to start their own nuclear program. The US assuaged concerns and promised to upgrade its patriot missile

systems protecting the kingdom, but this did not diminish their anger. At the present time, nothing in current doctrine allows for nuclear weapons, although an arsenal of conventional ballistic missiles could be modified. However, obtaining nuclear weapons is difficult and complex and would take the Saudis several years. They are also a member of NPT and have a safeguard agreement with IAEA; verification regime would make a clandestine program difficult. Further, the Nuclear Supplier Group (NSG) would probably not sell requisite technology although the black market is an option. However, from whom? Perhaps Pakistan. In 1961, Egypt warned that 'if Israel was to acquire nuclear weapons they would secure weapons at any cost. Despite rhetoric, there has been no sustained program to do so in military or civilian realms. Perhaps there is a realization that it would be too difficult economically and politically. Further, Egypt joined NPT in 1980 and pushed for nuclear free zone in ME. The main challenge to Egypt acquiring a weapon is its low GDP and domestic turmoil. Dr. Rezaei claims it would be good to stop nuclear technology from being established in Egypt and suggests pressuring Egypt to ratify the additional protocol. However, if Iran were to default on the deal it would lead to a major reconfiguration in the region, possibly an arms race with Egyptian and Saudi acquisition efforts to obtain nuclear status and possible military action by Israel. Iranians have made it clear that they will stay in the JCPOA only if they can get the economic benefits of the deal. However, Economic relief has not happened. Dr. Rezaei claims AIPAC warns banks, against doing business with Iran. Hardliners, who always have the upper hand in Iran, would push to end participation in the JCPOA and possibly the NPT.

Discussion

There was a question as to the prospects of a nuclear free zone in the ME. It was replied that Israel has 150-200 warheads and that this is a real concern for Iran and perhaps one of the reasons they would want it. However, the reality of a denuclearized ME is just wishful thinking. There was a question about worst case scenarios with regard to the JCPOA. It was replied that both sides need to honour the agreement, meaning Iran needs to get economic relief. If not, then the Iranians will terminate their participation given hardliners who might withdraw from the JCPOA or NPT and break out with weapons programs.

Arms Racing in New Domains:

Panel 4 - Star Wars: Coming to a Space near You. Moderated by Cesar Jaramillo. Speakers: Paul Meyer (CPG/Simons Foundation) and Jessica West (Project Ploughshares).

Dr. West

Dr. West provided a summary of the current space security dynamic with reference to arms racing, examining historical and future trends. Dr. West explained that arms control in outer space was a core feature in the early years of the space era; there was a sense of facing 'an abyss' and the Outer Space Treaty (OST) was a way to take a step back. Dr. West explains that since the dawn of the space age, it has been militarized but not weaponized, with passive military use being accepted under the broad concept of "peaceful purposes." However, the potential for deploying weapons in space has always lurked beneath the surface. Militaries are highly dependent upon space, which is also viewed strategically as the ultimate high ground. However, self-restraint has prevented weaponization through measures such as the anti-ballistic missile (ABM) treaty and voluntary ASAT moratorium led by the Soviet Union in 1984. Indeed, there was a shared sense that space was too important for warfare. However, in a significant break from the past space is increasingly viewed as 'a new domain of warfare.' States adopting this view include China, Russia, US, France, UK, NATO, and India. To this end, more states have indicated a desire for defensive – and even offensive – space-based capabilities. Dr. West believes that this is driven by the fact that space is both vital and vulnerable. It is vital to the ability to conduct warfare or security operations in all other domains, meaning that it is also an important capability for potential adversaries to disrupt. Military thinking follows that space capabilities need to be protected. Active defence and deterrence initiatives in space are underway, for example the US Operation Olympic defender; Canada – 'Shields up' competition is seeking ideas to enhance protection in space. In addition, many militaries have very recently initiated efforts to create dedicated military units for space: Russia; UK; US; China; France, India; Japan. Additionally, new, ambiguous capabilities are being developed to support on-orbit capabilities that can serve many purposes, such as maneuvering, and rendez-vous and proximity operations. These capabilities are not inherently good or bad – for example, they can support the ability to repair satellites on-orbit, or to harm a satellite. In other words, new space activities are not necessarily dangerous, but neither are they 'not dangerous'. Additionally, space is already a target of conflict, using non-destructive means such as

non-kinetic interference with satellites (jamming, spoofing). In addition, there has been an uptick in antisatellite tests (China 2007; US 2008; India 2019) which have served as demonstrations of capabilities. These blur the traditional divide between of peaceful purposes and warfare, which makes it challenging for governance and arms control. More concerning, the global response to the recent Indian test ASAT test was muted, allowing such activity to become normalized. Countries are developing dedicated capabilities for space. Additionally, as space is seen as more than just military competition, space is seen as a final frontier. This includes competition for power, including a scramble for space-based resources and a sense that those who get there first will dominate in the future. This matters because it violates the spirit of OST and erodes governance. Further, there is the issue of environmental destruction as space is easy to mess up. Finally, space is not just a military domain – the majority of satellites are commercial and most satellites are multipurpose. Conflict would bring incredible civilian and humanitarian disruption and escalation risks (predictive exercises demonstrate variant outcomes). Dr. West notes that space is deeply entwined in other forms of arms racing: nuclear, cyber; for example, C2 of nuclear weaponry is conducted in space.

