THE
PLOUGHSHARES MONITOR

VOLUME 44 | ISSUE 2

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"and they shall beat their swords into ploughshares, and spears into pruning hooks; nation shall not lift up sword against nation; neither shall they learn war any more." Isaiah 2:4

Summer 2023

The Ploughshares Monitor
Volume 44 | Issue 2

The Ploughshares Monitor is the quarterly journal of Project Ploughshares, the peace research institute of The Canadian Council of Churches. Ploughshares works with churches, nongovernmental organizations, and governments, in Canada and abroad, to advance policies and actions that prevent war and armed violence and build peace. Project Ploughshares is affiliated with the Kindred Credit Union Centre for Peace Advancement, Conrad Grebel University College, University of Waterloo.

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Project Ploughshares gratefully acknowledges the ongoing financial support of the many individuals, national churches and church agencies, local congregations, religious orders, and organizations across Canada that ensure that the work of Project Ploughshares continues.

The Simons Foundation Canada

We are particularly grateful to The Simons Foundation Canada in Vancouver for its generous support.

Publications Mail Registration No. 40065122.
ISSN 1499-321X.

The Ploughshares Monitor is indexed in the Canadian Periodical Index.

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Printed at INNOVATIVE, Waterloo, Ontario.
Printed with vegetable inks on paper with recycled content.

Funded by the Government of Canada | Canada

From the Director's Desk

Against a Hiroshima backdrop, the G7 Vision on Nuclear Disarmament disappoints

Written by Cesar Jaramillo

When you visit Hiroshima, a profound sense of history engulfs you. And you are reminded that the course of history is shaped by human decisions.

The decision to bomb Hiroshima was made on July 31, 1945, at a meeting of the Manhattan Project's Target Committee – a group of scientists and military officials established to select potential Japanese targets for the atomic bomb. The Committee recommended Hiroshima as the primary target because of its military and industrial significance and because it had thus far escaped heavy bombing.

On August 6, 1945, U.S. bomber Enola Gay dropped the "Little Boy" atomic bomb on Hiroshima. By year's end, an estimated 140,000 people had died as a result. The bomb exploded above what is now the Hiroshima Peace Memorial – and was from May 19 to 21 the site for the 2023 Summit of the G7 group of countries.

Almost 78 years after the first atomic bomb was deployed, the world was anticipating a sign that some of the world's most powerful nations had resolved to craft a credible path to the complete elimination of nuclear weapons.

The world was disappointed.

A vision without insight

Hiroshima is the home of the family of Japanese Prime Minister Fumio Kishida, some of whom perished in the atomic bombing. The Prime Minister, seen as a strong supporter of nuclear disarmament, reportedly insisted on this site for this year's G7 Summit.

For the first time in its history, the G7 issued a standalone statement on nuclear weapons as well as a general communiqué. The "G7 Leaders' Hiroshima Vision on Nuclear Disarmament" promised much in its title but failed to deliver. Instead, the statement rehashed familiar positions.

The tone was set in the first paragraph, when the G7 leaders reaffirmed their "commitment to achieving a world without nuclear weapons with undiminished security for all." That is the most consequential line in the whole document.

Although the combination of "a world without nuclear weapons" and "undiminished security for all" may appear appealing, the emphasis on undiminished security as a prerequisite for nuclear disarmament is fundamentally flawed. Making progress on nuclear abolition conditional on undiminished security inhibits meaningful action. As well, this focus casts a shadow over some positive reflections in

the statement on the 77-year record of non-use of nuclear weapons as well as its call for the resumption of the New START treaty and negotiations on banning the production of fissile material.

In the end, the statement said little new. The G7 countries, which include nuclear-armed France, the United States, and the United Kingdom, were quick to see the nuclear threat all around them but acknowledged no responsibility for contributing to that threat. The few proposals on how to make progress on nuclear disarmament were merely a repackaging of the tried-and-failed approach that these states and their allies have pushed for decades.

"The G7 countries, which include nuclear-armed France, the United States, and the United Kingdom, were quick to see the nuclear threat all around them but acknowledged no responsibility for contributing to that threat.

Nuclear disarmament advocates were dismayed.

Gensuikyo – the Japan Council against Atomic and Hydrogen Bombs – issued a statement in which it said:

> [F]ar from "send(ing) out a strong message to realize a world free of nuclear weapons" from the A-bombed city, as repeated by Prime Minister Kishida, no new initiatives or proposals were made, betraying the expectations of the Hibakusha and the people. On the contrary, the Summit declared its open affirmation of the nuclear deterrence theory, which is very deplorable.

The International Campaign to Abolish Nuclear Weapons (ICAN) – to which Project Ploughshares belongs – declared that the G7 statement "falls far short of providing any meaningful outcomes for nuclear disarmament. After months of preparation and amid high expectations, the leaders are missing the moment to make the world safer from nuclear weapons."

ICAN was right. An opportunity has been missed. A new vision and commitment to eliminate nuclear weapons could have re-energized the nuclear disarmament movement. Instead the status quo was buttressed with more cement.

Separating the wheat from the chaff

The G7 statement articulated valid concerns about nuclear security and the escalating risk of nuclear weapons use. However, these concerns were framed as stemming only from external circumstances, for which G7 countries bore no responsibility. Portraying themselves as deeply committed to nuclear disarmament, the G7 countries nevertheless continued to embrace the precarious nuclear deterrence doctrine and the defensive value of their own nuclear weapons.

Not surprisingly, the statement refers to Russia's invocation of its nuclear weapons in the context of the Ukraine conflict. The G7 leaders reiterated their position that "threats by Russia of nuclear weapon use, let alone any use of nuclear weapons by Russia, in the context of its aggression against Ukraine are inadmissible." And they were right: such threats are reckless and unacceptable and should be unambiguously rejected by the international community.

However, as Project Ploughshares has argued elsewhere, including in earlier issues of *The Ploughshares Monitor*, the risk that nuclear weapons might be used, either in the Ukraine conflict or as a result of it, does not lie primarily in spoken threats. Rather, the risk exists because nuclear weapons continue to exist – an existence perpetuated by the dangerous logic of nuclear deterrence, to which Russia and all G7 countries adhere.

The G7 also expressed concern for the acceleration of China's nuclear weapons program, which it said threatened global and regional stability. Again, they were right. Numerous reports have found evidence that China plans to grow its nuclear arsenal from about 300 warheads to as

It's a wrap!

On April 3, a report on the 2022 Project Ploughshares workshop series "Canada and the Abolition of Nuclear Weapons" was posted to the Ploughshares website. It marked the conclusion of a year-long project to make a new generation familiar with the reality of nuclear weapons in our world.

Brief discussions of each of the three workshops in the series were previously published in the Autumn and Winter 2022 and the Spring 2023 issues of *The Ploughshares Monitor*. Videos of the workshops can be found on the Ploughshares YouTube channel.

The workshop report can be found by clicking on Research and Reports.

many as 1,500 by the year 2035. The world needs fewer, not more nuclear weapons.

But the G7 conveniently chose not to mention that its three nuclear-armed members spend billions of dollars annually to modernize their own nuclear arsenals. This upgrading is widely regarded as a primary hurdle on the road to nuclear abolition.

