

SUMMER 2020

THE PLOUGHSHARES MONITOR

VOLUME 41 | ISSUE 2

PANDEMIC SECURITY THEATRE

Let's lower the
curtain

OUR FUTURE ON THE MOON

Who decides what
it looks like?

BUILDING A POST-COVID-19 WORLD



COVID-19 CASUALTY

2020 NPT Review
Conference

OPERATION IMPACT

Canada's half-decade
mission in Iraq

SURVEILLANCE TECH

An overview of the
technologies countries
are using to fight
COVID-19

*"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 2020

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Cover design by Tasneem Jamal, who says she used a chalk concept because it conveys that the post-COVID world is both unpredictable and full of possibility. "Chalk marks are easily altered; they invite us to take chances, to try something new."

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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 KCU Centre for Peace Advancement, Conrad Grebel University College, University of Waterloo.

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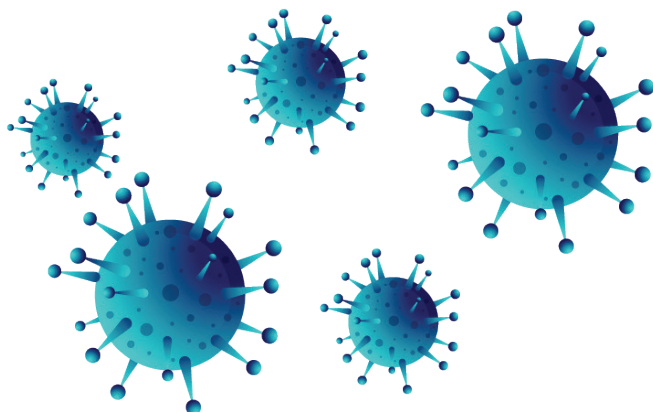
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From the Director's Desk

We have important work to do during this time of crisis



Written by Cesar Jaramillo

We at Project Ploughshares are not front-line workers. To each of them, we offer our deepest respect and appreciation. The consequential work they continue to do to keep essential services going as we wait and hope for the COVID-19 pandemic to subside humbles us.

We thank health professionals, firefighters, government officials, staff in grocery stores and pharmacies and hardware stores. And so many others whose work puts them at increased risk of physical ailment and psychological trauma. We benefit in so many ways from their commitment and dedication.

Thank you to our supporters

No, we at Ploughshares are not on the front lines of the pandemic. But we are more convinced than ever that the work we do is important, even vital.

Like so many other sectors of society during this pandemic, we face financial and logistical

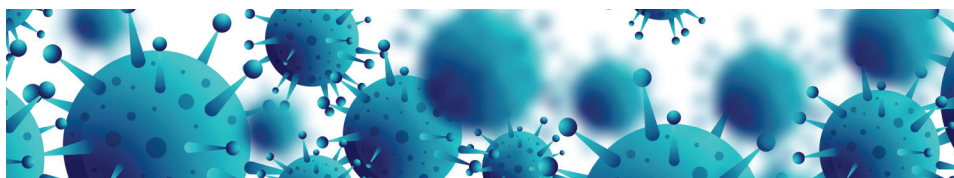
challenges. But we remain deeply committed to our work and to our mandate as a premier peace research organization in Canada.

And we do not do it alone.

So, we want to thank our valued supporters for their meaningful contributions—through the years and at this critical moment. Because of this support, Project Ploughshares is able, so far, to sustain our decades-long effort to fulfill our vision of a secure world without war, and a just world at peace.

What we are doing differently

Even during a health crisis, the need to make headway on security threats relating to nuclear weapons, autonomous robots, and other concerns remains. Project Ploughshares is still conducting rigorous research, providing fact-based analysis and commentary, engaging stakeholders in and out of government, proposing policy alternatives, and communicating our findings to our



constituencies and the general public. But now, like so many workers, all Ploughshares staff are working almost totally from home, seeing each other only via video.

The temporary loss of the usual international arenas for some of these issues—including UN bodies such as the General Assembly and the Committee on the Peaceful Uses of Outer

pandemic, and analyzing their risks to human rights and real security. We are calling for transparency, oversight, and accountability—not just of government agencies, but also the private sector that is involved in the development and implementation of these tech-based responses.

We show how some technological solutions might be misused, now and in the future. One

good example can be found in this issue of *The Monitor*—check out Branka's piece on security theatre.

We are assessing the impact of the pandemic on the various multilateral security processes that we normally follow, drawing attention to areas that require prompt responses from various stakeholders in Canada and abroad.

“The pandemic has prompted global conversations about the need for a new world order in which the individual is protected and resources are allocated to meet the needs of all. As the crisis unfolds, traditional understandings of “security” and “preparedness” are being challenged and redefined, especially as the shortcomings of oversized militaries wielding vast armaments to tackle the multifaceted challenges posed by COVID-19 have become apparent.

Space—is encouraging Ploughshares staff to think creatively about how to advance our objectives—often using digital tech.

We are prioritizing disarmament education and public engagement. A series of webinars have been conducted, and others are in the works.

We are sustaining and nurturing key partnerships with likeminded organizations around the world—again, largely through digital means. We remain active participants in international coalitions, including the International Campaign to Abolish Nuclear Weapons, the International Network on Explosive Weapons, Control Arms, and the Campaign to Stop Killer Robots.

Our focus on the pandemic

Beyond our traditional focus areas, we are exploring the implications of COVID-19 for domestic and international security. We even created a new tab on our website under which can be found relevant research and analysis.

We are monitoring measures and policies implemented by various governments to tackle the

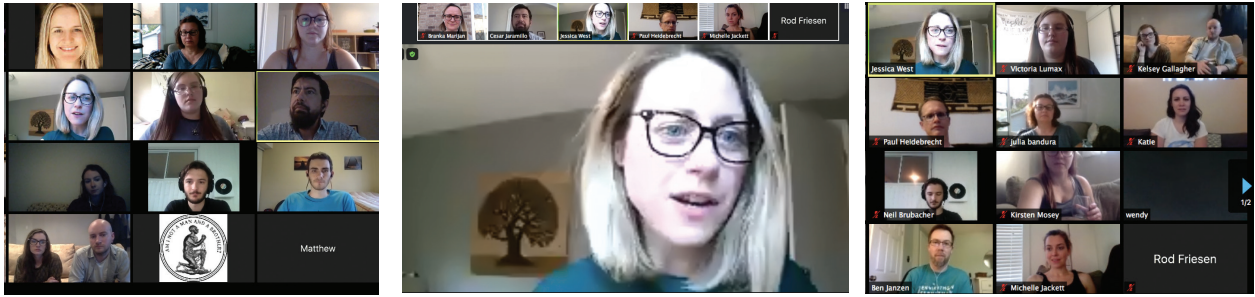
security calendar has been upended by the pandemic. And even though multilateral arms control and disarmament efforts are of critical importance every year, the international security landscape was at a particularly troubling juncture before the pandemic.

For example, the Review Conference of the Nuclear Non-Proliferation Treaty will not take place this year. However, the dangers of nuclear weapons are greater than ever and must not be forgotten. More detail can be found in my article in this issue.

Urgent attention is needed on crucial aspects of arms control, disarmament, and international security. Priorities include the universalization and entry into force of the Treaty on the Prohibition of Nuclear Weapons; the adoption of a political declaration to address the human suffering resulting from the use of explosive weapons in populated areas (EWIPA); the effective implementation of the international Arms Trade Treaty (ATT); the strengthening of the global normative framework for outer space security; and the negotiation of a preemptive multilateral ban on

Why our work matters, now and in the future

The 2020 international



At Ploughshares, we are prioritizing disarmament education and public engagement. A series of webinars have been conducted, including one held in early June (right and above), and others are in the works.



fully autonomous weapons systems.

And we cannot forget Canada's role on the international stage. Ploughshares researchers continue to monitor and analyze relevant Canadian policies and actions. In this issue of *The Monitor* can be found Kelsey's piece on the activities of the Canadian Armed Forces in Iraq under Operation IMPACT and Jessica's article on the Artemis Accords, a series of agreements between NASA and its international partners—including Canada—that are intended to lead to a permanent human presence on the Moon and to begin the journey to Mars.

