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# RUSI VI

*To promote national defence and security issues  
through discussion and engagement*

**Newsletter of the Royal United Services Institute  
of Vancouver Island**

The Royal United Services Institute of Vancouver Island is a member of the Conference of Defence Associations. The CDA is the oldest and most influential advocacy group in Canada's defence community, consisting of associations from all parts of the country.

The CDA expresses its ideas and opinions with a view to influencing government security and defence policy. It is a non-partisan, independent, and non-profit organization.



## July 2022

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## President's Message

There have been many twists and turns in the Ukraine war since our last newsletter. Although the Russians continue to grind slowly into the Donbas (at least up to the writing of this President's message), the conflict is devolving into a contest more reminiscent of the First World War than the 21st Century. Someone once described the pre-1918 battles on the Western Front as 'Artillery conquers, infantry occupies.' Like then, firepower is paramount on the Donbas Front due to a lack of well-trained infantry and the striking absence of combined arms skills on both sides. In short, this singular Russian reliance on a more numerous gun park is a reflection of tactical bankruptcy.

The US and its allies are now sending large numbers of long-range modern artillery to Ukraine. Based on open sources, about 370 NATO designed artillery systems have arrived or are in the delivery pipeline to Ukraine. These are towed guns like the M777 155mm howitzer, 'Sherpa' style guns like the French Caesar, armoured self-propelled guns like the German PzH 2000, or even upgraded M109s along with extra long-range M142 HIMARS rocket systems. In addition to these technologically advanced platforms, NATO ammunition is more sophisticated and more accurate than the older Russian legacy munitions. An article on the possible impact of all these additional artillery systems is included in this newsletter.

But, like the First World War, even if this flood of superior Western artillery enables Ukraine to fight the Russians to a standstill, they still face the dilemma confronting the Allies on the Western Front. How do they break into the enemy defences and then achieve a breakout? Short of a Russian collapse, if the Ukrainians cannot show more combined arms finesse than they have to date, the majority of the territories currently held by Russia will remain lost. They may retain their sovereignty, but a smaller, weaker Ukraine is a victory for Russia.

Finally, we held a Meet & Greet on 8 June in the Bay Street Armoury, the first live RUSI-VI get-together in 2 ½ years. This was well attended by 27 members. The Meet & Greet was at no cost to members, snacks were provided and there was a wine draw. Our next 'live' luncheon will be on 14 September with a guest speaker. Some photos follow from our 8 June Meet & Greet.

Scott H. Usborne  
President  
Royal United Services Institute of Vancouver Island

# June 8<sup>th</sup>, 2022, RUSI VI Meet and Greet at Bay Street Armoury

(Our first get-together in 2 ½ years!)









## The Modern Cannons That May Make the Difference in Ukraine

Western Artillery is arriving in Ukraine. What difference will it make?

**The Economist 22 Jun 2022**

“Hard pounding this, gentlemen, but we will see who can pound the longest.” Thus spoke the Duke of Wellington on the afternoon of the battle of Waterloo when Napoleon’s guns were pasting his troops. Those words come to mind as the war in Ukraine descends into an extended artillery duel, focused on the Donbas, in the country’s east. Phillip Karber is a former American marine who now leads the Potomac Foundation, a research and policy outfit in Virginia, and who regularly visits the war’s front lines to study the fighting. He reckons Russian artillery barrages are now responsible for about 80% of Ukrainian casualties. Figures on the other side are no doubt similar.

Whoever wins this duel will therefore probably win the war. And Ukraine is pinning many of its hopes of doing so on the sophisticated guns and ammunition it is receiving from well-wishers in the West.

Top of the list at the moment is the French Caesar system (pictured above), made by Nexter, a firm in Versailles. This can hurl shells about 40km, which is 16km farther than the firm’s previous

model, the TRF1, could manage. So far, France has anted-up five or six of a promised dozen Caesar howitzers, enabling Ukrainian crews to smash targets 50% farther away than they could manage just a few weeks ago.

## Top Guns

The secret of Caesar's range is its detonation chamber—the part of the gun where the propulsive charge explodes. At 23 litres, it is roughly four litres larger than the TRF1's chamber and can thus be packed with about 30kg of propellant. To contain this propellant's explosion, the chamber is made of a stronger steel alloy than is used in the TRF1. (The recipe for this is closely guarded.) To stop energy from the blast escaping through the barrel's rifling grooves, shells are fitted with a ring of softer metal that creates a tight seal. And to give shells more time to gain speed, a Caesar's gun barrel is, at just over eight metres, about two metres longer than the TRF1's.

There are other tricks to boost range. For long shots, a ring-shaped “base bleed” device is often screwed onto the bottom of a shell. In flight, this gizmo releases compressed gas that fills what would otherwise be a trailing area of low pressure. That reduces drag-inducing turbulence enough to add several kilometres to a projectile's range. Some shells are also designed with pop-out fins large enough to provide a “gliding phase” of flight. Nexter plans to introduce one such in 2025.

A far more expensive approach is to put rocket engines on shells. On May 31st America announced it would send Ukraine guided rocket systems. The M142 High Mobility Artillery Rocket System, known as HIMARS, can fire a munition called ATACMS a staggering 300km. Ukraine, however, is to receive shorter-range GMLRS rockets. These, which cost about \$160,000 a pop, can reportedly punch a 91kg warhead into a moving vehicle more than 70km away. The Russian Smerch and Uragan rocket artillery in wide use in Ukraine offer less precision but more punch. Those systems fire 280kg warheads.

A three-man HIMARS crew can launch a salvo without leaving the lorry's armoured cab. And Lockheed Martin, the American firm that makes GMLRS rockets, says the satellite-guidance kit works even amid jamming. Britain and another, unnamed, country are meanwhile sending a similar system, MLRS, to Ukraine. Training people to use this sort of kit will take three weeks. But Ukraine is unlikely to receive the 60 launchers that an adviser to Volodymyr Zelensky, the country's president, has said would be needed to halt Russia's advance.

As for the accuracy of non-rocket-propelled artillery, Nexter says that, at ranges up to about 30km, Caesar drops unguided 43kg shells within 140 metres of the target. In practice, precision is often greater than this. In one test in windless weather a Caesar howitzer lobbed eight out of eight shells into a “box” 40 metres square, says Olivier Fort, a former colonel who led studies in artillery doctrine for the French army, and is now Nexter’s programme manager for future artillery. BAE Systems, a British arms giant, offers similar accuracy. In good weather its Archer howitzer lands unguided rounds within about 20 metres of targets 30km away. Ukrainian officials have requested archer guns.