The G7 vision statement speaks of the urgent need for the Comprehensive Test Ban Treaty (CTBT) to enter into force. A legitimate objective and necessary aspiration. But it neglects to mention that one of the states preventing its entry into force is the United States, one of eight states (along with China, Egypt, India, Iran, Israel, North Korea, and Pakistan) whose ratification is pending, in this case more than 25 years after it signed the treaty. Still, even without the activation of the CTBT, the G7 statement makes a welcome affirmation of the moratorium on nuclear testing, which it calls on Russia to also observe.

In its Vision, the G7 expresses deep concern "about Iran's unabated escalation of its nuclear program, which has no credible civilian justification and brings it dangerously close to actual weapon-related activities." It rightly designates the nearly dead 2015 Joint Comprehensive Plan of Action (Iran nuclear deal) as a useful point of reference. And it affirms its own "clear determination that Iran must never develop a nuclear weapon."

Of course, Iran should not develop a nuclear arsenal. But, again, the G7 refused to acknowledge that Iran had been fully compliant with the nuclear deal, as verified repeatedly by the International Atomic Energy Agency, until the deal started to unravel after the United States unilaterally withdrew from it in 2018.

Tackling the fundamental problem

For far too long, nuclear-weapon states and their allies have argued that they cannot embark on concrete and time-bound nuclear disarmament until the right international security conditions exist. The nuclear disarmament movement meets such arguments with growing skepticism.

No such ideal moment has ever or will ever exist. If we understand "undiminished security for all" as a required condition, then nuclear disarmament will remain an elusive goal.

The G7 Summit did not honour its historic setting, a city forever scarred by the atomic bomb. Its so-called vision lacked the necessary innovation and concrete commitment required to eliminate nuclear weapons and disregarded the role of many nuclear-armed nations in perpetuating the nuclear threat.

To make real progress, the international community must transcend rhetoric and embrace courageous actions that challenge the prevailing narrative surrounding nuclear weapons. The Hiroshima summit presented a unique opportunity for G7 countries to forge ahead boldly on the path to nuclear disarmament. Shame on them for failing. □

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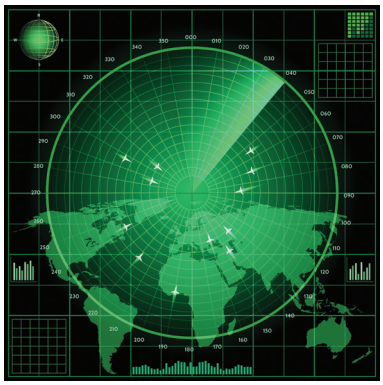
Regulating military use of AI



Written by Branka Marijan

In a recent pitch video for its new Artificial Intelligence Platform (AIP), U.S. technology company Palantir previewed a chatbot that can launch a military drone, provide information on enemy movements, jam enemy communications, and offer options for a battlefield attack. The AIP uses large language models – the same technology that powers OpenAI's ChatGPT. And if Palantir's vision seems too disquieting to be realizable, we cannot simply dismiss it. Because Palantir is not alone. Other tech companies are also promoting gamified versions of warfare to militaries around the world. And some of these militaries are only too eager to sign on.

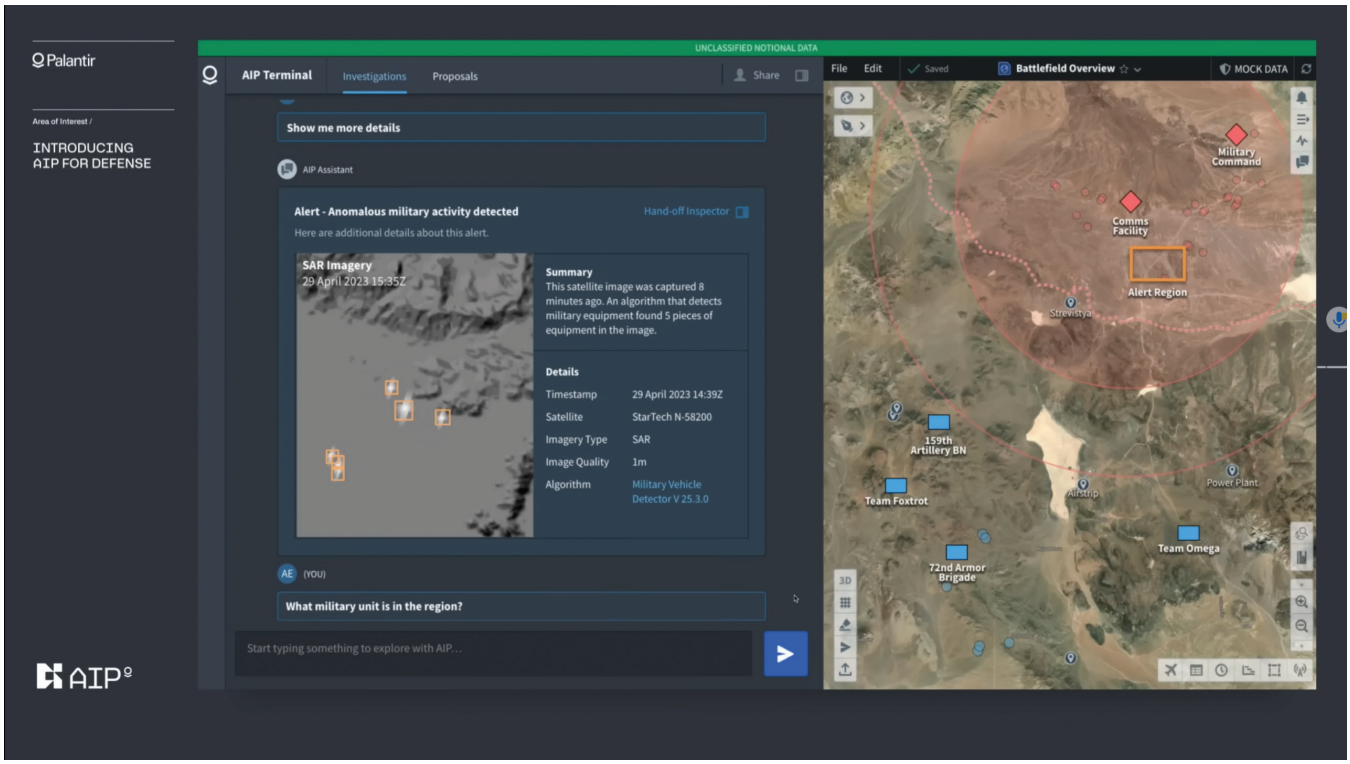
First out of the gate

The military advantages for early adopters of these developing AI systems were much discussed at the Responsible Artificial Intelligence in the Military Domain (REAIM) Summit that I attended at The Hague in the Netherlands this past February (see the Spring 2023 *Monitor*). As Palantir's CEO Alex Karp told the Summit audience, "The country that wins the AI battles of the future will set the international order."

Beyond assessing data with incredible speed, Karp and others claim that AI can understand the entire battlefield in ways that are useful to the client and unexpected by the opponent. The value of AI is already being displayed on contemporary battlefields. In a February 1 Reuters article, "Ukraine is using Palantir's software for 'targeting,' CEO says," we see how Ukraine has used Palantir's AI software to its advantage against the stronger Russian military. In the article, Karp claimed that Ukraine had gained a more accurate view of the battlefield, easily finding Russian military targets and determining the best way to use its own resources.