Ambassador Meyer

Ambassador Meyer outlined the history of diplomacy and global governance mechanisms with respect to space security. He notes that for a half century of the space age, states have been quite restrained in their military use of space despite the Cold War competition. In part, this was a result of one of the great, unsung achievements of Cold War diplomacy: the OST of 1967 with currently 109 parties, which recognized space as a global commons, “a province for all mankind”. This was a profound act of conflict prevention in that it precludes any claims of sovereignty or national appropriation. The Treaty specifies that activity in space should be for peaceful purposes and for the benefit of all countries, outlawing any WMDs in space and militarization of celestial bodies. An air of cooperation characterized the OST with its provisions for observation of launches, reciprocal visits and sharing the results of scientific exploration. The cooperative spirit continues in several areas, notably the International Space Station, but this foundational cooperative spirit is under a major assault, replaced by unilateral assertions that space is now a war-fighting domain, requiring military dominance. Most states agree with the goal of preventing an arms race in outer space evident in the wide support for the annual UN General Assembly resolution on the subject (RES/ 73/30 in 2018 being supported by 181 ‘yes’ votes and only two ‘no’- US and Israel). This resolution supports the legal regime of the OST, but calls for new measures to reinforce that regime and make it more effective. Despite this strong expression of the will of the international community, progress in realizing its aim of the non-weaponization of space has been scant. Ambassador Meyer laments that the CD, with 65 countries in Geneva, has been ‘moribund’ for over 20 years. The CD is trapped in a “Gordian knot of the extreme application of the consensus rule” whereby any state can veto any decision. The forum thus has only been able to engage in informal ad-hoc discussions on space security and has been unable to work on the Sino-Russian proposed agreement on the Prevention of Placement of Weapons in Space (PPWT). Given this gridlock in the CD, states have looked for other venues and Ambassador Meyer summarizes several initiatives. In 2008, the EU produced a promising international code of conduct but which ultimately “failed to launch”. A UN GGE on transparency and confidence building measures for outer space, agreed in its 2013 report on a menu of such measures, but there has been little take-up by states. Another GGE looked at possible elements of a legal agreement in 2018-2019 but was unable to produce a report due to the last-minute opposition of one of its twenty members. The Committee on the Peaceful Use of Outer Space (an 89-member forum in Vienna) was able to agree on a set of voluntary guidelines for space operations, but this did not involve space security matters. Ambassador Meyer laments that the current international scene is devoid of initiatives, at a time when diplomatic alternatives to escalating confrontation is urgently required. Canada, which was once, a champion of the non-weaponization of space (Ambassador Meyer recalls that Canada twice declined to participate in US national missile defense under Prime Ministers Mulroney and Martin due to concerns over the weaponization of space) has now been missing in action for over a decade. The EU, having fumbled its code of conduct shows no sign of taking up the slack. Ambassador Meyer notes that the private sector is emerging as important stakeholder with the potential to influence governments as it, recognizes that irresponsible action by states is dangerous. Finally, the private sector and civil society need to engage in sustained advocacy to ensure peaceful access to space at a time when humanity is increasingly dependent on space-enabled services.

Discussion

A question asked, given the normalization of the Indian anti-satellite test, could there be rush to develop ASAT technology. It was replied that India states to have learned a lot from the nuclear experience in that they will not be left out anymore. This is disappointing, but assumes there will be a treaty, possibly, which is a good thing. Limitations on activities that create debris are needed. A comment argued for the potential of new norms and the possibility of OST

members convening to discuss options (given that the OST as an early multilateral treaty lacked a provision for a meeting of its states parties). A question asked about the dysfunctionality of the CD and the logic of one states veto being more powerful than other states combined. It was discussed that the alternative is the UNGA where decisions pass by majority vote. Another question asked if there were civil society projects to oppose space weaponization. It was answered that there is not a lot of attention outside of states and a few dedicated civil society organizations: Project Ploughshares in Canada and the Secure World Foundation in the US. Now with over 10, 0000 satellites planned in the next few years, the private sector is an important actor which is not interested in putting satellites into a battleground. Some companies are interested in sustainability issues, such as (Planet) who want rules of behavior in space. Another question asked about the drivers of space weaponization. It was answered that there was a sheer vulnerability in terms of warfare needs driving this move to deterrence, entwining with other capabilities. A question was asked about future cooperation and competition dynamic with China, which will soon have its own space station and moon village. China should be invited to participate with other space faring nations for the general benefit.

Panel 5 - Cyberspace: Sanctuary or a New Domain of War-Fighting? Moderated by Alexandra Gheciu (Speakers: Allison Pytlak (CPG/WILPF) and Wesley Wark (UOttawa)).