The pandemic has prompted global conversations about the need for a new world order in which the individual is protected and resources are allocated to meet the needs of all. As the crisis unfolds, traditional understandings of "security" and "preparedness" are being challenged and redefined, especially as the shortcomings of oversized militaries wielding vast armaments to tackle the multifaceted challenges posed by CO-

VID-19 have become apparent.

We have been commenting on some of these concerns for decades. And we intend to be heard in future conversations. The capable and committed program and administrative staff at Ploughshares will continue to work with governments, churches, and civil society, in Canada and abroad, to advance policies and actions to prevent war and armed violence and build peace.

But we can't do this work without help. The inescapable reality is that it takes resources to carry out our mission and to sustain our operations. And so we hope that readers of *The Monitor* and Ploughshares supporters, new and old, will think of us when they consider their charitable budget for this year.

And to those who have given, we say, once again, thank you very much for your support of our work. It is what keeps us going, and we welcome it with profound gratitude. Let us continue to work together in the pursuit of a more just, peaceful, and secure world. □

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Operation IMPACT

Canada's half-decade mission in Iraq



Written by Kelsey Gallagher

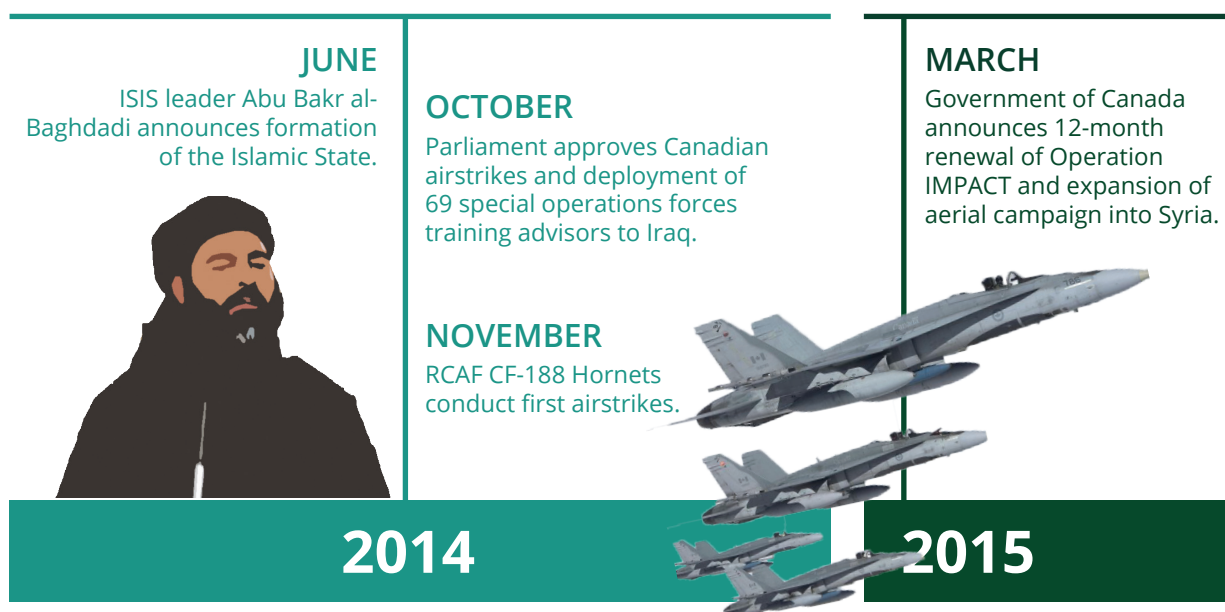
In the fall of 2014, Prime Minister Stephen Harper announced Operation IMPACT, Canada's military contribution to the Global Coalition to Defeat ISIS. Approaching its sixth anniversary, Operation IMPACT is Canada's most significant military operation since the war in Afghanistan.

The mission began with a campaign of airstrikes by the Royal Canadian Air Force (RCAF) and the deployment of special operations forces trainers. Over time, the RCAF's direct combat

role shifted to a support role, assisting Coalition airstrikes through refueling and reconnaissance missions. On the ground, the Canadian Armed Forces (CAF) have been involved in a series of activities, including training and advising local troops, and, since 2018, leading the NATO Mission Iraq capacity-building operation.

The original objectives of Operation IMPACT appear to have been achieved. ISIS was declared territorially defeated in 2017 and ISIS leader Abu Bakr al-Baghdadi died during a U.S. raid in 2019.

OPERATION IMPACT: A TIMELINE



Regional governments and allied groups have taken over ISIS territory, which at one time was larger than the United Kingdom. While small ISIS cells persist, it is unlikely that they will regain any long-term territorial foothold in the region.

Yet Operation IMPACT continues. Its mandate to “build the capacity of the military forces of Iraq” and “support regional stabilization efforts” lacks any clear parameters of success or exit strategy. While COVID-19 has temporarily halted the training of Iraqi forces, some Canadian troops remain in the region, and the mission is slated to continue when the pandemic subsides.

A fractured Iraq

Depending on the metric used, Iraq is either a failed state or close to becoming one. The 2003 U.S.-led invasion of Iraq, followed by years of war and occupation, created a political breakdown in which ineptitude and corruption flourished. Tensions flared between Sunni and Shia factions, causing cycles of ethnic violence and a full-out civil war from 2006 to 2009 that killed thousands of civilians.

Iraq has also become an arena in which U.S. and Iranian forces clash. After the U.S. assassination of Iranian general Qassem Soleimani in January 2020, Iran launched reprisal attacks on U.S. bases in Iraq. This was the closest that Iran

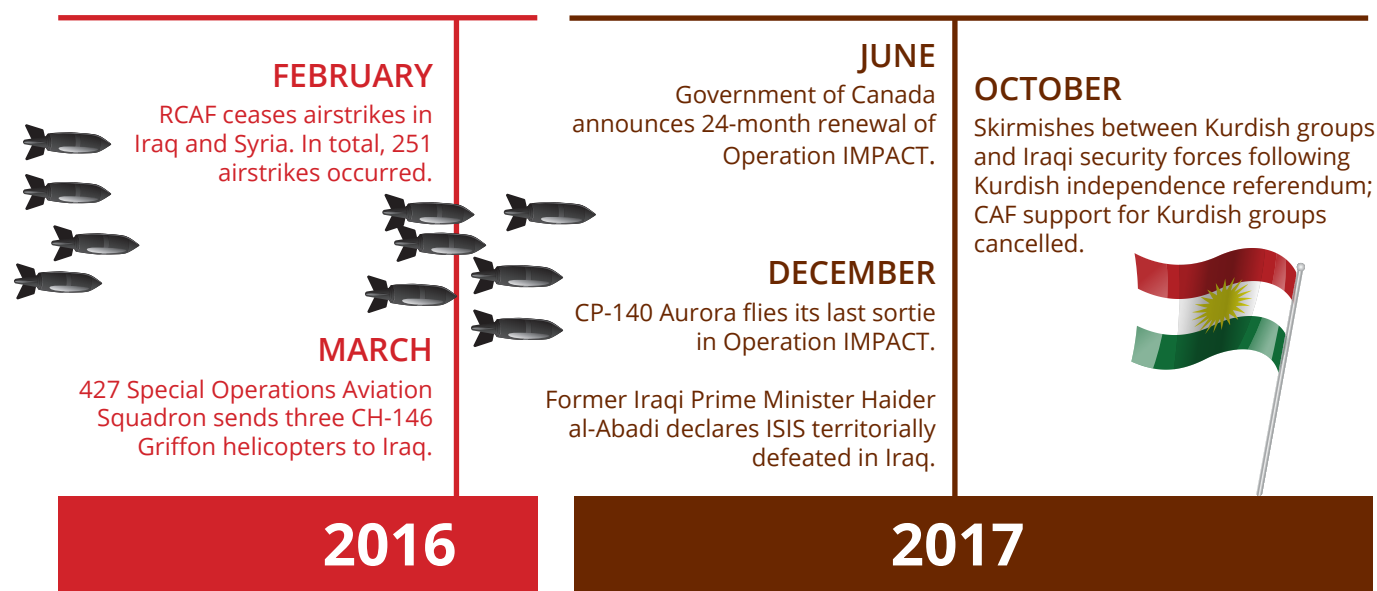
and the United States have come to open conflict in recent history.