## Staying Alive

Even temperatures matter. Andrii Moruha, a Ukrainian veteran who now works for Come Back Alive, a local charity that, among other endeavours, trains artillery crews in the country’s east, says every drop of 10°C shaves about 55 metres off a 4km shot. Artillery crews routinely loft instruments on a helium balloon to measure temperatures and wind speeds. Systems also take into account the temperature of the propellant loaded into the detonation chamber. Doppler radars clock the speed of projectiles as they leave the gun barrel.

Today’s NATO standard for shell size is another plus. NATO artillery rounds have a diameter of 155mm, 33mm more than munitions fired by much of Ukraine’s legacy Soviet fare. The extra calibre roughly doubles the amount of explosive that fits inside. If tanks are separated by just ten or so metres, as many of Russia’s have been in this conflict, a single 155mm shell can obliterate one and disable two others. Shot for shot, Western artillery is deadlier than Russia’s guns, says Dr Karber, who was himself injured by shrapnel from a Russian barrage in 2015.

These bigger calibres have also helped engineers design specialised munitions such as incendiary and illumination rounds. NATO armies now fire dozens of shell types, including ones fitted with delay fuses that detonate after penetration, in order to wreak greater destruction. These rounds are optimised to punch deep into a specific material, such as steel, concrete or soil. With the latter, the idea is to generate a bunker-collapsing shock wave. A NATO 155mm anti-personnel airburst shell that uses a radar fuse to detonate at programmable heights sprays enough shrapnel to kill exposed infantry across a hectare.

That is fearsome firepower. But to be effective, an artillery crew must also avoid enemy fire. Operators of spotter drones consider enemy artillery positions a priority. And then there is the matter of counter-battery radars. These lorry-mounted systems work out where incoming shells



were fired from. One such system that Russia is using against Ukraine, the Zoopark-1m, can simultaneously pinpoint the origins of a dozen incoming 155mm shells from as far away as 12km. But cobra, a European-made counter-battery radar that Germany is supplying to Ukraine, can do likewise for as many as 40 artillery pieces roughly 100km away.

These radars crunch numbers fast. The technology has allowed Russian units to hammer Ukrainian artillery positions just four minutes after they fire an opening shot. Perhaps it is little wonder, then, that artillery technologists are obsessed with shortening the time it takes to drive into a position and “shoot and scoot”.

With Caesar, a crew can prepare an initial shot in just 40 seconds. The gun can then be fired ten times a minute, four times more often than was possible with the TRF1. To help achieve such performance, Nexter redesigned the mechanism that seals the detonation chamber. After a final shot, the gun is ready to drive away within 40 seconds. As for BAE’s archer, it can fire four shells 40km and drive off before the first one hits its target 55 seconds later. Jim Miller, a former American-army gunner who is now vice-president for combat systems with BAE in Virginia, puts it thus: “If anyone shoots back, they’re just hitting the ground where you used to be.”

Those operational speeds are made possible in part by hydraulic autoloaders. A good example is that in the Panzerhaubitze 2000, an artillery piece made by Krauss-Maffei Wegmann, in Munich, of which Germany has said it is sending Ukraine a dozen. Inside the armoured vehicle which carries the gun a robotic arm slides on a track, grabs a shell stored upright on a rack and places it flat on a conveyor, which carries it to a hoist mechanism. Here, it is lifted and placed into the cannon’s breech. A pneumatic “flick rammer” shoves the round into the chamber. The system loads and fires a round in six seconds, though a special burst mode can shoot three rounds in ten seconds.

Firing rates have also been improved by better software. To aim shots at Russian-backed separatists in 2014, Mr Moruha used a pen, paper and calculator to work out the trajectory. That took several minutes. Today, Ukrainian units usually type target co-ordinates from a drone (or, less frequently, a forward observer) into software that immediately determines the necessary adjustments. With today’s best artillery, barrel settings are precise enough to adjust distant landing spots in increments of a mere 20 metres or so.

Another advance has been a shift from towed to self-propelled guns mounted on a wheeled or tracked chassis, of which Caesar and the Panzerhaubitze 2000 are good examples. Towed

artillery takes longer to move, especially off road. Brent Eastwood, a one-time infantry officer who left the American army in 2004, likens positioning the towed artillery common in his day to manoeuvring “a Winnebago RV”. Moving such equipment away from a firing position can take as long as five minutes. Improvements in counter-battery radars have turned that delay into a death trap.

Then there are guided artillery shells. With fins to steer them in flight, the West’s best is accurate to within a metre or two. The Excalibur S, for example, uses a scanner in its nose cone to spot an infrared laser beam aimed by a drone or forward observer. Its maker, Raytheon, says the round can fly 40km and hit a moving vehicle.

Other sorts need no laser to “paint” their destination. One such is the smart 155 produced by Diehl and Rheinmetall, a pair of German firms. While descending on an area with potential targets in it, the 47kg shell ejects two submunitions (see diagram on previous page). Each of these has a so-called ballute (a cross between a balloon and a parachute) to keep it aloft for as long as possible, and an infrared sensor and a radar that together scan for potential targets. If an object’s scanned signature matches something in a library of military targets which the submunition carries in its memory bank, the submunition fires an explosively formed penetrator at the target. Nexter and BAE produce a similar system called 155 bonus, though its two submunitions descend on winglets rather than ballutes.

Smart shells do have drawbacks. Some use the global positioning system, which is jammable, to work out where they are. And a shell packed with electronics has less room for explosives. Those electronics, moreover, have a tendency to degrade over the course of time. Such a shell may thus have a shelf life as short as 15 years. That might not sound too bad. But a single 155 bonus shell costs about \$40,000, an order of magnitude more than a standard round, so reordering is expensive.

## I Need Ammunition, Not a Ride

How much firepower of this sort has been sent to Ukraine is not public information. But the Ukrainians claim it is insufficient. A colonel who requested anonymity laments that his country remains “in waiting mode” for these systems. Andrew Milburn, founder of Mozart Group, a charity that trains soldiers in Ukraine, agrees. Mr Milburn, who was until 2019 a colonel in the American Marine Corps and who led special operations in the Middle East, reckons not enough high-tech Western artillery has been sent to give the Ukrainians an edge.

Perhaps, though, the balance of power will change anyway. According to Molfar, a Ukrainian intelligence firm with eight analysts who collect data on Russian artillery shots, the accuracy of Russian artillery strikes is broadly declining. (Users of the information Molfar provides include the Security Service of Ukraine, known as the SBU, and America's defence department.) Russia's stocks of precision shells are therefore probably dwindling.

