Ukraine in extremis

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The first section of this White Paper provides some historical and contemporary background to the Russia-Ukraine War one year on from the invasion which took place in 2022. Section Two focuses on cyber-attacks relating to the war. The Conclusion assesses possibilities for the future.

Section One

Historical and contemporary overview

The events which took place on 24 February 2022 took the world largely by surprise. While fears had been raised in the previous months as Russian forces massed on the Ukrainian border, analysts, government officials and military specialists continued to argue that a full-scale invasion of the country was very unlikely. This short-sighted and deeply flawed approach was obviously an error, if an understandable one given the general perception that President Putin would not risk a war that could spill over into a full-blown confrontation with NATO.

Perhaps more notice should have been taken of the lukewarm response to Russia's previous invasion of Ukraine in 2014: when Crimea was illegally annexed by the Kremlin, the West did little more than stand back as Ukrainian territory was seized, a stance repeated as the separatist regions of Donetsk and Luhansk regions were occupied. Those incursions and land grabs should have served as a warning, but rather were dismissed as an aberration: in other words, it was believed that Putin had got what he wanted.

What is indisputable is that as a sovereign, independent nation, Ukraine has every right to determine its own security partnerships and defend its territory, something which Russia accepted when it signed the NATO-Russia Founding Act in 1997 and pledged to uphold "respect for sovereignty, independence and territorial integrity of all states and their inherent right to choose the means to ensure their own security".[1]

However, this Act was concluded when Russia was in a dire state politically, militarily and economically. Times have changed. Putin assumed power in 2000 and set about reversing the fall of Russia's influence in the world, which he saw as a great tragedy.

In 2004 he had been unable to prevent the ex-Soviet Baltic Republics from joining both NATO and the EU. These nations were 'allowed' to go west because Russia was so much weaker in the early 2000s, and it had very serious internal issues to deal with. But it might also be noted that the ties of Estonia, Latvia and Lithuania to Russia both before and during the Soviet years were always much looser: the crucial difference here is that there are very close cultural, linguistic and historical bonds between Ukraine and Russia.

Putin's mind-set and ambitions were clearly articulated in his address to the Federal Assembly of the Russian Federation in 2005 when he said: "Above all, we should acknowledge that the collapse of the Soviet Union was a major geopolitical disaster of the century. As for the Russian nation, it became a genuine drama. Tens of millions of our co-citizens and compatriots found themselves outside Russian territory. Moreover, the epidemic of disintegration infected Russia itself."[2]

While the Baltic States may have been lost, Putin was increasingly able to take advantage of the fact that other global events have been occupying the attentions of Western nations over the last two decades: conflicts in the Middle East and Africa, the war in Afghanistan, the 2007-2008 financial crash, the refugee crisis, environmental issues – not to mention China's growing economic development and military power. Even in 2008, the Russian president felt confident enough to invade Georgia (another ex-Soviet nation) without fear of Western reprisals.

Crimea and Donbas

Crimea, a strategically important peninsula in the Black Sea that houses the Russian fleet, was given to Ukraine in 1957 by the then Soviet premier, Nikita Khrushchev. In 2014, following anti-government protests and the ousting of pro-Russian president Viktor Yanukovych, along with anti-government demonstrations in Kyiv and other Ukrainian cities, Putin instructed his forces to move into the region.

The response of the West to Russia's seizure of Crimea was weak, to say the least. Statements demanding withdrawal were made, and various sanctions were implemented but there was little else of note. Some prominent politicians even blamed the illegal annexation of Ukrainian territory on the EU's expansion eastwards into the traditional Russian sphere of influence. In the UK, for example, Boris Johnson said: "if you want an example of EU foreign policymaking on the hoof and the EU's pretensions to running a defence policy that have caused real trouble, then look at what has happened in Ukraine".[3]

Having 'conquered' Crimea, Putin turned his attentions towards the eastern Donbas region. Russian troops seized government buildings, and Moscow recognised the 'independence' of the Donetsk and Luhansk People's Republics (DPR and LPR). This led to a state of war between Russia and Ukraine, with thousands of casualties on both sides.