In March of this year, an Iran-backed Hezbollah group attacked Camp Taji, north of Baghdad, with Soviet-era missiles, killing U.S. and other coalition soldiers. Canadian trainers stationed at the base were not injured, but they could have been. Their proximity to U.S. forces could draw CAF into combat if there are future Iranian attacks, pulling Canada into a conflict against Iran on the side of the United States. Speaking to a House of Commons Committee after the attack, Lt.-Gen. Mike Rouleau said that Iran-backed Shia militias were now his primary concern in Iraq, as “[ISIS] had been defeated militarily.”

Reacting to Lt.-Gen. Rouleau’s statements, Scott Taylor posed this question in *Esprit de Corps*: “When did Canada authorize our troops’ participation in an inter-factional civil war in Iraq?” Here’s one more: Is another war in Iraq, especially one fought along ethnic lines, a conflict Canada should be involved in?

Canada’s military contribution

Canada’s Middle East Engagement Strategy contains some welcome provisions, including development assistance and efforts to advance gender equality. However, military force, embodied in Operation IMPACT, is still seen as a significant



tool in achieving peace and stability. Currently, Operation IMPACT is assigned the task of building “the military capabilities of Iraq, Jordan and Lebanon and set[ting] the conditions for their long-term success.”

A key component of building military capabilities is through “train-and-advise” operations, an approach that has become a mainstay of Western military relations with regional allies. The theory goes that scaling up the warfighting capacity of

“On occasion, Canadian forces even engaged in firefights with ISIS militants, in contravention of the mandate for Operation IMPACT, which explicitly excluded any combat role.

local troops means that they will be able to bear the brunt of future fighting and will rely less on the intervention of friendly foreign forces.

Yet, the direct recipients and guiding strategy of CAF’s train-and-advise mission remain unclear. Since 2014, CAF has focused on training primarily the Iraqi military, which includes a spectrum of government and pseudo-government

armed groups, collectively referred to by Canada and the Coalition as “Iraqi Security Forces.” Elements of this “groups of groups”—a term used by Canadian Maj.-Gen. Dany Fortin—could be on opposite sides in future conflicts.

In its 2020 report on Iraq, Human Rights Watch said that the member states of the Global Coalition to Defeat ISIS, including Canada, “rarely made public the parameters or the exact recipients of their assistance in 2019.” This lack of transparency allows Coalition members to quickly drop one group and start training another when expedient, and to avoid repercussions when groups commit violations against human rights (HR) or international humanitarian law (IHL).

Violations of human rights

Since popular protests broke out in Iraqi cities in October 2019, Iraqi security forces have killed hundreds of protesters.

When asked by journalists if CAF had trained these soldiers, Maj.-Gen. Fortin asserted that the perpetrators were not the security services receiving Canadian assistance. But the significant point is that Canadian forces are still actively contributing to the security architecture of a state in which these atrocities are taking place, largely with impunity.



JULY


PM Justin Trudeau announces that Canada will command a new NATO training and capacity-building mission, NATO Mission Iraq (NMI), in Iraq in Fall 2018.

2018

MARCH

U.S. President Donald Trump declares ISIS defeated in Iraq and Syria.


Government of Canada announces a 24-month renewal of Operation IMPACT.



OCTOBER

Leader of ISIS, Abu Bakr al-Baghdadi, dies during U.S.-led raid.

Biggest Iraqi protests since toppling of Saddam Hussein begin.



2019

Beyond civil disturbances, in the last several years, Iraq's military has frequently been implicated in major HR and IHL violations, including torture, summary executions, and sexual violence. It is not easy to see how the Canadian government can be certain that the perpetrators of such heinous crimes have not received support from CAF, or will not in the future.

A force for stability?

Until late 2017, Canadian special operations forces worked closely with the Kurdish Peshmerga in Iraq, training and arming Kurdish militants, and identifying targets for allied airstrikes. On occasion, Canadian forces even engaged in firefights with ISIS militants, in contravention of the mandate for Operation IMPACT, which explicitly excluded any combat role.

The Kurds, a minority group that has faced generations of systemic oppression in the region, had expressed their intention to form an independent Kurdistan in Iraq. Following a 2017 independence referendum, violence broke out in the city of Kirkuk between Kurds and Iraqi security forces—both of which were receiving military support from CAF. Canadian military support for the Peshmerga abruptly ended.

Offering military support to two long-time regional opponents worked as long as they were focused on a common enemy—ISIS. With that enemy mainly subdued, the calculation shifted, and Canada quickly found itself in an untenable situation, supplying unspecified levels of guidance, equipment, and even weapons to two quarreling parties in an already unstable region.

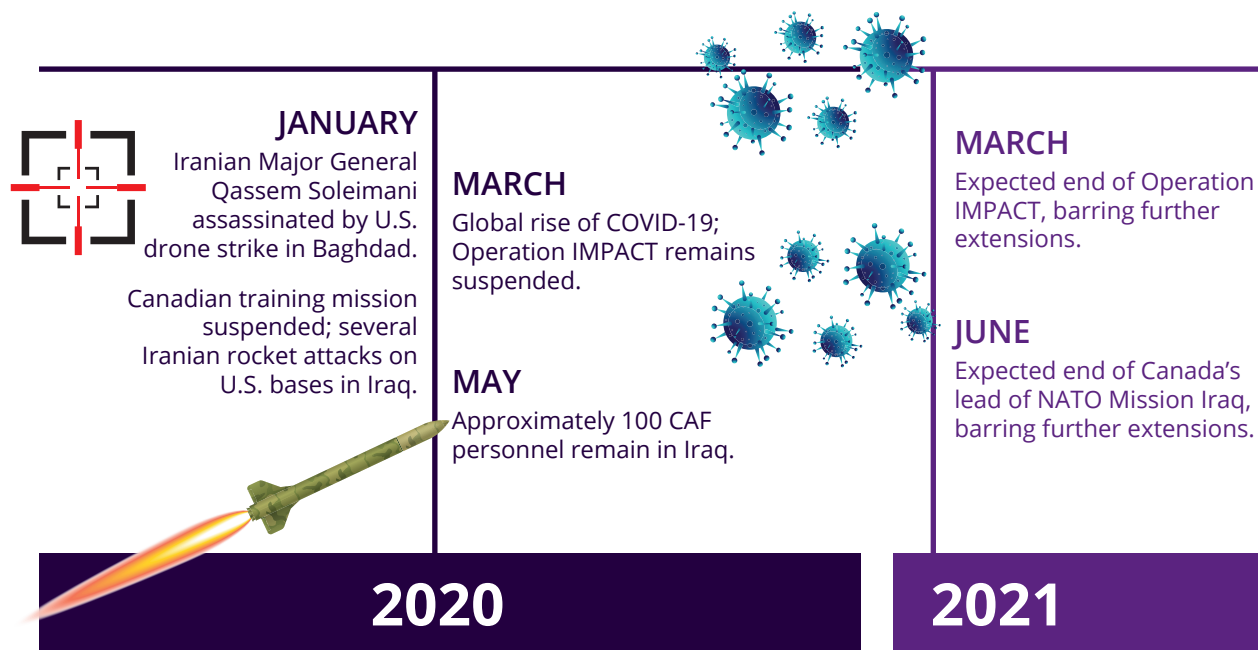
Rethinking Operation IMPACT

COVID-19 has put Operation IMPACT on hold. Fewer than 100 Canadian troops are still in Iraq, with hundreds of others waiting to redeploy and resume their mission, however it is defined. Operation IMPACT is slated to end in March 2021, unless it is renewed for a fifth time, likely for 24 months.

Perhaps this pause is a fitting time for the Canadian government to reconsider the future direction of the mission and take stock of what has so far been accomplished. Perhaps it is time to bring Canadian troops home.

Canada should support the building of a stable and democratic Iraq, from the sidelines, and not through the boundless provision of military support. A future Iraq should be, first and foremost, imagined and built by the Iraqi people. □

Kelsey Gallagher is a Researcher at Project Ploughshares. He can be reached at kgallagher@ploughshares.ca.



Digital surveillance technology

What governments are using to contain COVID-19



Written by Branka Marijan

By early June, 38 countries had turned to a variety of technologies, including smartphone applications, location data analytics, wearable technologies, and even drones and unmanned ground vehicles to monitor the spread of COVID-19 and to control the behaviour of citizens during the pandemic. The use of some of this tech has raised concerns among civil libertarians.

Following are descriptions of commonly used technologies that might not be familiar to all our readers.