Growing tensions between the United States and China and between most Western states and Russia encourage the belief that if Western states do not adopt AI military technologies, they will be giving autocratic regimes an advantage. This understanding also contributes to pushback against efforts to regulate these technologies. Some military analysts are even convinced that more authoritarian regimes and those less friendly to the Western-led global order will not follow regulations to control military AI.

From all these perspectives, unassisted human decision-making can be seen as both too slow and too subject to error, riddled with bias and emotion. The apparent remedy is seen in the Palantir video, which illustrates a significant aspect of the evolving character of warfare: the changing role of human decision-making. In the video, a human oversees the system, receiving information from the chatbot and making decisions. However, in this new style of



A screenshot from a Palantir video previewing its Artificial Intelligence Platform

warfare, the human simply approves or rejects actions that are recommended by the chatbot. It is not even clear that the human understands how the system has made the assessment or formed the recommendations.

Human vs. AI weaknesses

Proponents of military AI technologies stress that human military personnel get tired, make mistakes, respond emotionally. Chatbots and other AI tools are supposed to fix these human weaknesses but have their own shortcomings. AI researchers note that large language models provide inaccurate information; indeed, they "make things up" or even "hallucinate." A *New York Times* piece entitled "When A.I. chatbots hallucinate," posted on May 1, references an internal Microsoft document that states that AI systems are "built to be persuasive, not truthful."

In safety-critical contexts, such as combat zones, the use of "persuasive" systems must be of great concern. If systems hallucinate in these environments and the overseeing human does not understand how the system reaches decisions or does not have the time to assess the decision, the consequences could be deadly and catastrophic.

As Paul Scharre notes in "AI's inhuman advantage," posted on the platform War on the Rocks in April, militaries are introducing systems that react in ways that humans would not and that humans do not expect, because the systems have "alien cognition." Scharre notes that such cognition can give the systems an "inhuman advantage" (although, if cooperation is required between humans and these systems, such cognition can be a disadvantage). But it also contributes to further dehumanization, treating warfare largely as a game with no societal consequences to consider.

Proponents say that the technology will advance and improve and that problems with accuracy will be addressed, if not eliminated. Significant efforts are being pursued by leading tech companies, including OpenAI, Google, and Microsoft. Yet, as has been well noted, the results of improving these systems could pose another challenge for users: over-trusting the system or automation bias. OpenAI noted in a paper, *GPT-4 System Card*, posted on March 23, that a dis-

play of accuracy by an AI system, on a topic with which the user has some familiarity, might lead the user to place unqualified and unearned trust in that system when used for other tasks.

Human strengths and responsibilities

In ongoing discussions on autonomous weapons at the United Nations, the establishment of human control over weapon systems is seen as critical in determining responsibility and accountability in the selecting and engaging of targets. Because only humans can be held accountable for any actions that are taken or any disasters that result. Not machines.

And there are also real benefits in retaining real human control. A human understanding of context can play a critical role in warfare. Well-trained human soldiers can recognize a non-combatant or signals of surrender that a machine could miss or misinterpret. Properly trained military personnel can understand moral and ethical gradations in a way that machines simply cannot.

Establishing appropriate human control

As more decisions are relegated to AI-enabled platforms or shaped by them, the ability to hold human decision-makers accountable becomes more difficult. Human lives could come to be treated as lines of code in a trajectory of dehumanization and detachment.

Clearly, approving or rejecting an action is not a sufficient level of human control over weapon systems. But this is precisely what the new AI tools are offering in the name of speed and efficiency.

While Palantir has received a great deal of at-

Regulating weaponized AI

The United Nations Educational, Scientific and Cultural Organization (UNESCO) and the Montreal Institute for Learning Algorithms (Mila) - Quebec Institute of Artificial Intelligence marked the beginning of spring this year by publishing *Missing Links in AI Governance*. It contains "18 selected submissions offering a pluralistic, Informed and critical approach to AI governance."

One submission is entitled "Autonomous weapons and deepfakes: The risks of the ongoing weaponization of AI and the urgent need for regulation." It was written in 2021 by co-authors Ploughshares Senior Researcher Branka Marijan and Wanda Muñoz, an international consultant in human rights and disarmament. As they write in the Introduction:

> The two dimensions of weaponized AI are highlighted to shed light on the specific issues but also on the possible and necessary responses. Each of these areas of AI development raises similar concerns about conflict escalation, increased threat of the use of force, global instability, and making access to justice for civilian victims even more difficult. In contrast to some of the literature ..., certain uses of weaponized AI are not seen as inevitable, rather the chapter highlights the windows of opportunity that still exist to regulate these technologies and prevent misuse.

This chapter establishes the following priorities in regulating weaponized AI:

> First, a legally binding instrument prohibiting weapons that cannot be used with meaningful human control, and those that would target human beings; and regulating all other autonomous weapons. Second, technical responses to deepfakes that ensure that manipulated content is flagged. Third, regulations that protect human rights and prohibit applications that promote gender-based violence and other hate crimes.

The events of 2022, particularly the war in Ukraine, can only reinforce the immediacy of the need to regulate these weapons.

A pdf of Missing Links in AI Governance *can be downloaded at no charge through the UNESCO Open Access Repository.*

Military and security implications of emerging tech

In mid-March, the *Financial Post* produced an episode of its "Down to Business" podcast entitled *Safety Net: The impact of ransomware attacks on critical infrastructure in Canada*. One of three experts interviewed was Ploughshares Senior Researcher Branka Marijan.

Branka noted that some independent, nonstate actors who engage in cyberattacks – including ransomware – are motivated by patriotism. Cyberattacks are also initiated by state actors and state-enabled actors. States tend to engage in lower-level activities that take place in a grey zone and are generally tolerated.

However, while most such actions do not lead to escalatory responses that could disrupt significant infrastructure, Branka pointed out that the effects of all these attacks are unpredictable and could produce unintended, even catastrophic consequences that spill over borders and cross industries, quickly spinning out of the control of both victims and initiators. The international community needs to agree to a line that no one will cross.

In mid-May, Branka published "AI-guided weapons must be curbed by global rules – and soon" on the website of the Centre for International Governance Innovation. This article was also translated into Spanish, appearing in the foreign policy journal *Política Exterior*.

Branka pointed out recent uses of AI by militaries in Ukraine and Libya. She also examined recent investments in military AI, particularly by the United States and China. And she explored the progress, or lack of progress, in establishing international regulations over military AI.

The article concludes:

> The global community urgently needs a new regulatory framework that places constraints on the development of any weapons that further diminish human agency over the use of force. But we can't wait much longer. Left unchecked, the marriage of AI with the world's most sophisticated weapons could be catastrophic.

tention for its work with law enforcement and militaries, it is far from the only company keen to work with militaries and the wider defence sector and introduce AI into their operations. One of the challenges for regulators is that AI tools are widely available, and any number of them could be employed by military and security institutions.

Another challenge lies in catching regulation up with the tech. Former Google CEO Eric Schmidt has suggested that tech companies should self-regulate, because they understand the technology as no one else can. But no one who pays attention to the rollout of various technologies subscribes to such a solution.

OpenAI is not clear on whether the Pentagon and intelligence agencies can even use ChatGpt. The company's ethics guidelines ban military and other "high risk" use by governments. However, in "Can the Pentagon use ChatGPT? OpenAI won't answer," posted by Sam Biddle on The Intercept's platform in May, readers learn that "the AI company is silent on ChatGPT's use by a military intelligence agency."