NATO

Under the Budapest Memorandum, concluded in 1994 and signed by Russia, Ukraine gave up its Soviet-era nuclear weapons and joined the Nuclear Nonproliferation Treaty (NPT) as a non-nuclear state. Its territorial integrity as a sovereign state was also secured.[4]

At the Bucharest Summit[5] in April 2008, NATO agreed that Ukraine (and Georgia) "will become members" of it but no further details were given on when this could or would take place.

This cooperation between NATO and Ukraine has developed further since 2014, with the military alliance expanding its presence and activities in the country. Ukraine's National Security Strategy,[6] updated in 2017, requested NATO membership, and it is here that Putin, having built up Russia's military forces over the last 15 years, drew the line, deciding that his country was now in a position to reassert overall rule over its traditional region of influence and control.

He has justified his military activities in Ukraine as a means of protecting Russia from the West which, he claims, seeks to destroy his country and provoke global warfare. He views the possible accession of Ukraine to NATO as a deliberate offensive threat to Russia's status as the regional (and world) power.

Let us be clear. There was never any possibility of Ukraine joining NATO in the near future: there are well-founded concerns about corruption in the country, and various reforms of the military and security services, a prerequisite of membership, have not been implemented. The accusations of Western encroachment on Russian lands is a simplistic interpretation of the situation overall. Some thought also needs to be given to the position in neighbouring states. In the Baltics, for example, there is a genuine fear that – NATO members or not- they will be next to face a military offensive if Russia is allowed to run roughshod over Ukraine to satisfy Putin's ambitions.

Other ex-Soviet states have similar concerns, particularly Moldova and Georgia. These were raised most recently when, on his visit to Brussels in February 2023, Ukraine's president, Volodymyr Zelenskiy, claimed that his security services had uncovered intelligence showing that the Kremlin had a "plan for the destruction of Moldova". He added: "These documents show who, when and how Russia is going to break democracy of Moldova and establish control. I immediately warned Moldova about these threats."[7]

In a speech to the nation, Moldovan president, Maia Sandu, stated that the Kremlin was "planning a coup d'état in Moldova, complete with attacks on government buildings and hostage-taking by men with military training working under the guise of "opposition protesters".[8]

Whether or not this information is true, it is certain that Putin is unlikely to cease in his quest to reinvent the Soviet Union. For its part, the Kremlin claimed that the Ukrainians were planning their own invasion of Moldova and would attempt to blame Russia for it.

It is clear that Putin has miscalculated: his determination to prevent NATO expansion has misfired. Both Sweden and Finland, traditionally neutral countries that had no real aspirations to join the military alliance, applied for membership in April 2022 as a direct result of the invasion of Ukraine.

The situation is similar when it comes to EU accession, something which Putin is also determined to stop. Yet following his moves in February 2022, Ukraine, Georgia and Moldova have all applied for fast-track membership. The European Commission is currently working "to help the three countries further align to EU standards and norms covering the entire EU acquis".[9]

Armenia, another ex-Soviet state which has much closer ties with Russia, is also interested in joining.

Putin's essay

As Russia's military threats to its neighbour became ever more severe, Putin published an essay in July 2021 arguing that Ukraine was not really a different country and that it was actually part of Russia.

Central to his thesis is his strong belief that Russians and Ukrainians, as descendants of Ancient Rus, are one people. He claims that Ukraine has no history of existence as a separate state or nation. Interestingly, he places much of the blame for the disintegration of the Soviet Union on the way the Constitution was worded in 1924, as it allowed the federal republics the right to secede. "By doing so, the authors planted in the foundation of our statehood the most dangerous time bomb, which exploded the moment the safety mechanism provided by the leading role of the CPSU was gone, the party itself collapsing from within."

He then goes on to brand Khrushchev's decision to cede the Crimea region of the Russian Soviet Federal Republic (RSFSR) to Ukraine in 1957 as "in gross violation of legal norms that were in force at the time". He concludes: "Therefore, modern Ukraine is entirely the product of the Soviet era. One fact is crystal clear: Russia was robbed, indeed."[10]

What Putin's essay does reflect well is the feeling that Russia had lost something after the fall of the USSR; in contrast the other 14 Soviet republics had gained sovereignty, and reinvigoration of their own cultures and languages.