Ms. Pytlak

Ms. Pytlak discusses cyber security from an IR perspective, specifically, how states, governments and their proxies are using it as a tool for warfighting and what the international community is doing about it. While cyber or ICT was first military technology, it is now a widely used civilian commodity upon which we are dependent, and which is central to socio-economic development. However, cyber can easily become stigmatized or coopted for militarization. Ms. Pytlak argues that we need to protect technology for the good it can bring. However, we are not prepared to respond to emergent issues, because we have not had too yet. She questions why we cannot properly safeguard ICT given that weapons, violence, conflict have been so destabilizing in other sectors. She underlines her organization's perspective that the militarization of cyberspace is an expansion of existing patriarchal forms of repression that overlooks systemic causes of violence and causes violence to occur where it would not naturally occur. In terms of the extent to which cyber space is militarized, up to 30 states are developing or have in place offensive cyber capabilities, including the NATO alliance, which views cyberspace as an operational domain of warfare. At least 25 states are suspected of conducting cyber operations although it is hard to know given proxies and work outsourced to NSAs. Ms. Pytlak notes trends and activities from 2016 to 2019: increased use of ransomware, software and supply chain attacks. As well, there has been an increased use of cyber tools as automatic recourse to actions and the growing evidence of repression of human rights, surveillance software, and malware. She reinforced that cyber has touch points with existing issues and security concerns, for example vulnerabilities of drones and nuclear weapons systems being hacked, as well as the Dark web hosting arms trading. Ms. Pytlak reinforces that the majority of cyber ops are geared toward causing discord or disruption and take place beneath a threshold of what would be considered armed attack in the offline world. Further, cyber diplomacy is becoming important and it exists in a legal grey area - what defines an attack? There is also the question of attribution – there are almost always ways to trace attacks but it is not easy and is time consuming. Thus, it is easy to impact an adversary anonymously and get away with it. In the second part of the presentation, Ms. Pytlak focused upon efforts at the multilateral level. She provided a historical summary of the issues at the UNGA, recognized as valid topic of concern since 1998. In the UNGA, the UN Secretary-General published an annual report comprised of member state views; however, the real locus of the discussion began in 2004 when five GGEs were mandated to investigate threats in cyberspace and to pursue cooperative solutions. The GGEs functioned in closed sessions and report after each session. The third and fourth, GGE reports were the most substantive 2013 and 2015; their recommendations form an agreed baseline for state behaviour in cyber space. They affirmed the applicability of international law to cyber space, produced eleven recommendations and non-binding rules for state behavior to promote cyber stability. However, operationalization is less clear. A fifth GGE was unable to publish a report. In consequence, two UN cyber entities have been established and are now meeting: a sixth GGE and an OEWG, which discusses existing threats, international law, rules norms and principles, institutional dialogue, confidence building, and capacity building. Ms. Pytlak notes however that the conversation pulls from existing disarmament lexicon and conceives of its toolbox in similar ways. The applicability of international law to cyberspace is the biggest sticking point among member states, even though all have previously agreed that law does apply in cyberspace. Some argue that international law is insufficient, some say no. Within the legal GGE is a bigger debate about whether IHL applies. Many say yes, but then others cleverly say no, so as not to legitimize warfare in cyberspace. Other important conversation are with respect to protect human rights online.

Dr. Wark

Dr. Wark provided a contextual summary of the current cyber domain, examining Five Eyes threat assessment reports, identifying where current threats lie and to answer whether the situation is heading into an abyss. Dr. Wark, provided a list of nine 'rules' or features of the of cyber context : the offense has advantage over defense; attack tools ubiquitous and accessible, attack surfaces are expanding; wide range of threat actors and targets; states are by far more capable and leverage NSAs; states are targets; deterrence is difficult or non-existent; international laws are weak and might fractured; escalation looms; public understanding is limited; alarmism is easy; cyber security and preservation of democratic values are fusing in the face of multiplicity of cyber threats. Dr. Wark then provided a summary of publically available Five Eyes reports about cyber threat. Within them, the US has a high level of concern with ransomware attacks, especially since the May 2017 'wannacry' attack. It names aggressive cyber actors as the 'big four': Russia China, Iran, North Korea who conduct cyber for different ends, especially espionage. Recent reports indicate that Americans are now fielding some 4000 ransomware attacks per day. The UK similarly name the big four as well as cyber-crime. New Zealand's cyber threat assessment is concerned with espionage, crime, influence and interference operations. It claims that up to forty percent of attacks are state sponsored. For Canada, cybercrime is specified as the threat to most affect citizens and businesses; espionage is a persistent and growing threat. However, it downplays cyber war, specifying that warlike critical infrastructure attacks are unlikely without the onset of a major military conflict. Australia notes ransomware, cyber espionage, noting that 56 percent target industry, federal institutions. In Dr. Wark's assessment, Canada has the best and most current assessment. There are commonalities in the threat ranking - the UK US are more global minded and more focused on the big four. However, there is agreement on the big four and the threat they pose. Additionally, there is agreement upon the threats of cyber-crime and cyber espionage. However, Dr. Wark ends on a more positive appreciation of the situation with a series of pronouncements. He argues that defensive capabilities will enhance and strive toward equilibrium and that attribution campaigns will bring about some deterrence and cause states to be cautious before international law. Further, that cyber war will not manifest as a standalone event, but will be exercised as one type of warfare instrument mixed in amongst others. Cyber covert operations will prove to have limited utility and cyber influence operations will also largely disappoint their sponsors. However, cyber espionage will be a persistent problem and cyber-crime will get worse. There will be a greater need for law enforcement, local and cyber based. On this point, Dr. Wark notes a huge setback for Canada citing the Cameron Ortis affair. Further, cyber will dominate as an espionage tool, especially on sensitive commercial sectors. There will also be new concepts of concepts of economic security and critical infrastructure and protections. Efforts, if seen as lawful and effective, will solidify social license for national security agencies. His concluding point was that cyber security will be seen as vital for the maintenance of democracy.