To truly respond to high-risk uses of AI technologies, such as use by the military, states must negotiate international instruments and develop comprehensive national policies. However, James Vincent, writing for The Verge, assessed the recent United States Senate hearings on AI as "too friendly." Vincent noted that experts warn of the danger of "regulatory capture," which lets the industry "write lax rules that lead to public harm." Despite their seeming disinterest, policymakers must set limits and guide technologists. Not the other way around. □

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A new lens on global security

A conversation with Kenneth Epps

By Wendy Stocker

Long-time readers of the Monitor *will be familiar with Kenneth Epps and his work on the Arms Trade Treaty, the Canadian Military Industry Database, and Canada's annual report on exports of military goods. As a program officer with Project Ploughshares, he was most involved with conventional weapons control. Now, he remains interested in global security, but from the perspective of climate change. In 2022, Ken began talking with Ploughshares Executive Director Cesar Jaramillo about how Project Ploughshares could expand its research program to include climate change as an existential threat to global security.*

Wendy Stocker: Ken, can you describe the journey that led you from conventional arms to climate degradation?

Kenneth Epps: I have been aware of the climate emergency for some time, but it was not until 2020, when I joined Seniors for Climate Action Now!, that I better recognized its extent and urgency. It is no exaggeration to state that climate breakdown is a global existential threat, and like the other existential threat, nuclear weapons, it is a problem created by human action that can only be solved by human counteraction. I realized that, for the sake of my granddaughter if no one else, I must try to contribute to the climate action movement.

WS: Explain the links you see between climate change and global security.

KE: Project Ploughshares has long argued that security should not be the exclusive purview of the military, that there are many conditions – once called basic human needs – that must be met before human populations are secure. In the 1990s, the United Nations adopted the term "human security" for this concept.

As the world faces more unprecedented and frequent weather-related disasters like wildfires, flooding, typhoons, it is apparent that, although armed conflict persists – as the war in Ukraine reminds us daily – the climate emergency presents a level of threat that we have only begun to understand. But while we are oversupplied with systems that can fight wars, we are woefully lacking in systems that can sustain peace under climate breakdown.

WS: How do you envision Canada's role in connecting security with climate change? What should be the Canadian government's top priorities?

KE: The Canadian government must begin by acknowledging that, in addition to nuclear weapons, climate breakdown is the pressing security threat of our time. Then, as Seth Klein argues

Kenneth Epps is a member of Seniors for Climate Action Now!. *Courtesy Kenneth Epps*

compellingly in his 2020 book, *A Good War: Mobilizing Canada for the Climate Emergency*, Canada should "spend what it takes to win" against the threat. To cite one example, this means that spending $70 billion on Joint Strike Fighter aircraft to facilitate Canadian pilots' participation in future invasions by the United States should no longer be a priority.

Rather, Canada should revisit the "responsibility to protect" doctrine it once championed, most immediately by diverting military spending from short-sighted combat programs and to programs that deploy Canadian Forces in missions, including peacekeeping, that can address the wide-ranging security impact of climate change.

As well, ignoring the neverending calls to boost military spending, Canada should instead look for ways to reduce military spending and devote more of the federal budget to climate adaptation and mitigation efforts that must expand with time.

WS: What new role do you see for Project Ploughshares?

KE: There are two important elements to a possible Project Ploughshares program that I would call something like "Climate, Peace, and Security." The first, and perhaps the most important, is to explore the "peace" challenges and opportunities of the climate emergency.

Quite rightly, there is growing concern about the security threats of climate change, not least within military forces. In its most recent budget, the federal government committed $40 million for a NATO Centre of Excellence on Climate and Security based in Montreal. Currently, NATO attention to climate change is focused on its threats of global upheaval and the challenges it poses to the equipment, installations, and operations of NATO forces.

I would like to see more attention to the climate action needed to build peace. This might in-

volve advocating specific projects such as peacekeeping missions that boost stability in war-torn communities by supporting local, reliable, and renewable energy systems. It could also include, for example, research and analysis of how weaning the world off fossil fuels could reduce conflict as well as greenhouse gases.

The second element to a Project Ploughshares program is analysis of Canadian climate and security policy, as well as proposals for alternatives. Ploughshares could draw on its experience providing defence policy analysis and engaging partners in exploring peacebuilding options.

Overall, I think we must work to resist the militarization of climate security. We do not need another "War on Drugs" or "War on Terrorism," both of which failed but incurred heavy human and resource costs.

> As the world faces more unprecedented and frequent weather-related disasters like wildfires, flooding, typhoons, it is apparent that ... the climate emergency presents a level of threat that we have only begun to understand.

WS: What can ordinary citizens do? How can they get involved in solutions?

KE: Regarding solutions to the climate emergency, we are spoiled for choice. We have many opportunities to take individual action to reduce our carbon footprint. We also can close our bank accounts to exert pressure on the major Canadian banks that are leading investors in ongoing fossil fuel exploration and production. Divestment was an important tool in the struggle against South Africa's Apartheid and it could be effective in helping to end the use of fossil fuels.

But we must press for collective climate action, that is, social, industrial, and government action at all political levels – municipal, provincial, and federal. And we must be skeptical of calls for greater military spending, especially if, and when, it is framed as a necessary response to the climate emergency.

WS: Are you hopeful about our ability to avoid the worst effects of climate change?

KE: One of my favourite *New Yorker* cartoons depicts Charles Dickens listening to his publisher say, "I wish you would make up your mind, Mr. Dickens. Was it the best of times or was it the worst of times? It could scarcely have been both." Many of us experienced the COVID pandemic as the best and worst of times, and I think it is quite possible that the climate emergency will take both to a new level.

Which is why we must work to support the best – climate action that emphasizes social justice and peacebuilding – but also work to resist the worst – those entrenched interests that deny or resist the remedial changes that are needed across the globe. These interests include industries currently making record-breaking profits under the status quo: fossil fuel industries, financial institutions, and military industries.

In my view, the extent to which we avoid the worst effects of climate change will depend on the extent to which we break the power of these industries. I know it won't be easy, but I retain hope that it can be done.

WS: Ken, you could be spending your time reading a classic crime/mystery novel, listening to jazz, and savouring a single malt Scotch. Why have you taken up this new challenge?

KE: Both the Anthropocene – the current geological period of global human impact – and the Cold War began about the time of my birth. A coincidence, I hope, but I do feel a real connection to an unprecedented period. Largely through luck, in this time I have had many benefits, and the least I can do is to try to pay some of them forward.

This is not to say that, for my mental health (and for those around me), I do not indulge in the pleasures of retirement. I regularly play old-timers ice hockey (a great way of emptying the mind) and I have been known to enjoy a Glenfarclas whisky (from one of the last family-owned Scotch distilleries) while reading Philip Kerr's Bernie Gunther series – detective and historical fiction set in Germany during the rise and fall of Hitler. The populists were ever with us. □

Commercial interests and space security

On April 24, *The Globe and Mail* published "Canadian companies cover new ground with Earth-observation technology" by Irene Galea. One of the experts quoted in this extensive article was Ploughshares Senior Researcher Jessica West.

The article examines technology that allows the gathering and archiving of "data about the Earth's physical, chemical and biological systems using satellites." With so much of this data becoming commercially available, the risk of "foreign surveillance of individuals and military actions" has grown.