Yet it is a mistake to claim that Ukraine has no history of nationhood. The country had long been subjected to various forms of authoritarian control from outside but had enjoyed some self-rule before Russian Empress Catherine II advocated full unification and Russification. Ukraine was deprived of any autonomous status in 1783 through the abolition of its political institutions and its division into Russian-style oblasts (regions); even the army was disbanded. The Ukrainian language was forbidden in schools and political groups were banned. In short, "throughout the Tsarist period, the regime spared no effort to eradicate every vestige of national culture and consciousness."[11]

After the Revolution of 1905, when political and social unrest throughout the Russian Empire focused on the activities of the Tsar and the nobility, a new sense of national identity began to emerge in Ukraine, developing further during the time of the 1917 Revolution and the ensuing Civil War. In Ukraine there were uprisings among the peasants (the majority class at the time) who fought both the Bolshevik Red Army and the anti-communist Whites in a quest to maintain independence. A national parliament (Rada) was established during these years, but the Ukrainian People's Republic was short-lived and following military defeat in 1922, it morphed into the Ukrainian Soviet Socialist Republic and became a founding member of the Soviet Union.

Putin is wrong, therefore, to claim that Ukraine had no history of identity or self-rule. In his writing he also fails to mention the inhuman policies carried out by Stalin during the 1930s, which resulted in millions of Ukrainians being starved to death in the Holodomor.

Back in the present, Putin is presenting his 'special military operation' in Ukraine in Ukraine as part of the culture wars. He claims the West is "moving towards Satanism" and "teaching sexual deviation to children" and that "we're fighting to protect our children and our grandchildren from this experiment to change their souls".[12]

In his State of the Nation speech in February 2023, he went even further and announced that paedophilia is "normal" in the West.[13]

Some of his closest allies are no less off-the-wall when it comes to ridiculous statements.

Dmitry Medvedev, who stood in as president between 2008-2012 while the Russian Constitution was changed to allow Putin a life term, raised the prospect of the fight against "satanism" when he said his country's task was to "stop the supreme ruler of Hell, whatever name he uses- Satan, Lucifer or Iblis".[14]

In August 2022 Medvedev also allegedly made a post on VK, the Russian social media platform, claiming that Kazakhstan, another ex-Soviet republic, was "an artificial state" and accusing the country of committing "genocide on its Russian population", as well as "relocating" various ethnic minorities. A spokesman for Medvedev immediately said that the account had been hacked and the post was taken offline within minutes, though not before many screenshots of it had been saved. However, what was written undoubtedly reflected his views, and those comments mirror almost exactly those voiced by Putin in his attempts to justify Russia's invasion of Ukraine.[15]

Medvedev is now deputy chairman of Russia's Security Council. Most recently he brought up the issue of changing Poland's borders. "That is why it is so important to achieve all the goals of the special military operation. To push back the borders that threaten our country as far as possible, even if they are the borders of Poland."[16]

Before clamouring for the demise of Putin, perhaps we should be careful what we wish for.

Mobilisation and military support

In September 2022, faced with the harsh reality that Russia was incapable of winning the war- due both to the resilience and determination of the Ukrainian people and to Western military and financial support - Putin announced the mobilisation of 300,000 men. This quickly resulted in an exodus of young Russians to neighbouring states such as Georgia or Kazakhstan.

It also led to accusations that those being drafted were predominantly and disproportionately ethnic minority citizens of the Russian Federation in republics such as Dagestan in the Caucasus, and Buryatia, which borders Mongolia. Alexandra Garmazhapova, head of the Free Buryatia Foundation, an anti-war advocacy group said Russia was engaged in "basically a genocide of Buryats, Ukrainians and other peoples… To conquer another territory and make it part of the empire, you use national minorities…because they are expendable".[17]

In Crimea, the region annexed from Ukraine by Moscow in 2014, it was claimed the mobilisation overwhelmingly targeted ethnic Crimean Tatars. "Eighty percent of the draft papers for mobilization in Crimea were sent out to Crimean Tatars (Crimean Tatars make up less than 20% of the population of Crimea)."[18]

The Crimean Tatars have a particularly interesting history: in 1944 they were forcibly deported by Stalin to Central Asia (mainly Uzbekistan) amid accusations of having collaborated with Nazi Germany. They were unable to return to their homeland until the 1990s.