Alerts and applications

Smartphone applications can provide phone owners with updates on the pandemic. They also enable digital contact tracing and data collection. And they provide a means of monitoring individuals under quarantine.

Contact tracing tracks down all people who might have been infected by a person known to have COVID-19. These individuals are then informed that they have been in contact with someone who has tested positive for the virus and are encouraged or ordered to self-quarantine or take other measures to control spread.

In countries including South Korea, anyone who has been quarantined must download an approved contact-tracing application on their personal cellphone. South Korea has also used credit card information to track the movement of in-

fected individuals and to inform others who may have come in contact with them.

In parts of China, individuals must download a phone app that rates the health of the phone's owner with a colour code. Green allows the individual to travel freely, while red and yellow mean that the person must report to health officials immediately.

In Poland, quarantined individuals must download an app that requires them to check in with authorities intermittently by sending a time-stamped photograph of themselves at home.

So far, using a contact-tracing app is voluntary in most other countries and has not been taken up by many individuals. There was no widespread adoption of the TraceTogether application in Singapore, partly because of concerns about data privacy. But apps are only effective when adopted by at least 60 per cent of the population.

Many people share these privacy concerns. They also want answers to a variety of questions. What sort of data is being gathered? Who can access it? How long will the information be kept?

Anonymized customer data

In response to privacy concerns, some governments have focused on accessing anonymized customer data. Mobile providers give governments cellphone data with personal identifying information removed. Still, there are some concerns that, in practice, it would not be difficult to re-

identify individuals, particularly in a small community or area.

In March, Austria's largest telecom provider AG stated that it was providing location data from individual phones so that the government could better understand population movements.

“In Poland, quarantined individuals must download an app that requires them to check in with authorities intermittently by sending a time-stamped photograph of themselves at home.

To satisfy privacy concerns, the provider only gave aggregated data sets, that is summary observations of data rather than individual information.

Data analytics

Several countries are collecting information across different platforms in databases and using data-analytics technology to understand trends. It is not clear who is authorized to access the databases or what kind of analytical tools are being used. In Canada, the province of Ontario has granted the provincial police access to the database containing information about active COVID cases.

Electronic wristbands

Wearable devices, particularly electronic bracelets and wristbands, are being used in several countries to ensure that individuals infected with COVID-19 remain quarantined.

Wearable devices are mandatory for those quarantined in Hong Kong. In Bahrain, individuals with the virus must wear an electronic bracelet that is connected to a contact-tracing app and are monitored to ensure that they obey quarantine restrictions; those that break the rules could face time in prison.

Facial-recognition technology

Countries including China and Russia use facial-recognition technology in combination with cell-phone data and data analytics. Some reports suggest that Chinese tech firms can identify individuals wearing face coverings and masks. In France, the Paris metro employs facial-recognition technology that monitors riders to check on mask-wearing trends.

Geofencing

Geofencing is a virtual perimeter that is created around certain spaces in the real world. In India, individuals can be alerted by their electronic wristband when they enter an area that has been identified as creating a risk or is in some other way significant, such as a public gathering space or public transit.

Geolocation

Governments in some countries are using information about the geographical location of residents to understand the spread of the virus and the extent to which quarantine rules are being respected. This information is gathered by tracking licence plates on cars, as well as GPS data from cellphones.

Countries including Thailand provide arrivals to their country with a SIM card that they must insert into their phones. This card tracks their movements for the two-week quarantine period.

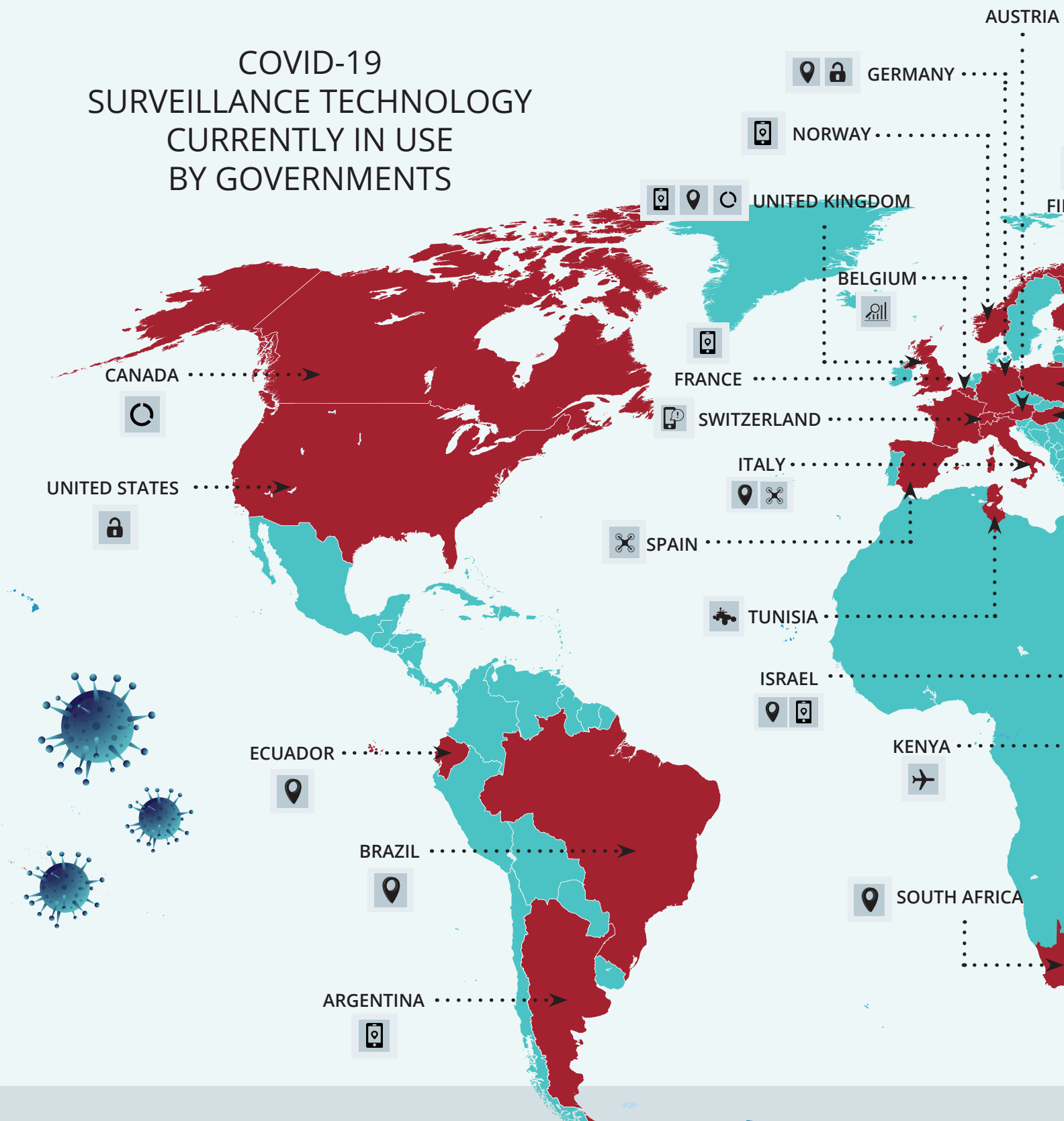
The Ploughshares surveillance map










We at Project Ploughshares believe that it is important to monitor and track the global use of these surveillance technologies. We have produced a map that indicates the state of such use at the beginning of June (see next page). We will continue to update the map on our website.