Aiming is another difficulty. Mr Milburn says Ukraine suffers from a woeful shortage of longer-range reconnaissance drones like the ScanEagle, a product of Insitu, a subsidiary of Boeing. He says many more such drones are needed to transmit the co-ordinates of targets to the fire-direction centres that assign shots to artillery crews. But Russia also appears to be struggling to collect good data on targets.

Olga Khmil, one of Molfar's intelligence analysts, says Russia is now using group channels in messaging apps like Telegram to aim its artillery better. Russians pretending to be Ukrainians on these channels feign fear of shelling in order to elicit information about infrastructure that has and has not been hit. On May 24th the SBU revealed an even more devious approach to such espionage. The agency said it had discovered that Russian intelligence was using smartphone games to induce unwitting youngsters to snap and upload geotagged photos of critical infrastructure, military and civilian. In exchange, players receive virtual prizes of no value outside the video-game world. And Russia gets to wreck their country.

## Does the tank have a future?

The war in Ukraine has exposed the vehicle's vulnerabilities.  
They can be overcome.

The Economist: June 15th 2022

### First, a primer on tanks

The T-72 is the Toyota Corolla of tanks—a mass-produced stalwart of armies around the world. It entered service in the 1970s and first saw combat in Iraq's war with Iran in 1980. Today it is in the vanguard of Russia's invasion of Ukraine, and its woeful performance is raising fresh questions about the tank's future.

Russian tanks like these are well protected against frontal attacks. The glacis—a term borrowed from medieval fortresses—is slanted. That means missiles are more likely to be deflected and have more armour to penetrate.

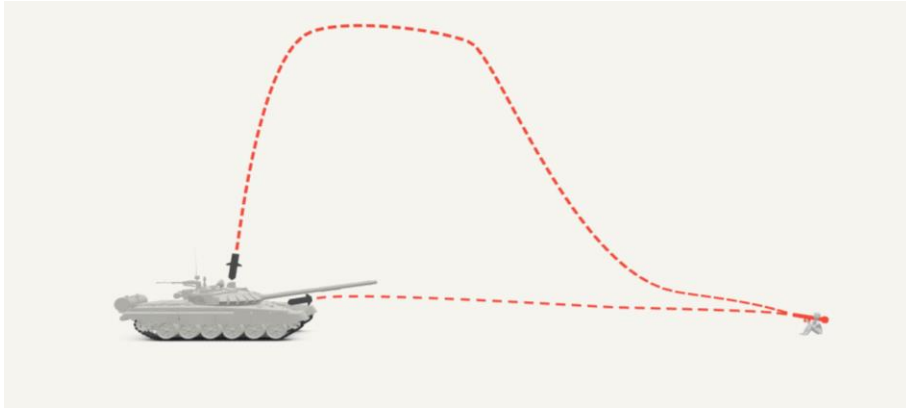
The sides of the hull have weaker armour. Most tanks lack protection here, but Soviet designs are particularly vulnerable.

The most exposed point, however, is the turret.



Older anti-tank rockets would hit the well-protected glacis. But when a Javelin missile is fired at a tank, it shoots up as high as 150m before plunging down and striking the turret from above. The missile is much more likely to penetrate the armour and blow up the tank's ammunition, because there is no blast door between ammunition and crew.





Soviet tanks were designed for enormous, rapid offensives across the plains of Europe. They had to be dispersed to avoid nuclear weapons. These requirements led to smaller tanks, which were cheaper to mass produce, lighter and more mobile. Designers put in an autoloader that carried ammunition from a carousel below the crew into the gun. This device removed the need for a fourth crew member, enabling a more compact design.

A more compact design makes the tank harder to spot at a distance. Iraqi T-72s performed well against British-designed tanks in the Iran-Iraq war of the 1980s. But it also has drawbacks.

The American M1A1 is much bigger than the T-72. It holds four crew members, yet they are separated from the ammunition by thick blast doors.

In modern warfare, where missile attacks increasingly come from above, the separation of crew and ammunition makes the tank less likely to experience a catastrophic explosion.

Having ammunition and crew sit together is a design flaw. It is not, however, the only reason that Russia's tanks have been pulverised in Ukraine.

## Russia's Poor use of tanks in Ukraine is no reason to write off the weapon

Armies on the attack need ways to move their troops forward. They also need to shield those soldiers as they advance. Most importantly, they need firepower to punch through defences that stand in their way, ideally causing havoc in the enemy's rear. The tank combines these three capabilities in a single device. For that reason, every significant army makes use of them. There are more than 70,000 or so around the world.

Yet since the tank first rolled onto the battlefield, at the Somme in 1916, the vehicle's future has been in question. At the Battle of Cambrai, a year later, some 400 British tanks broke through German defences and penetrated five miles so quickly that the astonished attackers were not prepared to exploit their success. Gradually, armies learnt how to do so. In May 1940 the Wehrmacht's massed tanks sliced through the Ardennes on their way to France, in synchrony with infantry and air power, in what would become known as blitzkrieg.

Numbers have declined sharply since the end of the cold war, however, and current scepticism about the tank's future is particularly vehement. Critics argue that the vehicle is ponderous,

expensive and fundamentally ill-suited to modern combat. America's Marine Corps has said it will scrap all of its tanks to focus on preparing to fight China in the Pacific. Many European armies have cut their fleets to the bone since the cold war. Boris Johnson, Britain's prime minister, declared that the old concept of fighting big tank battles on the European landmass was "over", even as Russian forces were gathering on the Ukrainian border.

The war has turbocharged this criticism. Russia is advancing slowly in eastern Ukraine thanks to its advantage in artillery. But it is a grinding campaign rather than one of bold armoured manoeuvre. Russia has lost at least 774 tanks since invading Ukraine, according to a count by Oryx, a blog which tracks the war. Around half of those were destroyed, a third were captured by Ukraine and most of the rest were abandoned. This implies that Russia has lost around a quarter of its estimated pre-war inventory of almost 3,000 tanks. Some elite units, such as the 4th Guards Tank Division, appear to have lost an even higher proportion. Vladimir Putin envisaged his tanks rolling into Kyiv; instead they ended up bogged down on the city's outskirts, before being forced to retreat.

The battles of the last three months have underlined two potent threats to armoured vehicles. One is the anti-tank guided missile (ATGM). Its destructive potential has been clear since the Yom Kippur war of 1973, when Egypt's Soviet-made Sagger ATGMs smashed Israeli tanks. A memo written by the American army after the war assessed that the Sagger, if not disrupted, had a 60% chance of achieving a "kill" against an m60 tank from as far as two miles out.