According to the article, Jessica had "deep concerns about the implications of Canadian businesses providing space data to militaries." She is quoted as saying, "We know that operators are a target of conflict, certainly through digital and cyber attacks. Russia could see these companies as legitimate targets. Is the government responsible for protecting these commercial satellites? We're just starting to have these conversations." The article ends with these words from Jessica: "We have the ability to watch every country to an unprecedented level. Space data is not inherently good or bad. It's about how we use it."

Two recent articles on the website Gizmodo also contain quotes from Jessica.

The first, "Satellite collisions are a mounting threat. Updated 'Rules of the Road' could help," was written by Passant Rabie and published on April 5. The focus of this piece is on the updated guidelines put out by the Space Safety Coalition, a coalition of 48 commercial and government-owned organizations founded in 2019.

SSC guidelines have built on the United Nations Space Debris Mitigation Guidelines and other international instruments. But, as Jessica is quoted as saying, "It's well recognized that there are significant gaps in the global governance of outer space, including in safety, sustainability, and traffic management." She praised the revised SSC rules: "Efforts to publicize and promote these guidelines can go a long way to raising awareness and socializing commercial operators to build safety and sustainability considerations into their operations."

The second Gizmodo article appeared on May 1. "Did NASA forget how to put people on the Moon?" by George Dvorsky is focused on the slow pace adopted by NASA's Artemis program, which aims to return humans to the lunar surface. Three experts are quoted in this piece – two Americans and Jessica.

One change since the Cold War, when budgets were large and the American public supported the space program, is that NASA now wants to have humans inhabit the Moon in a safe and sustainable way. And, as Jessica is quoted as saying, "Returning to the Moon seems so hard because it is hard." A lot of new tech is needed. As Jessica said, "the whole mission has been reinvented from a Moonshot to the creation of a permanent human presence on the Moon and beyond serviced by a commercial economy." She concluded, "This type of mission is about not just technology but also international cooperation and governance." A good point, as Dvorsky acknowledged.

Canada at the 9th Conference of States Parties to the Arms Trade Treaty

Written by Kelsey Gallagher

It has been 10 years since the Arms Trade Treaty (ATT) opened for signature and almost four since Canada became a State Party. The Treaty has made major advances in controlling the international arms trade and establishing measures to mitigate the humanitarian impacts of unchecked weapons transfers.

However, ATT States Parties, including Canada, can do more to extend the reach, impact, and effectiveness of the Treaty. The Ninth Conference of States Parties (CSP9) to the ATT, the annual multilateral forum at which States Parties meet to discuss the implementation of the Treaty, will take place in Geneva, Switzerland this August. Below are steps that State Parties – and Canada in particular – should take to ensure the ultimate effectiveness of the Conference and the Treaty.

Achieving transparency

ATT States Parties are required to submit annual reports on major imports and exports of conventional arms to the ATT Secretariat. Since Canada acceded to the Treaty in 2019, it has maintained a positive reporting record, meeting all annual deadlines and making its reports public. Canada has rightly been lauded by civil society for consistency and transparency in its submission of these reports. Unfortunately, though, Canada is an exception to the rule.

The ATT Monitor is "the de facto international monitoring mechanism" for the ATT; it tracks States Parties' compliance with ATT reporting obligations. (Disclosure: I am privileged to serve on its Editorial Advisory Committee.) According to its most recent report, the *ATT Monitor 2022 Report*, the rate at which States Parties are meeting those obligations continues to decline, as does the number of States Parties that make their reports available to the public. Because transparency in arms transfers is a key pillar of the ATT, these downward trends are deeply worrying.

Building on its positive reporting record, Canada should help other States Parties meet their ATT reporting obligations. For a start, it could offer bilateral assistance to, and share know-how with, States Parties that have faced challenges in meeting their reporting obligations. Canada should also take an active role in the ATT's Working Group on Transparency and Reporting; this could include taking on the role of Working Group Chair, which is currently vacant. Canada could also offer to remain as Chair for the cycle that ends with CSP10 in 2024.

Moving from process to progress

Over this past decade, more than half of the world's states have joined the ATT, advancing accountability and control in the global arms trade. However, since the ATT entered into force in late

Not just there to watch the game

On March 29, Alex Cosh published a story entitled "Minister lobbied Qatar for light-armoured vehicle deal at World Cup" in *The Maple*, "an independent digital news publication covering Canadian politics." Cosh was able to access a briefing note prepared for International Development Minister Harjit Saijan that "contains what appears to be the first direct acknowledgement from a government ministry that the potential deal between General Dynamics Land Systems - Canada (GDLS) and Qatar is in the works." As *Monitor* readers know, GDLS produces light-armoured vehicles (LAVs).

The article states that Qatar was added to Canada's Automatic Firearms Country Control List (AFCCL) in August 2022. Ploughshares researcher Kelsey Gallagher, who was interviewed for this article, indicated that adding Qatar to the AFCCL led people in the know to expect an announcement about a LAV deal. "The central concern" with this, according to Kelsey, "is that Canada is arming yet another deeply authoritarian state.... Qatar does not treat its own people well, and as we saw during the World Cup, it treats non-citizens even worse."

Flexible LAVs can serve various nefarious purposes. According to Kelsey, "in places like Qatar, there's overlap between the police and the military, and there have been instances of LAVs purportedly being used against protests" elsewhere in the region, such as in Bahrain.

Why would Canada want to sell to Qatar? Kelsey explained that arms deals, especially when high-tech military goods are involved, can "carry political leverage." "With these arms deals, especially the higher value ones, there's always some level of political consideration.... The arms trade is itself deeply political."

2014, the progress of work during each annual conference cycle has seemed to decelerate.

What is worse, during Working Group meetings and CSPs, States Parties have mostly engaged on the technicalities and procedural elements of Treaty implementation, rather than the Treaty's core tenets, which are designed to mitigate the negative humanitarian impacts of irresponsible arms transfers. In effect, an emphasis on process has delayed progress.

States Parties should carve out some space for practical discussions on mitigating irresponsible arms transfers and advancing human security that include Treaty implementation at the national level and methods to maintain momentum on Treaty universalization. Canada and other states should also set positive examples by publicly discussing their arms imports and exports, including specific cases of problematic transfers, thereby rejecting growing stigmatization for doing so.

Stepping up to the plate

Although Canada has attended each CSP since it acceded to the ATT in 2019, its interventions have been less significant than those of many States Parties, some a fraction of Canada's size and possessing far fewer resources.

Although not without serious flaws, Canada's arms control regime is one of the most robust in the world. Thus, Canada has much to contribute on topics such as effective Treaty implementation, the arms transfer decision-making process, and increasing transparency through annual reporting.

The Canadian delegation should communicate Canada's positions and actively participate in discussions. It should provide real-time reactions to conference proceedings and, when possible, continue to offer contributions beyond pre-drafted statements.

Canada should also be an active contributor during CSP9 side events and enthusiastically engage in the Diversion Information Exchange Forum (DIEF), which met for the first time last year during CSP8. If Canada's delegation to CSP9 were to include licensing officials with in-depth knowledge about Canada's control system, it would be able to offer even more practical insights to other States Parties and stakeholders.

Maximizing Working Group effectiveness

Working Group sessions are held each February and May in advance of the CSP in August and are integral to advancing the CSP process. However, there is much to criticize about the current format and effectiveness of the Working Groups, as noted above. The Working Groups also now typically end early, in no small part because fewer states are taking the floor to make substantive contributions.