Discussion

There was a question about the possibility of agreed upon espionage restraints. It was answered that there have been efforts in the Canada-China relationship at restraint in restricting state capabilities on civil society. There is hope for the future when espionage is not worth the effort when state sponsors face retribution, calling out in public, sanction allocation. We need to keep working out the idea of giving the idea of restraint some teeth. There was a question about countering propaganda and defamatory material. It was answered that in the OEWG there is goodwill but a reluctance to talk about specific practices. There was a question about the extent to which the principle of peacekeeping could apply in cyber space such as with investigations, cyber fences, and help with reconstruction? It was answered - not really. However, there is a requirement for global cooperation with like-minded partners. However, because this is a global problem, understanding that the weakest link can be the greatest problem, it could be a form of global peacekeeping. Another response was, how are we coding these new covert operations, and how are we defining these issues into domestic law and international law and the reality of malicious peacekeeping. How would you investigate and what would protection of civilians looks like? There was a questioning of the assertion that there will not be cyberwar, referencing attacks such as Stuxnet that have already taken place. It was answered that it depends on what we mean by cyber war. At the moment, we are talking about a handful of episodes which fall under the full threshold of war. In terms of cyber covert operations, the responder would not regard them as a form of cyber war. Another question was about Russian interference in US elections and whether it was Russian state directed or people in Russia? It was responded that there is forensic evidence and that they were officers who have been named in the GRU. GRU has a capacity to use sub-state actors but prime movers are the state. An open question was posed: would the altering of an election result be defined as cyber warfare?

Panel 6 - AI & LAWS: Autonomous Arms Racing. Moderated by Paul Meyer. Speakers: Branka Marijan (Project Ploughshares) and Paul Meyer (CPG/Simons Foundation).

Dr. Marijan, discussed LAWS from a perspective of global security. In terms of context, she explained there is an AI competition between US and China. She clarifies that the terminator is the surrounding mythology but we are not talking about terminator. LAWS involve the selection and engagement of the target without the human making the decision. One important point is that it is not just the advanced countries using this technology. She noted that Turkey was the first country to employ this. The massive uptake of this technology is not far off, noting drone proliferation as a cautionary tale as 95 countries now have drones, 60 in 2010 and only 1 not long before. However, drones still have a human operator whereas LAWS are autonomous. Azerbaijan and Nigeria, have used armed drones as have NSAs, Houthis, ISIS, Hamas, Hezbollah, criminal organizations in Colombia and Mexico for surveillance. What are the implications of this? From a military perspective, speed in decision-making is the appealing element. Thus, as modern warfare is occurring beyond human control, what is desired are systems that go very quickly. However, Dr. Marijan argues that this could lead to greater instability and diminish opportunities for diplomacy. Further, this technology lower barriers to enter conflict as it is cheaper but less predictable. However, in terms of decision-making accuracy, LAWS could be better than soldiers in following IHL. However, the scale of harm could be greater, if the data is manipulated or hacked. In terms of efforts to mitigate these dangers, there are technical fixes attempted at policy levels, however, there are powerful countries ensuring that no action occurs. However, there is little agreement about what a normative framework is. In terms of technology for LAWS, advances are occurring in the private sphere. Dr. Marijan argues that this does not make arms control impossible although we need advocacy and greater discussion. There is the Campaign to stop killer robots and regulation attempts at the UN level. However, the public is hard to convince, as they do not see the damage. In closing, Dr. Marijan references Stanislaw Petrov who 36 years ago, saved the world when he decided not to act, listening to his hunch that systems were not perfect and could not be trusted. Dr. Marijan ended by noting that the decision to take life should not be made lightly and should remain with humans.

Ambassador Meyer

Ambassador Meyer discussed technological and governance issues related to the rapidly advancing AI field. He described his project with Kerstin Vignard, UNIDIR and Dr. David Danks at Carnegie Mellon University, which is examining possible controls on the military application of AI. AI is a recent term, which covers a variety of activities involving neural networks, and machine learning than can mirrors human cognition. The military have been quick to exploit AI technology and incorporate it into a variety of military systems. There is something of an AI arms race under way, with four out of five P5 states stressing AI in their national security strategies as it is seen as providing a decisive advantage. However, global governance is lagging far behind the technological advances. The only major diplomatic effort at the CCW forum in Geneva is limited to considering LAWS. Progress in this forum has been scant and what had appeared to be consensus about the necessity of meaningful human control seems to have gone backwards. At the latest CCW meeting, the inclusion of the term “human control” was contested by the P5 states. The replacement of this term with “the consideration of the human element” introduces an ambiguity that does not augur well for future diplomatic action. In contrast, there has been robust NGO activity on this subject, evident in the ‘stop killer robots’ campaign. It is unlikely that states will agree on significant measures any time soon, although the CCW review conference in 2021 may yield some positive developments. National government regulation, professional ethics, private sector codes of conduct are promising alternatives. In 2018, six leading AI companies published ethical principles to govern their AI work (but only one included ‘non-weaponization’ as among them). As private industry and academia are increasingly leveraged by governments this raises new possibilities for strengthening ethics. Google for example, was obliged to stop a US military project (Operation Maven) after employees refused to work on it. The epistemic community may also be able to dissuade irresponsible state conduct, but this will be an uphill battle and impeded by the slow tempo of global governance. Ambassador Meyer quotes Michael Horowitz: “Military history suggests that those applications of AI with the greatest relevance for fighting and winning wars will also be the hardest to regulate, since states will have an interest in investing in them”⁵. This fundamental relationship proves a daunting challenge. Ambassador Meyer closed by noting that despite the risk of military misuse of AI there are many promising initiatives under way in this emergent field that provide grounds for hope.

⁵ Horowitz, M. (September 12, 2018). The Algorithms of August. *Foreign Policy*.