The Sagger was guided by a command wire that unspooled as the missile made its journey. Today's missiles, including American Javelins and the short-ranged British-Swedish NLAWs, are "fire and forget". They home in on a hot engine or use magnetic and optical sensors to predict where the tank will be in a few seconds. Just as important, modern ATGMs strike where a tank's armour is thinnest. In its "top-attack" mode, the Javelin arcs into the sky and plunges down; the NLAW flies a metre or so above the tank with a warhead pointing down 90 degrees.



A Ukrainian soldier holding an NLAW GETTY IMAGES

The second threat is armed drones, which offer a cheap and simple way of attacking from the air. In recent years Turkish-made tb2s, which are slightly smaller than a Cessna light aircraft, have destroyed large amounts of armour in Libya, Syria, Nagorno-Karabakh—and now Ukraine—using laser-guided bombs. Ukraine is also using alternatives that range from the basic (quadcopters armed with Soviet-era anti-tank grenades) to the more advanced. A cutting-edge example is the American-made Switchblade, a dive-bombing drone that explodes on impact and is known as a loitering munition. Ukraine began using them in early May.

It would be wrong, however, to write the tank's obituary based on its performance in the war, precisely because Russia has made such poor use of them. Many military experts had expected that drones would be little more than a nuisance in any conflict. But Russia's failure to eliminate Ukrainian air defences in the first days of the war means that its warplanes cannot patrol the skies, giving tb2s more freedom to operate. Meanwhile, Russian air defences, designed to detect larger aircraft, seem to struggle with the smaller drones, though there have been improvements in recent weeks.

Modern armed forces prize the idea of combined-arms warfare, in which the various elements of a military formation compensate for each other's weaknesses. Tanks can clear the way for infantry, but only infantry can go into a warren of tunnels to weed out enemy squads armed with anti-tank weapons. Warplanes can provide cover for advancing tanks and infantry, but need air defences on the ground to keep enemy planes away. Ben Barry, a former commander of a British armoured infantry battalion, now at the iiss, a think-tank, has called it "a lethal version of scissors, paper, stone".

In the chaotic opening month of the campaign, some Russian units wandered the battlefield without air defence. Russian tanks have fought in isolation from reconnaissance units sweeping the path ahead or dismounted infantry flushing out anti-tank squads in woodland or urban areas. Such protective tactics "have existed since the time the Egyptians first hit the Israelis", says B.S. Dhanoa, a retired major-general who once commanded an Indian armoured brigade. Only recently have Russians begun to use artillery methodically to pound Ukrainian positions ahead of a ground assault.

Dave Johnson of rand, an American think-tank, has observed that in the American and Israeli armies, it became common practice after the Yom Kippur war to aim artillery at locations where soldiers with ATGMs might be hiding. That forced the enemy to hunker down, making it harder for them to keep tanks in their sights. Tanks are also fitted with mortars, which launch small shells, and smoke canisters, to obscure their movement. "One of the major lessons is that you cannot have armour bumbling along without fire support, or its own eyes and ears well ahead through a reconnaissance screen," concludes General Dhanoa.

An example of what happens when that lesson is not heeded comes from Brovary, a suburb of Kyiv. Drone footage from mid-March shows a densely-packed Russian armoured column driving into an ambush. The commanders on the ground were not solely to blame. One reason for the initial failure of the Russian advance on Kyiv was that artillery support was stuck to the rear of congested columns—a function of poor planning. As Wilf Owen, editor of *Military Strategy*

*Magazine* and an expert on armoured warfare, puts it, “If the Russian army had done any competent training at all, you would not have seen anything like this level of losses.”

Certain problems are also specific to the layout of Russian tanks, as the model above demonstrates. The Soviet decision to use an autoloader was a defensible design choice at the time, but it has created “eggshells with hammers”, says Lieutenant-General Sean MacFarland, a former commander of America’s 1st Armoured Division, echoing a criticism originally applied to warships that had big guns but were themselves ill-protected against attacks. These trade-offs were known long before the war in Ukraine. “Almost every conflict that has involved Soviet-era tanks from the t-64 onwards has shown the vulnerability of these designs to attacks from above and from the sides,” write Sam Cranny-Evans and Sidharth Kaushal, analysts at the Royal United Services Institute, a think-tank in London.

Newer Russian tanks are designed differently. The t-14 Armata, the latest model, keeps an autoloader but sensibly encloses the crew in an armoured compartment. The Armata also has another advantage: an active protection system (APS) which uses radar to detect incoming rounds and fires projectiles to stop them. That would all be good news for Russia’s unfortunate tank crews, were it not for the fact that the Armata is still being tested and is nowhere to be seen on the battlefield. Nor will the Armata be procured in large numbers; at Russia’s Victory Day parade in Moscow in May, just two were shown off.

In the long race between the tank and its foes, anti-tank forces appear to have the upper hand. But vulnerability is not the same as obsolescence. Armies need something that can move quickly, break through enemy lines, lead the way for infantry and destroy the other side’s armoured vehicles. If the tank does not do these jobs, something else must. That alternative will, in turn, become prey to the same technologies and tactics. “If people want to say the tank is dead, then every armoured fighting vehicle is dead for the same reasons,” says Mr Owen. “Because if tanks aren’t there to kill with an ATGM, you will use ATGMs to kill whatever vehicle is there.”

But tanks are increasingly expensive. They are beginning to approach the heady sums spent on modern fighter jets. A high-end one can cost as much as \$20m, says Mr Owen. An f-35a, a cutting-edge warplane, is around \$80m, though estimates vary. One reason for this inflation is the growing expense of tacking on ever more armour to protect the tank. APS will compound that problem. On top of that, operating a heavy-tracked vehicle can cost up to \$500 a kilometre, Mr Owen notes. A large fleet requires lots of dedicated support, from bridging equipment to fuel trucks.

Some countries will keep piling on armour, resulting in more ponderous but tougher tanks capable of absorbing bigger blows. But many more are likely to opt for lighter and cheaper vehicles—more vulnerable to Javelins and Switchblades, perhaps, but affordable in larger numbers. And much as sixth-generation warplanes are likely to become motherships for drone swarms, tanks might become hubs for autonomous ground vehicles that can scout ahead and perform other tasks. Tanks will not die out; they will evolve instead.