There is every possibility that these minority peoples will refuse to fight Putin's war. It has already been reported that Chechens are allying with the Ukrainian army to fight against the Russians, in revenge for the Chechen Wars of the 1990s.[19]

As the war has progressed, a great deal of attention has also focused on other ex-Soviet republics and their responses to Russia's activities.

In Belarus, there have been suggestions that the country's president, Alexander Lukashenko, could order his forces to support Moscow and fight alongside their Russian counterparts. However, although Russian troops are being allowed to use Belarusian military infrastructure, it seems unlikely that Lukashenko would risk his own position by allowing a full-scale partnership. In 2020 he faced prolonged and serious mass demonstrations after being accused of rigging the presidential election. Any attempt to involve Belarus more fully in the war would almost certainly lead to further protests and another threat to his leadership. Exiled opposition leader Sviatlana Tsikhanouskaya has stated that he would face "massive disobedience" if he made such a commitment. "Lukashenko is already fully participating in the war," she said. "But the fact that our troops have not been sent to Ukraine is not because Lukashenko doesn't want to participate. He knows Belarusians don't see Ukrainians as enemies." She added: "If Lukashenko gives the order to participate, or even if he declares mobilisation, which would be the first sign of getting involved, what would happen? Massive disobedience, strikes and people fleeing Belarus as fast as they can. That is why I doubt Lukashenko is going to give this order."[20]

This raises another interesting point. How willing would any of the people in these ex-Soviet republics be to participate in the war, even if ordered by Putin to do so? Do they really consider Ukrainians to be their enemies? The USSR was founded on the concept of fraternity: the brotherhood and national identity of the Soviet people. Yet although encouraged to view themselves as equals in that context, the Russians were seen as the dominant nationality, and inter-ethnic conflict certainly took place. 1991 demonstrated well that the experiment had failed as the republics quickly declined to maintain the existence of the Soviet Union, declaring independence and reviving their own national identities, languages and cultures.

A loosening of the traditional relationship with Russia has been noted in several of these republics, particularly over the last year. In Armenia, for example, pro-Ukraine-anti-Russia protests took place on the first anniversary of the 2022 invasion, with demonstrators chanting slogans such as 'Putin is a thief and a killer,' 'Russia is the enemy,' and 'Russia leave Armenia'.[21]

There have also been suggestions that the Collective Security Treaty Organization (CSTO), a Russia-led military alliance similar to that of NATO, could disintegrate. It was reported that Kazakhstan was planning to withdraw its membership in early 2023 (claims that were later denied). The news followed on from recent skirmishes between Armenia and Azerbaijan, ex-Soviet republics which have been engaged in hostilities for many years. Russia, which traditionally supports Armenia, allegedly declined to send in troops to help its ally when renewed fighting took place in 2022. This in turn led to some speculation that Armenia may too withdraw from the CSTO. Tom de Waal, senior fellow at Carnegie Europe, commented that Russia is "massively overstretched in Ukraine" and "doesn't want to pick a fight with Azerbaijan at this point".[22]

In other words, the Kremlin has neither the resources nor the political will to divert its forces elsewhere at this critical moment.

Developments such as these all point to a perception that Russia's traditional geopolitical sphere of influence is waning, due in large part to Putin's offensive actions in Ukraine. Further distancing from Moscow is probably inevitable in the majority of ex-Soviet republics, despite close economic and geographical ties

Sanctions

Following the invasion in February 2022, Western governments lost no time in imposing a range of economic sanctions against Russia, focusing both on large financial institutions and individuals. Western companies operating in the country came under sustained pressure to close operations.