Canada is among the States Parties that have correctly noted reduced engagement at Working Group meetings over time. With others, it has suggested that Working Groups be restructured so that business could be concluded in a shorter span of time. In February, Canada took a relatively hardline position on restructuring the meetings, simply recommending that the number of in-person days for Working Groups be halved.

Currently, the group of states that explicitly support a reduction in the number of Working Group days is roughly the same size as the group of states that oppose such a reduction. A third group consists of states caught somewhere in between. The ATT's Management Committee is responding to this situation by exploring ways to optimize the workplan of the Working Groups. One option would reduce in-person Working Group meetings from two to one, with virtual or hybrid meetings added throughout the year.

Instead of just pushing for fewer Working Days, Canada should advocate for an outcomes-driven approach and call for a review of the possible effects that fewer working days could have on the functioning and effectiveness of the CSP cycle and the overall health of the ATT. Another suggested route would keep two Working Group sessions throughout the year, but reallocate time for small-group or regional meetings that maintain momentum in the Treaty process.

Industry: The theme of CSP9

The theme of each CSP cycle is picked by the President, who represents the State Party selected to preside over a particular annual cycle. CSP9's President is the Republic of Korea (RoK), and the chosen theme is the role of industry in arms transfers.

While the focus on industry has been generally welcomed, the theme's framing has been criticized by numerous States Parties and by civil society. The draft text of the RoK's thematic paper, which outlines the direction of the current CSP cycle, focuses on what the ATT can do for industry, and not on how industry can help to achieve the goals of the ATT. As the Treaty's objective is to mitigate the human cost of the arms trade, this thematic emphasis is clearly misplaced.

Canada's views on the CSP9 theme are unclear; Canada's delegation said little about industry at the February and May meetings of Working Groups. As a state with an established arms industry eager to export more product, Canada should push for an approach that focuses on how industry can help further the objectives of the ATT. A principled place to start would be advocating that industry incorporate into their operating principles the UN Guiding Principles on Business and Human Rights, which, since last year, explicitly extend to arms manufacturers.

Military aid to Ukraine

Since Russia invaded Ukraine in February 2022, many ATT States Parties have provided Ukraine with huge quantities of military aid. These states need to remember that, despite the exceptionally brutal actions of the invader, exporting parties are still subject to ATT obligations, which include standardized risk assessments and diversion-mitigation measures.

Current data indicates that Canada is among the top 10 contributors of military aid to Ukraine (by value). The Canadian Department of National Defence (DND) now maintains a dedicated, transparent, and detailed list of all military exports to Ukraine since February 2022. And yet, unlike some of its allies and fellow ATT States Parties, Canada has said little at ATT gatherings about how it is controlling these transfers to meet its obligations under the ATT.

At CSP9, Canada should join other States Parties in providing details on military aid to Ukraine, such as information on Canada's export authorization procedure, or achieving transparency in reporting these arms transfers. Canada should also describe any initiatives that DND is taking that relate to post-shipment monitoring of these exports.

The bottom line

When we examine current global conditions, marred by ongoing conflict and sharp increases in arms flows, we can only conclude that the international community needs more of – and from – the ATT. All States Parties, Canada included, must do all that can be done to meet the intentions of the Treaty's creators and advance the goal of effectively regulating the international trade in conventional arms. □

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Lest we forget: Marking an infamous anniversary

On March 26, 2015, a Saudi-led coalition began an armed intervention in Yemen, seriously escalating the civil war that had started in 2014. Since then, hundreds of thousands of Yemenis have been killed and millions displaced.

To mark the eighth anniversary of this event, Project Ploughshares, with Oxfam-Québec, Labour Against the Arms Trade, World BEYOND War Canada, and le Collectif Échec à la guerre, hosted a webinar, *The Forgotten War: Yemen, Saudi Arabia, and the Canadian arms trade*. A panel explored the current humanitarian crisis in Yemen, Canada's ongoing export of arms to Saudi Arabia, and the relationship between Canada's feminist foreign policy and the booming Canadian arms trade.

The first speaker, Fatma Jaffar, Policy and Advocacy Lead for Oxfam in Yemen, described the dire situation faced by civilians in Yemen. She painted a picture of a society, already impoverished, in which civilians were under constant attack, food production and medical services were disrupted, and a significant portion of the total population was displaced. As is often the case, women suffered the most. Ms. Jaffar also explained the benefits of a recent six-month truce. Oxfam was calling for all arms suppliers to stop fueling war, a full ceasefire, and for all combatants to be held accountable for violations of international humanitarian law.

Ploughshares Executive Director Cesar Jaramillo then focused on Canadian arms transfers to Saudi Arabia. He argued – as Ploughshares has since 2014, when Canada signed a massive arms deal with Saudi Arabia – that Canada could not legally sell arms to the Saudis because of the significant risk that weapons would be misused by the Saudis against their own citizens and in other conflicts. Cesar also argued that Canada has been non-compliant with both national and international law since it joined the Arms Trade Treaty in 2019 and adjusted national legislation to align with this treaty. As Cesar pointed out, these arguments were made in detail in a 2021 report jointly produced by Ploughshares and Amnesty International; *"No Credible Evidence": Canada's Flawed Analysis of Arms Exports to Saudi Arabia* can be found on the Ploughshares website.

Jennifer Pedersen, a legislative and humanitarian policy advisor, discussed Canadian arms sales in relation to Canada's feminist foreign policy. She claimed that "a good feminist foreign policy would benefit all" because all people are seen as equal. But, while Canada has made some significant changes in its foreign policy to align with feminist principles, it has frequently been seen to prioritize trade, including the selling of arms, over human rights. A feminist foreign policy should have demilitarization as a core principle. The attempt to maintain both feminist ideals and an arms industry produces "cognitive dissonance." The audience was reminded of the quote by humanitarian and diplomat Stephen Lewis: "What kind of feminism is it that sells arms to a misogynist regime in Saudi Arabia?" Dr. Pedersen recommended that pension plans divest themselves of any shares in companies that sell arms to Saudi Arabia.

Rachel Small, Canada organizer for World BEYOND War, described the demonstrations against the war in Yemen held in Vancouver, Calgary, Waterloo, Toronto, Ottawa, and Montreal in late March. She encouraged webinar viewers to contact their Member of Parliament, the Prime Minister, and the Foreign Minister to demand that they stop arms sales to Saudi Arabia and work to end the war in Yemen. As she pointed out, as long as Canada sells arms to a state that violates human rights, it shares in the blame. Canadians, too, have blood on our hands.

Look for The Forgotten War *and a French interpretation,* La Guerre Oubliée*, on the Ploughshares YouTube channel.*

Preserving outer space for peaceful use

A conversation with Victoria Samson

By Jessica West

Victoria Samson is the Washington Office Director for the non-profit Secure World Foundation (SWF).

Jessica West: Victoria, you and I have worked together on outer space issues for quite a few years now. For most of those years you've been with Secure World Foundation. Please tell us a bit about the work and mandate of SWF.

Victoria Samson: SWF aims to work with all space stakeholders as we promote best practices and norms of behaviour in an effort to ensure the secure, sustainable, and peaceful use of outer space by everyone.

JW: Your own work is focused on military- and security-related issues. How does security relate to sustainability?

VS: Activities that make space less secure and that threaten peace can also negatively impact space sustainability. For example, the conducting of anti-satellite (ASAT) tests threatens the preservation of space as a peaceful environment to be used by all. Such tests also produce debris, which can make the space environment more hazardous and costly to operate in, and so less sustainable.