<https://foreignpolicy.com/2018/09/12/will-the-united-states-lose-the-artificial-intelligence-arms-race/>

Discussion

A commenter notes that given the speed of control over weapons, we have a chance to preempt an impending issue, such as success with the prohibition treaty on cluster munitions. Why is civil society not yet calling for a new convention? It was answered that civil society does not really have the power to do this and it would be great to have a state champion like Canada. A question was asked about what the industry could do without normative regulations. It was responded that there are examples of self-regulation from the private sector such as the Cyber Tech Accord that over a hundred IT firms have signed. However, they have resources that civil society does not. A commenter noted that the brightest minds should be working on health and medicine instead of weapons. A question was asked as to whether basic norms will ever be respected, or will governments always work around conventions. It was noted that some norms work, such as IHL but there are a lot of things occurring beneath the threshold of conflict. Another response noted the need to fortify the existing protection systems and that we need a robust international framework. A commenter noted that a landmine is a primitive AI system; AI works on algorithms and so there would be some ability for human control. Another responder mentioned that they were not against all uses of military AI such as to help with disaster relief. However, there is the possibility for danger such as through manipulation; as technology advances how much control are we willing to give up and over what issues? Another comment was that maybe we should not strive for restrictions because there is no way to enforce them and it would simply drive the technology underground. It was responded that AI is a multi-use tech and it is an enabler, so we need to recognize this specificity. What we can do is to create a stigma for any applications that violate human rights. The technology is scary in part because the barriers to entry are not high. Another commenter stressed the urgency of the situation given the power of existing technology – if we do not do something now to curb misuse, military AI applications will be seen as acceptable and more states will pursue them. What is to prevent us from asking now for a moratorium as we strive ultimately for negotiating a LAWS treaty?

Panel 7 - Cold War Redux: The Geopolitical Drivers of Arms Racing and Strategies for Conflict Prevention.
Moderated by Ernie Regehr. Speakers: Alexandra Gheciu (CIPS) and Cesar Jaramillo (CPG/Project Ploughshares).

Dr. Gheciu

Dr. Gheciu's talk reflected upon trans-Atlantic security and why it matters. Three decades after the end of Cold War, we are accustomed to hearing that the Cold War is back and that the arms race is an inescapable reality. However, she argues, no, the Cold War is not back. If we try to apply Cold War categories, we will miss key features of today's world. Is the world so different? The intensity of the tensions do remind us of the Cold War but looking deeper, the world is much more complex. The friend and enemy distinction is grayer and as are definitions of who and what is a threat, which compete in unprecedented ways. There is a reemergence of ideological competition, but the nature of that competition is very different to what we had during the Cold War. Russia today is not playing the role of exporting communism, but is part of a radical conservative challenge to liberal-democracy. What we are currently witnessing is the rise of radical conservative movements, which are not just a collection of isolated movements but are internationally linked and mutually supportive. They are committed to challenging liberal ideas, institutions and values. Dr. Gheciu notes examples from Hungary, Poland, UK and US. Many in these movements do not see Putin as the enemy but see the problem as 'irresponsible' liberal elites - national and transnational. Russia instead is seen as an ally in reasserting national identities and protecting Christian society. Further, Russia today is much more integrated into economic networks. A recent British parliamentary report revealed the role of Western banks in laundering Russian money, thus helping to finance President Putin's attacks on the liberal order. In short, we need to understand that we live in a more complicated world, in which many Cold War policies would be inefficient and potentially counter-productive. Dr. Gheciu notes that Canada needs to be a lot more active in the search for solutions to some of the world's most pressing problems and challenges, including proliferation. Canada needs to be much more creative, particularly within the framework of the UN, and understand that some in the Global South such as key African states could be very powerful allies. Further, she suggests that we urgently need to improve communication and attempt to build a modicum of trust between Russia and NATO in the post-Crimea context. Currently, the situation is deeply alarming to both, as they cannot read each other's signals as they could do in the Cold War; this could easily result in military incidents that could escalate out of control. In this context, there should be a more concerted effort to make greater use of the NATO-Russia Council. Dr. Gheciu concludes with recommendations to reduce the danger of military conflict in Black and Baltic seas, and make more effort to mobilize the OSCE to build cooperation with Russia in areas where there is agreement, such as on the desire to limit proliferation to NSAs.

Mr. Jaramillo

Mr. Jaramillo, discussed the contemporary context assessing whether we are in a cold war '2.0'. He notes that we are clearly experiencing a major power competition which we have not seen since the Cold War - the US/NATO - Russia front and then a second front between the US and China. Mr. Jaramillo first discussed drivers for contemporary arms racing, noting economic, security and political drivers. In terms of security drivers, the development of low yield nuclear weapons and the perception of a security advantage are significant. In terms of economic drivers, Mr. Jaramillo notes the influence of military industrial complexes with various levels intensity in different contexts. There is also the global trade in conventional weapons, bottom lines, strategic alliances and jobs. In terms of political drivers, the US withdrawal from the JCPOA and the decision to not ratify the Ban treaty are important. The US specifically says they will expand the use of nuclear weapons, and this is against NPT. There is no clarity as to how the international community might respond. As well, the rise of contemporary populism lends itself to the greater acceptance of military choices and a possible resort to military force. Fortunately, Mr. Jaramillo notes that there are some counterforces. It is through norms he suggests that action can occur, even though they are problematic and often cheated. Diplomacy enacted through norms is valuable and it is through norms that we can reign in some behavior. He noted the ATT, which represented a normative shift and a gradual shift to a more principled-based power. Mr. Jaramillo also notes the importance of core groups of champions and humanitarian imperatives. He further argues that civil society is a credible sector who has much more access into strategic policy discussions than during the Cold War when it was simply the state issues of the great powers. However, they do have a role in this context. It is important to feed them language and for progressive states and civil society partnerships to develop.