*From the Editor:*

*We have been getting a steady reporting of the refugees fleeing Ukraine, but what of those who have stayed? What have and are they going through? This article gives us context as to what those who stayed in place are suffering. This article by a girl who describes what she has experienced was a sobering revelation to me, as I hadn't thought it through down to this level. The picture presented to us by the media is mostly at the macro level.*



## Mariupol: 23 days in hell. My story

Zara Maksymova

30.06.2022 18:30

<https://www.ukrinform.net/rubric-ato/3518991-mariupol-23-days-in-hell-my-story.html>

About how we survived, what we ate and where we hid in besieged Mariupol

*We were huddled together in the narrow corridor of my father's Khrushchev-era apartment. There were three of us: mom, dad and me. The roar of the enemy plane made me lie on the floor and pray. The first explosion. Our house shook. The second explosion. A dull knock on the door and the rattle of broken glass. My parents covered me with themselves, tears flowed like a river, my hand trembled insidiously, and then I thought: "Is it the end? Is it the end?"*

I was born and grew up in Mariupol. I moved to Kyiv when I was 17, but I usually spent my vacation in my native city. In mid-February, I packed my suitcase and went to the sea to "treat my nerves." So, I ended up in Mariupol, where I spent the most terrible days of my life, including 23 days underground.

### **War. Beginning**

On the night of February 24, I had a dream: the city was encircled, there was panic and fear everywhere. Evacuation buses come to residential buildings. Machine-gun fire and volleys of heavy weapons are heard. I rush around the apartment in search of documents and suddenly wake up. While reading the news, I already knew what headlines I would see. "Why didn't you leave immediately? Why did you stay in Mariupol?" they will ask me later. I did not believe that a dream would become a reality.

In the first days, Mariupol was blacked out - the high-voltage lines were cut. Wireless communication was still available, but soon it also disappeared. The streets were plunged into darkness at night, the heating was turned off - we slept in fur coats and wrapped ourselves in blankets. Later, there was no water and gas. Looters crawled out of every crevice: they looted shops, pharmacies, kiosks. Everything where they could get something. They stole sports balls, children's toys, and crutches. Food was taken out in carts, trunks were packed to the brim. Security tags were shamelessly ripped off from clothes right on the street. On the protective shutter of one of the pharmacies, someone wrote with a red marker, appealing to conscience: "People, we still have to live here."



*Photo: Evgeniy Maloletka*

We cooked on a campfire. Even then, the Mariupol courtyards resembled living scenery for films about the apocalypse. There were the longest lines for water, and the wholesale market where you could buy vegetables, fruits and cheese was still open. There was no bread anywhere.

Those whose windows were not broken sealed glass from explosions with adhesive tape. And someone hoped in God and put icons on the balconies. Sirens sounded non-stop for several days. And then they fell silent. Forever. On March 9, Russian forces dropped air bombs on the fifth building of PDTU (Pre-Azov State Technical University), two hundred meters away from our house. We survived these explosions when we were hiding in the corridor. The blast wave was so strong that it broke the windows and destroyed the balconies in a neighboring house. We decided to spend the night in a bomb shelter.



*Photo by Inna Lapina*

## **Underground**

Stale air, narrow corridors and impenetrable darkness. There were so many people in the bomb shelter that it was difficult to breathe. The elderly were lying on tables, whereas younger people were leaning on walls or sitting on boxes. We didn't have enough room. It was scary to return to the apartment, as the survival instinct told us to look for shelter. We went around all buildings of PDTU. People occupied the first floors and basements. Everyone was angry and scared. We were refused everywhere.

Desperate, we decided to return to the second building and spend the night on the stairs. A woman ran out to meet us and said that they had opened an abandoned bomb shelter. Inside, there were bare concrete walls and floor, and also the eerie cold, which made the blood run cold in the veins. Our neighbors were a family and their disabled daughter. Dad carried the girl in his arms, as the child could not move independently. Her mother affectionately called the girl "kitty." For the "kitty" and her parents, the cold basement became the third shelter. They ran from the 23rd residential neighborhood in Mariupol to their uncle in the "quiet" center, but the war caught them here as well.

People from other buildings also started arriving. The men immediately checked if there was an additional exit in case the main one collapses. None of them remained here. The cold and the lack of any conditions were frightening. We did not close our eyes all night. To keep warm, we walked in circles and talked. It seemed that the night could not get any worse. None of us knew then that we would spend another 22 days underground.

### **"Gas masks"**

In the morning, the cold overcame fear, the explosions subsided so we ran home. And again an air strike on the city center. And again we are pressed to each other in a narrow corridor, begging God for salvation. Death flew by, but we didn't want to play with it anymore.

We understood that we had no chance of surviving on the fifth floor of a brick Khrushchev-era building. After gathering blankets and folding beach chairs, we moved back to the shelter. This time we were luckier, people kept arriving and security guards from the university opened two more basement rooms near the bomb shelter, connected by a narrow corridor. We occupied the first one, which had no windows. Gas masks were stored on wooden shelves along the walls



(later, our room was called "gas masks"), and Soviet-era posters on the walls "taught" how to use them correctly. Fifteen people crammed into a ten-meter room. Four children, eleven adults.

Eight-year-old Olenka and three of her brothers (the youngest ten months old and the oldest 13 and 16 years old), mother, father and grandmother came to the basement after a shell fragment hit their house and pierced the roof above the children's room. My grandmother was there at the time of the strike. Halyna Vasylivna was concussed. Her son retrieved her from under the rubble. They ran to the university's bomb shelter, grabbing porridge for the baby, documents and bags with things. As we were running, bullets and Grad rockets were whistling overhead. When it was completely scary, we fell to the ground under spruce trees.

In the first days, Olenka practically did not speak. She saw the book I had and asked me to read it aloud to her. Sitting in the basement and illuminating myself with a flashlight, I read Balzac's novels "Eugénie Grandet" and "A Woman of Thirty" to an eight-year-old child. Later, we invented a new activity for her - the girl drew with a graphite pencil on the wall. Before the war, she was engaged in dancing, singing and went to an art school. When the first shock passed, it turned out that Olenka is a lively and talkative girl who revealed family secrets to us.



*Photo: Evgeniy Maloletka*

## Siege

In the novel that we read with Olenka, a strict father confined Eugénie to her room on a regime of bread and water. At that time, we had not seen bread for more than two weeks. Since the beginning of March, Mariupol has been under siege. In the first days, a humanitarian worker still came to the university, and we got "crumbs": first, we got two boxes with gingerbread and coated peanuts in glaze, then two boxes of canned corn and peas, and once a package of frozen dumplings and 15 chebureks.

Then, in order to survive, we cooked balanda - a handful of cereals (sometimes rice, sometimes millet) or pasta, three potatoes, and canned vegetables were put into the water. We added salt and sunflower oil. The pan was not washed, and there was nothing to wash it with. Sometimes we fried potatoes and pancakes using flour and water, and several times rice porridge came to the rescue. Portions were meager: on the best days, we had a bowl of soup, on the worst days, we had a spoonful of corn per person. Children licked their plates. There were rumors that pigeons were already being caught and eaten in nearby basements.