JW: You edit an annual SWF report on global capabilities that disrupt, deny, degrade, or destroy space systems, which are referred to as counterspace capabilities. Which trends worry you most?

VS: When we started the *Global Counterspace Capabilities Report* in 2018, we covered six countries: the United States, Russia, China, India, Iran, and North Korea. In 2020, we added France and Japan; in 2022, Australia, South Korea, and the United Kingdom. We've essentially doubled the number of countries we cover – with a few that we're keeping an eye on for possible future inclusion.

We're seeing a proliferation of interest in counterspace research and development (R&D), which is tied to the increasing importance of space for national security missions. And major powers now have their own space and counterspace capabilities. While the countries in our assessment are making significant investments in counterspace R&D, only non-destructive counterspace capabilities are currently being used in active conflicts. That could change and be tremendously destabilizing.

JW: The United States has long resisted discussion of formal arms control in outer space, but in 2020 you and Brian Weeden, also at SWF, published an opinion piece that called for legally binding measures. Why that moment in time?

VS: For many years, the United States resisted any limits to its freedom of action in space, and

so it had nothing to counter Russia and China's draft treaty to prevent the placement of weapons in outer space (PPWT), except to rightfully criticize its weaknesses.

However, the United States has realized that there was a net national security benefit to its agreeing to limit what it could possibly do in space if that meant others would do the same. As well, an increase in the space capacity of other countries seems to have inspired the United States to reconsider what best serves its security needs. By 2020, Brian and I felt that the powers-that-be might be receptive to arguments about limiting certain kinds of behaviour and even codifying it.

Victoria Samson *Photo by Jessica West*

The U.S. Department of Defense has become one of the big supporters of establishing norms of behaviour in outer space, appearing to realize the importance of stabilizing an increasingly uncertain environment. And in April 2022, the United States announced that it was committing not to conduct destructive ASAT missile tests, and State Department officials indicated that they could even see a treaty on this matter further down the road.

JW: Like Project Ploughshares, SWF supports the growing moratorium on destructive tests of anti-satellite missiles in outer space. How do you respond to critics who claim that this initiative is only about the environment and not arms control?

VS: Well, there are obvious environmental benefits to limiting the creation of debris. But I would argue that any move that acknowledges the benefits of giving up certain activities in exchange for the knowledge that others are not undertaking those activities IS arms control. This approach can achieve the goal of arms control: to hinder the spread of activities that weaken or harm stability and security. Also, if you look at the U.S. National Space Policy through the decades and across all kinds of administrations, you can see that space arms control is supported if it is equitable, effectively verifiable, and enhances the national security interests of the United States. I would argue that the moratorium meets those criteria.

JW: You and I have been participating in the United Nations (UN) Open-Ended Working Group to Reduce Space Threats (OEWG) since it began. Why do you think this process is valuable?

VS: For years, discussions on space security at the UN Conference on Disarmament have been stifled because there has been no agreement on what the biggest threat was and how to handle it. Was it specifically designed weapons placed in orbit that should be mitigated via a treaty? Traffic congestion or bad behaviour that should be mitigated via non-legally binding approaches?

Given the dual-purpose nature of space technology, an increasing number of countries believe that focusing on space technology is not the best approach. Rather, the focus should be on the intention and behaviour of the space actors who own and use the technology. That is the focus of this OEWG. Concentration on norms, rules, and principles of behaviour promotes a focus on actions and activities that make space a more stable, predictable, and secure domain for all without restricting access to space-related capabilities.

JW: Diversity and inclusion are big concerns of global governance initiatives. Does it appear to

you that countries with nascent space capabilities are engaged in these discussions? Are their interests being addressed?

VS: I think that, historically, many countries saw space security issues as only relevant to the geopolitical superpowers. But now space data plays a prominent role in everyone's lives, and more and more countries are aware of the importance of predictable, reliable access to space.

There has been a lot of representation of the Global South and their particular concerns in OEWG discussions. One example: the Philippines was the country that expanded discussion of threat to include those on the ground who are subjected to debris from space launches.

JW: Do you see any obstacles to achieving the desired outcome from this OEWG process?

VS: The goal is a report from the working group chair that is passed by consensus, with recommendations for norms, rules, and principles to reduce security threats. Now, I'm not sure that the whole report will be passed by consensus, but it is my understanding that the chair can identify when there is consensus on some parts and lack of consensus on others.

I've long argued that there are two ways of identifying success here: success of process and success of ideas. Nothing prevents countries or regional blocs from using what they have learned in these meetings at the national or regional level to make space more predictable or stable. The ideas can succeed even if the process stalls.

The biggest obstacle to success with the process is the perception by some countries that the biggest current threat to space security is the potential for weapons to be placed in orbit, and that this threat can only be countered with a legally binding treaty. A report focused on behaviour and non-legally binding approaches is not going to fully address this concern. This could mean that some participants may not fully endorse the report.

JW: It is true that some countries want a process that results in a treaty. Do you believe that the current OEWG moves that process along in any way?

VS: Over the three sessions of the OEWG so far, I've seen a growing understanding that the path to progress isn't either/or – norms OR legally binding agreements. As you know, Jessica, treaties generally emerge from norms or non-legally binding efforts like resolutions from the UN General Assembly. So, a non-legally binding commitment not to conduct destructive ASAT missile tests could be the first step on a path that eventually leads to a legal ban of such tests. Clearly, not all the recommendations for responsible behaviour have the potential to lead to treaties but not all are necessary to achieve a positive impact on space security and stability.

JW: Secure World Foundation and Project Ploughshares have both attended OEWG sessions and participated in informal meetings. How would you evaluate the effectiveness of civil society actors on the OEWG?

VS: At the first two sessions, civil society experts were tapped to bring information to the member states. Both our organizations have taken advantage of available opportunities to submit working papers to the OEWG secretariat and make statements on the floor. So, we have had the chance to inject our perspectives into the discussions, which speaks to the inclusive nature of an OEWG.

Civil society can offer more flexible and less political viewpoints; we are not, and should not be, constrained by national considerations. And we can communicate the value of the process to our constituents and a broader public, at home and around the globe.

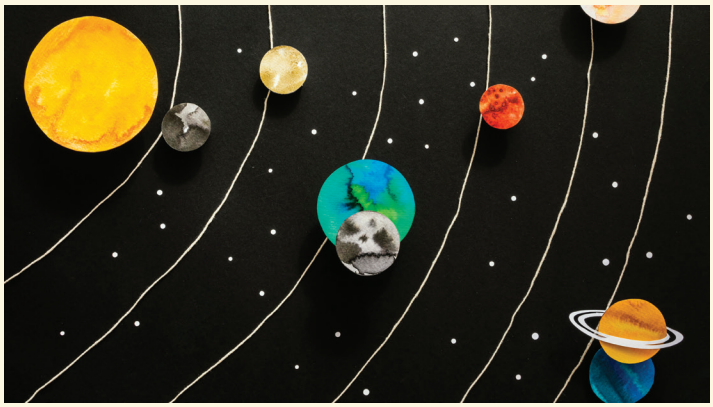
My bottom line: These OEWG discussions at the UN are the best way we have to make sure that space is accessible to and usable for everyone over the long term. □

More information on, and analysis of, the OEWG can be found on the Secure World Foundation and Project Ploughshares websites. The SWF Global Counterspace Report is also available online at www.swfound.org/counterspace.