Fearing both financial and reputational damage, global brands such as Coca-Cola, McDonalds and organisations in the IT and fashion industries quickly began to withdraw from the country. But more importantly for the Russian economy, the energy companies also decided to cut their losses and suspended

operations.

Europe, heavily dependent on Russian gas, started to diversify its imports: The Nordstream 2 pipeline, which had been due online in 2022, was mothballed. Nordstream 1, no longer supplying Russian gas, was severely damaged by an as yet unclaimed attack. The success of rapid diversification policies in Europe was seen when Germany, one of the countries most heavily dependent on Russian energy, announced it had secured sufficient supplies of Liquid Natural Gas (LNG) much more quickly than anticipated. Putin's gamble in this respect has failed.

In addition, while Russia has succeeded in opening new markets with China and India, infrastructure has to be built and this all takes time. The energy supplies are being sold to these new partners at much lower prices than those paid in the West, and this will severely impact Russia's economy in the next few months. China could also make the decision to secure alliances with Kazakhstan or other Central Asian states which have huge reserves of gas and oil.

Western sanctions have also affected other countries. Mongolia, for example, which shares a border with Russia and is heavily dependent on it, has complained that the economic measures have disproportionately impacted its own economy in terms of both loss of revenue and in problems paying Russian companies for fuel supplies.[23]

Section Two

Cyber warfare

Even before the invasion, analysts were discussing the possibilities of cyber warfare and the role the Russian state-sponsored hacker groups would likely play in a conflict with Ukraine. The aim of these would be to target and take down critical infrastructure such as communications, transportation and energy systems, forcing Ukraine into capitulation.

Critical infrastructure and communications have always been major targets in warfare and there is no doubting the abilities of Russian threat actors to utilise cyber-attacks and inflict enormous and lasting damage on Ukraine.

The most well-known state-sponsored Russian APTs include FancyBear, also known by a range of names such as APT28 and Sofacy. Various authorities around the world have linked it to the GRU, Russia's military intelligence service. FancyBear poses a serious threat to political, military and security organisations, specifically working to gather sensitive information of use to the Russian government. Among other things, it has attacked organisations connected with NATO in the US and Europe.

CozyBear is another of Russia's top cyber-espionage groups. Alongside FancyBear, it operates on behalf of the Russian intelligence services and infiltrated the networks of the US Democratic National Convention (DNC) in 2016 during the presidential election. CozyBear's other operations have included attacks against Ministries of Defence and Foreign Affairs in several EU and NATO member states.

Sandworm, another state-sponsored group, mainly targets Russia's neighbours such as Ukraine, Estonia and Georgia. Malware attacks including NotPetya, Industroyer/Crash Override, BadRabbit, and Olympic Destroyer have been all attributed to this APT.

Well-publicised attacks which could be viewed as practice runs in cyber warfare were seen in Ukraine in 2015, a year after the Crimean Peninsula was illegally annexed by Russia, when Sandworm was blamed for the compromise of the country's power grid with the BlackEnergy malware. While the impact of this attack was limited publicly to several hours without power in some regions, the damage caused behind the scenes was immense, and the clean-up operation expensive. In addition, the message to the Ukrainian government was clear: "You are vulnerable."

In 2016 a further attack, again believed to have been perpetrated by Sandworm, hit power networks in Kyiv and utilised Industroyer/CrashOverride malware.

Russian groups have also been held responsible for other very serious incidents involving Ukraine- at least initially. The devastating NotPetya malware attack, however, which took place in 2017, spread rapidly across organisations in the country and then out into the wider world, leading to billions of dollars in damages globally.

It is evident that Russia drew on the experiences of these earlier attacks in its preparations for the use of cyber weapons as part of its wider, modern warfare strategies.

A month before the 2022 invasion took place, a huge cyber-attack targeted Ukrainian government websites, hitting the foreign ministry, the cabinet of ministers and the security and defence council, among others.

In February, researchers announced they had found new data-wiping malware, HermeticWiper, on machines throughout Ukraine, impacting financial institutions and government contractors.