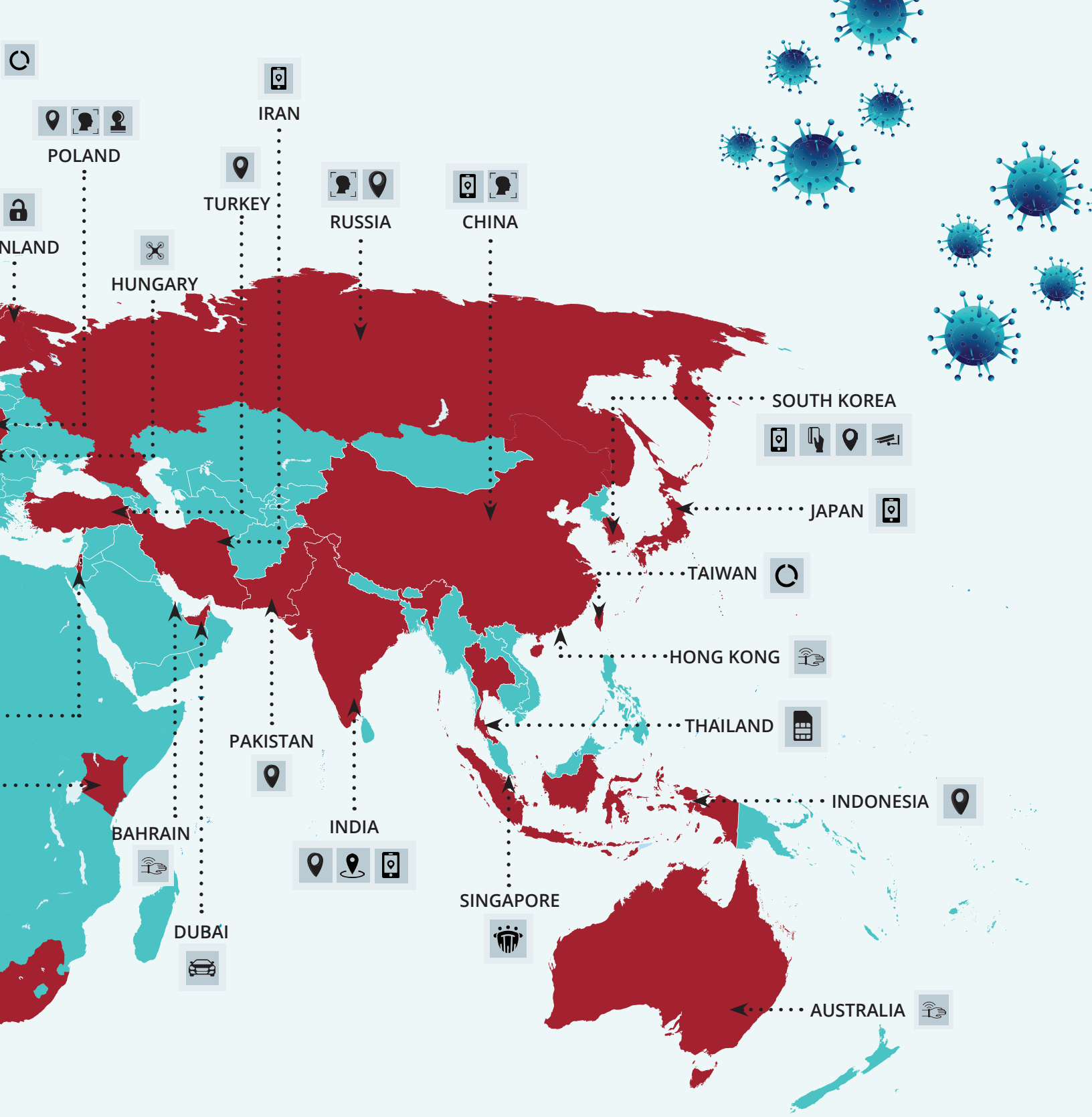
All citizens in countries that employ such technologies need more information about how these technologies are being used and how useful they really are from a public-health perspective. We need transparency and accountability. □

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COVID-19 SURVEILLANCE TECHNOLOGY CURRENTLY IN USE BY GOVERNMENTS



- | | | |
|---|--|--|
|  APP |  CREDIT CARD DATA |  AERIAL SURVEILLANCE |
|  GEOFENCING |  TRACE TOGETHER APP |  CCTV FOOTAGE |
|  GEOLOCATION |  FACIAL RECOGNITION |  CAMERA LICENCE PLATE |



TIME-STAMPED PHOTOS



ANONYMISED CUSTOMER DATA



CELLPHONE ALERTS



ELECTRONIC WRIST BANDS



SIM CARD APP



DRONES



DATA ANALYTICS



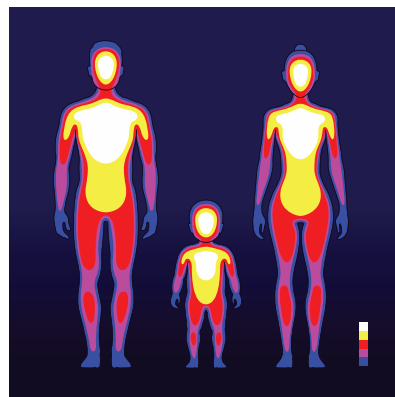
UNMANNED GROUND VEHICLES



PHONE USAGE DATA

Surveillance technology

Let's lower the curtain on pandemic security theatre



Written by Branka Marijan

Providing measures and processes that make individuals feel safe and protected has been important for maintaining social order during the developing COVID-19 pandemic and is becoming even more critical as societies reopen with no vaccine yet available. Governments around the world are looking for technological solutions, such as contact tracing mobile applications, wireless bracelets, and thermal-imaging cameras, to both contain the spread of the virus and to reassure citizens that public spaces are safe. Industry and a range of businesses are also getting onboard, eager to calm customers and employees. Some of these technologies could stay in place as long as the public-health scare exists—or even longer.

But are the solutions really effective or are they merely “security theatre”? If they are NOT effective, might they actually increase the present danger?

Security theatre

“Security theatre” references airport security measures imposed after the 9/11 attacks in the

United States in 2001. The term was coined by Bruce Schneier, a privacy and security expert, who noted that, of all the security measures added at airports, only “reinforcing the cockpit doors and persuading passengers that they need to fight back” really increased safety. Most other measures were simply theatrics.

“Security theatre” is now being used to describe security measures that provide a false sense of safety by only seeming to address specific concerns. Typically expensive, such measures make life more difficult for ordinary people and actually decrease overall security by taking resources and attention away from effective responses. Moreover, some of these measures, like social profiling and the targeting of specific minority populations, can even pose dangers to human security if they are abused.

Professor Evan Selinger of the Rochester Institute of Technology and privacy lawyer Brenda Leong of the Future of Privacy Forum have recently written about the dangers of pandemic security theatre in Medium publication *OneZero*. They note that the current theatrics are “linked to the ideology of solutionism and bolstered by

the common human tendency to want to show strength in the face of danger.”

Solutionism finds answers to complex problems in technology. However, such a dependency tends to lead to more and more technological solutions (often to problems created by technology), and the loss of reliance on human ingenuity and even moral fibre.

Salinger and Leong believe that security theatre will cause harm in the current pandemic crisis.

“The presence of technologies like thermal-imaging cameras could encourage individuals to let down their guards and neglect demonstrably effective measures, such as physical distancing and frequent handwashing. In such cases, the perception of being safe could in fact encourage dangerous behaviour and result in more illness and death.

sis. They write, “But allowing people to rely on ineffective safeguards is misleading at best, and at worst, threatens economic recovery and lives.” Others share their belief. A growing number of analysts and public-health experts are expressing concerns about some of the technologies that are being promoted to the public as solutions to the pandemic, with little evidence of effectiveness or utility.

Thermal-imaging cameras

Thermal-imaging cameras, for example, can apparently detect fever—a symptom of the coronavirus—in individuals and are now in high demand. The cameras function as watchdogs in public locations like airports, alerting authorities to the possible presence of the virus.

However, it is not clear that the cameras are an effective tool in detecting and defeating the virus.

According to experts, the cameras only have an accuracy rate of ± 2 degrees Celsius. Should

these cameras be mounted on drones, as has been suggested, they will become even LESS accurate, because they are further from the targeted individuals and because public spaces introduce other environmental factors that create interference. Finally, the cameras detect the skin’s surface temperature, not body-core temperature, which is a more accurate reflection of health.