Discussion

A commenter stressed that the UN is the forum for international change and notes that there are big forces at play, the military industrial complex, NATO, petroleum and big pharma industries who want the death of the UN. A question was asked about whether the arms race is just a state based phenomenon. It was replied that this generally involves states, in nuclear and conventional weapons. A question was raised about global transnational conservatism movement and how China figures in. It was replied that national leaders have said very openly that the future does not belong to the globalists and it is alarming that it is occurring from within the established west. There has been a move away from multilateralism and agrees that China is rising, but it was recalled that the vast majority of weapons remain in the hands of US and Russia although non-state actors are now part of the picture. A commenter lamented that foreign policy had been mentioned in the federal election except for Sheer who had said he would join missile defense. It was replied that they shared the disappointment that Canada was to have been playing a renewed activist arms control role – but was not, under Trudeau. A question was asked about the ATT being qualified as a counterforce and to what extent do you see – global hypocrisy. It was replied that there is hypocrisy. Saudi Arabia is an excessive example of this, where no one says no to their deep pockets. As well, the US has stated an unwavering commitment to the spirit of the treaty. In terms of Canada, arms control is not at a high point, we are lacking. The ATT itself received global attention and was featured in the Economist. However, it was not really an indictment on the ATT itself but mentioned that the compliance aspect of the treaty was lacking specifically in determining non-compliance. A comment referencing points of agreement noted that great powers have shared concerns, but they also have a shared solution in bombing and endless wars causing catastrophic effects and ignoring underlying factors. The commenter stresses that we need diplomacy. It was replied that the need for diplomacy was self-evident. We also tend to think of deterrence in military terms; Russia will not react in certain ways, but maybe it would react to a different form of deterrent, on this there is much room for some creative thinking.

Concluding remarks

Ambassador Meyer highlighted that September 26 is the UN day for the total elimination of nuclear weapons. He recalled that President Kennedy had once stated that we need to eliminate these weapons before they eliminate us. Key points were summarized: similarities and differences with the Cold War, most obviously the fact that technologies such as cyber and AI did not exist in the earlier era. He concluded that we do not need to reinvent each new response to detrimental developments; we can productively draw from the past.

Speakers' Biographies



Rita Abrahamsen is Professor in the Graduate School of Public and International Affairs and the Director of the Centre for International Policy Studies (CIPS). Her research interests are in African politics, security and development, security privatization and postcolonial theory. She is the author (with M.C. Williams) of *Security Beyond the State: Private Security in International Politics* (Cambridge University Press, 2011) and *Disciplining Democracy: Development Discourse and the Good Governance Agenda in Africa* (Zed Books, 2000). Her articles have appeared in leading journals including *African Affairs*, *Alternatives*, *International Political Sociology*, *Journal of Modern African Studies*, *Political Studies*, *Third World Quarterly* and *Review of African Political Economy*. She was joint-editor of *African Affairs*, the highest ranked journal in African studies, from 2009 to 2014. Prior to joining the University of Ottawa, she was in the Department of International Politics at the University of Aberystwyth, and she has been visiting fellow at the University of Cape Town, the European University Institute in Florence, the University of Queensland in Brisbane, the International Peace Research Institute (PRIO) in Oslo, the Centre for Advanced Security Theory (CAST) at the University of Copenhagen, Queen Mary University of London and University of Sydney.



Alexandra Gheciu is a Professor at the Graduate School of Public and International Affairs, and Associate Director of the Centre for International Policy Studies. Her research interests are in the fields of international security, international institutions, Euro-Atlantic relations, global governance and the liberal order, state (re)building, and International Relations theory. Prior to joining the University of Ottawa, she was a Research Fellow at the University of Oxford, and a Jean Monnet Fellow at the European University Institute, Florence. She has also been a Senior Research Associate with the Changing Character of War Programme (Oxford University), a Visiting Professor at Sciences Po, Paris and the Ca' Foscari University of Venice, and is an Associate Fellow of the Royal United Services Institute for Defence and Security Studies (RUSI, London). In addition, she has served as Associate Editor for the journal *Security Studies*, and is currently an editorial board member for the *European Journal of International Security* and *Security Studies*.



Marius Grinius - A graduate of the Royal Military College of Canada, Marius Grinius served in the Canadian Army for 12 years. He joined the Canadian Foreign Service in 1979. Marius was Ambassador to Vietnam (1997-99), to the Republic of Korea (2004-07) and to the Democratic People's Republic of Korea (concurrent 2005-07). He then served as Ambassador and Permanent Representative to the United Nations and the Conference on Disarmament in Geneva (2007-11). His earlier postings included Bangkok, Brussels (Canadian Delegation to NATO) and Hanoi. Ottawa assignments at Foreign Affairs included desk officer for nuclear arms control and Director for Southeast Asia. Later he had tours in the Privy Council Office (Social Policy, Security and Intelligence) and Western Economic Diversification. In 2011-12 Marius was seconded to the Department of National Defence as Director-General International Security Policy. Marius retired in 2012 after 45 years of service to Canada. He continues to comment on international security, Canadian foreign and defence policy, and Canada's place in Asia. Currently he is a Fellow at the Canadian Global Affairs Institute and a member of the Advisory Board for the Canadian Centre for R2P (Responsibility to Protect). He is also a member of the Senate of the 30th Field Regiment, Royal Canadian Artillery, based in Ottawa, Canada.