More broadly, Russia continued its attempts to disrupt internet communications in Ukraine. In late March, for example, NetBlocks reported that Ukraine's national internet provider Ukrtelecom had confirmed a cyber-attack on its core infrastructure. "Real-time network data show an ongoing and intensifying nation-scale disruption to service, which is the most severe registered since the invasion by Russia."[24]

Russian forces also made moves to address their lack of control over the Ukrainian telecommunication sector by destroying and taking over the country's internet infrastructure, re-routing traffic to operators controlled by Russia, something which was also done in the Donbas region in 2014. Yurii Shchyhol, the head of the State Service of Special Communication and Information Protection of Ukraine, said: "In Russia, internet traffic is regulated by Russian forces- they collect data and they find those who support Ukraine and try to quash the resistance movement. The enemy understands that their mission is to eliminate Ukrainians' access to their own internet and they have experience from 2014 of how to do this."[25]

Attacks on US satellite communications provider Viasat were also attributed to the Russian groups, and APTs were accused of deploying wiper malware such as WhisperGate in attacks on Ukrainian networks.[26]

As the fighting has continued on the ground, Russian APTs have launched many more potentially serious attacks but many have proved unsuccessful. Kevin McMahon, CEO of Cyjax, notes that Ukraine has shored up its cyber defences over the last few years with the support of Western allies and technology, allowing its own intelligence agencies to learn from the previous attacks, and giving them far greater ability to deal with intrusions.

Ukraine was also admitted into the NATO Cooperative Cyber Defence Centre of Excellence (CCDCOE), which is based in Tallinn, Estonia; this will continue to ensure the country's security authorities benefit further from the support and knowledge of Western allies in the cyber field.

The benefits of this collaboration in the cyber sphere were emphasised in January 2023 when the State Service of Special Communication and Information Protection of Ukraine published an article detailing Russia's use of cyber warfare. Interestingly, while it was noted that the cyber-attacks are consistent with the Kremlin's military strategy, they are "carried out using previously known techniques" that have "straightforward solutions for counteraction".

It was also highlighted that the cyber operations can be predicted to a certain degree, as some are being conducted at the same time as conventional physical military campaigns. For example, in the autumn and winter of 2022, cyber-attacks targeting energy facilities coincided with missile strikes on similar infrastructure; and disinformation campaigns blaming the Ukrainian authorities or businesses for the energy shortages were also heavily disseminated as a further prong of attack.[27]

It is not only the activities of state-sponsored groups that are of interest when assessing the implications of

cyber activity during this war.

The actions of independent hacktivists have proved to be quite remarkable. The speed with which people gathered together online was notable: the IT Army of Ukraine was quickly established, garnering thousands of followers to its Telegram channel. The administrators publish lists almost every day naming a huge range of Russian organisations, from government, military, energy, transportation and financial sectors, through to food delivery companies, to be targeted.

The IT Army of Ukraine was established after the Ukrainian government called for volunteers and specialists to conduct cyber operations to help in the war against Russia. Just two days after the February invasion began, Mykhailo Fedorov, Vice Prime Minister of Ukraine and Minister of Digital Transformation of Ukraine, tweeted: "We are creating an IT army. We need digital talents. All operational tasks will be given here: https://t.me/itarmyofurraine. There will be tasks for everyone. We continue to fight on the cyber front. The first task is on the channel for cyber specialists."[28]

This move was not supported by all in the Ukrainian government. Victor Zhora, deputy head of the State Special Communications Service of Ukraine (SSSCIP), noted that his agency was dedicated to cyber defence, not offence. He said: "In my opinion, it would be wrong [for the government] to endorse this activity, but as a citizen, as a person who wishes our country to prevail in this absolutely unprecedented, unbelievable war in the 21st century, I would be grateful for their help in weakening our enemy."[29]

Other hacktivists, many aligned with the Anonymous collective, also moved quickly to gather support from all over the world for a broad range of attacks on all manner of Russian organisations. Some campaigns have focused on DDoS attacks, designed to take important sites offline and generally disrupt operations; others have concentrated on breaching networks and exfiltrating data.