We found plates and spoons at the university. Bonfires were lit first in the yard, and when the strikes became regular, we did it near the stairs on the first floor.

The older children, Illiusha and Hena, kept a war diary and wrote down what they would eat when they left the basement.

Water was like gold. We exchanged it for something else, we were looking for it, we saved it. The city's water supply company brought water until street fighting started: huge tanks were filled with water, they were installed in the third building of PDTU. Several times men, risking their lives, went to the city park to collect some water from a spring. There were corpses of people with plastic bottles lying on the road – someone did not wait until they came back with water. Rusty slurry flowed from the heating radiators - it was used to wash hands. For this, we also melted the snow.

"I always wondered when I watched movies about the war, why they have such dirty hands, and now I have them too," my mother told me, trying to wipe off her fingers blackened by dust and soot.



*Photo: AA*

### **Half of city residents have been made homeless**

We were some 20 meters from our house. Due to nonstop shelling, my mother and I did not leave the shelter, my father, taking risks, ran to the apartment to feed the cat and brought the remnants of pre-war supplies. Each time we didn't know if we would see each other again. One day he did not return for a long time. Curfew had already started, so we decided to find him. "You are desperate, ladies," someone told us.

We returned three times. When machine-gun fire subsided, we rushed to the road. I couldn't believe my eyes, it seemed that I got into a computer game and was passing the next level. A broken street, burnt-out cars, hanging power cables, glass and window frame fragments everywhere. Fortunately, we returned with our dad to the bomb shelter. It turned out that he heard a shootout in the yard and decided to spend the night in the apartment.

By the way, that was the last time I saw our apartment relatively intact. In a few days, there was already a hole in the roof of the house, one room was completely demolished, and all the walls

in other rooms were demolished. Russia made a free "new planning" and joined our apartment with the neighbor's. At the bottom of our hearts, we said goodbye to our home in advance. Every day in the bomb shelter we heard the stories of eyewitnesses about how nine-story buildings with people were burned to the ground, how mortars shelled Stalin- and Khrushchev-era apartments buildings.

"I close my eyes and see how the house opposite lit up like a match. People on the upper floors ran to the balconies and begged for help", "I can still hear the neighbor's fence screeching on the asphalt, and instead of a house I see ruins." And there are thousands of such stories. "Half of the city was destroyed, half of the city residents have been made homeless," our neighbors said sadly.

In the basement, every next day was similar to the previous one: constant fear, hunger, thirst and cold. Our eyes got used to the darkness, sometimes we didn't understand when night changed to morning. We slept sitting up, the children slept on the shelves where gas masks were stored. Elderly people could not stand it and died - the bodies were taken out into the street and left on the territory of the university. Bad thoughts crept into my head: they would better kill me immediately instead of torturing me.

*More will follow*

**Zara Maksymova**

Editor: The following observation from our sister organization, RUSI of Nova Scotia makes note of a recent statement by Great Britain's Chief of General Staff about the urgency imposed on Defence by current situations. Can Canada react with our over stretched and under equipped CAF to our current times?

## We live in interesting times

Comparing the current international security situation to the build-up to the Second World War in 1937, Great Britain's Chief of the General Staff said Britain must be prepared to "act rapidly" to ensure it is not drawn into a full-scale conflict through its failure to contain Russian expansionism.

In a speech to a conference organized by the Royal United Services Institute (RUSI) defence and security think tank on Tuesday, 28 June, British Chief of the General Staff, General Sir Patrick Sanders, said he had never witnessed the brutal violations of sovereignty and democracy as the "brutal aggression" of the Russian military in Ukraine. He compared the current circumstances to the year 1937 of the timeline to the Second World War.

"This is our 1937 moment. We are not at war – but we must act rapidly so that we aren't drawn into one through a failure to contain territorial expansion.

"I will do everything in my power to ensure that the British Army plays its part in averting war."

Gen Sanders continued: "We must, therefore, meet strength with strength from the outset and be unequivocally prepared to fight for NATO territory."

Perhaps the British military leader is off by one year. It was 1938 when Hitler demanded the Sudetenland from Czechoslovakia, which was served to him in an effort to avert hostilities from erupting. Is this not similar to Russia's fighting in the Donbas region and its annexation of Crimea in the spring of 2014?

The Armed Forces must, General Sanders warned, be prepared to "fight and win" to prevent the spread of war in Europe.

Several years ago in a previous edition of this newsletter I wrote about a presentation I attended in which the audience was told that western strategic analysts believed that there would be a two-year warning phase should Russia re-emerge as a threat to the west.

**29 April 2005:** "The collapse of the Soviet Union was the biggest geopolitical catastrophe of the century. For the Russian people, it became a real drama. Tens of millions of our citizens and countrymen found themselves outside Russian territory. The epidemic of disintegration also spread to Russia itself." (Vladimir Putin)

**2008:** the Russia-Georgia war breaks out over the two breakaway Georgian republics of Abkhazia and South Ossetia.

**2014:** Russia begins the military campaigns for Ukraine's Donbas and Crimean regions.

I submit that we are well beyond the two-year warning phase, and our government must understand that international conflict is a "come-as-you-are" party, and Canada may be doomed to play the role of the emperor sporting his "new clothes."



From the Editor: While below you will find an older article (7 months old), and focuses on Covid, it shows how much the world order has evolved in that short time. The demands of Domestic Operations on the CAF, as shown in this article, have only grown with new commitments for ready to deploy units for overseas operations with respect to NATO's putting 300,000 troops at high readiness in response to Russia's invasion of Ukraine. The perfect storm.

## The Canadian Armed Forces Responding to Domestic Emergencies: Some Implications

THE LIBRARY OF PARLIAMENT HILL NOTES  
BY [LOPRESPUB](#) ON DECEMBER 13, 2021

The Canadian Armed Forces (CAF) has a range of domestic and international roles and obligations. In the future, the CAF is expected to continue to face trade-offs in fulfilling its commitments as the number of natural disasters in Canada is predicted to grow and the international security environment remains uncertain.

This *HillNote* discusses domestic deployments of the CAF across the country in response to natural disasters and the COVID-19 pandemic. It also identifies implications for recruitment, composition and training, as well as international operations.

### Supporting a Civilian Response to Natural Disasters

As part of Operation LENTUS and upon request, the CAF assists domestic civilian authorities in responding to disasters or major emergency situations. *Strong, Secure, Engaged: Canada's Defence Policy (SSE)* lists such assistance as among the CAF's eight core missions.

According to the Department of National Defence (DND), such requests should be made only after the province or territory has exhausted all other capabilities. From that perspective, the CAF is "a force of last resort." Since 2010, the number of domestic disaster relief deployments by the CAF has increased.