Cesar Jaramillo is executive director at Project Ploughshares. His areas of expertise include nuclear disarmament, outer space security and conventional weapons control. As an international civil society representative, Cesar has addressed, among others, the UN General Assembly First Committee (Disarmament and International Security), the UN Conference on Disarmament, the UN Committee on the Peaceful Uses of Outer Space (COPUOS), and states parties to the Nuclear Non-Proliferation Treaty (NPT). He has also given guest lectures and presentations at academic institutions such as the National Law University in New Delhi, the China University of Political Science and Law in Beijing, and the University of Toronto. An occasional columnist on matters of disarmament and international security, Cesar graduated from the University of Waterloo with an MA in global governance and has bachelor's degrees in honours political science and in journalism.

Prior to joining Project Ploughshares, Cesar held a fellowship at the Centre for International Governance Innovation (CIGI).



Peter Jones holds a Ph.D. in War Studies from Kings' College, London, and an MA in War Studies from the Royal Military College of Canada. Before joining the University of Ottawa, he served as a senior analyst for the Security and Intelligence Secretariat of the Privy Council of Canada. Previously, he held various positions related to international affairs and security at the Department of Foreign Affairs, the Privy Council Office, and the Department of Defence. An expert on security in the Middle East and track-two diplomacy, he led the Middle East Security and Arms Control Project at the Stockholm International Peace Research Institute (SIPRI) in Sweden in the 1990s. He is presently

leading several Track Two initiatives in South Asia and the Middle East, and is also widely published on Iran. Peter is currently an Annenberg Distinguished Visiting Fellow at the Hoover Institution at Stanford University.



Branka Marijan leads the research on the military and security implications of emerging technologies. Her work examines ethical concerns regarding the development of autonomous weapons systems and the impact of artificial intelligence and robotics on security provision and trends in warfare. She holds a PhD from the Balsillie School of International Affairs with a specialization in conflict and security. She has conducted research on post-conflict societies and published academic articles and reports on the impacts of conflict on civilians and diverse issues of security governance, including security sector reform.



Peggy Mason, a former Canadian Ambassador for Disarmament to the UN and an expert on the political/diplomatic aspects of UN peacekeeping training, she is now the President of the Rideau Institute, an independent, non-profit think tank focusing on research and advocacy in foreign, defence and national security policy. In that capacity she brings a progressive voice to issues ranging from the imperative of nuclear disarmament to the centrality of UN conflict resolution, appearing regularly in the blogosphere, in print media and on radio and television.



Paul Meyer is Fellow in International Security and Adjunct Professor of International Studies at Simon Fraser University, a Senior Fellow with The Simons Foundation and a Senior Advisor to ICT4Peace. He has served as Chair of the Canadian Pugwash Group since 2017. Previously, Mr. Meyer had a 35-year career with the Canadian Foreign Service, including serving as Canada's Ambassador to the United Nations and to the Conference on Disarmament in Geneva (2003-2007). He currently teaches an undergraduate course on diplomacy at SFU and writes on issues of nuclear non-proliferation and disarmament, space security and international cyber security.



Allison Pytlak manages the disarmament programme of the Women's International League for Peace and Freedom (WILPF), the world's oldest women's peace organization. She contributes to WILPF's monitoring and analysis of UN disarmament fora, its research and other publications, as well as liaises with UN, government, and civil society colleagues, including numerous global civil society networks. Prior to this role, Allison worked in policy and advocacy with the Control Arms Coalition focusing on the Arms Trade Treaty. She has also worked with Religions for Peace and Mines Action Canada on a broader range of arms issues, and has significant experience in campaigning and advocacy, research and

writing, project management and multilateral treaty negotiations. Allison has a BA in International Relations from the University of Toronto and an MA, also in International Relations, from the City University of New York. Her graduate research focused on inter-state cyber conflict, with subsequent research and publications exploring the human rights dimensions of cyber security. She is a listed expert with the Forum on the Arms Trade, a 2018 UN Women Metro-NY "Champion of Change".



M.V. Ramana is the Simons Chair in Disarmament, Global and Human Security and Director of the Liu Institute for Global Issues at the School of Public Policy and Global Affairs, University of British Columbia. He is the author of *The Power of Promise: Examining Nuclear Energy in India* (Penguin Books, 2012) and co-editor of *Prisoners of the Nuclear Dream* (Orient Longman, 2003). He is a member of the International Panel on Fissile Materials, the Canadian Pugwash Group, the Global Council of Abolition 2000, and the team that produces the annual World Nuclear Industry Status Report. He is the recipient of a Guggenheim Fellowship and a Leo Szilard Award from the American Physical Society.



Ernie Regehr is Senior Fellow in Defence Policy and Arctic Security at The Simons Foundation of Vancouver and Research Fellow at the Centre for Peace Advancement, Conrad Grebel University College, the University of Waterloo. He is co-founder and former Executive Director of Project Ploughshares and his publications on peace and security issues include books, monographs, journal articles, policy papers, parliamentary briefs, and op-eds. He is an Officer of the Order of Canada.



Farhad Rezaei has a Ph.D. in Defense and Strategic Studies. He is the author of numerous books and articles on Iran's foreign policy, Iran's nuclear and ballistic missile programs, nuclear proliferation, nuclear intelligence, and nuclear and radiological terrorism. He recently authored *Iran's Foreign Policy After the Nuclear Agreement: Politics of Normalizers and Traditionalists*.