In some ways, it is difficult to distinguish the IT Army of Ukraine from traditional, state-sponsored hacktivist groups, due to the involvement of the government in its inception. The Anonymous collective operates independently and without overall leadership. Anonymous is not a group: it is simply a loose collective of people with similar ideals, in this case a desire to work on behalf of the Ukrainian nation and inflict as much damage as possible on Russian organisations. While highly publicised Anonymous operations have been seen in the past, such as in campaigns relating to the Catalan referendum, economic reforms in Nicaragua or attacks on US police forces as part of the Black Lives Matter movement, none have attracted the imagination of hacktivists as much as the war in Ukraine. This is not surprising of course: seeing footage of cities being destroyed by bombs or of millions of women and children crossing borders into neighbouring countries will obviously focus attention like few other issues; nevertheless, the response of these cyber groups has been extraordinary, and they have enjoyed remarkable successes. One thing the war has demonstrated all too clearly is that hacktivism is alive and well.

Questions have been asked about the point of such activities. In the case of DDoS attacks, organisations will usually manage to get their websites back online fairly speedily, leading to a general perception that they are of little real use. The theft of data is another matter. Much of the company, government and personal information stolen in these attacks is posted on Telegram channels or the darknet, or published openly on DDoSecrets, a US-based organisation run by Emma Best, where researchers verify the data to assess its legitimacy before releasing it. The true value of it may not be known for years.

Russia is not the only country being targeted: organisations in countries deemed to be supportive of the Kremlin's attacks on Ukraine are also being attacked. In Belarus, for example, due to the warm relationship between the country's president, Alexander Lukashenko, and Vladimir Putin and the former's failure to condemn the invasion of Ukraine, hacktivists have focused on attacking and leaking data from telecommunications companies.

This has also been reflected in Serbia, where there has been a general lack of sincere criticism towards Russia. Serbia is an interesting case: Belgrade voted to condemn Moscow's invasion of Ukraine but declined

to participate in the West's sanctions. A positive narrative about Russia is generally pushed, and yet the country holds candidate status for EU membership. "Aligning with the EU would be unacceptable to many Serbs with the anti-Western sentiment dating back to the 1999 NATO bombing of the country, which is still deeply ingrained in the memories of many voters."[30]

Hacktivist campaigns currently being carried out have always been denounced as criminal in the past. What is interesting here is that the authorities have not only been turning a blind eye to the activities of these collectives: as seen with the IT Army of Ukraine, they have been actively encouraging them. This is all about the wider impact on society. Many of these cyber-attacks are relatively useless, but politically they are disastrous for Russia. Media outlets continue to publicise them, keeping them front and centre in the news. And with the tacit support of Western governments, hacktivist protest is suddenly allowable. These cyber operations are apparently no longer illegal: they are legitimate in times of war.

Similar hacktivist collectives have also appeared in Russia. Two of the most well-known, Killnet and Xaknet, have targeted a wide variety of organisations in Ukraine with DDoS attacks and breaches leading to data thefts. It has been suggested that there are links between these two main groups and state-sponsored Sandworm. Given that Western authorities are backing the hacktivists working on operations for Ukraine, it is surely no surprise that the Russian government is facilitating its own supporters.

These Russian hacker groups have also expanded the scope of their operations and are targeting organisations in countries known to support Ukraine. To highlight just a couple of recent examples: CyberArmyof Russia_Reborn, which is also believed to be linked to the Russian state, set its sights on Sweden and launched DDoS attacks on the Industrial Economic Research Institute (IFN), among others; AnonymousRussia attacked German airports and joined with Killnet in targeting government organisations such as the German Energy Agency and the German National Bank; NoName05716 attacked Danish banks.

Killnet also launched a campaign against US medical centres, claiming to have stolen data from a number of hospitals. More interestingly and potentially much more damaging, Killnet recently moved into the ransomware sphere when it claimed a compromise of a Latvian government organisation and demanded a payment of 10 Bitcoins for the return of data. This represented an important advance in the capabilities of this threat group: this is not surprising, however, given that it has posted a range of appeals on Telegram asking for cyber specialists to participate in its activities.