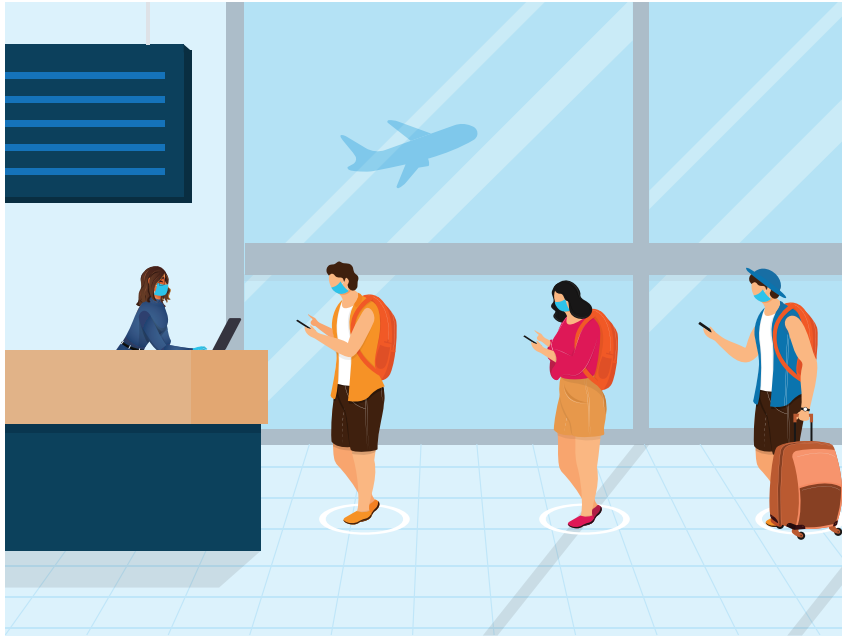
Moreover, normal body temperatures vary among individuals, sometimes by as much as 3.6 degrees Celsius. And temperature can vary even for a particular individual, for a whole host of reasons, including time of day, the individual’s age, and how much that person has had to eat and drink.

The bottom line is that individuals with the virus could consume fever-reducing medications and produce false negatives; individuals with the coronavirus could be asymptomatic, especially during incubation, and also produce false negatives; while individuals with normally high temperatures could have test results that are false positives.

One wonders how these cameras could provide any sense of security.

Lessons from the past

Experiences with Ebola detection offer even more cautions about trying to find incubation-stage viruses. Individuals with incubation-stage Ebola have few detectable symptoms and so will not be intercepted by security checks. By the time Ebola victims display recognizable symptoms, they are generally too sick to travel and present themselves at security checkpoints. In a 2014 article in *Vanity Fair*, former United States Transportation Security Administration Agent Jason Harrington suggested that “finding incubation-stage Ebola in a crowded airport amounts to a taxpayer-funded search for fleas conducted through a



There is a connection between perceptions of security and real security. People who believe themselves to be protected are more likely to accept appropriate restrictions and the advice of security institutions.

shattered magnifying glass.”

Harrington also pointed to the SARS outbreak in 2003. A Canadian report found that extra security measures did not detect a single case of the SARS virus. According to the report, “the pilot thermal scanner project screened about 2.4 million passengers. Only 832 required further assessment, and again none were found to have SARS.” The report advised the Canadian government to review security measures and only use those that demonstrated their public-health effectiveness.

Leaving the theatre

The coronavirus is much more infectious than previous viruses encountered by the global community. Individuals do need to be vigilant, follow public-health guidelines, and be forthcoming about any symptoms or encounters with those diagnosed with the virus.

And there is a connection between perceptions of security and real security. People who believe themselves to be protected are more likely to accept appropriate restrictions and the advice of

security institutions. They are then more confident to resume normal activities. After 9/11, security checkpoints, even if not effective as safety measures, did reassure many people that it was safe to fly again. So, it’s tempting to adopt some technologies in the current crisis to jumpstart our journey to whatever the new normal is.

But this approach, relying mainly on a placebo effect, raises serious concerns. The presence of technologies like thermal-imaging cameras could encourage individuals to let down their guards and neglect demonstrably effective measures, such as physical distancing and frequent hand-washing. In such cases, the perception of being safe could in fact encourage dangerous behaviour and result in more illness and death.

Many of us dream of the day when live theatre will return to the Stratford and Shaw Festivals—or to the Little Theatre in our community. We value what live theatre adds to our cultural life. Security theatre is something different and must be carefully scrutinized. Greater transparency about the public-health utility of technologies and responses to the pandemic will serve us all better than will illusions of safety. □

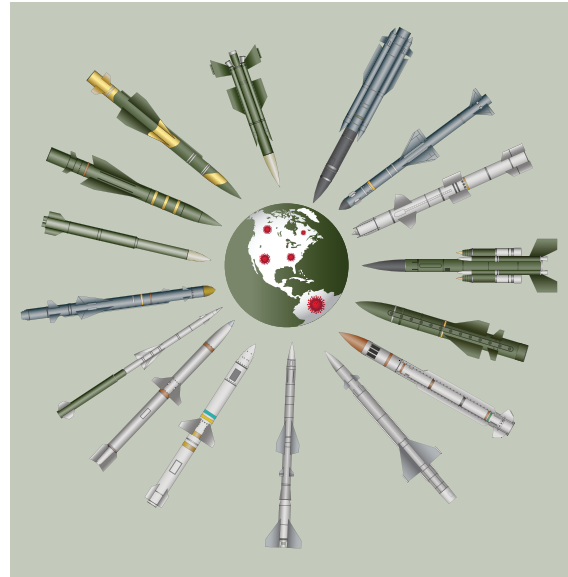
A worrying COVID-19 casualty

The 2020 NPT Review Conference

Written by Cesar Jaramillo

The Nuclear Non-Proliferation Treaty (NPT), widely considered the bedrock of the global nuclear disarmament regime, has not been immune to COVID-19. The latest in a series of Review Conferences (RevCon) of NPT states parties, which are held every five years, was to have taken place this past May at UN Headquarters in New York, but was postponed. According to an official UN announcement, the RevCon will now be held “as soon as the circumstances permit, but no later than April 2021.” However, with the future of COVID-19 still unknown, even that end date could be pushed back.

However necessary, the postponement of the RevCon constitutes a great blow to nuclear-disarmament efforts. While meetings of NPT states parties are always significant, several factors underscored the critical importance of this year’s gathering. The breakdown in the strategic relationship between Russia and the United States was perhaps most significant. But also critical were the long-unfulfilled objective of a zone free of weapons of mass destruction (WMD) in the



Middle East, the overt policy of nuclear deterrence endorsed by all members of NATO, and the growing impatience by non-nuclear-weapon states over the lack of credible progress toward nuclear disarmament.

The state of nuclear disarmament in 2020

In March of this year, states parties to the NPT marked the 50th anniversary of the treaty’s entry into force. In August, the world will commemorate the 75th anniversary of the bombings of Hiroshima and Nagasaki. Yet nuclear weapons still exist.

The complete and irreversible elimination of nuclear weapons is long overdue. And, while the Nuclear Non-Proliferation Treaty has been instrumental in addressing the nonproliferation of nuclear weapons and peaceful uses of nuclear energy, it has failed to deliver nuclear abolition, a foundational objective of the United Nations.

Nuclear disarmament, as distinct from right-sizing and reconfiguration of nuclear arsenals, is a non-priority for the United States—and for

China and Russia and the United Kingdom and France (the NPT-recognized nuclear-weapon states). And no one is predicting that Israel, Pakistan, India or North Korea—all outside the NPT framework—will give up their nuclear weapons anytime soon.

And so the question today is not only if the world is better off with the NPT than without it, but whether this treaty will actually lead to complete nuclear disarmament. History does not encourage optimism. The last RevCon, held in 2015, failed to reach agreement on a consensus outcome document, typically seen as a minimum measure of success. Such a failure indicated profound shortcomings and difficulties with the nuclear-abolition enterprise.

Had this year's NPT RevCon been held, there would have likely been considerable denunciation and lamentation from civil society and many states about the shortcomings of a deteriorating nuclear-disarmament regime as well as the increasing risk of a nuclear-weapons catastrophe.

Urgent attention required

The fragile strategic stability between the United States and Russia, which together possess approximately 95 per cent of the world's nuclear weapons, has some international observers worried—with good reason. The past few years have seen the undoing of many of the arms-control agreements that provided the little predictability present in the relationship between the two superpowers. The combative personalities of both national leaders do little to defuse tensions.

On August 2, 2019, the Intermediate-Range Nuclear Forces (INF) Treaty between the United States and Russia, which bans certain types of ballistic missiles, expired amid mutual accusations of treaty violations. This past May, the Trump administration announced its intention to withdraw from the Open Skies Treaty, which

allows for unarmed reconnaissance flights over the territory of parties to the Treaty. Again, the United States and Russia each issued accusations of noncompliance against the other. The consequential New START Treaty, which places a limit on the number of deployed warheads held by the United States and Russia, is set to expire in February 2021, but there seems little traction to renew it, under current leadership.