Dr. Nancy Teeple is an adjunct assistant professor and research associate at the Department of Political Science at the Royal Military College of Canada (RMC). Nancy's research areas include nuclear strategy and deterrence, nuclear non-proliferation and arms control, and Arctic security. Notable publications include: "A Brief History of Intrusions into the Canadian Arctic," *Canadian Army Journal* (2010); (with Stuart Farson) "Increasing Canada's Foreign Intelligence Capability: Is it a Dead Issue?" *Intelligence and National Security* (2015); "A Minimum Deterrence Nuclear Posture and the Challenge of Deterrence Failure," *On Track* (2015/2016); and contribution to the Simons Forum Report "Repairing the US-NATO-Russia

Relationship and Reducing the Risks of the Use of Nuclear Weapons," in 2018. Nancy's current work focusses on the impact of new weapons technologies and missile defence systems on strategic stability among competitor states. Nancy holds a PhD in Political Science from Simon Fraser University (SFU), an MA in War Studies from RMC, a Master of Library and Information Science (MLIS) from the University of Western Ontario, an MA in Ancient Studies from the University of Toronto, and a BA (Hons) in Classical Studies from the University of Ottawa. Nancy is the incoming Fulbright Canada Research Chair in Peace and War Studies at Norwich University in January 2020.



Wesley Wark is currently an instructor at the University of Ottawa's Centre on Public Policy and Governance. He is a professor emeritus at the University of Toronto, where he retired from the Munk School of Global Affairs in 2015. He served for two terms on the Prime Minister of Canada's Advisory Council on National Security (2005-2009) and on the Advisory Committee to the President of the Canada Border Services Agency from 2006 to 2010. He authored a classified history of the Canadian intelligence community in the Cold War and has published extensively in the field of intelligence and security studies over the past 35 years. His most recent book is an edited volume: *Secret Intelligence:*

A Reader (2nd edition 2019). He is currently writing a book on Canadian spy cases and threats to democracy. His essay on "Cyber-Aggression and its Discontents," appeared in the journal *Global Brief* in its Fall 2012 edition (online at www.globalbrief.ca) It may or may not have stood the test of time.



Jessica West is a Senior Researcher at Project Ploughshares, a Canadian peace and disarmament research organization. She serves as managing editor for the international Space Security Index project as part of a larger research and policy focus on technology, security, and governance. As an international civil society representative, Jessica has addressed, among others, the UN General Assembly First Committee (Disarmament and International Security), the UN Conference on Disarmament, the UN Committee on the Peaceful Uses of Outer Space (COPUOS), and presented at conferences in Canada, the United States, Europe, and Asia. She holds a PhD in global governance and international security studies from the Balsillie School of International Affairs, Wilfrid Laurier University.

Speeding towards the Abyss: Contemporary Arms Racing and Global Security

The 'arms race' is a concept associated with the Cold War and assumed to have ended with it. The current international security situation is experiencing a revival of arms racing amongst an expanded grouping of rival states. The breakdown of the strategic relationship between Russia and the US has prompted a resurgence of an arms competition that is affecting all the nuclear weapon powers and which places new stress on the global nuclear restraint regime embodied in the NPT.

Technological advances have led to the initiation of arms racing in entirely new domains. The implications of this new round of arms racing for global security merit attention and remedial action.

Venue: University of Ottawa (room 4007, the Social Sciences Building)

Date: One day conference on Thursday, September 26 (9am-5:45pm)

Program

0900-0915: Welcome and introductions (**Rita Abrahamsen, Paul Meyer**)

Nuclear Arms Racing:

0915-10:15: US-Russian Relations and the Threat to Strategic Stability Moderated by **Rita Abrahamsen**.
Speakers: **Ernie Regehr** (The Simons Foundation) and **Nancy Teeple** (Royal Military College).

10:15-10:30: Refreshment break

10:30-11:30: Nuclear Arms Racing and the NPT: A Middle Power View Moderated by **M.V. Ramana**. Speakers: **Peggy Mason** (CPG/Rideau Institute) and **Marius Grinius** (CGAI).

11:30-12:30: South Asia: The Most Dangerous Case?

Moderated by **Farhad Rezaei**. Speakers: **Peter Jones** (UOttawa) and **M.V. Ramana** (CPG/UBC)

12:30-13:15: Luncheon break including:

12:45-13:00: Special presentation “The Collapse of the JCPOA and the Prospect of a New Arms Race in the Middle East” by **Farhad Rezaei**

Arms Racing in New Domains:

13:15-14:15: Star Wars: Coming to a Space Near You

Moderated by **Cesar Jaramillo**. Speakers: **Paul Meyer** (CPG/Simons Foundation) and **Jessica West** (Project Ploughshares)

14:15-15:15: Cyberspace: Sanctuary or a New Domain of War-Fighting? Moderated by **Alexandra Gheciu**. Speakers: **Allison Pytlak** (CPG/WILPF) and **Wesley Wark** (UOttawa).

15:15-15:30: Refreshment break

15:30-16:30: AI & LAWS: Autonomous Arms Racing Moderated by **Paul Meyer**. Speakers: **Branka Marijan** (Project Ploughshares) and **Paul Meyer** (CPG/Simons Foundation).

16:30-17:30: Cold War Redux: The Geopolitical Drivers of Arms Racing and Strategies for Conflict Prevention Moderated by **Ernie Regehr**. Speakers: **Alexandra Gheciu** (CIPS) and **Cesar Jaramillo** (CPG/Project Ploughshares).

17:30-17:45: Concluding remarks