Conclusion

No end in sight

Since the invasion of February 2022, it has become apparent that the only real success Putin has enjoyed in Ukraine consists of attacks carried out à-la Grozny: bombing cities to rubble, with marauding troops participating in horrific war crimes leaving nothing but devastation in their wake.

Putin is said to be angry at how the war has played out. Far from the swift victory he envisaged, his forces are embroiled in a conflict that, in the long term, they simply cannot win.

It seems Russia's poor military performance has come as a surprise both to Putin and to the wider world. Much of the failure can certainly be attributed to the resilience and determination of the Ukrainian people to fight for their country; much of it is also down to the unprecedented unity and military support shown by the majority of nation states across the world, particularly in the West. There can surely be no debate over this: Putin believed that his forces would overcome Ukraine within days, and that, as in his invasion in 2014 and the subsequent annexation of Crimea and activities in the Donbas region, Western powers would wring their hands but basically step aside.

He has been proved wrong. With their numerical superiority in terms of both forces and arms- and not forgetting their possession of nuclear weapons- we should probably still expect Russia to eventually prevail

militarily; what is less certain, however, is how any such 'victory' could be sustained. How exactly does Putin intend to maintain control over devastated cities such as Mariupol or Kherson or Bucha, given the utterly inhuman attacks and killings that have taken place there?

The military shortcomings have been accompanied by economic failure. The country's central bank assets have been frozen; major banks are now unable to use the international Swift money transfer system; oligarchs have had property and funds confiscated. To top all that off, European countries have successfully moved away from their reliance on Russian energy. The economic situation in Russia is predicted to worsen dramatically over 2023.

But there is a third failure: that of Russia's much-vaunted cyber expertise. Both their offensive and defensive capabilities in this field have been found wanting and attacks are now viewed as predictable and generally relatively unproblematic to mitigate.

Wishful thinking about the demise of Putin leads many people to hope that this war could be ended by his downfall, and that will be swift in coming, whether through death or a coup. However, this fails to take into account the lack of a credible alternative to his rule: his sidekicks in the Kremlin are every bit as bellicose and deluded as he himself is.

It has also been suggested that Ukraine should acquiesce to Putin's demands, cede territory in return for peace, thus putting an end to the heart-breaking death and destruction devastating the country. Various scenarios would seem to suggest that this is not likely to be a popular option. There is no reason why Ukraine, a sovereign nation, should give up its territory to the Russian aggressor; presumably Putin would demand that the aspirations of the country to join NATO and the EU should be put aside indefinitely and membership applications immediately withdrawn. He would also insist on the installation of a Moscow-compliant government in Kyiv, in order to 'protect' Ukraine from the 'Nazis' or 'deviants' taking power again.

A year on from the invasion, it appears there is no end to this war in sight. Zelenskiy understandably refuses to enter into diplomatic relations with Moscow, and is determined to reclaim the territory illegally annexed by Russia in 2014, as well as the regions newly proclaimed in 2022 as part of the Russian Federation. Putin certainly could not accept this.

With such an impasse, there is no prospect of peace. Western nations are sending more weapons to Ukraine and shoring up their support. Putin is reportedly considering mobilising another 500,000 men to fight his war.

For their part, the Ukrainians and their Western allies might hope that the sanctions imposed on Russia will lead to severe financial problems which will in turn eventually result in the withdrawal of Russian forces, protests against Putin and his acolytes, and even territorial instability. Could the Russian Federation, like its Soviet predecessor, disintegrate as people in republics such as Chechnya, Buryatia and Tatarstan rise up against the Kremlin? It seems possible but unlikely.

Yet all empires eventually fall.

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About Cyjax

Cyjax was formed in 2012. Working closely with the financial sector, we developed technologies and methodologies to help stem the advance of digital threats impacting banks and consumers around the world. We quickly established ourselves as a leading provider of cyber threat intelligence capabilities across all industry verticals, a journey we continue today. Cyjax is built on its own growth and remains wholly owned by its founding members in the UK.