The pursuit of a WMD-free zone in the Middle East has been a thorny source of disagreement.

Despite a concrete commitment made under the framework of the 1995 NPT RevCon, no such zone yet exists. Several states, notably in the Arab world, are keen to see progress on this

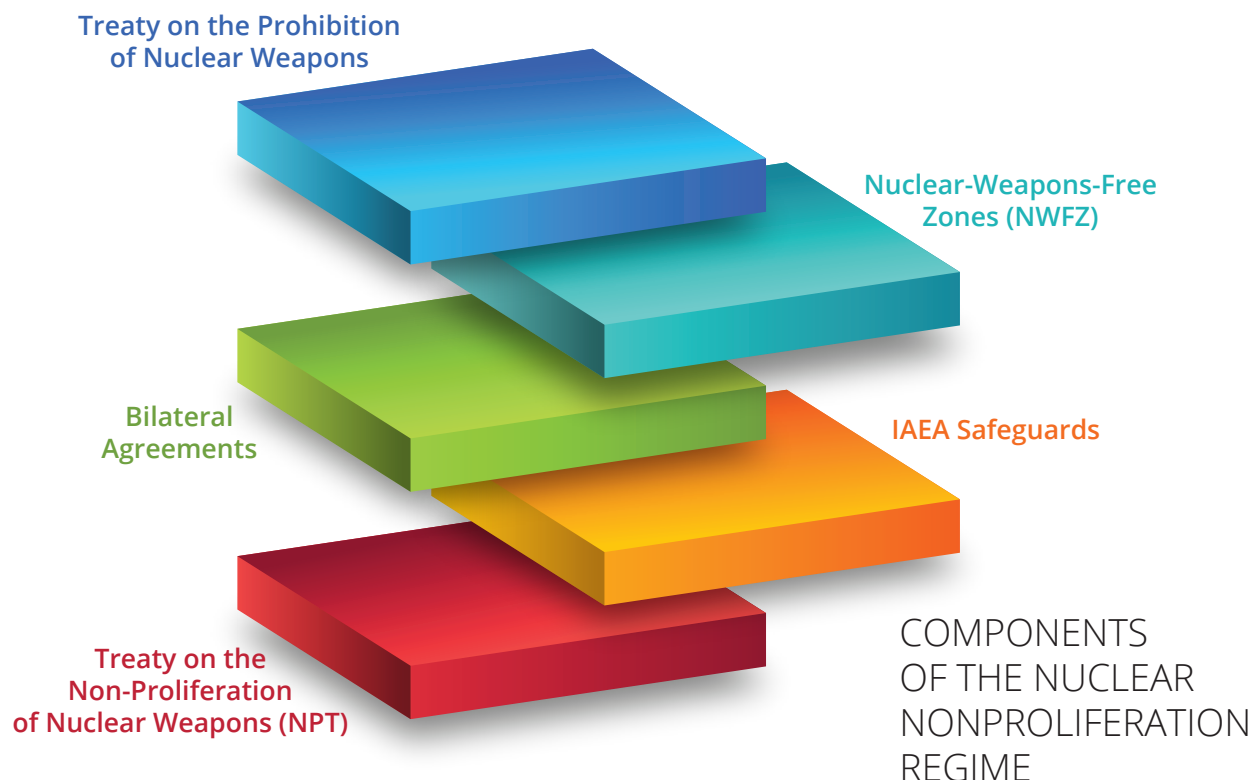


The fragile strategic stability between the United States and Russia, which together possess approximately 95 per cent of the world's nuclear weapons, has some international observers worried—with good reason.

objective, but the road to it is rocky. The near-collapse of the Iran nuclear deal, which has been unravelling since the Trump administration announced its unilateral withdrawal from the agreement in 2018, will almost certainly make the achievement of the Mideast goal considerably harder and could derail the next RevCon.

The stationing of U.S. nuclear weapons in the territories of non-nuclear-weapon states Belgium, Germany, Turkey, Italy, and the Netherlands is seen by many to directly contravene Articles 1 and 2 of the NPT, which refer, respectively, to the undertaking by nuclear-weapon states not to transfer nuclear weapons to others, and the undertaking by non-nuclear-weapon states not to receive them. Recurring challenges to this arrangement at earlier NPT gatherings did not persuade NATO to amend its practice of sharing nuclear weapons, which members of the alliance strongly and unapologetically endorse.

The denuclearization of the Korean peninsula is another recurring hurdle to broader nuclear disarmament. However, there could be fertile ground for creative diplomatic solutions, if negotiators can link nuclear weapons with the official



end to hostilities in the Korean peninsula and a peace agreement between North and South.

Overcoming barriers to progress

The step-by-step approach long advocated by nuclear-weapon states and their allies has come under increased scrutiny and will certainly be challenged at future NPT meetings for its lack of depth and specificity.

Because there is no well-articulated plan for nuclear abolition.

Although this “pragmatic” stepped approach has been discussed repeatedly at past NPT meetings, a search of the documentation yields no response to key questions of substance and process. There is no strategy that ends in nuclear abolition. The two key steps this approach emphasizes—ratification of the Comprehensive Nuclear-Test-Ban Treaty and negotiation of a Fissile Material Cut-off Treaty—while important, have thus far been pursued in a haphaz-

ard, piecemeal manner with no clear linkage to an explicit and credible abolition effort.

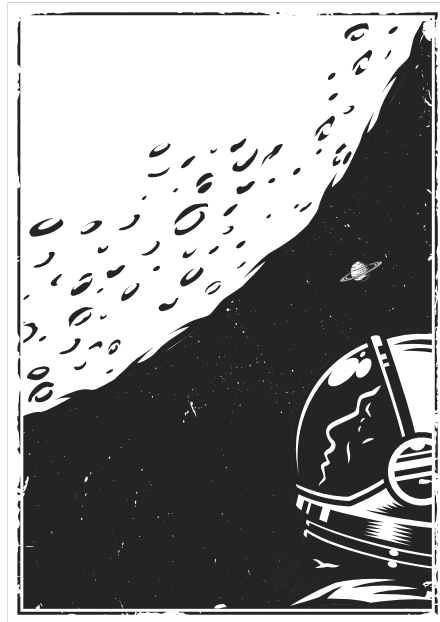
The universalization of the NPT has been a constant objective that remains elusive and with no near-term solution. The NPT is often touted as nearly universal, but is it? Four of the nine nuclear-armed states are outside the NPT framework. It is unlikely that the international community would accept these countries as nuclear-weapon states under the NPT regime, and just as unlikely that these four states would agree to join the Treaty as non-nuclear-weapon states. How could the NPT be seen as a realistic vehicle to zero nuclear weapons when almost half of the states with nuclear weapons are neither bound by its obligations nor restricted by its limitations?

The complete abolition of nuclear weapons must remain the ultimate goal. But in the meantime, NPT states parties should consider concrete actions that will decrease nuclear insecurity and encourage disarmament. □

Our future on the Moon

Who decides what it looks like?

Written by Jessica West



Even during a global pandemic, humans continue their journey back to the Moon. On May 30, the SpaceX Dragon Crew spacecraft, propelled by a Falcon 9 rocket, carried two NASA astronauts to the International Space Station. Years behind schedule, the first crewed launch of a private space vehicle was still a triumph.

The event marked the first U.S. human space launch since the Space Shuttle was retired in 2011. It also served as a rehearsal for the SpaceX Starship heavy-lift rocket now in development. SpaceX is one of three companies contracted by NASA to create a human lander for the NASA-led international Artemis program that aims to return humans to the Moon and establish a permanent base there before venturing to Mars. The “first woman and the next man” are scheduled to touch down on the lunar surface by 2024.

NASA claims that success in this endeavour “will change the world.” It will certainly change the relationship of humans with the Moon.

The Artemis Accords

In mid-May, NASA published *The Artemis Accords: Principles for a Safe, Peaceful, and Prosper-*

ous Future, a brief document that sets out the foundational ideas for the accords, a series of bilateral agreements between NASA and its international Artemis partners. These agreements are expected to help the Artemis program achieve “a sustainable and robust presence on the Moon” while preparing for the Mars mission. The hope is that the accords will set the normative interpretation of international law as it applies to all activities on the Moon.