In October 2021, General Wayne Eyre, then Acting Chief of the Defence Staff (CDS), said that this trend is "part of a broader issue – the CAF's evolution over the years from a resource of last resort to a force of first choice – that, going forward, needs to be addressed in a national context."

Some commentators believe that the CAF is not the only entity capable of responding to emergency situations. For example, according to the President and CEO of the Canadian Red Cross, "[t]he Red Cross has demonstrated that it's possible to develop a civilian capacity that can

intervene in situations that require primarily a civilian operation” and that it can “replace the army,” as it did in some long-term care facilities during the pandemic.

DND has noted that climate change experts are concerned about the continuing increase in the number of natural disasters. Furthermore, researchers suggest that the frequency of pandemics is likely to rise in the future. These situations may require the CAF to deploy more often, which could have implications for its composition and readiness for other operations.

Figure 1 shows the number of deployments as part of Operation LENTUS, from 2010 to 2021.

Figure 1 – Number of Deployments as Part of Operation LENTUS, 2010–2021



Note: \* Indicates the number of deployments as part of Operation LENTUS in 2021, as of 7 December 2021.

Source: Figure prepared by the Library of Parliament using information obtained from the Department of National Defence, *Operation LENTUS*.

### Supporting a Civilian Response to the COVID-19 Pandemic

As part of Operation LASER, which is the CAF’s response to the COVID-19 pandemic, the CAF has – to date – been deployed to seven long-term care facilities in Ontario and 47 in Quebec, assisted more than 20 Indigenous communities and supported isolated communities in Canada’s north.

As well, several provinces and territories have received support with providing medical care, as well as conducting contact tracing and COVID-19 testing. Furthermore, as part of Operation VECTOR, from December 2020 to June 2021, the CAF assisted governments across Canada in transporting and delivering COVID-19 vaccine doses and vaccine-related equipment.

As of 6 December 2021, 2,175 CAF members had contracted the COVID-19 virus, although not necessarily because of their CAF duties; no deaths were reported. A mandatory vaccination policy has been in place for all CAF members since October 2021.

Concerning cases of the virus contracted during military duty, on 20 November 2020, the then Chief of Staff of the Canadian Joint Operations Command said that 55 members who had assisted in Ontario and Quebec long-term care facilities had contracted the virus.

SSE does not specifically mention pandemics or epidemics. The 2009 manual entitled *Duty with Honour* identifies the concept of “unlimited liability” as one of the CAF’s “fundamental beliefs.” CAF members are “subject to being lawfully ordered into harm’s way under conditions that could lead to the loss of their lives.”

## Implications for Recruitment, Composition and Training

According to the then Acting CDS, as of October 2021, the number of people in the CAF’s regular force was 7,500 fewer than its stated goal of 71,500 members. This situation is partly due to the pandemic.

The CAF often relies on its reserve force for domestic deployments. In April 2020, the Government of Canada offered all interested reservists full-time contracts to assist with the pandemic response. In March 2021, the then Acting CDS stated that the pandemic has led the reserve force to “shrink in size.”

An April 2020 analysis by the Conference of Defence Associations Institute raises a question about relying on the reserve force to respond to domestic emergencies. It also speculates about whether this force should focus solely on domestic operations or continue to participate in international deployments in addition to its increasing domestic role.

During the pandemic’s early stages, training activities were limited to respect health and safety requirements. Training has slowly resumed and the CAF has mandated the use of appropriate personal protective equipment, among other safety measures.

## Implications for International Operations

The CAF’s increasing role in domestic deployments may have implications for its international operations. According to SSE, the CAF must be able to respond “concurrently to multiple domestic emergencies in support of civilian authorities,” in addition to its international obligations.

Referring to these simultaneous responsibilities, in January 2020, Lieutenant-General Wayne Eyre – then Canadian Army Commander – explained:

If we become focused on solely humanitarian assistance, disaster response, when the country really needs us, when the stakes are very high and we have to fight and we're not ready, that's going to cause casualties and it's going to cost loss of national interest.

During its domestic response to the COVID-19 pandemic, the CAF continued to carry out its international commitments, including:

- the contribution to the fight against Daesh in Iraq and Syria;
- the deployment to Latvia as part of the North Atlantic Treaty Organization's assurance and deterrence measures; and
- the training mission in Ukraine.

That said, the CAF has acknowledged that the pandemic has affected its international operations. For example, as the then Acting CDS acknowledged in October 2021, "our necessary involvement in domestic operations reduced the resources available to confront challenges and threats to world security, which continue to increase."

## Conclusion

According to observers, the effects of the COVID-19 pandemic may prompt countries to adjust their military strategies.

In the context of the current pandemic and possible future pandemics, with an expected rise in the number of natural disasters and a constantly changing global environment, the CAF could benefit from having a contingency plan for conducting domestic and international operations simultaneously.

## Additional Resources

Auger, Martin, Marie Dumont and Christina Yeung, "[Canadian and Global Military Responses to the COVID-19 Pandemic](#)," *HillNotes*, Library of Parliament, 3 June 2020.

MacDonald, Adam and Carter Vance, *Analysis: The Canadian Armed Forces and the COVID19 Pandemic: Entrenching the Military as Canada's de facto Emergency Management Organization*, Conference of Defence Associations, 1 April 2021.

von Hlatky, Stéfanie and Stephen Saideman, "[How COVID-19 has impacted Canadian Forces missions abroad](#)," *Policy Options*, 19 June 2020.

**Authors: Marie Dumont, Ariel Shapiro and Anne-Marie Therrien-Tremblay, Library of Parliament**

# Establishment of 3 Canadian Space Division

News release

July 22, 2022 – Ottawa – Department of National Defence / Canadian Armed Forces

Today, Lieutenant-General Al Meinzinger, Commander of the Royal Canadian Air Force (RCAF), and Brigadier-General Mike Adamson, Commander of 3 Canadian Space Division, participated in a ceremony that marked the establishment of the RCAF's newest Division - 3 Canadian Space Division, at National Defence Headquarters Carling in Ottawa, Ontario.

3 Canadian Space Division is an evolution from the RCAF's Director General Space organization. As the responsibility for space operations has steadily grown over the last decade, the space-focussed team within the RCAF has been re-organized to meet this expanded scope.

Building on the space initiatives outlined in Canada's defence policy, Strong, Secure, Engaged, the establishment of 3 Canadian Space Division recognizes the critical importance of space in all Canadian Armed Forces (CAF) operations and day-to-day activities, and is a step forward in protecting Canadian interests in space. This newest RCAF Division will streamline, focus, and improve how space-based capabilities support critical CAF requirements such as communications, command and control, navigation, weather and situational awareness.