Jessica West is a Senior Researcher at Project Ploughshares. She can be reached at jwest@ploughshares.ca.

Space Café Canada

Promoting diversity and inclusion in the "war for talent"



On March 24, Ploughshares Senior Researcher Dr. Jessica West spoke with Canadian Hira Nadeem, a Space Systems Engineer at Planet Labs and co-founder of Zenith Canada Pathways Foundation, which provides internship and mentorship opportunities for students and young professionals in Canada to support a more inclusive space industry. They discussed Hira's journey into the space industry, her work experience in Canada and the United States, and her initiatives to increase diversity in the Canadian space industry. They also talked about the need for industry to recruit and retain talent by more intentionally nurturing diversity at all levels from intern to board member.

Hira spoke about how her early interest in a career in space led her to enroll in Engineering at McMaster University in Hamilton, Ontario. Armed with a degree in electrical engineering, she was still unsure about how to become involved in space. She enrolled in a Master's program at the Institute for Earth and Space Exploration at Western University in London, Ontario and has now completed her MESc degree. She praised Western for offering Internships and work/study opportunities, for making research opportunities known, and for supporting relevant student clubs, including a Canadian CubeSat Project team.

Hira began attending conferences early in her academic career and highly recommends them as a way for students and young professionals to network and find out about opportunities to work in the space industry. Jessica and Hira both attended the 2022 International Astronautical Congress in Paris, France, where they met, as well as Space Canada's inaugural conference in Ottawa, *Spacebound 2022*.

In 2020, Hira became the first Canadian recipient of the Brooke Owens Fellowship, which was established to honour the legacy of a space industry pioneer and offers capable young women and other gender minorities an internship with a leading aerospace company. Fellows are selected for their talent, experience, commitment to service, and creativity. Hira was matched with Planet Labs.

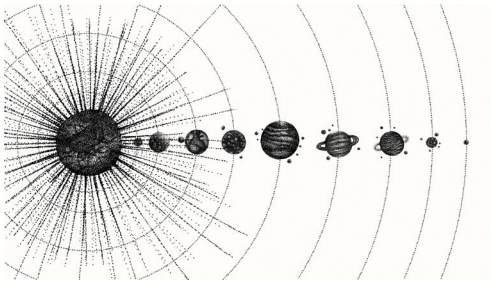
This experience inspired Hira to co-found Zenith Canada Pathways Foundation to foster a more inclusive Canadian space industry. The Foundation offers students and young professionals from underrepresented groups internships and mentoring with Canadian space companies.

These opportunities allow a more diverse group to enter the space industry. But obstacles to careers in space remain. Hira emphasized the need for the industry to make workplaces more inclusive and welcoming for people of all backgrounds and abilities, including women. Such efforts must begin by expanding networking and hiring practices to intentionally find and include participants with diverse backgrounds and experiences. Mentorship is essential.

Meaningful diversity means that minorities occupy significant positions at all levels of a company, not only the lower ranks. If this vision is not part of the entire structure, the same types of applicants will continue to apply and be recruited. Some new Canadian companies, led by women, are showing how diversity can work.

With the help of a fellowship that fosters diversity, Hira has landed her dream job, "driving" and tasking satellites from her laptop. This story and others like it are important because the world needs a diversified space industry. As Jessica's work has shown, to preserve outer space for the peaceful use of all, space governance that has the active support of all space actors is critical. A workforce that includes minorities, who represent and understand groups that would be most affected by the loss of services provided by outer space, will help to ensure the creation and implementation of regulations that preserve those services for everyone.

An example of civil society in action



Written by Wendy Stocker

The most recent session of the United Nations (UN) Open-Ended Working Group on Reducing Space Threats (OEWG) was held in Geneva, Switzerland earlier this year. Ploughshares Senior Researcher Jessica West was present and has just published her report: *The Open-Ended Working Group on Reducing Space Threats: Recap of the third session, January 30 to February 3, 2023*.

This report organizes key insights and themes according to the topics provided in the timetable for the session and provides a list of recommendations as reflected in the discussion, grouped according to theme.

This latest report joins Jessica's reports on the Ploughshares website for the first two OEWG sessions, along with other reports on outer space security (go to Research → Reports).

Ploughshares and the OEWG process

Project Ploughshares is the peace research institute of the Canadian Council of Churches, which has consultative status with the United Nations. Ploughshares has been present at United Nations meetings related to outer space for many years, often one of only a few nongovernmental organizations (NGOs).

This last OEWG session was attended by delegates from more than 42 UN member states (including Canada), the Association of Southeast Asian Nations, the European Union, and the Holy See. Only four NGOs were represented. Two were international organizations; one of the remaining two was Secure World Foundation (see Jessica's interview with Victoria Samson in this issue) and the other was Project Ploughshares.

Jessica has followed all sessions of the current OEWG. The current recap report is far from her only contribution to the most recent session. She also live-tweeted during all 10 meetings (as she had done for the two earlier sessions). Links for this coverage can be found in an appendix of the report.

As well, at an informal meeting designed to collect input from civil society, Jessica delivered a statement by Project Ploughshares that addressed "the contribution of norms, rules, and principles, including to the negotiation of legally binding instruments," and directed OEWG participants to her recent research on "arms control lessons learned from other domains of

military activities." The relevant report, *A Security Regime for Outer Space*, can be found on the Ploughshares website.

After indicating several useful lessons that related directly to the discussions held during the official meetings, the statement concluded:

> We know from other fields of arms control that success requires persistent dialogue and layers of approaches rooted in shared values and principles, mutual obligations and restraints, and the means and mechanisms to implement them. And so, to echo the words of the UN Secretary-General, at this forum we should dare to be bold and ambitious, not only to advance norms of responsible behaviour, but also to have a positive contribution to the discussion of legally binding instruments.

Ploughshares Senior Researcher Jessica West has followed all the sessions of the current OEWG. She is pictured here in Geneva in 2022.

In this statement, Ploughshares both encouraged certain responses from member states and other relevant space actors, and offered practical information.

Ongoing work on outer space security

A synthesis of several years of work on outer space security, including this most recent report, was on display in a webinar entitled *Between the lines: Peace, war, and arms control in outer space*, which Jessica presented in late May to the members of the Space Law Council of Australia and New Zealand. She discussed the application of international law to outer space – "we have space lawyers because we have space law." She examined the Outer Space Treaty and its silence on arms control. She explored the different ways in which countries view peace in space. And she talked about gaps in space governance. All her observations on outer space were grounded in her understanding and experience of the politics of Earth – which she had seen displayed in all its breadth at the OEWG.

In response to a question about the role of commercial actors in achieving arms control, Jessica admitted that it is hard to get this group of players to engage in the topic. Although everyone agrees that activities that produce debris – like anti-satellite testing – are bad, most don't want to be part of the solution. Jessica compared outer space to Ontario's Highway 401 and what it would be like if no one cleaned up after traffic collisions. She also recognized a growing problem as more commercial actors develop innovative tech with military uses.

In her final question to Victoria Samson (see p. 20), Jessica asks her to evaluate the effectiveness of civil society on the OEWG. Victoria replies that civil society is in a good position to influence the future.

We at Ploughshares agree! And so, even though making change is hard work, we will continue to work for a safer and more secure Earth – and outer space. □

Wendy Stocker is the editor of The Ploughshares Monitor.