It is critical to relate the accords to the April 6 U.S. Executive Order “Encouraging International Support for the Recovery and Use of Space Resources,” which refers to space mining. The immediate focus is on accessing water and mineral resources on the Moon to support human life and robotic activities there. In the long term, the private sector is interested in exploiting these resources in a future extraterrestrial economy.

International law on space mining is unclear. The Outer Space Treaty includes a non-appropriation principle applied stringently to the Moon, but not specifically to its resources. Only recently has this topic come up for discussion at the UN Committee on the Peaceful Uses of Outer Space.

If humans are to exist permanently on the lunar surface and travel beyond, they will need

to use extraterrestrial resources. The governments of the United States, Luxembourg, and the United Arab Emirates have adopted legislation granting private commercial companies the right to own and acquire such resources. Both the Executive Order and the Artemis Accords seek to establish this principle as the international norm.

The Executive Order not only asserts that exploiting space-based natural resources is legal, but seeks to free this activity from international regulation. It denounces the Moon Agreement, an unpopular effort to regulate activities on the Moon based on the principle of “common heritage.” And it states that the United States does not view outer space as a global commons. The effect is to open the way for vastly expanded public- and private-sector activity on the Moon, with limited governance.

The Artemis Accords does set out broad principles to guide such activity, which must be followed by NASA’s international partners, including Canada, Japan, Australia, and the European community. For the most part, these principles are based on the Outer Space Treaty and promote peaceful activities, the registration of space objects with the United Nations, no harmful interference, and the provision of emergency assistance. They encourage transparent national policies and plans, and promote cooperation through common technical standards for interoperability and the release of scientific data.

While a good beginning, the Artemis principles leave unanswered many practical and political questions that U.S. partners need to ask. Five key questions follow.

1

What kind of space is outer space?

The idea of outer space as a global commons, free for all to access and use, has long informed global and U.S. space activities. To now argue the contrary challenges the prevailing understanding of the international community.

If outer space is not a global commons, then what is it? The answer may be an open, ungoverned frontier, not just for scientists and explor-

ers, but for entrepreneurs, industrialists, and geopolitical competitors. Although claiming ownership of the Moon is forbidden by treaty, the notion of outer space as a frontier encourages the idea that an actor can “stake a claim” to a location and its resources. The implications are troubling, given the concentration of resources and suitable habitats in the deep craters of the lunar south pole.

2

What does “deconfliction” mean?

One of the more original ideas found in the Artemis Accords is “deconfliction of activities” on the Moon. The accords call on partner organizations to publicly disclose the location of their activities so that “Safety Zones” can be established around them through notification and coordination of activities, and the application of principles of non-interference and due regard.

Safety zones exist elsewhere in international law. For example, they can be established around artificial islands, installations, and structures that may be built within a state’s exclusive economic zone extending from coastal territory. While the idea has merit in a hazardous and delicate operating environment such as the Moon, many practical questions remain.

There are also political concerns. In the absence of prior consultation and international coordination, or a mechanism for conflict resolution, emphasis on deconfliction seems intended to bestow absolute rights on the first arrival.

3

What counts as heritage?

Artemis partners must commit to the protection of heritage, defined as “sites and artifacts with historic value.” This is the only mechanism under international law to preserve the history of human activity on the Moon. But, as written, only

THE ARTEMIS ACCORDS

NASA 2020

PEACEFUL PURPOSES

At the core of the Artemis Accords is the requirement that all activities will be conducted for peaceful purposes, per the tenets of the Outer Space Treaty.

TRANSPARENCY

Artemis Accords partner nations will be required to uphold transparency by publicly describing their own policies and plans in a transparent manner.

INTEROPERABILITY

The Artemis Accords call for partner nations to utilize open international standards, develop new standards when necessary, and strive to support interoperability to the greatest extent practical.

EMERGENCY ASSISTANCE

The Artemis Accords reaffirm commitments to the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space.

Additionally, under the Accords, NASA and partner nations commit to taking all reasonable steps possible to render assistance to astronauts in distress.

REGISTRATION OF SPACE OBJECTS

The Artemis Accords reinforce the critical nature of registration and urge any partner which isn't already a member of the Registration Convention to join as soon as possible.

RELEASE OF SCIENTIFIC DATA

NASA has always been committed to the timely, full, and open sharing of scientific data.

Artemis Accords partners will agree to follow NASA's example, releasing their scientific data publicly to ensure that the entire world can benefit from the Artemis journey of exploration and discovery.

PROTECTING HERITAGE

Under Artemis Accords agreements, NASA and partner nations will commit to the protection of sites and artifacts with historic value.

ORBITAL DEBRIS AND SPACECRAFT DISPOSAL

Under the Artemis Accords, NASA and partner nations will agree to act in a manner that is consistent with the principles reflected in the Space Debris Mitigation Guidelines of the United Nations Committee on the Peaceful Uses of Outer Space.

Moreover, NASA and partner nations will agree to plan for the mitigation of orbital debris, including the safe, timely, and efficient passivation and disposal of spacecraft at the end of their missions.



SPACE RESOURCES

The ability to extract and utilize resources on the Moon, Mars, and asteroids will be critical to support safe and sustainable space exploration and development.

The Artemis Accords reinforce that space resource extraction and utilization can and will be conducted under the auspices of the Outer Space Treaty, with specific emphasis on Articles II, VI, and XI.

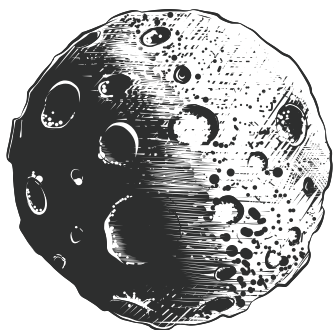
DECONFLICTION OF ACTIVITIES

Avoiding harmful interference is an important principle of the Outer Space Treaty which is implemented by the Artemis Accords. Specifically, via the Artemis Accords, NASA and partner nations will provide public information regarding the location and general nature of operations which will inform the scale and scope of 'Safety Zones'.

Notification and coordination between partner nations to respect such safety zones will prevent harmful interference, implementing Article IX of the Outer Space Treaty and reinforcing the principle of due regard.

the remnants of human activity are to be protected.

The Moon itself is not considered part of the “common heritage of humankind” with cultural and historic value worthy of protection. More challenging: the same craters with resource value are believed to hold much of this history. While the accords stipulate measures to mitigate orbital debris, they are silent on treatment or preservation of the lunar surface and its natural artifacts.



4

Who benefits?

The history of human space activities has been marked by the sharing of scientific data, which can ultimately benefit all humans. This approach is preserved in the Artemis Accords, which commit partners to “releasing their scientific data publicly to ensure that the entire world can benefit from the Artemis journey of exploration and discovery.”

The accords resist the requirement for additional benefit-sharing stipulated in the Moon Agreement. Yet the need to extend the benefits of space exploration more directly and more widely has been recognized in international fora, including the 50th-anniversary meeting of the first United Nations Conference on the Exploration and Peaceful Uses of Outer Space in 2018. There are many ways to interpret the meaning of both benefits and sharing. But there is nothing in the Artemis Accords that commits to measures that might mitigate the technological and resource

inequality that a frontier mentality threatens to widen.

5

Who has a say?

In 2019, U.S. Vice President Pence declared that “the rules and values of space are written by those who have the courage to get there first and the commitment to stay.” Those rules and values are in the Artemis Accords—rules to be applied by U.S. partners via bilateral agreements. But the effect of the agreements goes beyond the signatories to set the normative interpretation of international law as it applies to all activities on the Moon.

This process leaves out not only today’s “Earth locked” countries, but other global space powers with lunar ambitions, namely China, Russia, and India.

Shotgun diplomacy

The Artemis Accords are unilateralism in disguise. It is not clear that even the partners signing on have a say in their content.

This process drips with hubris. The accords are based on the assumption that the United States and its partners will indeed arrive on the Moon first. This in a time of unprecedented uncertainty and political and economic flux. But even if the Artemis partners do win this space race, it may be that the rest of the world’s states will not accept the rules that the accords lay down.

It is in Canada’s interests to participate in the Artemis program. And the program, in turn, stands to benefit from Canadian expertise in space robotics and medicine, and from Canadian financial contributions. But before putting ink to paper, Canada—and the other partners—must ask some important questions and be prepared to fight to preserve what are now commonly accepted international principles and interests, including the preservation of the Moon and the rest of space as a global commons. Silence today is acquiescence tomorrow. □

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