The RCAF will remain the functional authority for space for the CAF.

## Quotes

"As the international security environment becomes increasingly complex, space is a critical domain for our national security. The establishment of 3 Canadian Space Division marks an important step forward in our work to build a cutting-edge, innovative military that can anticipate and act in response to tomorrow's threats. We salute the members of the Royal Canadian Air Force for their continued excellence within the space domain."

**The Honourable Anita Anand, Minister of National Defence**

"Space-based capabilities are vital to modern military operations and as such, space must be integrated across the Canadian Armed Forces and steeped in our operational planning. The establishment of 3 Canadian Space Division marks another step forward in growing the space expertise and capabilities we depend on to successfully and effectively conduct operations."

**General Wayne Eyre, Chief of the Defence Staff**



“The space domain is of critical importance, now more than ever, when considering its role in guiding military operations and enabling a vast range of day-to-day activities for Canadians. The establishment of 3 Canadian Space Division enables the Royal Canadian Air Force to ensure we have the right organizational structure to continually deliver space-based effects across the CAF, while also ensuring we are aligned with our allies who have established similar Space Commands.”

**Lieutenant-General Al Meinzinger, Commander, Royal Canadian Air Force**

“It is with great pride and humility that I command 3 Canadian Space Division on behalf of the many dedicated women and men who have long recognized the importance of the space domain to military operations. This is a team that works with endless commitment and enthusiasm to support the Canadian Armed Forces. I know these dedicated space specialists will continue to blaze trails, now and into the future.”

**Brigadier-General Mike Adamson, Commander, 3 Canadian Space Division**

## **Quick facts**

3 Canadian Space Division is projected to employ approximately 175 military and civilian personnel once fully grown in the next few years. This is an increase of 85 positions from Director General Space and is synchronized with growth that is supported by the defence policy: Strong, Secure, Engaged.

The establishment of 3 Canadian Space Division will also include the re-establishment of 7 Wing, which will comprise 7 Space Operations Squadron and 7 Operations Support Squadron. 7 Wing will provide space-based data and capabilities in support of CAF operations.

The CAF’s space-based capabilities are used to deliver communications, command and control, navigation, weather, and situational awareness in support of military operations and activities. Such activities can include search and rescue, monitoring Canada’s maritime approaches to reinforce Arctic sovereignty, support to NORAD operations, and support to decision-making in overseas operations.

Canada’s commitment to the Combined Space Operations Initiative continues to be a priority for 3 Canadian Space Division. This agreement includes Australia, France, Germany, New Zealand, the United Kingdom, the United States, and Canada, and provides opportunities to enhance cooperation on defence space activities.

# Should Our Spies Read Kant?

By Dan Stanton — National NewsWatch — July 16 2022

“Intelligence work has one moral law – it is justified by results.” John Le Carre’s George Smiley. Meticulously constructed and sourced, written in clear philosophical prose, Cecile Fabre’s *Spying Through a Glass Darkly: The Ethics of Espionage and Counterintelligence* (Oxford Books, 2022) is a user’s guide for liberal democracies like Canada and their agents of stealth. Canada needs to renew its ineffective and 9/11-centric National Security Policy (2004) in the face of an evolving spectrum of non-traditional threats. The author transforms arcane rules of philosophy into a moral compass to navigate through the wilderness of mirrors of state versus state espionage. Consulting widely within intelligence communities, drawing upon recent history and the canons of ethical and political philosophy, Ms. Fabre challenges the conventional arguments that justify spying. She posits that “deception, treason, manipulation, exploitation, blackmail, and computer hacking as a means to acquire and protect secrets are sometimes justified. The book’s essence – and usefulness – are found in her examination of the times when these methods are not justified.

The reader must accept two fundamental truths; that a state needs to keep secrets, and in safeguarding that secrecy, the state must obtain the secrets of another party by stealth. The morality of defensive counterintelligence – classification, locked safes, secure communications, vetting of staff – is crystal clear. Where things get murky is in the land of offensive counterintelligence. The lies, deception, manipulation, coercion, and treason – Kant’s “inherently despicable” activities – require justification. To determine if another state has already accessed our secrets (penetrated, in spy parlance) justifies the dirty hands of espionage, making treason a moral act.

For Cecile Fabre, “espionage in the service of an unjust foreign policy is generally not justified.” She compares two of the most celebrated and damaging traitors: Oleg Gordievsky, the KGB officer who worked in place for Britain’s SIS, and Kim Philby, the KGB agent who penetrated SIS. “While Gordievsky did have pretty good evidence that the British authorities would make morally justified use of the information he was able to provide (Britain’s relatively democratic traditions, rule of law), Philby had no such evidence (on the contrary) that the Soviet authorities would do the same. Therein lies a morally crucial difference between their two acts of treason.” The only similarity between the two men is their deeply wounded family members and close friends (complicit chums in Philby’s case), who were lied to and deceived.

Ms. Fabre cites offensive counterintelligence operations of questionable moral necessity; Australia spying on East Timor to get a leg up on negotiations over an oil and gas treaty with their neighbour. The NSA tasking to collect intelligence on UN National Security Council members’ reticence in voting to support the US-led invasion of Iraq. (I would add Jonathan Pollard and Israel to the list). So, where do national interests warrant espionage activities that are beyond the limits of a Just War defence argument? Where does lying, deception, manipulation and computer hacking become legitimate and mandatory?

“Intelligence activities are morally justified only as a means to thwart violations of fundamental rights and subject to meeting the requirements of necessity, effectiveness, and proportionality.” And espionage – defined by Fabre as “the act of seeking to acquire information about third parties that is thought to be needed to conduct foreign policy, and that there are reasons to believe those parties would rather keep secret” is the only way of acquiring this knowledge. Since no “human rights-violating” state will ever volunteer that secret knowledge, it must be stolen to serve the greater good.

What relevance does Spying Through a Glass Darkly have to Canadian national security in the face of our rapidly expanding national interests? Countries like Canada are trying to manage a rapidly evolving non- traditional threat spectrum and the attendant legal and compliance challenges. New national security threats such as pandemics, disinformation, global warming, AI, quantum computing, and economic intelligence herald a paradigmatic shift in intelligence appetites. This requires an ethical framework for Canadian intelligence collectors, analysts, and policymakers in this new, wicked world order. The Kantian imperative of treating people (or political communities) as ends in themselves should be part of those conversations.

Dan Stanton served for 32 years as an intelligence officer in CSIS. He is Director, National Security at University of Ottawa’s Professional Development Institute.

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